TESIS DOCTORAL | OCTUBRE 2024

VNIVERSITAT DE VALÈNCIA

ATENCIÓN BASADA EN EL VALOR: UNA APROXIMACIÓN A LA INTEGRACIÓN DE LA ASISTENCIA SOCIAL Y SANITARIA EN EL DIAGNÓSTICO Y ABORDAJE DE LA FRAGILIDAD EN LA POBLACIÓN MAYOR

Programa de Doctorado en Diseño, Gestión y Evaluación de Políticas Públicas de Bienestar Social (R.D. 99/2011)

Dirigida por:
Dr. Jorge Garcés Ferrer
Dr. Francisco José Ródenas Rigla
Dra. Tamara Alhambra Borrás

Presentada por:
Mirian Fernández Salido

VNIVERSITAT DE VALÈNCIA UJI UNIVERSITAT JAUME I Programa de Doctorado en Diseño, Gestión y Evaluación de Políticas Públicas de Bienestar Social

Dr. Jorge Garcés Ferrer, catedrático de la Universitat de Valencia, Dr. Francisco José Ródenas Rigla, profesor titular de la Universitat de València y Dr. Tamara Alhambra Borrás, investigadora consolidada de la Universitat de València, como directores del proyecto de tesis doctoral por compendio de publicaciones de la doctoranda Mirian Fernández Salido,

HACEN CONSTAR:

Que la presente memoria, titulada "Atención basada en el valor: una aproximación a la integración de la asistencia social y sanitaria en el diagnóstico y abordaje de la fragilidad en la población mayor", corresponde al trabajo original realizado bajo su dirección por Mirian Fernández Salido, para su presentación como Tesis Doctoral en el Programa de Doctorado en Diseño, Gestión y Evaluación de Políticas Públicas de Bienestar Social de la Universitat de València.

Y para que conste firman el presente documento en Valencia, a 10 septiembre de 2024.

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UNIVERSITAT DE VALÈNCIA
Instituto de Políticas de Bienestar Social
(POLIBIENESTAR)
Octubre, 2024

Tesis desarrollada en el Instituto de Investigación en Políticas
de Bienestar Social (POLIBIENESTAR)

POLIBIENESTAR
VNIVERSITAT DE VALÈNCIA

Financiada por el Programa Estatal de Promoción
del Talento y su Empleabilidad
-
Subprograma de Formación de Profesorado Universitario
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GOBIERNO
DE ESPAÑA

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“

¿Qué cuántos años tengo? - ¡Qué importa eso!
¡Tengo la edad que quiero y siento!
La edad en que puedo gritar sin miedo lo que pienso.
Hacer lo que deseo, sin miedo al fracaso o lo desconocido...
Pues tengo la experiencia de los años vividos
y la fuerza de la convicción de mis deseos.
¡Qué importa cuántos años tengo!
¡No quiero pensar en ello!
Pues unos dicen que ya soy viejo,
y otros “que estoy en el apogeo”.
Pero no es la edad que tengo, ni lo que la gente dice,
sino lo que mi corazón siente y mi cerebro dicte.
Tengo los años necesarios para gritar lo que pienso,
para hacer lo que quiero, para reconocer yerros viejos,
rectificar caminos y atesorar éxitos.

José Saramago

Resumen

El número de personas mayores está aumentado de forma progresiva y acelerada en todo el mundo y, en este contexto, la fragilidad constituye una de las expresiones más problemáticas del envejecimiento poblacional. La fragilidad se ha asociado con un mayor riesgo de resultados adversos para la salud y el bienestar de la población, un aumento de los servicios de atención médica y una ingente carga económica sobre los costes de atención médica y las familias. Recientemente, la literatura ha enfatizado el carácter multidimensional de la fragilidad y la necesidad de un abordaje holístico enfocado en aumentar el "valor" de la atención brindada al paciente. En este sentido, los sistemas de salud deben adaptarse para mejorar la efectividad y la calidad de la atención a una población envejecida que presenta cuadros complejos y, la atención sanitaria basada en el valor, se está abriendo camino de forma incesante en la gestión, la práctica y las políticas sanitarias, como un modelo alternativo que permite ofrecer una atención sostenible a la vez que mejora los resultados de salud para el paciente.

Por consiguiente, la presente tesis tiene como objetivo: 1) Identificar, analizar y comparar las políticas europeas innovadoras en términos de apoyo a las condiciones socioeconómicas derivadas de los servicios de cuidado prestados por las familias. 2) Analizar la atención basada en el valor atendiendo a las disimilitudes en la conceptualización, la implementación y los resultados y, 3) Evaluar la implementación del programa integral y personalizado ValueCare en Valencia, en el marco de la atención basada en el valor, para las personas mayores frágiles que viven la comunidad.

Para tal efecto, se empleó una investigación/metodología mixta integrando las perspectivas cualitativa y cuantitativa de forma complementaria en una triangulación intermétodo marcada por un diseño secuencial exploratorio, en la que la recolección y el análisis de los datos cuantitativos, se construyen secuencialmente a la luz de los resultados cualitativos. La investigación concluye que la existencia de políticas europeas de apoyo a las condiciones socioeconómicas derivadas de la atención a largo plazo es reciente y refleja una notoria variabilidad en las características de las mismas entre países. Asimismo, se refleja la presencia escasa y reciente de estudios que evalúen estrategias implementadas en el marco de la atención basada en el valor donde, pese a la existencia de unanimidad en torno a la conceptualización de la atención sanitaria basada en el valor, también se detectan distinciones notorias entre los principales factores de las estrategias implementadas y los resultados, señalando la necesidad de estudios adicionales. Los resultados obtenidos de la implementación del programa ValueCare subrayan el impacto positivo de la atención basada en el valor para las personas mayores que presentan fragilidad en términos de mejora de la función física, la calidad de vida, la sintomatología depresiva y ansiosa, y la reducción del uso de los recursos y servicios sanitarios. Las evidencias sugieren una mayor investigación sobre estrategias holísticas basada en el valor por medio del diseño y activación de programas integrales y personalizados para población mayor frágil.

Palabras clave: Atención basada en el valor, personas mayores, fragilidad, cuidado, apoyo socioeconómico, atención integral, atención personalizada, ensayo clínico controlado pre-post.

Abstract

The number of older people is increasing progressively and rapidly worldwide and in this context frailty is one of the most problematic expressions of population ageing. Frailty has been associated with an increased risk of adverse health and well-being outcomes in the population, an increase in health care services and a huge economic burden on health care costs and families. Recently, the literature has emphasised the multidimensional nature of frailty and the need for a holistic approach focused on increasing the 'value' of patient care. In this regard, health systems must adapt to improve the effectiveness and quality of care for an ageing population with complex conditions, and value-based care is steadily making its way into health management, practice and policy as an alternative model for delivering care in the framework of sustainable care while improving health outcomes for the patient.

Therefore, this thesis aims to: 1) Identify, analyse and compare innovative European policies in terms of support for socio-economic conditions arising from family-based care services. 2) To analyse value-based care in terms of dissimilarities in conceptualisation, implementation and outcomes and, 3) To evaluate the implementation of the ValueCare comprehensive and personalised programme in Valencia, within the framework of value-based care for frail elderly people living in the community.

To this end, a mixed research/methodology approach was employed integrating qualitative and quantitative perspectives in a complementary manner in an inter-method triangulation marked by an exploratory sequential design in which quantitative data collection and analysis are sequentially constructed in light of the qualitative findings. The research concludes that the existence of European policies to support socio-economic conditions arising from long-term care is recent and reflects a notorious variability in the characteristics of these policies between countries. It also reflects the scarce and recent existence of studies evaluating strategies implemented in the framework of value-based care where, despite the existence of unanimity around the conceptualisation of value-based care, there are also notorious distinctions between the main factors of the strategies implemented and the results, pointing to the need for further studies. The results obtained from the implementation of the ValueCare programme underline the positive impact of value-based care for frail older people in terms of improved physical function, quality of life, depressive and anxious symptomatology, and reduced use of health resources and services. The evidence suggests further research into holistic value-based strategies through the design and activation of comprehensive and personalised programmes for frail older people.

Key words: Value-based care, older people, frailty, caregiving, socio-economic support, integrated care, personalised care, pre-post controlled clinical trial.

Agradecimientos

La culminación de esta tesis doctoral refleja, no solo el resultado de 4 años de arduo trabajo y dedicación, sino también el esfuerzo, apoyo y colaboración de todas aquellas personas que han contribuido, de múltiples formas, a este logro. Sin duda alguna, el objetivo de alcanzar la máxima titulación universitaria, ha supuesto un continuo de desafíos, aprendizajes y momentos inolvidables, que han ido definiendo no solo mi vida académica y laboral, sino también, mi vida personal.

En este espacio quiero expresar mi más profundo agradecimiento a todas aquellas personas que han estado presentes y han dejado una huella indeleble en esta etapa de mi vida.

Con profunda estima y reconocimiento, extiendo mi más sincero agradecimiento a mis directores Jorge Garcés Ferrer, Tamara Alhambra Borrás y Francisco Ródenas Rigla. A lo largo de este camino, sus consejos, sus enseñanzas y su apoyo invaluable, han supuesto una fuente constante de inspiración y aprendizaje.

Gracias, Jorge, por compartir tu vasto conocimiento, tu experiencia y sabiduría en el ámbito de la investigación, pero también, por tus sabios consejos aplicables a cualquier ámbito de la vida. La capacidad de progresar, explorar nuevos horizontes y aventurarme a afrontar nuevos desafíos son el resultado de tu orientación y el entusiasmo con el que me has acompañado en este recorrido, pero también, de tu confianza depositada en mí en todo momento. Tú actitud positiva y cercana, junto a tu capacidad de liderazgo, en un ámbito laboral caracterizado por la existencia de múltiples perfiles profesionales, se ha traducido en un clima laboral guiado por el compromiso y el compañerismo, siendo para mí un placer y un orgullo formar parte de este equipo de trabajo.

En segundo lugar, a Tamara, quien desde el inicio de este trayecto me ofreció su mano y nunca me soltó. Su actitud entusiasta, su pasión y su perseverancia, con una voluntad firme y decidida, luchando contra viento y marea por lograr aquello que desea, han sido y serán, quizás hasta en ocasiones sin que ella sea consciente, un ejemplo a seguir para mí. Gracias por tu refuerzo constante, por acompañarme y motivarme en este proceso de crecimiento personal y profesional, por no haber dudado nunca de mí y por transmitirme en todo momento los conocimientos y consejos necesarios para hoy poder estar aquí. Esta tesis es el reflejo de múltiples horas, momentos y sueños compartidos, que siempre guardaré en mi memoria.

A mis compañeras y compañeros de Polibienestar, que sin duda alguna me han brindado su apoyo desde que inicié mi labor investigadora en el instituto, acogiéndome con los brazos abiertos y guiándome en el camino de la investigación. Trabajar con un buen clima laboral donde poder compartir experiencias, conocimientos y consejos, es un hecho en Polibienestar y es para mí un privilegio ser parte de ello.

A mis amigas, a las de Mislata y a las de Sot de Chera, por estar en los momentos más difíciles y ser las protagonistas de los mejores momentos. Gracias por estar siempre a mi lado, por ser confidentes, por celebrar mis logros como si fueran vuestros y ofrecerme vuestro cariño y palabras de ánimo cuando más las he necesitado.

A mis padres, Ramón y Toñi, por apoyarme en todo, sin excepciones, por esforzarse día a día para que mi futuro académico fuese el que yo eligiese y por habernos educado en la humildad, la confianza, el respeto y el esfuerzo como valores fundamentales. Esta tesis no hubiese sido posible sin vuestro respaldo y el amor que siempre me habéis bridando.

Y, en especial, a mi hermana melliza, Noelia. Me siento una privilegiada por haber compartido toda mi vida contigo, incluido también los desafíos y éxitos de este viaje académico. Gracias por estar a mi lado y por ser mi mayor apoyo siempre, sin excepción. Este logro es también un reflejo de nuestra conexión y del respaldo que me has ofrecido en cada una de las etapas. Eres la mejor compañera de vida que me podría haber tocado y no me cabe ninguna duda, de que este camino que tú también estas recorriendo lo culminaras satisfactoriamente, y yo estaré ahí para verlo y apoyarte siempre.

Contenido

Contenido

Índice de Tablas

Objetivos

Contexto metodológico

Resultados

Artículo 1

Artículo 2

Artículo 3

Artículo 4

Índice de Figuras

Marco teórico

Artículo 2

Artículo 3

Glosario

ACC: Análisis Cualitativo Comparativo
ASBV: Atención Sanitaria Basada en el Valor
AVD: Actividades de la Vida Diaria
BMI: Body Mass Index
CEI: Human Research Ethics Committee
CEIH: Comité de Ética de Investigación en Humanos
CLD: Cuidados de Larga Duración
COVID-19: Coronavirus Disease 2019
CVPA: Cadena de Valor del Proceso Asistencial
DEXPLOP: Diseño exploratorio Secuencial
EU: European Commission
HRQOL: Health Related Quality of Life
ICHOM: Patient Centred Outcomes
IJERPH: International Journal of Environmental Research and Public Health
IMM: Investigación de Métodos Mixto
INE: Instituto Nacional de Estadística
JCR: Journal Citation Report
LTC: Long Term Care
MCW: Migrant Care Workers
MDPI: Multidisciplinary Digital Publishing Institute
MM: Metodología Mixta
MRQ: Medication Risk Questionnaire
NU: Naciones Unidas
ONU: Organización de las Naciones Unidas
PREMS: Patient Reported Experience
PROMS: Patient Reported Outcome Measure
SEREDIPE: Socio-economic deprivation Related to the effect of the presence of dependent elderly: strategies for innovative policies in Europe
SF: Síndrome de Fragilidad
SI: Social Initatives
SNAQ+65: Short Nutritional Assesment Questionnaire
TFI: Tilburg Frailty Indicator
UCLA 3: Escala de Soledad de Tres Items
UE: Unión Europea
VALUECARE: Value-based methodology for integrated care supported by ICT
VBHC: Value Based Health Care

Presentación

Yo, Mirian Fernández Salido, he desarrollado la presente tesis inscrita bajo la denominación "Atención basada en el valor: Una aproximación a la integración de la asistencia social y sanitaria en el diagnóstico y abordaje de la fragilidad en la población mayor" en el marco del Programa de Doctorado en Diseño, Gestión y Evaluación de Políticas Públicas de Bienestar Social (R.D. 99/2011) del Instituto Universitario de Investigación en Políticas de Bienestar Social (en adelante Polibienestar) de la Universitat de València. El programa de doctorado anteriormente mencionado y en el que se enmarca la presente tesis doctoral, se articula en torno a dos líneas de investigación, siendo la línea de investigación "Modelización, evaluación, sistemas de gestión y tecnología en políticas públicas" en la que se encuadra la tesis, dado su interés en analizar las políticas públicas como respuesta de los estados de bienestar para hacer frente a los retos de la sociedad actual en términos de envejecimiento poblacional, digitalización, gasto sanitario, etc.

La tesis ha sido llevada a término bajo la dirección de Jorge Garcés Ferrer – Catedrático de Políticas Sociales en la Universitat de Valéncia, Catedrático Príncipe de Asturias en la Georgetown University de Washington, Doctor en Administración y Ciencias Políticas, Doctor en Psicología y Doctor Honoris Causa por la Universitat Jaume I de Castellón y director de Polibienestar, la Codirección de Francisco José Ródenas Rigla – Doctor en Sociologia, Profesor Titular de la Universitat de Valéncia e Investigador en el Instituto de Investigación Polibienestar , y la Codirección de Tamara Alhambra Borrás – Doctora en Psicología e investigadora consolidada de Polibienestar. La misión del Instituto Polibienestar radica en lograr la mejora de las políticas públicas en términos de eficacia y eficiencia, mediante el desarrollo e implementación de propuestas innovadoras, integrales e interinstitucionales bajo un enfoque sociotécnico, interdisciplinar y multicéntrico que se traduzca en última instancia en la mejora del bienestar, la sostenibilidad y la calidad de vida de la sociedad, con especial atención a la población vulnerable.

La labor investigadora del instituto se encuadra en diferentes áreas de investigación que cuentan, en términos más específicos, con sus respectivas líneas de investigación. En este sentido, la presente tesis se halla inserta en las áreas de Salud y Política Social y en las respectivas líneas de investigación en cuidados de larga duración, atención primaria, promoción de la salud y prevención de la enfermedad, atención sociosanitaria y envejecimiento activo y saludable.

Polibienestar, está compuesto por un equipo interdisciplinar que cuenta con más de 80 investigadores/as tanto seniors como juniors concernientes a diferentes ámbitos académicos, tales como, Trabajo Social, Psicología, Economía, Derecho, Sociología, Medicina o Ingeniería y Telecomunicaciones, pertenecientes tanto a la Universitat de Valencia como a otras 12 Universidades asociadas: Universidad Politécnica de Valencia, Universitat Jaume I de Castelló, Universidad Politécnica de Madrid, Universidad del País Vasco, Universidad de Burgos, Universidad de Murcia, Universidad de Castilla-La Mancha y Universidad de Extremadura, Universidad de Sevilla, Universidad de Canadá, Universidad de Concepción (Chile) y Universidad Autónoma de Encarnación (Paraguay).

Mi labor como investigadora y colaboración con Polibienestar tuvo su inicio en el año 2018 con la obtención de la Beca de Colaboración del Ministerio de Educación y Formación Profesional con el proyecto "Participación del Trabajo Social en el Plan Valenciano de Inclusión y Cohesión Social 2017-2022", el cual mantenía una estrecha relación con los Planes de inclusión y cohesión social desarrollados por Polibienestar, en ese mismo año, para aquellos municipios y mancomunidades a los que la Generalitat Valenciana aprobó las subvenciones para la elaboración de los mismos. Sin embargo, no fue hasta el año 2019 que la relación con Polibienestar se consolidó con el acceso al programa de doctorado y la obtención del contrato para la Formación de Profesorado Universitario (FPU19/04167) subvencionado por el Ministerio de Ciencia, Innovación y Universidades, gracias al cual inicie una participación más afianzada como personal docente investigador en formación en la Universitát de València-Polibienestar, con el deseo y la inclinación de aprovechar la oportunidad brindada para contribuir a la mejora de nuestra sociedad, poniendo especial énfasis en reducir las desigualdades y garantizar la igualdad de oportunidades de los grupos más vulnerables.

Sin duda alguna, Polibienestar y concretamente el carácter interdisciplinar que caracteriza a su equipo y el apoyo brindado en primer lugar por el director y seguidamente por cada uno de los miembros que conforman el mismo, han contribuido de buen grado al alcance de este objetivo. Así, durante el periodo comprendido entre 2019-2024 la labor investigadora en Polibienestar como investigadora predoctoral no se ha limitado al desarrollo de la tesis doctoral si no que ha supuesto un continuo de participaciones y colaboraciones con múltiples perfiles profesionales e instituciones de índole nacional e internacional, en el marco de la temática que engloba la tesis, enalteciendo la calidad de la labor investigadora desarrollada. Todo ello, se concreta en la participación desde 2019 en más de 10 proyectos europeos y la participación en más de 10 congresos y conferencias científicos tanto de carácter nacional como internacional. Esta tesis doctoral, forma así parte de un proyecto de investigación más amplio, denominado ValueCare - Value-based methodology for integrated care supported by ICT (ref. 875215). - Un proyecto de investigación financiado por la Comisión Europea bajo el programa Horizonte 2020, constituido por un consorcio de 17 socios de 8 países europeos. El objetivo del proyecto ValueCare se encuentra en estrecha concordancia con el objetivo general de la presente tesis, al buscar proporcionar una atención integrada (sanitaria y social) eficiente y basada en resultados a la población ≥65 años que experimenta fragilidad, deterioro cognitivo y/o múltiples enfermedades crónicas, con el objetivo de mejorar su calidad de vida mediante la aplicación de metodologías basadas en valores apoyadas por soluciones digitales.

1. Introducción

Si bien es indiscutible que el aumento de la longevidad constituye uno de los más notables avances del último siglo, también lo es el reto que supone el envejecimiento demográfico y sus previsiones de progreso incesantes para el futuro próximo (Leeson, 2014; Scott, 2021). En vista de este contexto, gobiernos, responsables políticos, autoridades de salud pública, investigadores, líderes de salud y médicos, deben tomar consciencia y aunar sus esfuerzos ante la inminente necesidad de diseñar e implementar políticas de salud y atención sostenibles, que permitan afrontar una de las condiciones más comunes entre las personas mayores y una de las expresiones más problemáticas del envejecimiento poblacional: la fragilidad (Keevil y Romero, 2015; Lim et al., 2017).

Pese a que se ha anticipado que el aumento de la esperanza de vida constituye un logro del desarrollo económico, científico y tecnológico, es escasa la evidencia que sustenta que el incremento de la longevidad esté asistido de un periodo prolongado de buena salud (Robine et al., 2009). Al contrario, el aumento de la esperanza de vida se encuentra en una posición suprema al aumento de esperanza de vida saludable, en la que una elevada proporción de la vida de una persona podría estar presidida por la presencia de la discapacidad, con la carga adherida que ésta supone para la persona, la familia y el sistema de atención de salud pública (Reynolds y Silverstein, 2003; Rodríguez, 2018; Pinilla et al., 2021).

Teniendo en cuenta que la condición que antecede a la discapacidad es la fragilidad, constituyéndose exactamente como una fase de transición entre la discapacidad y el envejecimiento exitoso/saludable, responsable de múltiples resultados negativos para la salud, no es de alarmar que este síndrome se haya descrito como una prioridad surgente de salud pública (Alonso et al., 2007; Oliveira et al., 2013; Tello y Valeria, 2016).

Ante este panorama, no es de extrañar que los académicos expresen explícitamente lo esencial de concienciar sobre el riesgo de la cascada de discapacidad ante un aumento sin precedentes de personas mayores frágiles con necesidades de atención complejas y la urgencia de promover cambios en un actual sistema sanitario marcado por la fragmentación, centrado en la enfermedad y cuyos servicios de salud se basan en el volumen y la productividad (Cleg et al., 2013a; Lim et al., 2017). Así, el rediseño del sistema de salud requiere apostar por vías preventivas de atención integrada y multidisciplinares que garanticen la sostenibilidad de los servicios de atención a la vez que mejoran los resultados de los pacientes (Kojima et al., 2019; Obbia et al., 2020). En estos términos, gana importancia la implementación de programas personalizados que permitan prevenir la fragilidad o su progreso, y en última instancia la discapacidad y la carga que esta supone para la persona, su familia y los sistemas de salud pública en términos de prestación de cuidados de larga duración y de privación socioeconómica ligada a los mismos (Fatoye et al., 2022; Frost et al., 2022).

Cada vez son más las organizaciones sanitarias que están promoviendo la transformación de los servicios de salud hacia una atención basada en el valor, que abogue por una mejora de los resultados de salud, manteniendo una relación optima con los costos. Hasta ahora la evidencia sobre la efectividad de programas basados en el valor para la mejorar del síndrome de fragilidad, es prácticamente inexistente, debido no solo a la escasez de ensayos sino también a la falta de rigor metodológico y de deficiencias en la muestra (Montano et al., 2017a).

La investigación que aquí se presenta pretende vislumbrar un marco basado en la evidencia científica que sirva de referencia para futuras investigaciones aplicadas, mediante el desarrollo de metodologías mixtas que permitan comprender en profundidad y abordar desde un enfoque holístico e integral la fragilidad como la expresión más común del fenómeno global del envejecimiento y la atención de esta para la mejora y prevención de su progreso. Todo ello sobre la base de un marco basado en el valor que garantice mejores resultados sanitarios con un uso óptimo de recursos, para en última instancia reducir la carga socioeconómica sobre el individuo, su familia y los sistemas sanitarios de atención pública. Bajo el enfoque cualitativo, se busca contribuir a un marco teórico comparativo del contexto europeo y los modelos de bienestar que en este se rigen, para comprender el actual marco de implementación de las políticas europeas, cuyo carácter innovador busca paliar las condiciones socioeconómicas derivadas del cuidado a personas mayores con fragilidad o discapacidad. Este enfoque permitirá desarrollar una comprensión profunda, matizada y actualizada de la relación entre el envejecimiento poblacional, las consecuencias socioeconómicas derivadas del cuidado prestado por las familias y el esfuerzo de los diferentes países europeos para paliar esta problemática.

Dicho estudio se complementará, en segundo lugar, con el desarrollo teórico de un marco de conocimiento exhaustivo sobre el modelo de atención basado en el valor, para superar los desafíos hasta ahora existentes sobre su conceptualización, implementación y eficacia en términos de mejorar la calidad de la atención junto a la optimización de los costes del proceso asistencial. Establecer un marco lógico sobre el innovador modelo basado en el valor podrá servir de guía para el desarrollo de políticas y acciones de implementación por parte de los gobiernos, investigadores y líderes del sistema sanitario.

En último lugar, se presentan los aspectos prácticos desarrollados a través de una metodología cuantitativa sobre la base del diseño de un programa de intervención específico, para evaluar la eficacia de la atención basada en el valor, integral y personalizada en personas mayores con fragilidad residentes en la comunidad.

Así, en última instancia esta tesis espera contribuir al debate académico y científico sobre la viabilidad de enfoques holísticos basados en el valor para abordar el síndrome de fragilidad, constituyéndose como un marco de referencia para lidiar con el que a hasta ahora es uno de los principales retos del envejecimiento demográfico.

2. Justificación del estudio y principales contribuciones

Esta tesis presenta para su evaluación un conjunto de 4 artículos académicos, publicados por la doctoranda en revistas científicas de impacto, respondiendo así a la modalidad de Tesis por Compendio de Publicaciones.

El artículo *Innovating European Long-Term Care Policies through the Socio-Economic Support of Families: A Lesson from Practices* fue publicado en coautoria con Moreno-Castro,C. Belletti, F. Yghemonos, S. Garcés-Ferrer, J. y Casanova, G. en 2022 en la revista Sustainability (ISSN: 2071-1050), editada por MDPI. Indicios de calidad para el año 2022 en JCR (último año disponible): Journal Impact Factor (JIF) 3.9; Category Environmental Sciences Q2 – SCCI, posición 48/128. Indicadores de calidad para el año 2022 en SJR: SJR 0.67; Q1 Categoy Geography, Planning and Development, Computer Networks & Communications; Q2 Category Energy Engineering and Power Technology; Environmental Science; Hardware and Architecture; Management, Monitoring, Policy and Law; Renewable Energy, Sustainability and the Environment; y Q1 Category Geography, Planning and Development; H-index 169.

La doctoranda Mirian Fernández-Salido, ha contribuido significativamente a este artículo a través de las siguientes acciones:

- **Recopilación y curación de datos:** la doctoranda participó y supervisó de forma activa la recogida de datos, desde la búsqueda, identificación, selección y curación de la información, garantizando la calidad y fiabilidad de la información recogida, así como también la permanencia en la disponibilidad para la reutilización y conservación de los datos.

- **Análisis formal de los datos:** la doctoranda fue capacitada y participó activamente para realizar el análisis categórico de los datos, agrupando la información recogida según los criterios establecidos para tal fin, esto es de forma descriptiva y analítica para favorecer la comparación entre las similitudes de las características presentadas por las diferentes políticas identificadas.

- **Redacción del manuscrito y posterior revisión y edición:** la doctoranda fue la principal responsable de la redacción del manuscrito, aportando la coherencia teórica del tema abordado a la introducción, garantizando la idoneidad en la estructuración de los resultados de forma lógica y precisa y responsabilizándose en último término de la redacción de la discusión en sintonía con los resultados y la conclusión. Asimismo, asumió el proceso de revisión por pares de la revista, atendiendo a las peticiones de los revisores y dotando de el estudio de mayor rigurosidad acuerdo a sus sugerencias y directrices de la revista.

El artículo *Value-based healthcare delivery: A scoping review* fue publicado en coautoría con Alhambra-Borrás, T. Casanova, G. y Garcés-Ferrer, J. en 2024 en la International Journal of Environmental Research and Public Health (ISSN: 1660-4601), editada por MDPI. Indicios de calidad para el año 2021 en JCR (último año disponible): Journal Impact Factor (JIF) 4.614; Q1 Category Public, Environmental & Occupational Health - SSCI, posición 45/182. Indicadores de calidad para el año 2022 en SJR (último año disponible): SJR 0.828; Q2 category Public Health, Environmental and Occupational Health; H-index 167.

Las contribuciones de la doctoranda Mirian Fernández-Salido al presente artículo pueden definirse en:

- **Conceptualización:** fue la principal contribuyente al desarrollo del marco teórico abordando la naturaleza y el alcance del problema de investigación y contextualizando temporal y espacialmente el tema objeto de estudio, concretado en la necesaria redefinición del sistema sanitario hacia un modelo de atención sanitara basada en el valor para afrontar los desafíos del envejecimiento demográfico.

- **Metodología:** la doctoranda fue la principal responsable del diseño y la selección del marco metodológico más oportuno dada la necesidad de informar sobre las evidencias sobre un tema emergente, poco conocido y explorado a fin de proporcionar un mapeo sintetizado de la evidencia identificada mediante una revisión de alcance.

- **Recogida y análisis de datos:** participó activamente en la recogida de la información previo establecimiento de los criterios de elegibilidad y la estrategia de búsqueda en las diferentes bases de datos seleccionadas para tal propósito. Asimismo, fue un actor clave en la revisión de los estudios y más concretamente en el análisis de los datos siendo la primera revisora independiente encargada de la selección y el análisis de los estudios.

- **Redacción del borrador original:** La estudiante de doctorado fue la principal redactora del manuscrito, aportando coherencia al cuerpo del mismo dada su participación activa en las secciones clave como la introducción, metodología, resultados y discusión. Asimismo, participó enérgicamente en las fases de revisión atendiendo a las peticiones procedentes de la revisión por pares y edición del texto, siendo la principal interlocutora con la revista.

El artículo *Implementation of a Comprehensive and Personalised Approach for Older People with Psychosocial Frailty in Valencia (Spain): Study Protocol for a Pre–Post Controlled Trial* fue publicado en coautoria con Alhambra-Borrás, T. y Garcés-Ferrer, J. en 2024 en la International Journal of Environmental Research and Public Health (ISSN: 1660-4601), editada por MDPI. Indicios de calidad para el año 2021 en JCR (último año disponible): Journal Impact Factor (JIF) 4.614; Q1 Category Public, Environmental & Occupational Health - SSCI, posición 45/182. Indicadores de calidad para el año 2022 en SJR (último año disponible): SJR 0.828; Q2 category Public Health, Environmental and Occupational Health; H-index 167.

Las contribuciones de Mirian Fernández-Salido en el presente artículo, se resumen en:

- **Diseño del protocolo y redacción del manuscrito:** la doctoranda fue la principal responsable y contribuyente en el diseño del protocolo de estudio y la redacción del mismo, desarrollando el marco teórico de referencia e informando seguidamente de los métodos de investigación, las medidas de resultado empleadas, así como también el proceso de gestión, recolección y análisis de datos. Asimismo, se ocupó de las modificaciones oportunas tras las sugerencias realizadas por los revisores en el proceso de revisión y de mantener el dialogo con la revista durante dicho periodo.

El artículo Efficacy of a Comprehensive and Personalized Approach for Frail Older People in Valencia (Spain): A Pre-Post Controlled Trial fue publicado en coautoria con Alhambra-Borrás, T. y Garcés-Ferrer, J. en 2024 en la revista Healthcare (ISSN 2227-9032), editada por MDPI. Indicios de calidad para el año 2023 en JCR (último año disponible): Journal Impact Factor (JIF) 2.4; Q2 Category Health Care Sciences & Services – SCIE posición 73/174, Health

Policy & Services - SSCI, posición 49/118. Indicadores de calidad para el año 2023 en SJR (último año disponible): SJR 0.606; Q2 Category Health Policy; Leadership and Management; H-index 57.

Las contribuciones de la doctoranda Mirian Fernández-Salido al presente artículo se concretan en:

- **Recogida y registro de los datos:** la doctoranda se encargó de la recogida, el registro y el tratamiento de los datos garantizando el cumplimiento de los estándares éticos y metodológicos.

- **Análisis de los datos:** la doctoranda colaboró en el análisis de los datos registrados a través del cuestionario ValueCare, evaluando las variables y validando el uso de la intervención ValueCare en la población objeto d eestudio.

- **Redacción del artículo:** La doctoranda se responsabilizó de la redacción de la mayor parte de las secciones del artículo, incluyendo la implementación de las modificaciones necesarias tras la revisión efectuada por los revisores y posteriormente por los editores previa publicación.

3. Marco teórico

3.1. Envejecimiento poblacional: contextualización, previsiones y retos

El envejecimiento de la población, fenómeno que implica un aumento de la representación de las personas mayores en la población total, sigue en auge con una expansión acelerada de la población de edad avanzada en todo el mundo (Grundy et al., 2017; Ofori-Asenso et al., 2018). Este aumento progresivo de la proporción de personas mayores es el efecto de la consecución de dos fenómenos paralelos, el aumento continuo de la esperanza de vida, junto a la disminución de las tasas de fecundidad (Sander et al., 2015; World Health Organization, 2020; Maj-Wasniowska y Jedynak, 2020).

A nivel mundial, según las proyecciones de la Organización de las Naciones Unidas (ONU), se estima que la población seguirá creciendo de aproximadamente 6.100 millones en el año 2000 a 9.700 millones en 2050 y 11.200 millones en el año 2100, y se calcula que en 2050 una de cada cinco personas en todo el mundo tendrá 60 años o más (United Nations, 2019). En Europa, se estima que para el 2050 la población mayor de 65 años represente el 27% de la población y los octogenarios constituyan al menos uno de cada diez habitantes en 2050 (Eurostat, 2019. Si bien es cierto que el envejecimiento poblacional constituye un reto a nivel mundial, la Unión Europea (UE) presenta una imagen diferenciadora, ya que el proceso de envejecimeinto poblacional en el continente europeo se encuentra entre los más avanzados (Agost et al., 2021; Morales et al., 2022; Tzouganatou, 2022).

Por lo que concierne a España, según los datos aportados por el Instituto Nacional de Estadística (INE), a fecha 1 de enero de 2024, la población de 65 años o más ascendía a casi el 20% de la población con aproximadamente 10 millones de personas, perpetuando así el incremento anual que lleva produciéndose desde años anteriores (Instituto Nacional de Estadística, 2024) y convirtiéndose en el cuarto país Europeo con más personas mayores, por detrás de Alemania, Francia e Italia (Pérez Díaz et al., 2023a). Las proyecciones de población prevén para 2050 que la población mayor de 65 años constituya un 30,4% del total, convirtiendo a España en el país más envejecido de Europa (Lázaro y Potou, 2018; Pérez Díaz et al., 2023b).

Las previsiones globales sugieren que el aumento sin precedentes de la esperanza de vida presenciado en los dos últimos siglos continúe, de manera que las mejoras en la supervivencia acrecienten alrededor de 5 años la esperanza de vida al nacer para la población mundial, con una longevidad media aproximadamente de 77,2 años para 2050 (United Nations, 2022).

Atendiendo a estos datos la longevidad de la población puede considerarse a su vez un éxito y un reto. Un éxito de los avances científicos, médicos y tecnológicos, las mejoras de las políticas de salud pública y el desarrollo socioeconómico (Petretto et al., 2016; Rebodillo et al., 2021; Castelblanco-Toro, 2024), que han permitido grandes logros en cuanto a la disposición de fármacos, el tratamiento de enfermedades crónicas, cirugías y procedimientos intervencionistas para abordar enfermedades que antes se gestionaban paliativamente o incluso se desconocía el entendimiento de sus causas (Valencia, 2012a; Creagh et al., 2015a). Pero, a su vez, el rápido y continuo aumento de la presencia de personas mayores implica no solo un incremento de la proporción, sino que también instituye el aumento absoluto de un grupo social con características propias (Creag et al., 2015b). En este sentido, el envejecimiento poblacional se constituye como el reto demográfico médico y social más importante del mundo (Officer et al., 2020), implicando múltiples desafíos para los sistemas sanitarios y los presupuestos de salud pública, ya que se asocia a un fuerte incremento de los servicios asistenciales (Creag et al., 2015c; Arsenijevic et al., 2016; Gu y Dupre, 2021).

Con mayor precisión, el envejecimiento poblacional coincide con el aumento de las situaciones de fragilidad que pueden desencadenar en discapacidad y el predominio de las enfermedades crónicas no transmisibles, como son las enfermedades cardiovasculares, el cáncer, la diabetes, la enfermedad, la demencia, la depresión y la osteoartritis, entre otras. Esto puede conllevar, en múltiples ocasiones, comorbilidades y multimorbilidades que ejercen una gran presión asistencial y presupuestaria para los sistemas de salud y las personas que cuidan a las personas mayores (Valencia, 2012b; Vos et al., 2020; Rueda, 2022), además del impacto en la calidad de vida de aquellas personas que las padecen (Segura y Barrera, 2016).

Frente a este escenario, se observa que los sistemas sociales y sanitarios se encuentran sobrecargados y brindan sus servicios y recursos de forma fragmentada y desarticulada, pudiendo albergar inequidad y discriminación y provocando la insatisfacción tanto de pacientes como de proveedores de atención médica (Mitchell y Walker, 2020; McMaughan et al., 2020). En definitiva, los sistemas no están preparados para afrontar los múltiples desafíos que conlleva el envejecimiento poblacional y ante ello se requieren políticas y acciones que garanticen años de vida saludables y una atención de calidad atendiendo a las necesidades complejas de las personas mayores, con diagnósticos e intervenciones que aborden la totalidad del individuo (Wilson et al., 2021; Belachew et al., 2024).

3.2. Privación socioeconómica derivada de la prestación de Cuidados de Larga Duración a personas mayores

Teniendo en cuenta las previsiones en el aumento de la proporción de personas mayores con especial atención al segmento de población octogenaria, cuyas previsiones apuntan a un incremento aproximado del 6% para el 2050 (Oficina Europea de Estadística, 2019), se espera que la demanda económica y social relacionada con los CLD se incremente considerablemente en consonancia con esta tendencia general. Este aumento de la demanda plantea un arduo desafío para las sociedades en proceso de envejecimiento y los sistemas de CLD (Heger y Korfhage, 2018; Lera et al., 2021a).

Junto a los cambios demográficos, los cambios sociales marcados en parte por la disminución de las tasas de fecundidad están modificando la estructura y relaciones familiares y, por ende, la capacidad de respuesta para hacer frente a los CLD devenidos por la presencia de enfermedades degenerativas y dependencia se esta viendo disminuida (García y Catalan, 2010). Antes este escenario, no solo se observa una reducción progresiva del número de posibles cuidadores informales, sino que, además, éstos están sufriendo una mayor carga de trabajo (Lind et al., 2020). Si bien es cierto que la protección social se ve influida en función del modelo de estado de bienestar (Verbeek-Oudijk, 2015a), en la mayoría de países del contexto europeo las personas que requieren CLD y sus familiares, sufren las consecuencias en términos de privación social y económica (Llinca et al., 2017a).

En este sentido, la literatura evidencia notorias desigualdades en el uso de CLD entre países, pero también entre grupos de ingresos dentro de los países, ya que los hogares e individuos con un nivel socioeconómico más bajo presentan un mayor uso de cuidados informales (procedentes de la familia o la comunidad próxima) para cubrir las necesidades de cuidados, frente a los hogares e individuos con un nivel socioeconómico alto, quienes destacan por la presencia de cuidados formales y de un mayor acceso a los recursos de ambos tipos de cuidados en general (Llinca et al., 2017b; Lera et al., 2021b).

En esta línea, los estudios subrayan que las mujeres son las principales protagonistas del cuidado informal prestado, sufriendo un mayor riesgo de exclusión social y desigualdad social, ya que frecuentemente son ellas quienes se sienten obligadas a cubrir las necesidades de cuidado de sus familiares, limitando para ello su vida social y laboral (Phillips et al., 2022). Los datos apuntan a que cerca del 80% de todos los cuidados son proporcionados por cuidadores no remunerados en la UE y tres cuartas partes de los mismos son prestados por mujeres, con un promedio de 22 horas semanales frente a las 19 horas que dedican los hombres (Eurofound, 2017).

Como se ha anticipado, la capacidad de cuidado de los hogares se ha reducido notablemente debido a los cambios ocasionados en los modelos de organización familiar, así como también a la progresiva incorporación de las mujeres al sector laboral, quienes ahora se esfuerzan por lidiar con la carga del cuidado y sus empleos remunerados (Sánchez-Salmeron et al., 2021a; Philips et al., 2022). Si bien el empleo puede actuar como factor protector, en términos de estabilidad financiera, apoyo social y respiro de las responsabilidades de cuidado (Hansen y Salagsvold, 2015), proporcionar cuidados a los miembros de la familia es una responsabilidad que requiere tiempo y esfuerzo y sí no existen políticas e intervenciones que apoyen el equilibrio en el mantenimiento del empleo y la vida laboral y privada, las demandas del trabajo y el cuidado serán difíciles de conciliar (Niimi, 2018; Willink et al., 2018). La evidencia revela, que las organizaciones asumen en esta línea que los empleados cuidadores priorizan las demandas del cuidado familiar sobre las del empleo (Joseph y Joseph, 2019), lo cual puede conllevar a un desempeño laboral deficiente, aumentar el ausentismo y tener un impacto negativo en el bienestar de la persona y en la provisión de los cuidados (Sethi et al., 2017a). En definitiva, los trabajadores "con doble función" que poseen un empleo remunerado y a su vez prestan cuidados no remunerados a familiares, parientes o amigos, constituyen un grupo especialmente vulnerable dado que frecuentemente realizan empleos precarios (Sethi et al., 2017b); entendiendo el término "precario" en relación a experiencias laborales asociadas con contratos de trabajo a tiempo parcial, inestabilidad, falta de protección y vulnerabilidad social y económica (Tompa et al., 2007). Además de esto, hay que tener en consideración las pérdidas económicas derivados del tiempo que se designa al cuidado informal y que conduce a su vez a la pérdida de oportunidades laborales, reducción de la jornada laboral y de los ingresos (Heitmueller et al., 2007; Moya-Martínez et al; 2012).

Ante este contexto, las diferencias en los esfuerzos que están realizando los diferentes regímenes de bienestar, para paliar los riesgos sociales y económicos derivados de la prestación de CLD, son notables. Respecto a los países del norte de Europa, se destaca que éstos destinan unos presupuestos más elevados para cuidados no residenciales, con una provisión de servicios de carácter universal y organizados a nivel local, confirmando la concienciación y la cobertura pública de esta necesidad, cómo factor protector de la privación socioeconómica derivada del cuidado (Cabrero y Gallego, 2013; Verbeek-Oudijk et al., 2015b). En cuanto a los países de la región central de la UE que responden al modelo Bismarck, se observa un elevado nivel de copago, el cual ha obligado a las personas mayores a recurrir a los recursos familiares para poder financiar los servicios de cuidado, e incluso en ocasiones, haber agotado los recursos financieros de la persona por completo para poder apelar a la asistencia social (Karagiannidou y Wittenberg, 2022). Si bien los países del modelo Bismarck han avanzado teniendo en consideración la necesidad de implantar un seguro de cuidados en términos de organizar y financiar los CLD, no sucede lo mismo con los países que constituyen los regímenes de bienestar mixto o mediterráneo, como es el caso de los países del Sur y del Este de Europa, donde las familias cargan con la mayor responsabilidad y, por ende, el uso de cuidados informales resulta preponderante (Pacolet, 2006; Sánchez-Salmerón et al., 2021b) .

Independientemente del modelo de atención, el reto del sistema de cuidados en todos los estados, requiere cambios significativos que avancen hacia la educación del sistema. Se precisa una gestión y acceso equitativo que aborde los cambios demográficos y sociales acaecidos en las últimas décadas. Estos cambios deben pasar por incorporar y garantizar la efectividad de políticas de igualdad de género y de conciliación entre la vida laboral y personal para todos los cuidadores que trabajan.

3.3. Conceptualización de la fragilidad en población mayor

Como se ha anticipado, a medida que la población envejece, aumenta la prevalencia de la dependencia requiriendo la ayuda de terceros para la realización de las actividades básicas de la vida diaria. Este incremento de la dependencia en la longevidad asociado a la aparición de enfermedades y a una decadencia física y mental tiene un impacto significativo en los cuidados de larga duración, generando una mayor demanda de recursos y servicios especializados, así como un aumento en los costos asociados (Bloom et al., 2015; Esteban y Rodríguez, 2015). En este contexto, es crucial que los sistemas de salud implementen estrategias preventivas que aborden la condición que precede a la dependencia, el síndrome de fragilidad (Fried et al., 2001; Acosta et al., 2022). La atención temprana a la fragilidad, debe ofrecer una respuesta mediante una evaluación e intervención planificada e integral que contemple un enfoque clínico, epidemiológico y social siendo la Atención Primaria de Salud la estrategia que cobra mayor importancia para el control y seguimiento del síndrome de fragilidad en las personas mayores (González et al., 2017; Lesende et al., 2021).

El concepto de fragilidad ha crecido en importancia en la investigación sobre el envejecimiento y el cuidado de la población mayor, constituyendo su abordaje un reto para todas las sociedades envejecidas, debido a su asociación con una mayor vulnerabilidad a resultados adversos de salud (Hernández, 2020; Fernández et al., 2020). Entre los múltiples eventos adversos que conllevan un alto riesgo ante la presencia de fragilidad destaca la discapacidad, caídas, hospitalización, institucionalización y mortalidad (Lahousse et al., 2014;O'Caoimh et al., 2014; ; Clegg et al., 2013b; Hoogendijk et al., 2019a). Asimismo, estudios recientes han reportado que la fragilidad está asociada con un mayor riesgo de depresión, soledad, reducción de la calidad de vida, una importante carga económica y un gran impacto en los CLD (Pilotto et al., 2020; Cella et al., 2021).

Asimismo, se requiere la identificación de la población de edad avanzada con mayor riesgo de episodios adversos para la salud y, en este sentido, las personas mayores frágiles constituyen un subconjunto significativo e identificable de los más vulnerables (Morley et al., 2013a).

Ahora bien, cuando referimos al concepto de "fragilidad", es importante destacar, que pese a los esfuerzos de la comunidad científica en las últimas dos décadas, todavía no se ha alcanzado una definición consensuada entre los profesionales del ámbito de la salud, coexistiendo grandes diferencias conceptuales, así como diversidad de herramientas de evaluación y criterios según los cuales una persona es considerada en situación de fragilidad (Soler et al, 2010a; Serra-Rexach et al., 2011a; Contel et al, 2012a; Rodriguez-Mañas et al., 2013). La conceptualización más extendida hasta la actualidad y validada en el Cardiovascular Health Study (Acosta-Benito y Martín-Lessende, 2022) refiere al modelo físico o fenotípico (Fried et al., 2001a). Este modelo está basado en la medición objetiva de la función física e identifica la fragilidad por la presencia de al menos tres de los siguientes cinco criterios: (1) pérdida de peso involuntaria, (2) agotamiento autoinformado, (3) poca fuerza de agarre, (4) velocidad de marcha lenta y (5) bajo nivel de actividad física (Fried et al., 2001b). En términos generales, se considera que una persona es frágil si cumple al menos 3 de los 5 criterios y pre-frágil si cumple 1 o 2 de estos criterios (Rohrman, 2020a).

Frente a esta conceptualización de la fragilidad basada en un constructo unidimensional que orienta el síndrome de fragilidad (SF) al dominio físico del funcionamiento y al estado biológico/fisiológico, los académicos, más recientemente, se han decantado por un constructo multidimensional que analiza la interrelación e interacción entre diferentes dominios del funcionamiento humano: físico, psicológico y social (Gobbens et al., 2010a).

La variabilidad en la conceptualización del estado de fragilidad, sobrelleva a una multiplicidad de instrumentos y herramientas para evaluar la fragilidad, que arrojan tasas de prevalencia diferentes entre estudios, en función de los instrumentos utilizados (Metzelthin et al., 2010; Jung et al., 2014). En este sentido, los estudios reflejan tasas de prevalencia que oscilan entre el 33% y el 88% (Van Iersel et al., 2006) y entre el 4,0% y 59,1% (Collard et al., 2012) en función de los índices utilizados. No obstasnte, a pesar de la variabilidad de los resultados y con independencia del instrumento de evaluación utilizado, la literatura evidencia que la fragilidad es una condición que se acentúa con la edad, oscila entre el 4%

y el 59% en población mayor que viven en la comunidad y es mayor en mujeres que en hombres (Rohrman, 2020b).

Siguiendo esta línea de elementos unánimes a la condición de fragilidad, existen algunos aspectos en los que se puede constatar la existencia de consenso: (1) La fragilidad es un síndrome médico importante que expone a la persona adulta a un mayor riesgo de resultados adversos (Morley et al., 2013b); (2) La fragilidad se encuentra relacionada con un estado de alteraciones fisiopatológicas que predispone a la persona mayor a presenciar un declive en múltiples sistemas corporales, debido a las alteraciones en la movilidad, equilibrio, potencia muscular, nutrición, coordinación motora, resistencia y capacidad de actividad física (Soler et al, 2010b; Serra-Rexach et al., 2011b; Kerschan-Schindl y Föger-Samwald, 2017); (3) Existe consenso en que la fragilidad constituye un estado de pre-discapacidad o de riesgo de desarrollar una nueva discapacidad desde una situación de limitación funcional incipiente, por lo que ni en su definición, ni en los instrumentos de medida, deberían mostrarse determinantes de discapacidad (Lesende et al, 2010a; Soler et al, 2010c; Salva et al.2012); (4) Con independencia de la definición que se utilice, la fragilidad tiende a desarrollarse de forma escalonada, con empeoramientos progresivos. (Lesende et al 2010b; Contel et al, 2012b); (5) La fragilidad refiere a una condición dinámica y no estática, es decir, lo más probable es que cualquier persona mayor no permanezca por largos periodos de tiempo igual de frágil o vigoroso, al igual que no todas las personas mayores son frágiles en la misma medida, por lo que la progresión y la reversión son comunes (Fürstenau et al., 2022a; Gobbens et al; 2010b); (6) La fragilidad responde a un síndrome multicausal determinado por variables de diferente índole (clínicas, sociodemográficas, funcionales, mentales, sociales) y, por ende, requiere que el reconocimiento clínico de la misma se realice a través de la valoración integral de las personas mayores (Fried et al.,1988; Cortés et al.,2000; Redin,2000; Orueta et al.,2008; Soler et al.,2010d; Ministerio de Sanidad, Igualdad y Servicios Social, 2013).

3.4. El enfoque multidimensional de la fragilidad: factores de riesgo y factores de protección

Como se ha anticipado, pese a que tradicionalmente la fragilidad se ha definido como un constructo unidimensional de carácter (bio)médico, en la actualidad se está extendiendo la conceptualización a través de modelos integradores que incluyen además del dominio físico, el dominio psicológico y social (Steverink, 2001; Gobbens et al., 2010c). A este respecto, la definición proporcionada por Gobbens y sus colegas (2010)c ofrece un ejemplo claro de atención al carácter integral y multidimensional, al definir la fragilidad como "un estado dinámico que afecta a un individuo que experimenta pérdidas en uno o más dominios del funcionamiento humano (físico, psicológico, social), que es causado por la influencia de una serie de variables y que aumenta el riesgo de resultados adversos".

En esta misma línea, estudios recientes abordan los factores de riesgo para la aparición o progresión de la fragilidad desde una perspectiva multifactorial, que engloba un amplio espectro de aspectos y condiciones que abarcan los dominios sociales, demográficos, clínicos, relacionados con el estilo de vida y biológicos (Hoogendijk et al., 2019b). En consonancia con esto, más recientemente, algunos autores como Jauregui y Ruben (2021) a se han esforzado por aunar el conjunto de criterios médicos que a lo largo de la historia se han utilizado para definir la fragilidad y que son coincidentes con los criterios mencionados por otros autores, como la presencia de enfermedades crónicas (Gray et al., 2013; Lessende, 2009) y especialmente la comorbilidad enfocada en la presencia de dos o más enfermedades crónicas (Fried et al., 2001c; Herrera et al., 2020; Wang y Hu, 2022), déficits sensoriales, alteración en la marcha, caídas reiteradas, mala autopercepción de la salud, hospitalizaciones frecuentes, criterios funcionales en términos de la disminución de capacidad para realizar de forma independiente las actividades básicas de la vida diaria (ABVD) y las actividades instrumentales de la vida diaria (AIVD) (Anderson, 2010; Raya et al., 2006; Serra-Rexach et al., 2011c); criterios socioeconómicos (vivir solo, viudez reciente, edad mayor de 80 años, bajos ingresos económicos) (Jung et al., 2017; Fhon et al., 2018) y criterios cognitivos/afectivos (depresión, deterioro cognitivo) (Soysal et al., 2017; Da Mata et al., 2021).

En este sentido, autores como Elsa dent et al. (2016)a o Fen et al. (2017)a han aunado sus esfuerzos para, tras revisiones exhaustivas, definir los factores de riesgo relacionados con el desarrollo de la fragilidad: factores sociodemográficos como el riesgo de pobreza, la edad avanzada, el género femenino, ingresos bajos, vivir solo y el bajo nivel educativo; factores psicológicos, incluida la depresión; problemas nutricionales como la mala salud bucal o la desnutrición; polifarmacia; presencia de enfermedades; factores físicos como la baja actividad física, la obesidad el índice de masa corporal (IMC) y el estado funcional de las actividades de la vida diaria (AVD) se asociaron de forma significativa y positiva con la fragilidad. Por su parte, Brinkman et al. (2018)a y van Assen et al. (2022)a han abordado desde una perspectiva multidimensional la relación entre los factores de estilo de vida que se asocian positivamente con la fragilidad, como el tabaquismo, el consumo de alcohol, la inactividad física o la dieta poco saludable.

Figura 1. *Factores de riesgo relacionados con la aparición o progresión de la fragilidad*

APARICIÓN O PROGRESIÓN DE LA FRAGILIDAD

Factores demográficos y sociales:

- Edad avanzada
- Sexo femenino
- Minorias Etnicas
- Bajo nivel educativo
- Baja posición socioeconómica
- Vivir solo
- Soledad

Factores clínicos:

- Multimorbilidad y enfermedades crónicas
- Obesidad
- Malnutrición
- Deteriro cognitivo
- Depresión
- Polifarmacia

Factores relacionados con el estilo de vida:

- Inactividad o baja actividad física
- Bajo consumo de proteínas
- Tabaquismo
- Aumento del consumo de alcohol

Factores biológicos:

- Inflamación *(citoquinas o PCR elevadas)*
- Factor endocrino *(deficiencia androgénica u IGF-1)*
- Deficit de micronutrientes *(niveles de vitamina B6, vitamina D o vitamina E bajos)*

Fuente: *elaboración propia a partir de datos de Hoogendjik et al. (2019)c; Jauregui y Ruben (2021)b; Elsa dent et al. (2016)b; Fen et al.(2017)b.*

Frente a los factores de riesgo que se asocian con un índice de fragilidad alto, existe evidencia de aquellos factores que se constituyen como elementos protectores. En este sentido, los hallazgos confirman que, frente a la inactividad física, la cual se constituye como un factor de riesgo de fragilidad, la actividad física se constituye un factor protector, especialmente, frente a la fragilidad física. (Navarrete-Villanueva et al., 2021; Corral-Pérez et al., 2023; Pajares y Pajuelo, 2023). En esta misma línea, Cobacho-Salmoral et al. (2021) confirman que la actividad y el rendimiento físico pueden prevenir la condición de fragilidad e incluso mejorarla, además de tener un impacto positivo en la calidad de vida de la persona. Asimismo, se ha demostrado que la actividad física también constituye un factor protector frente a otros factores de riesgo asociados con la fragilidad, como la depresión y el declive cognitivo (Teychenne et al., 2008; Garcia-Garcia et al., 2011).

Prosiguiendo con los factores socioeconómicos que constituyen un riesgo para la fragilidad, como la pobreza o el bajo nivel educativo, la investigación llevada a cabo por Rojas Huerta (2022) confirmo que la escolaridad y ser un trabajador en activo tienen un efecto protector significativo contra la fragilidad. Asimismo, frente a factores sociodemográficos de riesgo como el presentar un soporte social deficitario, traducido en vivir solo, el vivir acompañado de un familiar se ha constituido como un factor protector (Yábar-Palacio et al., 2019; Herrera-Perez et al., 2020).

Estudios recientes, han focalizado la atención en determinar la asociación entre los factores relacionados con el estilo de vida que tienen un impacto en la fragilidad multidimensional como protectores de la misma. Así, van Assen et al. (2022)b constataron a través de un estudio transversal constituido por un total de 45.336 personas mayores de 65 años residentes en la comunidad, que factores como el consumo de alcohol, el tabaquismo, la nutrición y la actividad física tienen impacto en todas las dimensiones de la fragilidad (física, psicológica y social) y que realizar actividad física, llevar una alimentación saludable y un menos consumo de tabaco se asocian con una menor fragilidad total. Con respecto a la asociación entre el alcohol y la fragilidad, los resultados con controvertidos, si bien el consumo excesivo de alcohol se asocia con una peor salud, el consumo moderado puede no estarlo. En la misma línea, Brinkman et al. (2018)b y Faria et al. (2022) concluyeron que las personas mayores que tenían un estilo de vida más saludable, concretamente, con mayor actividad física, mejor nutrición, soporte social y conductas preventivas, presentaban puntuaciones más bajas de fragilidad según la evaluación multidimensional del sindrome.

Determinar el conjunto de factores de fragilidad, puede ser de utilidad para el diseño y la implementación de intervenciones focalizadas en prevenir y/o reducir la carga que la fragilidad supone para el individuo, y puede ofrecer orientación para el desarrollo de futuras políticas de salud pública (Buttery et al., 2015). Además, los hallazgos en materia de fragilidad, concluyen que la población que no presenta fragilidad tiene, entre otras, menos probabilidades de desarrollar dependencia u otras enfermedades crónicas. Por consiguiente, la prevención del síndrome de fragilidad puede conllevar una reducción de los costos de atención médica y una mejor calidad de la población mayor (Brinkman et al., 2018c).

3.5. Abordar la fragilidad: La idoneidad del Modelo de Atención Sanitaria Basado en el Valor (ASBV)

Como se ha anticipado, la discapacidad se establece como una de las consecuencias negativas de la fragilidad, como un efecto secundario del síndrome, que constituiría la etapa final (Afilalo, 2016). Por ende y teniendo en cuenta que la fragilidad constituye un síndrome complejo y multifactorial común entre la población mayor, que es prevenible y puede corregirse, es imprescindible que, desde la atención primaria, como ámbito de detección principal de la fragilidad, se proporcione un enfoque multidisciplinar y holístico que aborde eficazmente el manejo de la misma (Somagutta et al., 2022). Actualmente, los sistemas de atención sanitarios están mayormente diseñados para recompensar el volumen sin tener en cuenta la relación calidad-coste (Miller, 2009). Este contexto de atención basado en el volumen y la productividad se encuentra a su vez inserto en medios de sistemas de salud fragmentados y no equipados para satisfacer las necesidades complejas de los pacientes frágiles (Montaño et al., 2017c; Gobbens, 2018).

En esta línea, las organizaciones sanitarias que tienen como base la atención de la salud basada en el volumen, llevan adherida una competición por la disminución de los costes totales en la atención médica, restando así valor a la prestación de los servicios. Asimismo, como se ha anticipado, este paradigma clásico de atención no responde adecuadamente a las necesidades de los pacientes, pues los incentivos están dirigidos a mejorar el flujo de pacientes (volumen) y no a mejorar la atención proporcionada (Porter y Teisberg, 2004a)a. Esta realidad nos conduce a que podamos observar específicamente en Nuestro Sistema Nacional de Salud la insatisfacción de la población entre los principales problemas estructurales identificados (González, 2007).

En consistencia con lo anterior, desde los últimos años, se está trabajando a nivel global por la transformación del sistema actual con un enfoque de Atención en Salud Basada en el Volumen a un enfoque de Atención en Salud Basada en el Valor (ICHOM, 2016).

La Atención de la salud basada en el volumen conlleva a los pacientes, dada la fragmentación de los servicios, a “rodar” de departamento en departamento y de institución en institución, para conseguir un “producto” final que nadie ofrece completo (Mayer, 2019a); mientras que, la atención en salud basada en el valor se constituye como un modelo integral de atención que apuesta por la generación y maximización de valor para el paciente a lo largo del ciclo de la atención (Porter y Teisberg, 2006a)a. La atención basada en el valor apuesta por que los servicios de atención médica dejen de ser ofrecidos a los pacientes de forma fragmentada para ser considerados como un todo según lo que necesitan y lo que es importante para los usuarios. Dicho de otra manera, este enfoque apuesta por que los servicios de salud dejen de ser organizados alrededor de especialidades y/o prestaciones aisladas de servicios, para ser proveídos según las necesidades del paciente, siendo este considerado de forma integral y no por divisiones independientes de atención (Mayer, 2019b).

En este sentido, el valor es definido por una relación entre los resultados y los costes, es decir, generar valor radica en enfatizar los resultados en salud logrados por el paciente y las organizaciones de acuerdo a los recursos invertidos (Benington y Moore, 2011a), manteniendo una relación óptima con los costes. Este modelo estimula así la eficiencia, en tanto que no es viable una reducción de costes sin obtención de resultados (Moore y Khagram, 2016).

De esta manera, mientras que en la atención en salud basada en el valor la importancia radica en los resultados, los desenlaces en salud que son importantes para el paciente permitiéndole en la práctica una mejor calidad de vida, relativos al dinero invertido (Porter, 2010a); en la atención en salud basada en el volumen los sistemas de salud operan en base a la cantidad de servicios prestados y no en base a los verdaderos resultados en salud obtenidos. Esta práctica limita la capacidad de conocer realmente cuál es la mejoría alcanzada por el paciente y de qué manera, como prestador, se pueden ajustar las prácticas para obtener resultados costo-efectivos (Porter, 2010b).

En este sentido, el enfoque porteriano del valor se basa en la construcción de la cadena de valor del proceso asistencial (CVPA), esto es una herramienta normativa y descriptiva del total de actos que deben hacerse, quien los realiza y como contribuyen a lograr los resultados en salud relevantes para el paciente. Hasta ahora la medicina tradicional se basaba en la evaluación de los actos asistenciales por separado, evaluando su eficiencia, eficacia y su coste-efectividad. Este concepto de cadena de valor implica por tanto un cambio de modelo, donde se deja atrás un modelo en el que la prestación de servicios sanitarios se centra en la cantidad de servicios prestados, a un modelo centrado en el valor de dichos servicios, donde se entiende el valor como el resultado integral en salud relativo a la calidad de la asistencia y al coste de todo el proceso (Barrubés et al, 2019a)

En este contexto, la atención sanitaria basada en el valor supone un nuevo paradigma en la provisión de servicios de salud, promoviendo la atención centrada en el paciente y la optimización de los procesos asistenciales, en los que la medida de resultados y la experiencia de los pacientes son fundamentales (Caro et al, 2019a)

De esta manera la atención en salud basada en el valor conlleva utilizar como indicador máximo de calidad el valor entregado al paciente, medido como desempeño clínico, determinado con indicadores pertinentes y comprensibles para el paciente, divididos entre el coste total de la atención. A su vez, el desempeño clínico se medirá en base a todas las acciones aplicadas para obtener la condición clínica necesaria para que el estado de salud se recupere, teniendo en cuenta no solo el momento en el que el paciente es dado de alta, sino hasta su evaluación posterior. De esta manera, no se pueden pretender reducir los costes en detrimento del desempeño clínico del paciente, dado que el valor no depende únicamente de "gastar menos", ni tampoco se pueden ejecutar acciones que suban los costes sin que estos tengan un impacto positivo en el desempeño clínico, porque afectaría negativamente el valor entregado (Barrubes et al., 2019b).

Estudios recientes que han abordado la fragilidad desde un enfoque integrador basado en el valor han evidenciado un impacto positivo en los resultados de atención sanitaria para las personas mayores que presentan fragilidad (Fürstenau et al., 2022b; Boreskie et al., 2022).

De acuerdo con los autores originales del modelo (Porter y Thomas, 2013a), la atención en salud basada en el valor requiere del cumplimiento de cinco principios necesarios para su correcta ejecución. Éstos, a su vez, hacen parte de la lista española de 2017 de las 100 medidas que mejorarían el sistema de Salud (Montaño et al., 2017b).

1. El primer componente, la medición de costes y resultados para cada paciente. Se deben estimar los costes totales como elemento primordial para establecer el valor alcanzado tras una intervención, entendiendo por costes totales la consideración de todos los gastos que se han requerido para la atención del paciente durante el periodo completo de duración del tratamiento (espacios de cuidado, personal, equipos y recursos de soporte utilizados para proporcionar la atención) (Kaplan y Porter, 2011; Kaplan y Anderson, 2004).

2. El segundo componente, la necesidad de crear unidades especializadas e integradas de atención. Esto podría alcanzarse mediante la creación de centros y equipos especializados que presten servicios al paciente durante todo el ciclo de cuidado, ofreciendo tratamientos integrales, coordinados, donde exista un alto grado de interacción y comunicación, y que se encuentren organizados por patologías, en base a pacientes que presentan condiciones de salud específicas, y no por especialidades o espacios físicos (Porter y Teisberg, 2006b). Algunos ejemplos de ello lo constituyen las clínicas especializadas en pacientes con diabetes, en el manejo del dolor y en enfermedades crónicas. En cualquier caso, esto es especialmente práctico para aquellas condiciones de salud con mayores niveles de complejidad y comorbilidad, donde los pacientes, que presentan un alto riesgo, pueden ser atendidos de manera temprana, reduciendo posibles complicaciones que, en estadios avanzados, podrían ser más costosas y difíciles de abordar (Porter y Thomas, 2013b). Además, el trato holístico de determinadas condiciones de salud por una clínica especializada ahorraría a los pacientes tiempo en tanto que reciben de manera inmediata los servicios complementarios que requieren sin tener que rondar por el sistema hasta que se logran auto-coordinar procedimientos y citas. Autores como Enthoven, Crosson y Shortell (2007) contemplan

además la necesidad de aplicación desde el nivel primario de atención con el objetivo de evitar la división del servicio y que el paciente se vea obligado a acudir a varias instituciones.

3. El tercer componente se basa en la promoción de modelos de pago basados en paquetes integrales de atención. De esta manera existiría un pago único que cubriría el total del tratamiento suministrado al paciente. Estos pagos por paquetes integrales de atención denominados también pagos agrupados en los que se calcula el coste total de un resultado en salud, va a permitir además maximizar la generación de valor para los pacientes, quienes podrán recibir una atención integral y completa (Porter y Kaplan, 2016).

4. El cuarto componente refiere a la importancia de los sistemas de información y tecnología. Para Porter y Thomas (2013)c así como para otros autores como Holve (2019)a se constituyen como una pieza fundamental de este sistema en tanto que las plataformas de sistemas de información facilitan la recogida, el seguimiento y análisis de datos proporcionando información clave para la toma de decisiones y reajuste de procesos. Por ejemplo, a la hora de caracterizar la población y detectar sus necesidades o en la detección de carencias en el sistema relativas a la medición de costos o el análisis de los desenlaces en salud. Por lo que refiere a los criterios a considerar para la selección de los sistemas de tecnología e información autores como Benington y Moore (2011)b, Porter y Teisberg (2004)b y Kaiser y Lee (2004) coinciden en que estos deben:

- Permitir a todas las partes involucradas el acceso a la información
- Utilizar un lenguaje común y entendible para toda la organización
- Recabar todos los tipos de información de los pacientes de manera integrada alrededor del paciente y su condición.
- Permitir extraer y analizar la información fácilmente
- Estar basados en la gestión del riesgo y el seguimiento a los costos
- Estar centrados en el paciente a través de toda la atención

En este sentido, los sistemas de información se constituyen como una de las herramientas más eficientes para coordinar la provisión de los servicios de salud, en tanto que todos los profesionales de un equipo pueden estar información durante el curso de tratamiento de un paciente (Holve, 2019b). Esto permite evitar ciertas limitaciones que se encuentran a diario prestadores y usuarios en los servicios de salud cuando los pacientes no consiguen informar de forma precisa durante la consulta las recomendaciones indicadas por otro profesional o los resultados de sus exámenes diagnósticos.

5. El quinto y último componente radica en la expansión geográfica y la creación de servicios integrados, incluso cuando ello requiera de la utilización de más de un prestador o sede de atención. El objetivo de ello es proporcionar una distribución eficiente de los recursos, donde, por ejemplo, los pacientes con un nivel bajo de complejidad que requieran atención primaria sean atendidos en centros de baja complejidad, mientras que los pacientes con altos niveles de complejidad sean atendidos en instituciones de tercer nivel, de manera que se pueda maximizar el valor obtenido por la atención (Porter y Teisberg, 2006c). Autores como Bohmer (2011) describen esta prestación de servicios integrados como el diseño de microsistemas en organizaciones de salud de alto valor, donde se puede lograr la simplificación de procesos, la disminución del estrés laboral y un uso adecuado de los recursos, gracias a la creación de altos niveles de articulación entre los diferentes actores y procesos requeridos. Al proveer los servicios en salud de forma articulada se va a conseguir reducir los costos innecesarios, como, por ejemplo, aquellos que surgen de la fragmentación y reduplicación de procesos, o de la saturación de centros de atención que abarcan todo tipo de patologías (Porter y Teisberg, 2006d). Relacionado con esto, la atención en salud basada en el valor propone junto a la integración de servicios la expansión geográfica en la entrega de los mismos. Esto significa que es necesario conocer e identificar las zonas geográficas es las que va a resultar más costo-efectivo crear un centro especializado de atención antes que desplazar a la población como tal (Porter, 2008; Badash et al., 2017). Autores como Porter y Thomas (2013)e y Barrubés et al. (2019)c consideran que esta reorganización de la red de servicios implica promover el desarrollo de alianzas estratégicas mediante la creación de acuerdos de cooperación entre grandes y pequeños prestadores, para de esta manera conseguir el fortalecimiento del sistema y la atención de la población dispersa, garantizando mayores niveles de calidad en la atención.

3.5. La importancia de la Atención Centrada en la persona en el contexto de la Atención Sanitaria Basada en el Valor

Pese a no formar parte de los cinco componentes anteriormente mencionados, uno de los aspectos más relevantes a tener en cuenta durante las fases de implementación del modelo de Atención Basado en el Valor es la importancia de proporcionar una atención centrada en el paciente- persona (Barrubés et al 2019d).

La relación entre el sistema sanitario y el paciente ha evolucionado a lo largo del tiempo de forma importante, en tanto que el último ha dejado de ser considerado un sujeto pasivo para ser considerado un sujeto activo. Hasta hace no mucho tiempo la relación médico-paciente se basaba en una relación donde el paciente cumplía en silencio las decisiones sanitarias dictadas por el médico, quien dado su conocimiento seleccionaba los tratamientos e intervenciones necesarios para la mejora de la salud del paciente, e informaba al mismo esperando la aceptación pasiva de sus decisiones (Rodríguez, Dackiewicz y Toer, 2014; Elio-Calvo, 2021).Esta relación médico-paciente de carácter asimétrico empezó a cuestionarse hace 40 años con el objetivo de promover una participación más autónoma y activa del paciente, reducir la dominancia del médico sobre el paciente y lograr una mejor interacción entre ambos. En 1969 la psiquiatra inglesa Enid Balint acuñaba la expresión "centrada en el paciente", instalando así la idea de que el paciente debía ser entendido como un ser único; y detallada por Lipkin, Quill y Napodano (1984), quienes describieron la interacción médico-paciente definiendo a este último como un ser con historia propia, irrepetible, y donde la enfermedad formaba parte de su dimensión biopsicosocial. Así mismo, en 2001 el Instituto de Medicina de Estados Unidos describía por primera vez, la atención centrada en el paciente como un elemento fundamental para alcanzar la calidad en la atención del paciente y su seguridad (Institute of Medicine, 2001)a . Este organismo definió la atención entrada en el paciente como la atención de la salud que instaura la colaboración entre profesionales de atención, pacientes y familias cuando es necesario. Enfatizan el respeto y la respuesta individualizada a las preferencias, necesidades y valores del paciente asegurando que éstos guían las decisiones clínicas, así como el soporte educativo por parte del profesional para que las personas puedan tomar sus propias decisiones y participar en el autocuidado (Ekman et al., 2011)a.

No obstate, la expresión "atención centrada en el paciente "ha ido evolucionando con los años hacia la expresión "atención centrada en la persona", reconociendo de esta manea al paciente como un ser integral al cual no solo lo acompañan síntomas o enfermedades sino también las creencias y prácticas propias de su contexto (EKman et al., 2011)b.

Esta expresión fue definida por Morgan y Yoder (2012) como un enfoque holísticobasado en el respeto y la personalización, permitiendo la negociación en la atención, ofreciendo elegir en la relación terapéutica y empoderando a las personas para que se impliquen en las decisiones relacionadas con su atención. En esta misma línea, autores como Nolan y Cols (2004) y McComack (2004) destacaban como principios en la atención centrada en el paciente, el reconocimiento de cada persona como ser singular y valioso, conocimiento de la biografía, la apuesta por favorecer la autonomía de las personas mayores y la interdependencia de éstas con su entorno social.

En la actualidad, el paciente ya no puede ser tratado como un objeto pasivo, sino que desde la perspectiva de la atención centrada en la persona el sujeto es esencial de las acciones de un equipo de salud concienciado, motivado y sumergido en una cultura de la mejora continua de la calidad de la atención, en cuyo caso, el paciente asume un rol activo dentro de su proceso terapéutico y discute con el profesional de la salud las alternativas de intervención, su percepción frente a estas y la forma en la que puede colaborar dentro de este proceso (Institute of Medicine, 2001b; Kaur y Lum, 2022).

El Modelo de Atención Basado es clave en proveer una atención centrda en la persona, pues apoya la premisa de que el usuario posee un rol activo dentro de su proceso terapéutico, empoderándolo en la medida en que sea posible en cada una de las fases del ciclo de tratamiento, para que de esta manera asuma el liderazgo de su intervención (de Silvia, 2014). De acuerdo con Mcmillan, et al. (2014) y Caro et al. (2019)b la participación activa del paciente permitirá adaptar y ajustar la atención entendiendo de manera crítica que funciona mejor o no para ellos dentro de una intervención, ajustando la atención a cada uno de ellos, lo cual posibilitará la optimización de servicios y resultados al ofrecer tratamientos apropiados en el momento y lugar oportuno.

Si el conjunto completo de resultados, ajustados a las circunstancias individuales del paciente es lo que constituye la calidad de atención del mismo (Porter, 2010c), la incorporación del paciente y su participación deben tener lugar desde el inicio de la atención, pues para conocer cuáles son los resultados que importan a estos es imprescindible trabajar directamente con ellos, incorporándolos en la reflexión de su proceso terapéutico desde el inicio, por dos motivos: son los pacientes quienes deben definir qué resultados son importantes para ellos y son estos mismos quienes contribuirán a recabar los datos necesarios para medir dichos resultados en la fase de recuperación (Barrubés et al., 2019)e.

4. Objetivos

El objetivo general (OG) de esta tesis reside en ofrecer un marco de referencia holístico, que permita entender las interacciones existentes entre el proceso de envejecimiento y los desafíos que plantea para los sistemas de salud pública, vislumbrando en el contexto actual las posibles alternativas existentes en el ámbito socio-sanitario que se presentan como soluciones para abordar la fragilidad como expresión más apremiante del envejecimiento y, prevenir por ende, el riesgo de discapacidad y en consecuencia un incremento de las necesidades de cuidados de larga duración.

Este estudio se constituirá como un marco de evidencia científica, que servirá como herramienta práctica para los responsables de políticas y los profesionales del ámbito social y sanitario, apoyándoles en la creación e implementación de políticas y acciones más eficaces y eficientes que, alineadas con las transformaciones demográficas, sanitarias, económicas y tecnológicas, podrán mejora la atención sanitaria, la salud y la calidad de vida de la población mayor que presenta fragilidad.

Este objetivo general se estructura en torno a objetivos específicos (OE), asociados a tres hipótesis fundamentales:

H1 La existencia de políticas e iniciativas innovadoras europeas, para abordar el apoyo socioeconómico a las familias que prestan cuidados de larga duración, serán escasas y heterogéneas, asociándose la variabilidad y condición de las mismas al régimen de bienestar implantado.

H2 Las implementaciones de un enfoque de Atención Sanitaria Basada en el Valor tienen un impacto positivo en los resultados sanitarios a pesar de las diferencias conceptuales y la escasez y falta de rigor en la evaluación de resultados de los estudios.

H3 Un programa integral, personalizado, basado en el valor y apoyado por soluciones digitales se constituye como una intervención eficaz para mejorar la fragilidad multidimensional de las personas mayores de 65 años.

La primera hipótesis (H1) establece que, las políticas y prácticas existentes con carácter innovador a nivel europeo, para paliar la privación socioeconómica de las familias que brindan cuidados de larga duración, son escasas y ofrecen un apoyo parcial. Esta hipótesis aborda un vínculo directo entre la heterogeneidad de las políticas asociada al país, especialmente al régimen de bienestar adherido y los beneficios que ofrecen en termino de apoyo socioeconómico. La segunda hipótesis (H2) analiza en profundidad el carácter innovador del modelo de Atención Sanitaria Basado en el Valor, examinando las diferencias y similitudes en la conceptualización del modelo y en los resultados de su implementación. Aquí, se profundiza en el impacto positivo del modelo pese a la variabilidad presentada en su conceptualización y los resultados, sugiriéndose como un modelo alternativo al actual modelo de atención basado en el volumen, por su capacidad para mejorar la eficiencia y sostenibilidad de la atención sanitaria. La tercera hipótesis (H3) establece que el diseño y la implementación de un programa personalizado e integral y apoyado por una solución tecnológica que responda a los elementos fundamentales de la atención basada en el valor, tendrá un impacto positivo en la mejora de la fragilidad multidimensional de las personas mayores, así como en otras condiciones de salud.

De las hipótesis anteriormente mencionadas se desprenden los objetivos específicos de esta tesis:

OE1 Identificar y analizar, mediante metodologías cualitativas, el contexto europeo en torno a las políticas y características innovadoras de apoyo a las condiciones de privación socioeconómicas que experimentan las personas mayores y sus familias, como consecuencia de la prestación de cuidados de larga duración a población mayor en situación de dependencia.

OE2 Explorar y sintetizar la evidencia científica, a través de una revisión bibliográfica de alcance, en torno a la atención basada en el valor, su conceptualización y resultados de la implementación en el contexto de la atención sanitaria, informando cómo estos pueden contribuir a mejorar la eficiencia y la sostenibilidad del sistema público de atención sanitaria.

OE3 Evaluar un programa de atención integral y personalizado basado en el valor, ValueCare, para abordar el carácter multidimensional de la fragilidad en el adulto mayor que vive en la comunidad.

La formulación y el alcance de los objetivos que se han deducido de las hipótesis anteriormente mencionadas, presentan su lógica al abordarse desde una perspectiva más general a una más particular. Así, se atiende inicialmente el contexto actual europeo de apoyo a los cuidados de larga duración, como una realidad apremiante del proceso de envejecimiento, que amenaza la sostenibilidad del sistema de cuidados y precisa de un marco de conocimiento, sobre las respuestas que Europa está implementando para hacer frente a estos desafíos. Tras dar respuesta a este objetivo, se indaga en la necesidad de trasformar los sistemas de salud hacia un modelo de Atención Basado en el Valor, que reoriente los servicios de salud hacia la consecución de un doble objetivo, esto es mejorar los resultados de salud logrados para los pacientes y las organizaciones, manteniendo una relación óptima con los costes. Tras establecer un marco de conocimiento actualizado y basado en la evidencia sobre el significado de la Atención Basada en el Valor y los resultados de su puesta en práctica, se procede a alcanzar el tercer objetivo de esta tesis. Este tercer objetivo ofrece la mayor concreción ofrecida hasta el momento, al abordar el diseño, implementación y evaluación de un programa concreto en el marco de la atención basada en el valor, para mejorar los resultados de salud de la población mayor que presenta fragilidad.

La tabla que se expone a continuación presenta la correspondencia entre las hipótesis y los objetivos de la investigación:

Tabla 1. *Correspondencia entre Hipótesis y Objetivos Específicos*

	Hipótesis		Objetivos Específicos
H1	La existencia de políticas e iniciativas innovadoras europeas, para abordar el apoyo socioeconómico a las familias que prestan cuidados de larga duración, serán escasas y heterogéneas, asociándose la variabilidad y condición de las mismas al régimen de bienestar implantado.	OE1	Identificar y analizar, mediante metodologías cualitativas, el contexto europeo en torno a las políticas y características innovadoras de apoyo a las condiciones de privación socioeconómicas que experimentan las personas mayores y sus familias, como consecuencia de la prestación de cuidados de larga duración a población mayor en situación de dependencia.
H2	Las implementaciones de un enfoque de Atención Sanitaria Basada en el Valor tienen un impacto positivo en los resultados sanitarios a pesar de las diferencias conceptuales y la escasez y falta de rigor en la evaluación de resultados de los estudios.	OE2	Explorar y sintetizar la evidencia científica, a través de una revisión bibliográfica de alcance, en torno a la atención basada en el valor, su conceptualización y resultados de la implementación en el contexto de la atención sanitaria, informando cómo estos pueden contribuir a mejorar la eficiencia y la sostenibilidad del sistema público de atención sanitaria.
H3	Un programa integral, personalizado, basado en el valor y apoyado por soluciones digitales se constituye como una intervención eficaz para mejorar la fragilidad multidimensional de las personas mayores de 65 años.	OE3	Evaluar un programa de atención integral y personalizado basado en el valor, ValueCare, para abordar el carácter multidimensional de la fragilidad en el adulto mayor que vive en la comunidad.

Fuente: *elaboración propia*

5. Metodología

5.1. Contexto Metodológico

La investigación en salud estudia fenómenos sanitarios complejos que requieren ser analizados de manera global (Kaur, 2016). En este sentido, el enfoque integrador de la Metodología Mixta (MM) o Investigación de Métodos Mixto (IMM) permite fusionar los enfoques cualitativo y cuantitativo durante el proceso de investigación para obtener una imagen completa del fenómeno de salud pública en cuestión (Hesse-Biver, y Johnson, 2013; Bagur et al., 2021). Esto permite incrementar la calidad y validez de la investigación, superando así las debilidades de utilizar una única vía metodológica (Abdalla et al., 2018) y obteniendo una comprensión más profunda y completa del fenómeno estudiado (Smajic et al., 2022). El interés por el enfoque de métodos mixtos ha crecido en las últimas décadas entre los investigadores de los servicios de salud siendo utilizado en la investigación de servicios de salud para la evaluación de programas e intervenciones sanitarias (Zhang y Creswell, 2013; Maxwell, 2016).

En el presente estudio, el carácter mixto de la investigación basada en la recopilación y análisis de diferentes formas de datos (cualitativos y cuantitativos), responde concretamente a un diseño mixto de triangulación metodológica, dada la convergencia de diferentes métodos para abordar un mismo foco temático (Cantor, 2002; Frank, 2018). La triangulación brinda la posibilidad de poder visualizar el problema/fenómeno desde diversos ángulos aumentando así la consistencia y validez de los hallazgos (Benavides y Gómez-Restrepo, 2005). El uso de la triangulación va a permitir reducir los sesgos personales y metodológicos incrementando así la posibilidad de reproducir los resultados. En este caso la triangulación metodológica responde a la categoría intermétodo basada en la combinación de los métodos cualitativos y cuantitativos, en la que se emplean técnicas de recogida de información de ambos métodos (Alpizar, 2009; Gavira y Osuna, 2015).

El desarrollo de la presente tesis se concreta en una serie de fases marcadas por el uso de diferentes técnicas de recogida y análisis de la información que guían la secuencia lógica de la investigación desde el inicio de la misma hasta el final. Ambas fases se desarrollan de manera secuencial de forma que los resultados obtenidos en el análisis previo de la fase cualitativa constituyen la guía para el diseño de la fase cuantitativa y proporcionan información complementaria en el análisis de los resultados (Ardoy et al., 2004). La triangulación intermétodo de carácter secuencial será asimismo de tipo exploratorio, conocida también como Diseño Exploratorio Secuencial (DEXPLOS) ya que la recolección y el análisis de los datos cuantitativos se construyen secuencialmente a la luz de los resultados cualitativos (Ortega y Heras, 2021).

Con el fin de establecer un hilo conductor que permita comprender la metodología empleada en la presente tesis, se han identificado tres fases relacionadas con el alcance de los objetivos y las publicaciones científicas generadas.

5.2. Primera fase: Análisis Cualitativo Comparativo (ACC)

Para alcanzar el primer objetivo de la tesis, relacionado con la identificación y el análisis de las políticas innovadoras europeas que abordan paliar el riesgo de privación socioeconómica derivado de la prestación de cuidados de larga duración a personas mayores de 65 años, se empleó una metodología cualitativa, basada en la estrategia de Análisis Cualitativo Comparativo (en adelante ACC).

5.2.1 Diseño del estudio

El ACC constituye un método comparativo que tiene como objetivo la búsqueda de similitudes y disimilitudes a través de un procedimiento lógico y sistemático (Sartori, 1984). Siguiendo a Fideli (1998) y Morlino (2005) la comparación precisa la presencia de un ámbito espacial horizontal y un área temporal longitudinal. En este caso, las unidades espaciales fueron los países y con mayor concreción las políticas y/o acciones implementadas por los mismos. Dado que el objetivo radicaba en hallar todas iniciativas y/o prácticas que presentaban características innovadoras, no se estableció un rango temporal a fin de garantizar que la búsqueda incluyera todas las acciones que presentaban un carácter innovador con independencia del año en que fueron implementadas. No obstante, teniendo en cuenta que la evidencia constataba la existencia de elementos innovadores en un contexto más reciente, se incluyó a la búsqueda la lectura de informes de investigación europeos publicados entre 2019-2024. Finalmente se incorporaron al estudio resultados cuya área temporal abarcó un arco de tiempo comprendido desde 1995 hasta el 2006. La muestra comprendió un total de 22 políticas de 8 países miembros de la Unión Europea: Italia, España, Alemania, Polonia, Rumania, Austria, Finlandia y los Países Bajos.

5.2.2 Selección de la muestra

Para definir la muestra, la primera decisión tuvo que ver con fijar el área espacial que representará los cuatro modelos de Estado de Bienestar Europeos, siendo por ello una premisa la elección de estados pertenecientes a cada uno de los regímenes de bienestar como criterio principal de inclusión. La elección de este criterio siguió la idea de Dogan y Pelassyn (1990) por la cual se considera que el investigador es prudente en su comparación cuando selecciona sus países guiándose por criterios pertinentes y no por gusto. Se establecieron dos criterios más con carácter paralelo: que la iniciativa forme parte de la política de cuidados a lago plazo del país en cuestión y que confronte directa o indirectamente el riesgo de privación socioeconómica del/de la perceptor/a de cuidados y/o el/la cuidador/a informal. La selección de la muestra excluyó las políticas que no presentaban un carácter innovador de acuerdo con la literatura: políticas que abordaban los servicios formales de atención domiciliaria y los servicios de atención residencial por no constituir formas innovadoras de servicios.

5.2.3 Recopilación de datos

Para facilitar la comparación se llevó a cabo un análisis cualitativo por categorías, con el fin de abordar con concreción las similitudes y disimilitudes de las políticas identificadas (Rueda et al., 2023). El análisis de datos por categorías siguió un proceso de tres fases interrelacionadas: 1ª fase: reducción de los datos; 2ª fase: análisis de los datos; 3ª fase: interpretación de los datos (Sánchez et al., 2023). Primeramente, se procedió a la reducción descriptiva de la información en 2 fases consecutivas con el objetivo de resumir los datos para facilitar su posterior entendimiento. Para la primera fase, se incluyeron un total de 8 dimensiones: nombre, país, objetivos de la iniciativa, destinatario, un resumen de la iniciativa, tipo de iniciativa y características de innovación social. Seguidamente, con el objetivo de acotar más las características de las políticas, se identificaron 8 categorías (dimensiones) con sus respectivas subcategorías en caso de que fuese preciso. La relación entre las categorías y subcategorías se presentan en la tabla 2. El proceso finalizó con la codificación de las categorias-subcategorias asignando códigos. Los códigos se basaron tanto en unidades lingüísticas como numéricas según la conveniencia.

Tabla 2. *Correspondencia entre Categorías y Subcategorías*

Categorías	Subcategorías (Código)
Nombre de la acción/intervención	-
Año	-
País	Italia (IT); España (ES); Alemania (DE); Austria (AU); Finlandia (FI); Países Bajos (NL); Polonia (PL); Rumania (RO)
Población objetivo	Personas mayores de 65 años o más (1); Personas mayores de 75 años o más (2); Cuidadores trabajadores (3); Cuidadores informales (4); Población en estado de dependencia (5).
Tipo de Iniciativa	Prestaciones en efectivo (CB); Vales o prestaciones en efectivo ligadas a tipos específicos de costos (V); Servicios de apoyo (SS); Régimen de licencia por cuidados (CL); Beneficios fiscales y de seguridad social (FS); Convenios de trabajo (JA).
Nivel de Implementación	Nacional (Nat.); Local (Loc.)
Nivel de Gobernanza	Nacional (Nat.); Local (Loc.); Municipio (M).
Inclusión en el programa LTC o reforma nacional	Sí; No (-).
Existencia de objetivos directamente relacionados con la mejora de las condiciones socioeconómicas	Sí; No (-).

Fuente: *elaboración propia*

5.3. Segunda fase: Revisión de alcance o *Scoping Review*

Para lograr el segundo objetivo de la presente tesis y ofrecer un marco lógico de conocimiento en torno al innovador modelo de Atención en Sanitaria Basada en el Valor (ASBV), se realizó una revisión de alcance o exploratoria.

5.3.1 Diseño del estudio

La elección de optar por una revisión exploratoria encuentra su justificación en la existencia de una laguna en torno a la falta de consenso en la conceptualización de este paradigma y los resultados de las iniciativas implementadas (Zanotto et al., 2021; Leusder et al., 2022). Hasta la fecha se han realizado revisiones sistemáticas para abordar la atención integrada en un contexto de atención basado en el valor (Van hoorn et al., 2024), conocer la relación entre la ASBV y los profesionales sanitarios centrada en el impacto sobre el bienestar de estos últimos (Van Engen et al., 2022), ofrecer un mapa sobre las mediciones de resultados en las implementación de iniciativas de atención basadas en el valor (Zannoto et al., 2021) y la medición de los costes de las intervenciones, tratamientos o vías de atención basadas en el valor (Leuesder et al., 2022). Sin embargo, no existe en la actualidad ningún estudio previo que en términos genéricos ahonde en la síntesis del conocimiento existente acerca de la conceptualización de este paradigma, atendiendo a los principales elementos e informando de los resultaos de las estrategias implementadas en relación a la mejora y sostenibilidad de sistema de salud. En este sentido, la revisión de alcance se constituye como una herramienta ideal para determinar el alcance del conjunto de evidencia existente en torno al objeto de estudio, proporcionando una visión clara y detallada del volumen de estudios disponibles y el enfoque de los mismos (Grant y Booth, 2009). El resultado final, como los autores sugieren, ofrece un informe de la evidencia reportando la identificación de las características, en este caso en torno al concepto de "Atención basada en el Valor" y un mapeo de los elementos clave y los resultados informados (Munn et al., 2018).

5.3.2 Estrategia de búsqueda y proceso de selección

Dado que el estudio se enmarca en el contexto sanitario se emplearon las directrices de la extensión PRISMA específica para revisiones de alcance; PRISMA-ScR (Moher et al., 2010; McGowan et al., 2020). Para garantizar la fácil identificación del artículo como una revisión de alcance, se incluyó en el título el término "revisión de alcance" (Tricco et al., 2018). La inclusión de los artículos se orientó a criterios de inclusión y exclusión predeterminados. Asimismo, los criterios de selección se formularon sobre la base de un marco de Participante, Intervención y Resultado (PIO) acorde a los objetivos del estudio y las preguntas de investigación. La tabla 3 presenta el modelo PIO como base para la redacción de las preguntas de investigación.

Tabla 3. *Marco PIO aplicado a los objetivos y preguntas de investigación*

Población (P)	Intervención (I)	Resultado (O)
Sistema de salud en general	Estrategias de implementación de la Atención Sanitaria Basada en el Valor	Mejora de la eficiencia y sostenibilidad del sistema de salud, aumentando los resultados en salud para la población, paralelo a un uso óptimo de los recursos.

Fuente: *elaboración propia*

Se excluyeron los estudios que incluían intervenciones basadas en el valor para la atención de enfermedades o condiciones específicas, porque la consideración del término "Atención basada en el valor" así como los procesos de implementación y los resultados variaban sustancialmente en función de la condición abordada impidiendo sintetizar la información. Se incluyeron en la revisión los estudios originales o de fuentes primarias que investigaron explícitamente la implementación del enfoque ASBV en el contexto de la atención sanitaria en términos genéricos (comúnmente en centros hospitalarios y centros de atención primaria), en los últimos 10 años siempre y cuando estuviesen publicados en revistas científicas de acceso completo y abierto, en lengua inglesa o española. Se revisaron las listas de referencias de los artículos incluidos para asegurar que toda la literatura relevante fuera examinada.

El proceso de búsqueda incluyó artículos relevantes en las bases de datos electrónicas PubMed, ProQuest, Scopus y SpringerLink. Los términos de búsqueda se identificaron a partir del tesauro multilingüe DeCS/MeSH - Descriptores en Ciencias de la Salud/Medical Subject Headings . La combinación de los términos empleando el operador boleano "AND" formó la combinación de las cadenas de búsqueda finales. Las búsquedas incluyeron la combinación de las siguientes palabras clave en cada base de datos: (Value-based) AND (Care); (Value-based) AND (Care) AND (Cost); (Value-based) AND (Care) AND (Quality of live).

El proceso de cribado se llevó a cabo en tres etapas para cada búsqueda. En primer lugar, los estudios se cribaron a nivel de título, posteriormente se focalizó en el resumen y, en tercer lugar, se implementó un procedimiento de cribado del texto completo. Se recurrió a dos revisores independientes garantizando una doble evaluación que permitiera reducir cualquier sesgo de evaluación o cualquier imprecisión debida a errores fortuitos (Manterola et al., 2013; Glonti et al., 2019). Los desacuerdos entre los revisores con respecto a la inclusión de los estudios, se resolvieron mediante la participación de un tercer revisor tomando la decisión final.

El número total de artículos recuperados de las cuatro bases de datos electrónicos, fue de 2.801, los cuales, fueron importados a través del gestor de referencias bibliográficas "Zotero". Mediante este proceso se identificaron 1.609 duplicados. En total, de los 1.192 tras eliminar los duplicados, 1.112 fueron excluidos en función del título y el resumen. De los 43 estudios restantes, 31 fueron excluidos en función de la criba de texto completo, lo que resultó en 12 artículos.

5.4. Tercera fase: Ensayo clínico controlado aleatorizado

Para alcanzar el tercer objetivo de la tesis relacionado con el diseño, implementación y evaluación de un programa (ValueCare) basado en valor, personalizado e integral para abordar el carácter multidimensional de la fragilidad en personas mayores de 65 años o más, se llevó a cabo un diseño experimental.

5.4.1 Contexto del estudio

La evaluación del programa ValueCare aquí presentado, se enmarca en el proyecto ValueCare - Value-based methodology for integrated care supported by ICT- un proyecto de investigación cuya financiación procede del programa de investigación e innovación Horizonte 2020 de la Unión Europea en virtud del acuerdo de subvención n.º 875215. El proyecto engloba un consorcio de 17 socios de 7 ciudades de países europeos: Valencia en España, Rijeka en Croacia, Atenas en Grecia, Treviso en Italia, Cork/Kerry en Irlanda, Coimbra en Portugal y Rotterdam en los Países Bajos. El objetivo del proyecto ValueCare es brindar una atención integral (social y sanitaria) eficiente y basada en resultados y apoyada por soluciones digitales a las personas mayores 65 años o más que padecen deterioro cognitivo, fragilidad y/o múltiples enfermedades crónicas con el propósito de mejorar su calidad de vida y la sostenibilidad de los sistemas de atención social y sanitaria en el contexto europeo. El presente estudio aborda la evaluación del enfoque ValueCare implementado en el piloto de la ciudad de Valencia (España). El programa ValueCare en Valencia se llevó a cabo en el sistema de atención primaria de salud e incluyo a un total de siete centros de salud dependientes del Departamento de Salud Valencia Clínico-Malvarrosa: Centro de Salud Benimaclet, Centro de Salud Alfahuir, Centro de Salud Salvador Pau, Centro de Salud Serrería I, Centro de Salud República Argentina y Centro de Salud Chile.

El objetivo del diseño e implementación del programa ValueCare en el piloto de Valencia fue en términos generales mejorar la fragilidad multidimensional de la población mayor.

5.4.2 Diseño del estudio y muestra

Se empleó un ensayo clínico controlado aleatorizado (ECCA) de carácter pretest-postest, que incluyó grupos de intervención y de comparación para examinar la efectividad del programa ValueCare tras los doce meses durante los años 2022 a 2023 en términos de mejorar la fragilidad multidimensional de la población mayor de 65 años. La muestra estuvo compuesta por un total de 242 adultos mayores con fragilidad que fueron asignados al azar al grupo de intervención y grupo de comparación (122 individuos en el grupo de intervención y 120 individuos en el grupo comparación). La muestra se seleccionó mediante un proceso de aleatorización a fin de garantizar la comparación no sesgada de efectos de dos posibles tratamientos, el nuevo (programa ValueCare) y la atención habitual. Asimismo, el cegamiento de los dos grupos de tratamiento ayuda a reducir posibles sesgos de información y facilita la comparabilidad de los datos (Lazcano-Ponce et al., 2004). Los criterios de elegibilidad para la participación en el estudio clínico fueron: (i) personas de 65 años o más; (ii) presentar fragilidad; (iii) residir de forma independiente en la comunidad; (iv) ser afiliado de uno de los 7 centros dependientes del Departamento de Salud Valencia Clínico-Malvarrosa. Se excluyeron del estudio aquellos participantes que presentaban: (i) deterioro cognitivo; (ii) dependencia significativa; (iii) institucionalización; (iv) incapacidad para otorgar una decisión informada sobre su participación en el estudio; (v) desconocimiento del idioma español. Para asegurar la ocultación de la secuencia de aleatorización, se utilizó el sistema *Oxford Minimization and Randomization* (OxMaR) consistente en un método centralizado, basado en computadora, que proporciona medidas de seguridad comprobadas para prevenir el sesgo en la secuencia (Guillaumes y O'Callaghan, 2019). Para proteger la información personal, a cada participante se le asignó un código de identificación que indica su grupo y el centro de atención médica específico al que está afiliado.

5.4.3 Ética y confidencialidad en el estudio

El Comité Ético de Investigación en Humanos (CEIH) de la Comisión de Ética de la Investigación Experimental de la Universitat de Vàlencia, en la reunión celebrada el día 07 de Mayo de 2020, tras estudiar el proyecto de investigación "Metodologías basada en el valor para la atención integrada apoyada en TIC- VALUECARE", proporcionaron la aprobación ética del estudio. Asimismo, todas las actividades, incluida la recopilación y el tratamiento de los datos de carácter personal se han realizado de conformidad con la legislación nacional y europea pertinente. En este sentido, las partes sociales involucradas en el piloto de Valencia, en el que se incluyen el Instituto de Investigación en Políticas de Bienestar Social (POLIBIENESTAR) de la Universitat de València, la Fundación de la Comunidad Valenciana para la Promoción Estratégica, el Desarrollo y la Innovación Urbana (LAS NAVES) y Senior Europa, SL., se reúnen y firman en Valencia, a 27 de Mayo de 2021 el acuerdo de corresponsabilidad del tratamiento del proyecto ValueCare, confirmando el cumplimiento del artículo 26 del Reglamento (UE) 2016/679 del Parlamento Europeo y del Consejo, de 27 de abril de 2016, relativo a la protección de las personas físicas en lo que concierne al tratamiento de datos personales y a la libre circulación de estos datos a lo largo del estudio así como la Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales. Todos los participantes del estudio dieron previamente su consentimiento informado en formato digital o en papel, el cual incluía todas las clausulas informativos acordes a los principios legislativos para cumplir con el deber de información. Véase el anexo 1

5.4.4 Variables e instrumentos

Teniendo en cuenta que el objetivo central de la investigación aborda el síndrome multidimensional de fragilidad, esta constituyó la variable principal o primaria del estudio. Atendiendo al carácter multidimensional de la fragilidad, se empleó el índice de Fragilidad Tilburg (IFT) por constituirse como un instrumento que permite medir la fragilidad total atendiendo a las dimensiones física, cognitiva y social con un total de 15 ítems: dominio físico (8 ítems), dominio cognitivo (4 ítems) y dominio social (3 ítems). El score obtenido de la suma de sus preguntas oscila entre 0 y 15, considerándose frágil la persona mayor que obtenga 5 puntos o más (Gobbens et al., 2010).

Además, se analizaron otras variables secundarias o accesorias, como la salud global, la soledad, la calidad de vida y el uso de los recursos unitarios. Para evaluar la salud global se empleó el sistema de medición PROMIS-10 por constituirse como un sistema de medición del estado de salud informado por el paciente que consta de 10 ítems que miden la salud física, el funcionamiento físico, la salud mental general, el malestar emocional, la satisfacción con las actividades y relaciones sociales, la capacidad para llevar a cabo las actividades y roles sociales habituales, el dolor, la fatiga y la calidad de vida en general (Katzan y Lapin, 2018).

La soledad se evaluó a través de la Escala de Soledad de Tres ítems (UCLA 3-item) (Hughes et al., 2004) que mide 3 dimensiones: (i) conexión relacional; (ii) conexión social; (iii) aislamiento autopercibido en una escala Likert de 3 puntos codificada de 1 a 3. La respuesta “casi nunca” con 1 punto, la respuesta “algunas veces” con 2 puntos y la respuesta "a menudo" con 3 puntos. De esta manera, las puntuaciones de cada pregunta individual pueden sumarse para obtener un rango posible de puntuaciones de 3 a 9, donde las puntuaciones más altas indican mayor soledad. Concretamente, los investigadores han clasificado a las personas con puntuaciones de 3 a 5 como «con riesgo de soledad» y a las personas con puntuaciones de 6 a 9 como «sin riesgo de soledad».

Para evaluar la calidad de vida relacionada con la salud se empleó el instrumento EQ-5D-5L presentado por el Grupo EuroQol en 2009 (www.euroqol.org), que se constituye como un sistema descriptivo para la medición de 5 dimensiones: (i) Movilidad; (ii) Autocuidado; (iii) Actividades habituales; (iv) Dolor/malestar; (v) Depresión. Cada dimensión abarca 5 respuestas que informan del nivel de gravedad del problema: (i) sin problemas-nivel 1; (ii) problemas leves—nivel 2; (iii) problemas moderados-nivel 3; (iv) problemas graves-nivel 4; (v) incapaz de/problemas extremos-nivel 5. Además del sistema descriptivo la versión 5D-5Q-5L costa de la escala visual analógica (EVA) que no fue incluida en el presente estudio. Todos los instrumentos anteriormente mencionados formaron parte del cuestionario ValueCare (véase el anexo 2) cumplimentado por todos los participantes del estudio.

5.5. Justificación de las revistas científicas seleccionadas para la publicación de los resultados

De acuerdo al *Artículo 1.4 del Reglamento sobre depósito, evaluación y defensa de la tesis doctoral de la Universitat de València* aprobado por el Real Decreto o 99/2011, de 28 de enero, por el cual se regulan las enseñanzas oficiales de doctorado, se justifica a continuación la selección de revistas científicas para la publicación de los 4 artículos académicos incluidos en la presente tesis, en base a los siguientes parámetros de selección: (i) concordancia con la temática o tópicos sobre los que versan los artículos que se difunden en la revista en cuestión; (ii) índice o factor de impacto de la revista.

La revista *Sustainability (ISSN 2701-1050)* de la editorial *Multididisciplinary Digital Publishing Institute (MDPI)* se constituye como una revista académica de carácter internacional, multidisciplinaria y de acceso abierto que aboga por promover una sociedad sostenible alentando a los investigadores a publicar investigaciones de diferente índole en materia de sostenibilidad técnica, ambiental, cultural, económica y social de los seres humanos. *Sustainability,* está comprometida con respaldar la Agenda 2030 para el Desarrollo Sostenible de las Naciones Unidas y su larga experiencia concretada en 16 volúmenes publicados desde 2009, manifiestan su capacidad como plataforma líder para la difusión de investigaciones que afronten los desafíos medioambientales, demográficos y socioeconómicos devenidos por el desarrollo económico y la globalización.

Entre las áreas temáticas en la que los investigadores pueden enfocar sus investigaciones, encontramos la elaboración y aplicación de políticas nacionales y tratados internacionales para el desarrollo sostenible, así como la implementación y seguimiento de políticas para el desarrollo sostenible. En este sentido, el análisis de políticas innovadoras que aboguen por afrontar el riesgo de privación socioeconómica que sufren las familias que bridan cuidados a personas mayores dependientes se constituye como un tema que se ajusta a la perfección al objetivo de la revista de promover la comprensión científica y la evaluación de la sostenibilidad social y económica de la población. En este sentido, Sustainability ha demostrado su extendido compromiso con la publicación de investigaciones que afrontan los desafíos derivados de la provisión de cuidados de larga duración a personas mayores en situación de dependencia (Govia et al., 2021; Ismael y Hussein, 2021; Salido et al., 2022; Gagliardi et al., 2022; Zhylkybekova et al., 2024).

La revista *Sustainability* cuenta con una amplia repercusión en la comunidad científica poseyendo un factor de impacto, según los datos más reciente, de 3,3 para el año 2023 según la Jorunal Citation Reports (JCR), lo que resalta su reconocimiento e influencia en la comunidad científica internacional. Además, Sustainability está indexada en reconocidas bases de datos como Scopus, Web of Science y GEOBASE, entre otras, lo que asegura una amplia visibilidad y accesibilidad de los artículos publicados.

La revista Internacional de *Investigación Ambiental y Salud Pública* (IJERPH) (ISSN 1660-4601) se constituye como su propio nombre indica como una revista internacional de carácter transdisciplinar, revisada por pares y de acceso abierto. Su objetivo radica en la publicación de estudios que tengan un impacto en la promoción de la salud, la prevención de la enfermedad y la mejora de la calidad de vida de la población. La revista se caracteriza por presentar un enfoque holístico al fomentar la colaboración y el intercambio de conocimientos entre diferentes campos. Además, su carácter holístico se aprecia también en la búsqueda de la revista por promover una percepción global de la Salud Pública atendiendo a la interacción recíproca entre los seres humanos y los entornos físicos, mentales y sociales que impactan en la salud de la población. La IJERPH destaca por la publicación de estudio experimentales y originales que garanticen la reproducción y escalabilidad.

La IJERPH abarca multitud de temas, entre los que se encuentran la salud global, ciencias de la salud, enfermedades crónicas y prevención de enfermedad, enfermedades infecciosas, salud mental y conductual, ejercicio y calidad de vida relacionada con la salud, así como salud ambiental y ciencias ambientales. En esta línea, la exploración de modelos innovadores de atención sanitaria que permitan mejorar la salud, el bienestar y la calidad de vida de la población se constituye como un tema afín al objetivo de la revista. Así, IJERPH se ha consolidado como una plataforma digital líder en la publicación de artículos que abogan por la promoción de la salud y la prevención de la enfermedad. En concreto, se encuentran publicaciones que abordan la mejora de la atención sanitaria, la promoción y autogestión de la salud en población mayor con síndrome de fragilidad (Lim et al., 2017; Pérez-Saiz et al., 2023), así como investigaciones que abordan la evaluación de programas centrados en el abordaje de la fragilidad (Alhambra-Borrás et al., 2019; Dziubek et al., 2020).

La IJERPH se ha establecido como una plataforma líder en la difusión de investigaciones relevantes en salud pública y medio ambiente. La IJERPH presenta un factor de impacto, según los datos más reciente, de 4,614 para el año 2023 según la Jorunal Citation Reports (JCR), lo que destaca su reconocimiento e influencia en la comunidad científica internacional. La revista se encuentra indexada en prestigiosas bases de datos como PubMed, Scopus, Web of Science, MEDLINE, entre otras, garantizando una amplia visibilidad y accesibilidad de los artículos publicados.

La revista *Healthcare* destaca por ser una revista científica internacional, revisada por pares y de acceso abierto, centrada en la investigación de sistemas de atención médica, industria, tecnología, políticas y regulación. Esta revista internacional proporciona una plataforma especializada en el ámbito de la salud, con un carácter integral que aborda temas relacionados con la mejora de la calidad de la atención sanitaria, la salud pública o la innovación en tratamientos y atención médica, constituyéndose como una revista clave para la publicación de los resultados de esta tesis doctoral. Caracterizada por su interdisciplinariedad, Healthcare, permite que el artículo publicado alcance una audiencia diversa, fomentando el intercambio de ideas y colaboraciones interdisciplinarias, lo que puede ser particularmente beneficioso para investigaciones que integran diferentes enfoques metodológicos y teóricos. *Healthcare* está indexada en bases de datos de prestigio como *PubMed, Scopus* y *Web of Science* garantizando un alto impacto y visibilidad entre la comunidad académica y los profesionales del sector salud. Su política de acceso abierto facilita la difusión del conocimiento, permitiendo que los hallazgos de la tesis estén disponibles para un público más amplio, incluyendo investigadores, profesionales de la salud, y formuladores de políticas, lo que permitirá a su vez maximizar el impacto social y académico de la investigación. En concreto, se hallan publicaciones que abordan la atención médica basada en el valor (Radtke et al., 2024) así como la calidad de los servicios de salud (Değer y İşsever, 2024).

La revista *Healthcare* se ha constituido como pase para la líder en la divulgación de investigaciones teóricas y empíricas relativas a la medicina y la investigación en el cuidado de la salud. La revista *Healthcare* presenta un factor de impacto, según los datos más reciente, de 2,4 para el año 2023 según la Jorunal Citation Reports (JCR), lo que resalta su reconocimiento e impacto en la comunidad científica a nivel internacional.

6. Resultados: publicaciones científicas

La presente sección, recoge el compendio de publicaciones científicas que articulan la tesis respetando la publicación original.

Los textos referenciados se encuentran en la sección de anexos.

Artículo 1

Innovating European Long-Term Care Policies through the Socioe-Economic Support of Families: A Lesson from Pratices

1. Introduction

Population aging is one of the most significant challenges today. According to the World Health Organization [1], by 2050, the proportion of the world's population aged 60 years or over is expected to nearly double from 12% to 22%, reaching 2.1 billion older adults, while the number of people aged 80 years or older is expected to triple in the same period, reaching 426 million. The international economic crisis of the last two decades has highlighted the risks of poverty and socio-economic deprivation in Europe [2,3]. The significance of these issues has been further intensified by the recent COVID-19 pandemic. Containment measures for COVID-19 had a detrimental effect on global economic growth and productivity, increasing the risk of poverty and social deprivation [4].

Moreover, the vulnerability associated with the aging process was exacerbated during confinement. Older adults are seen as a high-risk group for the SARS-CoV-2 (COVID-19) disease [5]. Data indicate that the over-65 population accounts for 80% of hospitalizations and faces a 23-fold increased risk of death compared to those under 65 years of age [6]. Social isolation, as a primary measure for preventing the spread of COVID-19, resulted in an increase in informal caregiving provided by families [7].

The challenge for policymakers is to address population aging and the increasing number of frail older people in need of long-term care, while also taking into account the impact on families in terms of their social inclusion and risk of socio-economic deprivation [8]. In addition, despite the fact that relatives continue to be the main caregivers for elderly people in a state of dependency [9], changes in demographic and social patterns may lead to a decrease in family support, which is typically the most critical source of support for older adults in a state of dependency in most systems [10,11].

Over the last decade, the international debate has emphasized the importance of home care in promoting social innovation (SI) in LTC because living at home supports the quality of life of older people while improving the efficiency of care provision [12]. The literature underlines how caregiving intersects with the gender issue, increasing its relevance as a social inclusion topic: women are the primary informal carers [13,14]. Moreover, caregivers' financial well-being, employment and, indirectly, their financial income may be negatively affected, increasing the risk of poverty [15]. The different European LTC models are distinguished by their internal balance of formal and informal care provision [16]. European LTC systems are being put to the ultimate test by sociodemographic and social changes, as well as welfare austerity, as a result of the international economic and public health crisis [17,18,19]. In 2017, Mosca and colleagues emphasized the relevance of cross-studying existing policies in order to build a new sustainability strategy for the European LTC system [20]. The purpose of this article is to analyze a sample of practices in Europe that support the long-term care system in order to examine its innovative aspects to counter the risk of socio-economic deprivation of the elderly and their families. The study takes part in the framework of the "Socio-Economic deprivation related to the effect of the presence of dependent older people: strategies for Innovative Policies in Europe" (SEreDIPE) project, realized thanks to the Marie Curie Individual Fellowship (g.a. 2019-888102), aims to analyze the effects of older people's care needs (aged 65+ years) on their family units' socio-economic conditions. The SEreDIPE project's conceptual framework recalls how families with dependent older people often invest in care-giving by directly purchasing care provisions, such as those provided by Migrant Care Workers (MCW), or by providing informal care, even at the expense of available working hours [21]. Both strategies may have an effect on the family member's socio-economic status in terms of economic resources and social inclusion [22]. The literature underlines how an LTC system relying on informal care and migrant care work is neither equitable nor sustainable [13,14].

The study begins by identifying the main characteristics of selected policies, including whether the policies' stated objectives explicitly include support for beneficiaries' socio-economic conditions. Additionally, the study proposes the analysis of strengths, weaknesses, drivers, and barriers to policies. Finally, this investigation enables us to denote which policies meet one or more of the social innovation requirements for LTC. In accordance with the SEreDIPE project's recommendations, this study collects policies from eight European countries representing the four LTC care models existing in Europe: Italy and Spain to describe the family-based care regime; Germany and Austria for the mixed-care regime; the Netherlands and Finland representing the universal care regime; and Romania and Poland for the transition countries' care regime [23]. The recent literature focuses the attention on innovation on LTC [12,23] national case studies [10] or on a specific typology of policy [13,14,17]. This study contributes to the literature by offering an overview of the innovative characteristics of policies supporting families providing care from a comparative perspective.

2. Materials and Methods

This study uses a qualitative methodology to examine existing practices in Europe that address the care of people over 65 years of age, who are in need of long-term care, and are in a state of dependency.

A descriptive interpretative approach was applied in order to provide an in-depth understanding of relationships between policies supporting home LTC and the risk of socio-economic deprivation for families. The comparative qualitative approach was deemed the most appropriate for capturing the specific characteristics of each in the good practices while allowing researchers to embrace their own disciplinary orientation [24].

The study identified policies from eight European Union countries (Germany, Poland, Romania, Austria, Italy, Spain, Finland, and The Netherlands), representing the four European LTC systems. Two main selection criteria were adopted: (a) The initiatives must participate in the studied country's LTC policies; (b) The initiatives must also strive to directly or indirectly mitigate the risk of socio-economic deprivation of the care recipient and/or his family caregiver. The selection excludes formal home care services and residential care because they are not innovative forms of services.

Multiple sets of searches were conducted from June to September 2021 to cover the cases of countries included in the study. A set of keywords were used to select the practices for each of the eight studied countries: LTC policies, home care, informal care, and cash benefits. The search was mainly carried out in English, but also in the national languages to ensure collection accuracy and to find each country's specific legislation or policy documentation.

Two of the authors (M.F.S., G.C.) provided native speaker translations of the keywords and data in Italian and Spanish. DeepL, a machine translator which is considered by the literature as a tool providing adequate translations for content qualitative analysis [25,26], was used to translate English to German, Finnish, Romanian, and Polish. The translation of collected documentation followed the same procedure based on the automatic translation by DeepL, from national languages to English. The Italian and Spanish translations had integrative checked by the above-mentioned native speaker authors.

In addition, the reading of available European research reports from the last five years (e.g., "European network on long-term care quality and cost-effectiveness and dependency prevention", and the project Mopact—Mobilizing The Potential of Active Ageing in Europe) was incorporated into the search for good practices.

A total of 22 practices were included in the study. Data collection was completed in English following a double stage of descriptive and analytic summarization of data on initiatives. To begin, each policy was summarized by its descriptive form, including eight dimensions: name, country, aims of the initiative, target, a summary of the initiative, type of initiative, and social innovation characteristics. The different SI characteristics for LTC are defined using the conceptualization provided by recent literature [12,27,28] which identified four different areas to promote social innovation in LTC: (a) new policies or revised policies to better meet social and LTC needs; (b) openness of the beneficiary's target in particular to informal carers; (c) support beneficiaries' quality of life (QoL); (d) promote collaboration between stakeholders and services. The collection of specific data on each practice comes from national reports on LTC policies experiences (e.g., ESPN Thematic National Reports on Challenges in LTC, CASE Network Studies and Analyses), European reports projects (e.g., "European network on long-term care quality and cost-effectiveness and dependency prevention", and the project Mopact—Mobilizing the Potential of Active Ageing in Europe). Table 1 detailed the coding of characteristics' modalities used to perform the analytic summarization of the data.

Table 1. *Analytic characteristics, modalities, and codin*

Dimensions	Modalities (synthetic code)
Name of action/intervention	-
Year	-
Country	Italy (IT); Spain (ES); Germany(DE); Austria (AU); Finland (FI); Netherlands (NL); Poland (PL); Romania (RO).
Target of population	older people 65+ (1); People 75+(2); working carers (3); Informal carers (4); Population in a situation of dependency (5).
Type of initiative	Cash benefits (CB); Vouchers or cash benefit bound to specific types of costs (V); Support services (SS); Care leave scheme (CL); Fiscal and social security benefits(FS); Job Agreements (JA).
Level of governance	National (Nat.), Local (Loc.).
Level of implementation	National (Nat.), Local (Loc.); Municipality (M).
Included in LTC program or national reform	Yes (*) /No (-).
Existence of aims directly related to improving socio-economic condition	Yes (*) /No (-).

3. Results

3. 1. General Characteristics of Initiatives

The comparative analysis of the twenty-two initiatives makes it possible to observe that the initiatives studied are based on lengthy implementations (Table 2). Except for the Italian system, none of the systems presented initiatives after 2014. Likewise, we can observe that different countries (Germany, Austria, and Italy) have implemented recent policies in their long-term care systems, currently maintaining initiatives established in the 1990s and even in the 1980s, as in the case of Italy. Traditionally, institutions provided a cash benefit policy to promote financial support for care. Even now, this type of policy is the most common in Europe: 11 out of the 22 policies studied involve cash benefits. All countries have developed initiatives focused on providing financial benefits to help mitigate the costs associated with long-term care. These initiatives offer a fixed amount to the measure's beneficiaries. The inclusion criteria differ from initiative to initiative and from country to country. Generally, cash benefit policies are not means-tested. The results underline how cash benefit policies are independently run by other LTC policies: the only exception is the Finnish initiative "informal care support", which offers financial benefits and support services together with cash benefits. However, the initiatives in three countries are included in specific national programs, such as the national LTC insurance scheme (Germany) or a distinctive national reform on LTC (Spain and Austria).

Table 2. *General characteristics of selected practices: year of implementation, type of policy, governance and implementation level, and declared goal of supporting SE condition.*

No.	Initiative name	Year	Type	Target	Gov.	Implen.	National Policy	SE condition's Goal
1	Vouchers scheme for home care (DE)	1995	V	1	Nat.	Nat.	*	-
2	Allowance scheme for informal care (DE)	2015	CB	1	Nat.	Nat.	*	*
3	Social security benefits for family care givers (DE)	2015	FS	4	Nat.	Nat.	*	*
4	Long term care allowance (Pflegegeld) (AU)	1993	CB	1	Nat.	Nat.	*	*
5	"24h care allowance"(AU)	2007	V; FS	1	Nat.	Nat.	*	*
6	Care leave for working carers (Pflegekarenz) (AU)	2014	CL	3	Nat.	Nat.	*	-
7	Care-leave Benefit' (AU)	2014	CB	3	Nat.+Loc.	Loc(M)	-	*
8	care benefits (dodatek pielęgnacyjny) (PL)	2003	CB	2	Nat.	Nat.	-	*
9	Nursing benefit (zasilek pielegnacyjny (PL)	2003	CB	4	Nat.	Loc.	-	*
10	Nursing allowance for informal care (świadczenie pielegnacyne) (PL)	2003	CB	4	Nat.	Loc.	-	*
11	Vouchers scheme for home care(RO)	2000	V	1	Nat.	Nat.	-	*
12	Care allowances(RO)	2011	CB	1	Nat.	Nat.	-	*
13	Facilities for mobility and communication(RO)	2000	SS	1	Nat.+loc.	Loc(M)	-	-
14	Occupational welfare schemes (IT)	2016	V; CL; FS	3	Nat.	Nat / Priv.	-	-
15	Cash-benefit for informal care (IT)	1995	CB	1;4	Nat +Loc.	Loc.(M)	-	*
16	Care allowance (IT)	1980	CB	1	Nat.	Nat.	-	*
17	Financial benefit linked to the service (ES)	2006	V	5	Nat.	Loc	*	*
18	Financial benefit for the purpose of care in the family setting and support for non-professional caregivers (ES)	2006	CB,FS	5	Nat.	Loc	*	*
19	Financial benefit for personal care (ES)	2006	CB	5	Nat.	Loc	*	*
20	Care allowance for pensioners (FI)	n.a	CB	1	Nat.	Nat.	-	-

No.	Initiative name	Year	Type	Target	Gov.	Implen.	National Policy	SE condition's Goal
21	Informal care support (FI)	2005	CB; FS, SS	4	Nat.	Loc. (M)	-	*
22	Care leave scheme (NL)	n.a.	CL	3	Nat.	Nat.	-	*

Even the financial benefit linked to covering specific costs (V) stands out as one of the more commonly used types of initiatives (5 out of 22). The Spanish "financial benefit linked to the service" offers financial support for paying for a specific service when the person cannot access a public or concerted care service. In Germany, the voucher scheme supports home care buying and participation in national LTC insurance. Differently, in Austria, the "24 h care allowance" promotes the integrated scheme, including vouchers to support the cost of hiring migrant care workers (McW) and fiscal and social security benefits. In Germany and Spain, social security benefits are ensured for informal carers through specific measures included in their national schemes. A mixed scheme of policies is also supported by the recent Italian occupational welfare scheme, which allows working carers to access different policies (e.g., vouchers for care, fiscal and social security benefits, and care leave).

Care leave experiences from Austria, Italy, and the Netherlands ensure that working carers are given the attention they deserve. The main aim of these measures is to improve care-work compatibility, allowing workers to provide informal care.

When it comes to beneficiaries, most of the initiatives are focused on care recipients, even if they are only potential: ten initiatives are dedicated to older people (65+), two are focused on the oldest-old (75+), and three on dependent people without reference to a specific age. This last characteristic can be seen in the initiatives implemented in Spain, highlighting a facet of Spanish strategy. In Germany, Poland, Finland, and Italy, five initiatives are directly oriented towards informal carers, while policies supporting working carers are implemented in Austria, Italy, and the Netherlands.

Table 2 depicts how most of the initiatives under examination are national measures characterized by national governance and implementation. The main exceptions are related to the Spanish and Italian initiatives. The Italian and Spanish decentralized social protection systems promote a multi-level governance and implementation, even for cash benefits, vouchers, and care leave policies. In these countries, the implementation of initiatives is realized at the local level by regional institutions and municipalities. Moreover, the private sector is involved in the implementation of Italian occupational welfare schemes [29]. Finally, the Austrian "care leave benefit", the Romanian facilities, and the Polish nursing benefits promote multi-level governance (national and local) to support local implementation [30,31,32].

The findings emphasize the objective of supporting beneficiaries' social-economic condition: 17 out of 22 selected practices aim to provide economic support for the provision of formal or informal care. The German voucher scheme and the Finnish "care allowance for pensioners" highlight the opportunity to use it to purchase LTC services, but do not state that the mitigation of material deprivation underpins this policy [33,34]. Likewise, the aims of Finnish and Austrian care leave schemes or the Italian "occupational welfare scheme" focus more on workers' work-family life balance than on the indirect effect of beneficiaries' socio-economic conditions. Five countries offer social security benefits for informal carers (FS), ensuring social security support for carers who are relatives. Germany and Spain recognize the entitlement to pension rights covered by a national social security system. Under Finnish schemes, informal care by a care worker is covered by an entitlement to receive a cash allowance, social security benefits, and days off.

3. 2. Analysis of the Strengths and Weaknesses of Practices

The interpretative analysis of practices provides several outcomes on strengths, weaknesses, drivers, and barriers, which are summarized in Table 3 and Table 4. Many of the policies examined find at least one of their strengths in the definition of the target because they include informal carers and working carers as direct beneficiaries of dedicated care allowances and care leave schemes. In addition, in Finland and recently in Germany, the care allowance for informal care allows neighbors and friends to be considered informal carers, in addition to family members of care recipients. Lastly, the Polish "nursing benefit" is dedicated to older people who do not receive care allowances, thus covering a need that is not covered by other policies. The strengths of some schemes are tied to meeting an unmet need in their respective countries. In Poland, Romania, and Italy, which are characterized by the family's strong duty to provide care [35,36,37], the allowances for care work cover an unrecognized need.

Table 3. *Strengths and weaknesses in the practices examined*

	Strengths	**Initiatives No.**
a.	Oriented towards informal carers for their social inclusion.	21
b.	Focus on working carers.	7,8,22
c.	Promote a new definition of informal carers, including friends and neighbours. It promotes a shared responsibility of informal care.	21
d.	Reserved for beneficiaries not included in other measures.	9
e.	Universal measure allows to cover unmet need.	10,12,14.
f.	The policy promotes flexible and integrative solutions to support care.	1,2,4,5, 14,15,17,18,19, 21
g.	Promotes the interaction of health support and welfare schemes.	7, 14
h.	Promotes a minimum wage for providing care.	7,8,21
	Weaknesses	**Initiatives No.**
i.	Low amount/ partial cover of care cost	4,6,9,10,16,20,21
ii.	Not linked to household minimum income	1,2,3,6,9, 10,15,16,17,18,19, 20,21
iii.	Care recipient is the exclusive beneficiary of measures	1, 2,4,5, 8,9,11,12,17,18,19
iv.	Initiative is tailored on an individual basis	8,9,10,11,12,13,14,15,16,20,22
v.	Inclusion criteria de facto promote the exclusion of high- need targets (e.g. marginal workers)	6,7,22
vi.	Temporary and fragmented	14,15
vii.	Compulsory universal insurance scheme with a direct impact on the beneficiary´s income,and eligibility (e.g criteria include extra cost for childless people)	1,2,3
viii.	Daily leave is not included in the leave scheme	7,22

__Table 4.__ Drivers and barriers in the practices examined

Drivers		Initiatives No.
a.	It takes part of national reform/law	1,2,3,4,5,18,19,20,21
b.	It is object of periodic revision	1,2,3
c.	National measure	1,2, 3, 4,5,6,8,9,10,11,12, 14,16,20,21,22
d.	Direct benefit included in social security or pension schemes	6,8,22
e.	Different stakeholders are involved in the implementation	1,2,4,5, 14,15,17,18,19, 21
f.	(e.g. municipalities, ONGs, private enterprises and companies)	5,14, 21,17,18,19
g.	Coordinated multilevel governance of measure (national + local)	7,13,15,17,18,19
Barriers		**Initiatives No.**
i.	Culture of care: informal care is mostly responsibility of families	8,9,10, 11,12,13,14,15,16,17,18,19
ii.	Culture of compensation the care recipient for his inability	17,21
iii.	Culture of fragmentation and separation of LTC issues	8,9,10, 11,12,13,14,15,16
iv.	Separation between governance and implementation	9,10, 13, 14,15,16, 21

Many initiatives (10 out of 22) are seen as "integrative and flexible action" because they include multiple types of interventions or dialogues with other national policies or welfare schemes (Table 3). The Finnish experience proposes internal integration, while Austria, Germany, and Spain, the latter to a partial extent, proposes the external coordination of different policies.

In Austria's case, additional financial assistance is granted over and above the LTC cash benefit for people with high care needs requiring 24-h care and who qualify for LTC cash benefits, if they fall below a specific income threshold. The system distinguishes between care provided by a self-employed carer (around 300 euros/month) and care provided by a carer employee (double the amount).

A part of the Austrian Pflegegeld benefit is dedicated to informal carers. This measure is based on seven categories of amounts ranging from less than 200 euros/ month to an amount of up to 1600 euros/month, depending on the care needs and the burden of care provided.

Moreover, if a caregiver (providing care for the duration of at least one year) is unable to work for 1 to 6 months due to the provision of care, the care leave benefit can be availed of (for 1 to 6 months) (EC, 2018) [31]. The benefit is a wage replacement equivalent to 55 percent of the daily net income (like the unemployment benefit), with a minimum amount corresponding to the minimum wage (up to 400 euros/month) [38].

Altogether, the design of the Austrian initiative promotes the concept of a minimum wage for providing care. In Finland, the extent of informal care support defines the amount of benefits depending on whether the informal caregiver is able to work or otherwise, due to heavy care obligations.

Support is treated as taxable income and it accrues pension rights. A Finnish informal carer doing demanding care work gets three days off per month (EC, 2018f) [34].

The analyzed practices highlight certain weaknesses in the practical response to the initial necessity for which they were created: many schemes, particularly cash benefits, do not fully cover families' formal or informal care (Table 3). Moreover, in almost half of them (10 out of 22), the care recipients remain the single beneficiaries of benefits, even if the measure targets informal care. Generally, compensation policies are not designed to take household income into consideration. Local institutions in the Spanish and Italian decentralized welfare systems promote a diverse amount of benefits on a region by region basis, based on locally-defined income criteria [35,39]. These decentralized systems produce temporary and fragmented policies. In particular, in Italy, the cash benefit for informal carers is determined on an annual basis by local institutions, and the implementation of an occupational welfare scheme for LTC is left to the voluntary action of private companies, which have free rein on what kinds of services and benefits to include in their welfare schemes and criteria of use.

In countries with high familial responsibility for care provision (Italy, Spain, Poland, and Romania), the initiatives suffer from a weakness related to their being individually tailored, with little connection to other LTC or welfare measures.

In the German LTC insurance scheme, the main weakness is the direct impact of insurance payments on the individual income of all working-age and pensioner citizens. The insurance covers around 2–3% of an individual's gross income. Childless people must pay an additional 0.25%, while children and spouses earning less than EUR 450 per month are co-insured at no extra cost [33].

Compared to initiatives targeting working caregivers, the levels of care measures are characterized by a different internal definition, which generally does not include daily care permits. The option is not even included in the Austrian scheme, implying a lack of economic compensation through the care leave allowance. Furthermore, self-employed workers are not eligible for care leave schemes, resulting in their exclusion from support measures.

3. 3. Drivers and Barriers in the Practices Examined

Aspects of implementation contexts influence the effectiveness of policies. In this regard, the results identify the national characteristics of measures as the main drivers for almost all the initiatives examined (Table 4). This aspect ensures that measures are disseminated throughout the territory and reach the intended beneficiaries homogeneously. In the German case, moreover, measures were periodically reviewed. This is another driver because it allows measures to be adapted to changing social needs.

Another facilitator is related to automatic access to benefits: if, generally, care leave initiatives are included in social security schemes, the nursing benefit in Poland is automatically added to pensions.

Finally, the involvement of the various stakeholders in the policies supports their implementation, thus strengthening mutual collaboration for the achievement of common objectives. In this regard, the Spanish reform calls for collaboration and coordination between national and regional institutions for the planning and governance of measures: the Autonomous Communities (regional institutions) are called upon to debate and consult with national ministries on the final implementation of the measures included in the national LTC Law (Ley de Dependencia) [39,40].

In the Italian occupational welfare scheme, the private sector is called upon to participate as an implementer of the policy, spreading awareness on rights to care support.

On the other hand, in some cases, the municipalities, which are fully delegated to implement the measure, independently define the eligibility criteria and internal characteristics of benefits, de facto reducing the number of beneficiaries (e.g., the Finnish informal care benefit) or producing local inequities (e.g., the Italian and Polish informal care benefits). In this case, the separation between governance and implementation seems to have become a barrier to the policy’s effectiveness. Furthermore, this study shows that two cultural barriers still exist with regard to the development of innovative policies in the LTC sectors to support families and their socio-economic situation. In Italy, Spain, Poland, and Romania, the centrality of families in providing care is enshrined by formal law and cultural rules. The allocation of a compensation allowance recognizes the role of the informal care provided, but without a concrete valuation of the burden's economic and relational impact for relatives.

3. 4. The Social Innovation Aspects of Selected Initiatives

The analysis confirmed the applicability of the areas identified in the literature for promoting social innovation in LTC. Most of the practices examined meet at least one of the four areas. Table 5 outlines how social innovation in these practices is driven by the formal identification of informal and working carers as specific beneficiaries of initiatives (5 out of 22) and by the design of policies to improve their quality of life (4 out of 22). In this regard, the Austrian scheme based on a minimum wage for informal care includes both of the above innovative characteristics.

Table 5. *The selected initiatives' social innovation aspects*

	Social Innovation Aspects in the policies	Initiatives
a.	It is a new policy or revised policy to better meet and social and LTC needs	1,2,3,7,14
b.	It targets beneficiaries' QoL	6,7,10,14,15
c.	It aims to support the beneficiaries QoL	5,6,7,22
d.	It promotes new relationship between stakeholders	5,14,17,18,19,21
e.	Lack of social innovation aspects	8,9,10,11,12,16

Five schemes were recently implemented: the three German practices stem from a review of the periodic insurance scheme, while the Austrian care leave benefit and the Italian occupational welfare scheme are new policies. In six cases, the stakeholders involved in a single initiative could produce specialized networks and new mixed collaborations for future policies. In contrast, active Polish and Romanian policies do not present any innovative aspects. However, innovative LTC policies have largely been debated in Romania and are included in a reform program that was drafted in 2018, but has not yet been implemented.

4. Discussion

The results show that, on the one hand, long-term care initiatives are recent, as the first major initiatives or transformations in long-term care policies occurred in the last three decades. On the other hand, there are many variations and differences between countries. This variability may be the result of various aspects. Firstly, the different definitions of long-term care that are used in Europe and which are characterized by a different valorization of health or social care [41]. Similarly, the country by country variability depends on different welfare state and care regime models [42]. Finally, different welfare cultures may influence the perception of recent social risks stemming from care needs [43,44].

Furthermore, this study highlights how initiatives promoting reconciliation between family and work-life are recent. This result is linked to the spread of the culture of family care responsibility existing in many European countries. In this case, the younger female member of the family often serves as the caregiver for all other family members [45]. In relation to this, the low number of non-economic measures observed in this study supports the assumption that policymakers do not recognize the impact of informal care on care recipients' quality of life and the overall quality of care provided.

All these factors can directly influence the development of initiatives focused on long-term care for the dependent population, both in terms of the products, services, and benefits offered as well as the target population group. However, in many European countries, the strategy for designing policies to support families in providing informal care is still based on the standard compensation awarded by national cash benefits. This strategy, traditionally based on compensation for care recipients' incapacity, does not meet the goal of countering the socio-economic consequences of care being provided by informal caregivers. Indeed, cash benefit policies become effective if they are integrated with other public policies and services [46].

The results reflect the effectiveness of integrative and coordination strategies at the macro, meso, and micro levels for the design of supporting policies for those family members providing care. At the macro level, coordination between different policies may become a driver if they are included in a national action or reform on LTC. This enables the design of a comprehensive system of policies to fully meet the care needs of recipients, while also taking into consideration the other social needs of families and care workers [28,47]. At the meso level, the involvement of different stakeholders is characterized by collaboration between local and national institutions. A mixed framework of design and governance helps to overcome some key barriers for establishing long-term care and welfare systems [48]. In this regard, two good examples are the Spanish reform on LTC and the German insurance on LTC, even with internal differences. Moreover, the participation of private companies and enterprises to realize specific policies for working carers is an opportunity to promote, even in countries with high familial responsibility, a culture of informal care that can appreciate and enhance the social identity of familial caregivers [49].

Implementing specific policies for informal or working carers integrates the LTC initiatives for the care recipient at the micro level. Nevertheless, informal care support is publicly stated but not fully realized when the policy is designed around care recipient characteristics. In this regard, the findings highlight the lack of actual orientation to socio-economic support for families providing care. Partial support provided through a cash benefits compensatory approach or unpaid care leave schemes does not fully respond to the difficulties of familial burden of care. In countries with a high familial responsibility for care, the family remains the main care provider without adequate support.

The parallelism between the objectives of the practices and the objectives of social innovation highlights how the development of these family assistance policies is one of the main ways to innovate the LTC and welfare systems. The Austrian scheme with the minimum wage for assistance is promising, but the figure of around 400 euros does not correspond to a pay that is linked to the cost of living. The suggestion is more accurate for many Italian local schemes, where the amounts for caregiving are defined in 200 euros/months.

In this regard, the results suggest that the right to receive fair economic compensation and social security benefits must be included in the design of welfare and LTC policies to support families in providing care. This innovative approach emphasizes the urgent need to break down cultural barriers to family responsibility and respect and remove the divide between social and health policies. To achieve these goals, some local Italian institutions design allowances for informal care with a progressive amount from 500 euros to 1100 euros depending on the level of care needs (e.g., Puglia Region and Trento Municipality)

5. Conclusions

This study analyzes support practices concerning family caregivers in different European countries, highlighting how these policies' effectiveness is also linked to their ability to counteract the adverse socio-economic effects of informal care for families. The results confirm how the adverse effects of providing care are still undervalued in policy design. The overview of different policies revealed a common strategy based on standard remuneration for informal care and schemes for working carers based on the level of care provided. In this scenario, families remain the main providers of home care, receiving only partial support from welfare and LTC schemes. It is, therefore, recommended that the right to receive fair economic compensation and social security benefits is included in the innovative and sustainable strategies for LTC and welfare schemes.

Finally, some limitations should be considered with regard to this study. To begin with, the lack of an international classification system that would allow for a standardized coding of the initiatives developed in different countries makes comparisons challenging. Moreover, the collection of policies was not checked with the help of experts from the countries under study. Multiple search step strategies reduced the risk of potentially not finding data, but the difficulty in locating updated data on individual practices suggests that further multiple research team studies, including with other countries, should be encouraged. Specifically, the realized desk collection of data by grey literature and literature did not allow to collect updated data (e.g., the different cash benefit amounts) useful to evaluate the effectiveness of practice because the data are not declared or not updated. Furthermore, multiple site studies will allow an in-depth analysis of how the practices work, taking into consideration specific welfare and LTC system characteristics. Despite these limitations, this study provides a general framework of the characteristics of active European LTC practices for supporting families caring for dependent people, with a focus on their effectiveness in overcoming adverse socioeconomic effects, as well as useful suggestions for the international LTC and welfare debate.

Author Contributions

Conceptualization, G.C.; methodology, G.C.; validation, C.M.-C.; formal analysis, M.F.S. and G.C.; investigation, M.F.S. and G.C.; data curation, M.F.S. and G.C.; writing—original draft preparation, M.F.S. and G.C.; writing—review and editing, M.F.S., G.C., J.G.F., F.B., S.Y.; supervision, G.C.; project administration, C.M.-C.; funding acquisition, G.C. All authors have read and agreed to the published version of the manuscript.

Funding

The study is being supported by the Marie Curie European Fellowship Grant. Horizon 2020 MSCA-IF-2019 Grant Agreement No. 888102.

Institutional Review Board Statement

Not applicable.

Informed Consent Statement

Not applicable.

Data Availability Statement

Not applicable.

Acknowledgments

The authors would like to thank Noelia Fernández Salido and Érika Bacher Revert for their contribution in gathering preliminary data on policies.

Conflicts of Interest

The authors declare that there are no conflict of interest. The funders had no role in the study's design, data collection, analyses, or interpretation, manuscript writing, or the decision to publish the results.

References

WHO. Aging and Life Cycle. Interesting Facts about Aging. **2021.** Available online: https://www.who.int/news-room/fact-sheets/detail/ageing-and-health (accessed on 15 January 2022).

Deaton, A. Measuring and Understanding Behavior, Welfare, and Poverty. *Am. Econ. Rev.* **2016,** 106, 1221–1243. [Google Scholar] [CrossRef]

Janković-Milić, V.; Lepojević, V.; Stanković, J. Poverty as a Heterogeneity Factor in EU Countries. *Facta Univ. Ser. Econ. Organ.* **2019,** 16, 403–414. [Google Scholar] [CrossRef]

Buheji, M.; da Costa Cunha, K.; Beka, G.; Mavric, B.; De Souza, Y.L.; da Costa Silva, S.S.; Hanafi, M.; Yein, T.C. The Extent of COVID-19 Pandemic Socio-Economic Impact on Global Poverty. A Global Integrative Multidisciplinary Review. *Am. J. Econ. Am.* **2020,** 10, 213–224. [Google Scholar] [CrossRef]

Wynants, L.; van Calster, B.; Bonten, M.M.J.; Collins, G.S.; Debray, T.P.A.; de Vos, M.; Riley, R.D.; Heinze, G.; Schuit, E.; Damen, J.A.A.; et al. Prediction Models for Diagnosis and Prognosis of COVID-19: Systematic Review and Critical Appraisal. *BMJ* **2020,** 369, 1328. [Google Scholar] [CrossRef] [PubMed]

Mueller, A.L.; McNamara, M.S.; Sinclair, D.A. Why Does COVID-19 Disproportionately Affect Older People? *Aging* **2020,** 12, 9959–9981. [Google Scholar] [CrossRef]

Inzitari, M.; Risco, E.; Cesari, M.; Buurman, B.M.; Kuluski, K.; Davey, V.; Bennett, L.; Varela, J.; Bettger, J.P. Nursing Homes and Long Term Care After COVID-19: A New ERA? *J. Nutr. Health Aging* **2020,** 24, 1042–1046. [Google Scholar] [CrossRef]

Walsh, K.; Scharf, T.; Keating, N. Social Exclusion of Older Persons: A Scoping Review and Conceptual Framework. *Eur. J. Ageing* **2017,** 14, 81–98. [Google Scholar] [CrossRef]

D'Argemir, C.D. Los cuidados de larga duración y el cuarto pilar del sistema de bienestar. *Rev. Antropol. Soc.* **2015,** 24, 375–404. [Google Scholar]

Casado-Marín, D. La atención a la dependencia en España. *Gac. Sanit.* **2006**, 20, 135–142. [Google Scholar] [CrossRef]

Grundy, E.M.; Murphy, M. Population Ageing in Europe. In *Oxford Textbook of Geriatric Medicine;* Oxford University Press: Oxford, UK, **2017**; pp. 11–18. [Google Scholar]

Casanova, G.; Principi, A.; Lamura, G. Social Innovation in Long-Term Care: Lessons from the Italian Case. *Int. J. Environ. Res. Public Health* **2020**, 17, 2367. [Google Scholar] [CrossRef]

Kroger, T.; Yeandle, S. Combining *Paid Work and Family Care: Policies and Experiences in International Perspective;* Policy Press: Bristol, UK, **2013**. [Google Scholar]

Le Bihan, B.; Da Roit, B.; Sopadzhiyan, A. The turn to optional familialism through the market: Long-term care, cash-for-care, and caregiving policies in Europe. *Soc. Policy Adm.* **2019**, 53, 579–595. [Google Scholar] [CrossRef]

European Commission. *Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability;* European Economy: Brussels, Belgium, **2016**. [Google Scholar]

Kraus, M.; Riedel, M.; Mot, E.; Willemé, P.; Röhrling, G.; Czypionka, T. *A Typology of Long-Term Care Systems in Europe;* ENEPRI; University Library of Munich: Munich, Germany, **2010.** [Google Scholar]

Pavolini, E.; Seeleib-Kaiser, M. Comparing occupational welfare in Europe: The case of occupational pensions. Soc. Policy Adm. **2018**, 52, 477–490. [Google Scholar] [CrossRef]

Béland, D.; Marier, P. COVID-19 and Long-Term Care Policy for Older People in Canada. *J. Aging Soc. Policy* **2020**, 32, 358–364. [Google Scholar] [CrossRef]

Martínez-López, J.Á.; Lázaro-Pérez, C.; Gómez Galán, J.; Raducea, M. Aproximación a los cuidados de larga duración durante el pico de la COVID-19 en la Región de Murcia. *Rev. Prism. Soc.* **2021,** 32, 128–146. [Google Scholar]

Mosca, I.; Van Der Wees, P.J.; Mot, E.S.; Wammes, J.J.; Jeurissen, P.P. Sustainability of Long-Term Care: Puzzling Tasks Ahead for Policy-Makers. *Int. J. Health Policy Manag. Int.* **2016,** 6, 195–205. [Google Scholar] [CrossRef]

Casanova, G.; Lillini, R. Disability in Older People and Socio-Economic Deprivation in Italy: Effects on the Care Burden and System Resources. *Sustainability* **2022,** 14, 205. [Google Scholar] [CrossRef]

Martarelli, R.; Casanova, G.; Lamura, G. The Impact of Long-term Care Needs on the Socio-economic Deprivation of Older People and Their Families: A Scoping Review Protocol. **2021.** Available online: https://www.researchsquare.com/article/rs-816117/v1 (accessed on 15 January 2022).

Schulmann, K.; Leichsenring, K. Social Support and Long-Term Care in EU Care Regimes. Framework Conditions and Initiatives of Social Innovation in an Active Ageing Perspective. WP8 Overview Report. MoPact. **2014,** pp. 1–195. Available online: https://mopact.sites.sheffield.ac.uk/ (accessed on 15 January 2022).

Thorne, S. *Interpretative Description: Qualitative Research for Applied Practice;* Routledge: Abingdon-on-Thames, UK, **2016.** [Google Scholar]

Bowker, L. Machine translation and author keywords: A viable search strategy for scholars with limited English proficiency? *Adv. Classif. Res. Online* **2018,** 29, 13–16. [Google Scholar] [CrossRef]

Zulfiqar, S.; Wahab, M.F.; Sarwar, M.I.; Lieberwirth, I. Is Machine Translation a Reliable Tool for Reading German Scientific Databases and Research Articles? *J. Chem. Inf. Model.* **2018,** 58, 2214–2223. [Google Scholar] [CrossRef]

Széman, Z.; Tróbert, A.M. Social innovation in the provision of services in long-term care. *Eur. J. Ment. Health* **2017,** 12, 204–217. [Google Scholar] [CrossRef]

Schulmann, K.; Reichert, M.; Leichsenring, K. Social support and long-term care for older people: The potential for social innovation and active ageing. In *The Future of Ageing in Europe;* Palgrave Macmillan: Singapore, **2019;** pp. 255–286. [Google Scholar]

Casanova, G.; Di Rosa, M.; Fisher, O.; Lamura, G. Between migrant care work and new occupational welfare tools: Changing home care arrangements in Italy. *Int. J. Environ. Res.* **2020,** 17, 5511. [Google Scholar] [CrossRef]

Golinowska, S. *The System of Long-Term Care in Poland;* Research Report; Center Network Studies & Analyses (CASE): Warsaw, Poland, **2010.** [Google Scholar]

European Commission. *ESPN Thematic Report on Challenges in Long-Term Care Austria;* European Comission: Brussels, Belgium, **2018.** [Google Scholar]

European Commission. *ESPN Thematic Report on Challenges in Long-Term Care Romania;* European Comission: Brussels, Belgium, **2018.** [Google Scholar]

European Commission. *ESPN Thematic Report on Challenges in Long-Term Care Germany;* European Comission: Brussels, Belgium, **2018.** [Google Scholar]

European Commission. *ESPN Thematic Report on Challenges in Long-Term Care Finland;* European Comission: Brussels, Belgium, **2018.** [Google Scholar]

European Commission. *ESPN Thematic Report on Challenges in Long-Term Care: Italy;* European Comission: Brussels, Belgium, **2018.** [Google Scholar]

European Commission. *ESPN Thematic Report on Challenges in Long-Term Care: Poland;* European Comission: Brussels, Belgium, **2018.** [Google Scholar]

European Commission. *ESPN Thematic Report on Challenges in Long-Term Care: The*

Netherland; European Comission: Brussels, Belgium, **2018.** [Google Scholar]

Hoyer, S.; Reich, N. Leave and Financial Support for Family Caregivers in EU Member States. **2016.** Available online: http://beobachtungsstelle-gesellschaftspolitik.de/f/04d661be68.pdf (accessed on 15 January 2022).

European Commission. *ESPN Thematic Report on Challenges in Long-Term Care: Spain;* European Comission: Brussels, Belgium, **2018.** [Google Scholar]

Casanova, G.; Lamura, G.; Principi, A. Valuing and integrating informal care as a core component of long-term care for older people: A comparison of recent developments in Italy and Spain. *J. Aging Soc. Policy* **2017,** 29, 201–217. [Google Scholar] [CrossRef] [PubMed]

Salvador-Carulla, L.; Alvarez-Galvez, J.; Romero, C.; Gutiérrez-Colosía, M.R.; Weber, G.; McDaid, D.; Dimitrov, H.; Sprah, L.; Kalseth, B.; Johnson, S.; et al. Evaluation of an integrated system for classification, assessment and comparison of services for long-term care in Europe: The eDESDE-LTC study. *BMC Health Serv. Res.* **2013,** 13, 1–12. [Google Scholar] [CrossRef] [PubMed]

Ranci, C.; Pavolini, *E. Reforms in Long-Term Care Policies in Europe: Investigating Institutional Change and Social Impacts;* Springer: New York, NY, USA, **2013;** pp. 159–177. [Google Scholar]

Ranci, C. *Social Vulnerability in Europe;* The New Configuration of Social Risks; Springer: Berlin/Heidelberg, Germany, **2009.** [Google Scholar]

Taylor-Gooby, P. (Ed.) New Risks, New Welfare: The Transformation of the European Welfare State; Oxford University Press: Oxford, UK**, 2004.** [Google Scholar]

Saraceno, *C. Gender and Care: Old Solutions, New Developments?* European University Institute: Fiesole, Italia, **2008.** [Google Scholar]

Courbage, C.; Montoliu-Montes, G.; Wagner, J. The effect of long-term care public benefits and insurance on informal care from outside the household: Empirical evidence from Italy and Spain. *Eur. J. Health Econ.* **2020,** 21, 1131–1147. [Google Scholar] [CrossRef] [PubMed]

Chiu, T.Y.; Yu, H.W.; Goto, R.; Lai, W.L.; Li, H.C.; Tsai, E.T.; Chen, Y.M. From fragmentation toward integration: A preliminary study of a new long-term care policy in a fast-aging country. *BMC Geriatr.* **2019,** 19, 1–10. [Google Scholar] [CrossRef]

Walker, W.; Wyse, *M. Leadership and Governance of Long-Term Care Systems in Asia and the Pacific;* Asian Development Bank: Metro Manila, Philippines, 2021. [Google Scholar]

Eifert, E.K.; Adams, R.; Dudley, W.; Perko, M. Family caregiver identity: A literature review. *Am. J. Health Educ.* **2015,** 46, 357–367. [Google Scholar] [CrossRef]

Artículo 2

Value-Based Healthcare Delivery: A Scoping Review

1. Introduction and Background

Population ageing characterises one of the most important transformations in developed and emerging countries ever since the middle of the last century [1,2]. Along with a progressive increase in older people (65 years of age and older), the development of chronic conditions (multimorbidity), which increase with increasing age [3–5], has become a challenge for the provision and financing of healthcare and social services. In this regard, health systems aim to address one of the main concerns about citizen care: the effectiveness of healthcare outcomes [6]. In this field, effectiveness is a term that addresses both the quality of care and the optimisation of care processes [7,8]. Healthcare organisations are currently facing increased pressure on their total expenditure, the increased complexity of people's health status, and the increased democratisation of therapeutic interventions [9].

In this respect, several studies on the historical development of healthcare have recorded the various changes in the doctor–patient relationship and in the healthcare model [10,11]. In the traditional medical model, the patient is reduced in his or her relationship with the health system and health professionals to a passive subject and a generic person, i.e., without history or context. This model of healthcare began to be redefined in the 1970s [12–14]. Since then, various proposals on the therapeutic relationship, guided by the principles of quality, safety, and symmetry, have promoted an increasingly human, ethical, and social interpretation of the patient [15]. The application of these propositional visions has resulted in care provision models moving from 'patient-centred care' [16] to 'person-centred care' [17]. Moreover, the services of today's healthcare organisations take into account, as a reference point in the provision of care, both costs and satisfaction, as well as the active participation and experience of the population to be cared for [18–20], leading to a new 'value-based model of healthcare.'

This new paradigm of Value-Based Healthcare (VBHC) is presented as the optimal alternative to the current care approach to health services, the volume-based healthcare model [21]. The proposal of the VBHC model responds to the need to address the costs of health services in relation to their capacity to improve the situation of patients [22]. This need is one of the main challenges facing healthcare organisations today, given the limitation of public resources and the growing complexity, diversity, and plurality of the health status of populations [23,24]. The value-based model of healthcare addresses these material, socio-demographic, and care challenges or constraints of contemporary health provision with a holistic approach to the quality of health services [25]. In this sense, value in healthcare is understood as the trade-off between outcomes and costs, by extension, as the potential effectiveness of health services [26–28].

The volume-based model of healthcare operates with a quantitative approach to health service provision. Thus, at the level of clinical performance, the capacity of consultations is prioritised over the patients themselves, and the cost of provision is prioritised over the quality of services [29,30]. As a result, healthcare organisations are delivering healthcare that is increasingly efficient but more segmented by department and with less capacity for improvement [31]. Faced with this clinical trend of the loss of person-centredness, the value-based healthcare model is presented as a strategy that revitalises the active role of the patient and the viability of health services. This new paradigm of healthcare complements health economics with a qualitative and holistic approach to its administration and provision to the population. Thus, it is proposed as a normative healthcare strategy focused on the construction of the value chain of the care process [25]. Even though different initiatives on VBHC have been implemented and analysed over the last few years, there remains a lack of acceptance of the concept and a knowledge gap around the existence of a consensus on the definition of the VBHC concept. This is due to a number of factors, including variations among different health systems around the world and the paucity of available data demonstrating the effectiveness of measures implemented under the VBHC model [32]. There are different interpretations of value and of the key elements for its successful implementation, as well as a multitude of initiatives advocating different positive outcomes. Thus, this study strives to reduce this knowledge gap by bringing together the relevant literature and hopefully laying the groundwork for future research in this area.

Our study aims to explore and synthesise the existing knowledge, through a scoping literature review, of the VBHC conceptualisation and the key elements and outcomes of implementing value-based care in the healthcare context and to identify how these may contribute to improving the efficiency and sustainability of the healthcare system. Therefore, the aim of this study is to identify, compare, and summarise the findings of the literature on the following: (1) the definitions of value-based care extracted from the literature review; (2) the key elements of implementing/delivering value-based care into the healthcare context; and (3) the main outcomes, in terms of improvement in the quality of the care process, of implementing value-based care. Moreover, this scoping review aims to explore and identify pertinent gaps that would be beneficial for guiding future studies.

2. Materials and Methods

A scoping review responds to a specific methodology of locating and selecting existing studies on a specific topic, according to pre-specified eligibility criteria, in order to analyse, synthesise, and report the results found, with the aim of answering a clearly specified research question [33]. We adopted the guidelines of the PRISMA 2020 statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) for its relevance to this study, as it is primarily designed to evaluate systematic reviews of studies assessing the effects of health interventions, regardless of the design of the studies included [34,35]. In particular, the PRISMA extension for Scoping Reviews (PRISMA-ScR) checklist was used to guide the conduct of this review; the protocol of this scoping review has not been registered or published [36].

The bibliographic reference management application Zotero was used to transfer the studies identified in the electronic databases and eliminate duplicates. To maximise the evidence recovery from the databases, the literature search strategy was based on the PICO framework, consisting of the construction of the research question according to the description of the following components: patient or problem of interest (P), intervention (I), comparison (C) and outcomes (O) [37]. However, this study does not present an intervention with which to compare value-based care, so component C is omitted, leaving the format as PIO. Table 1 shows the PIO model.

Table 1. *Elaboration of the research question using the PIO model*

Acronym and Components	Description on Components
(P) Population	Healthcare system at large
(I) Intervention	Value-based care approach
(O) Outcomes	Improving the efficiency and sustainability of healthcare systems, that is to say, the overall outcomes of care in terms of the quality of care.

After using the PIO model, the following research questions are presented: Does the implementation of a value-based approach lead to an improvement in the efficiency and sustainability of healthcare?

If so, which are the key elements and the related outcomes of implementing the value-based care approach in the healthcare context?

In order to identify, select, and include relevant literature that answered the research question, and to discard studies that did not answer it, inclusion and exclusion criteria were defined. The following inclusion and exclusion criteria were used for study selection:

2.1 Elegibility Criteria

Inclusion criteria:

(1) Articles addressing the implementation of value-based care in the healthcare context;

(2) Articles published in the last 10 years (2013–2023);

(3) Articles published in English and Spanish;

(4) Articles published in scientific journals;

(5) Full and open access articles;

(6) Original or primary source studies that are descriptive, experimental, quasi-experimental, cross-sectional, and longitudinal articles.

Exclusion criteria:

(1) Articles that do not address the implementation of value-based care in the healthcare context or articles focused on a specific condition/disease;

(2) Articles that were published more than 10 years ago;

(3) Studies that were published in a language other than English and Spanish;

(4) Articles published in non-scientific journals or incomplete and non-open access articles;

(5) Secondary source studies, such as reviews and editorials.

2.2. Search Strategy

A scoping literature review was conducted according to the inclusion and exclusion criteria above in the electronic databases PubMed, ProQuest, Scopus, and SpringerLink. The databases were chosen for their international recognition and broad multidisciplinary coverage, with the intention of retrieving articles relevant to the subject of the scoping literature review. According to the eligibility criteria, articles that included descriptors related to the terms MeSH (Medical Subject Headings) and DeCS (Health sciences desCriptors) were selected [38]. The terms value-based, care, health, and healthcare were identified from the MeSH and DeCS descriptors and combined with a Boolean operator, as shown in Table 2, to develop a database search to achieve the proposed objectives.

Table 2. *Search with descriptor and Boolean AND operators.*

Descriptor	Boolean Operator	Descriptor	Boolean Operator	Boolean Operator	Descriptor
Value-based	AND	Care			
Value-based	AND	Care	AND		Cost
Value-based	AND	Care	AND		Quality of life

To reduce the risk of subjective interpretation and possible inaccuracies due to chance errors that might have affected the results of the review, two independent reviewers were involved in the selection of studies in the electronic searches [39]. Thus, after eliminating duplicate records, we proceeded with the preliminary data analysis, which included a three-stage selection process: the first phase based on selection by title, the second phase based on selection by abstract, and the third phase consisting of reading the full text of the studies selected by abstract. Each of the papers was assessed twice by two independent reviewers following the inclusion and exclusion criteria set above. A third reviewer was involved in the process when disagreement arose or consensus was not reached, making the final decision.

3. Results

3.1. Screening Results

A total of 2.801 records were identified covering the time span of January 2013 to December 2023, of which 1.609 duplicate registrations were deleted. Of the 1073 records obtained after eliminating duplicates, 439 records were identified in the title review. After applying the exclusion criteria in the selection by abstract, 396 were eliminated, leaving 43 scientific articles for full-text review. A total of 12 full text articles were reviewed, all of which met the inclusion criteria and were included in the final list of studies included for this research. To conduct and report this scoping review, we used the preferred reporting elements for systematic reviews and meta-analysis scoping reviews: PRISMA-ScR [34] (Supplementary Materials) together with the PRISMA 2020 flowchart [35] (Figure 1). Figure 1 presents the flow diagram, which was based on the PRISMA 2020 declaration [35], that illustrates the scoping literature review process and details the reasons for exclusion at each screening stage.

Preliminary Insights

A total of 12 studies were included for the scoping review. In terms of the methodology used in the studies, 10 of the 12 studies used qualitative techniques, either through interviews or focus groups, and 2 other studies used a mixed methodology, combining the use of interviews and questionnaires. The following table (Table 3) shows the PICOTS characteristics for each of the studies included in the scoping review [40]. Table 4 shows a summary of the results found from the analysis of the studies in the scoping review.

Figura 1. *Flow diagram for our scoping review based on PRISMA. Note: Reason 1: Articles that do not address the implementation of value-based care in the healthcare context or articles focused on a specific condition/disease; Reason 2: Articles that were published more than 10 years ago; Reason 3: Studies that were published in a language other than English and Spanish; Reason 4: Articles published in non-scientific journals or incomplete and non-open access articles; Reason 5: Secondary source studies; Resource 6: Duplicate*

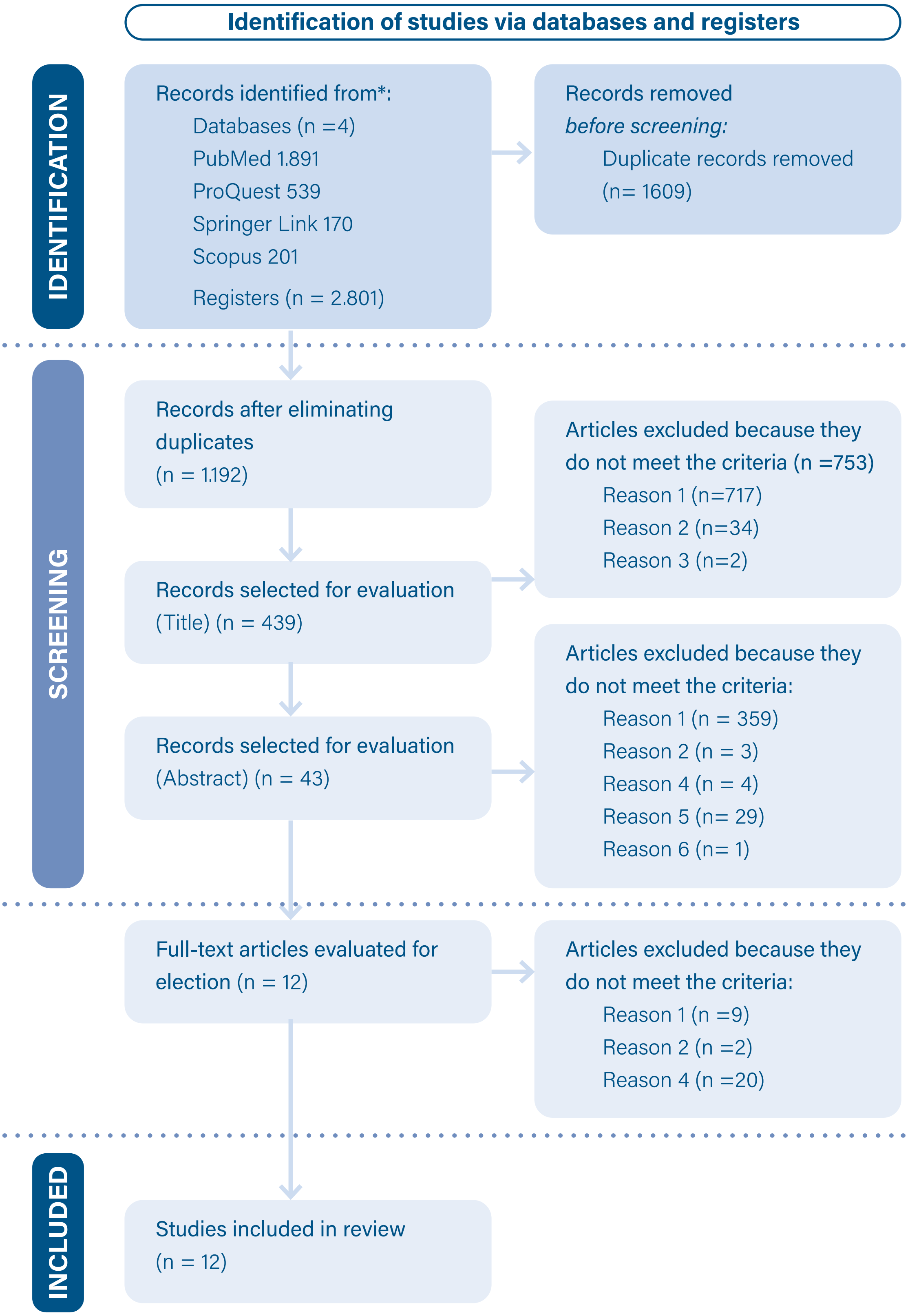

__Tabla 3.__ PICOTS characteristics of reviewed studies

Reference	Populations	Intervention	Country	Method/Outcomes	Timeframe	Setting
Nilsson et al. [41]	Professionals of VBHC implementation teams in a hospital	Exploration of how the representatives of four pilot project teams experienced implementing VBHC in four different groups of patients	Sweden	Qualitative analysis by conducting interviews over three periods with 20 members of the VBHC implementation teams, with a total of 59 interviews conducted	2 years	A Swedish university hospital
Nilsson et al. [42]	Professionals of VBHC implementation teams in a hospital	Exploration of four pilot teams' experiences of improvements resulting from the implementation of VBHC in a hospital	Sweden	Qualitative analysis through in-depth interviews with 20 members of the VBHC implementation teams	2 years	A Swedish university hospital
Nilsson et al. [43]	Professionals of VBHC implementation teams in a hospital	Exploration of four pilot teams' experiences of improvements resulting from the implementation of VBHC in a hospital	Sweden	Qualitative analysis through in-depth interviews with 20 members of the VBHC implementation teams	2 years	A Swedish university hospital
Cossio Gil et al. [32]	Members/professionals of EUHA	Presentation of a plan for the implementation of VBHC in hospitals	Europe	Qualitative analysis	2 years	European University Hospital Alliance (EUHA)
Daniels et al. [44]	Members of VBQI teams in a large Dutch top clinical teaching hospital	Exploration of the main hindering and/or supporting factors in the implementation of VBQI teams in hospital care	The Netherlands	Qualitative analysis with semi-structured interviews with 43 members of 8 VBQI teams	5 years	Dutch top clinical teaching hospital
Heijster et al. [45]	Members of Amsterdam UMC	Presentation of a pragmatic step-by-step approach for VBHC implementation, developed and applied in Amsterdam UMC	The Netherlands	A method for implementing VBHC in Amsterdam UMC based on 'experience-based co-design' (EBCD)	3 years	Academic hospital in the Netherlands
Makdisse et al. [46]	Top- and middle-level executives from 70 healthcare provider organisations (HPOs)	Investigation of how HPOs in five Latin American countries were implementing VBHC	Argentina, Brazil, Chile, Colombia, and Mexico	Mixed methods research using online questionnaires and semi-structured interviews with a total of 70 participants from health organisations in five Latin American countries	2 years	Healthcare provider organisations (HPOs) in Latin America

Reference	Populations	Intervention	Country	Method/Outcomes	Timeframe	Setting
NG [47]	Managers and clinicians of the NHS in the United Kingdom	Exploration of relationships, behaviours, and perceptions between managers and clinicians regarding value-based healthcare	United Kingdom	A qualitative research methodology of semi-structured in-depth interviews applied to a sample of 4 hospital consultants, 4 senior managers, and 4 board executives	---	The National Health Service in the United Kingdom
Steinman et al. [48]	Representatives of Dutch hospitals (the Netherlands)	Exploration of the ways in which Dutch hospitals were implementing and pursuing value-based redesign	The Netherlands	Qualitative study through semi-structured interviews and focus groups with representatives of Dutch hospitals	---	Hospital organisations in the Netherlands
Vaerela-Rodríguez et al. [49]	Professionals and Members of the Population attending the Hospital Universitario 12 de Octubre	Value-based healthcare project implementation in a hierarchical tertiary hospital	Spain	Pilot study for the implementation of VBHC, in which qualitative techniques such as focus groups and the Delphi technique were included	4 years	Hospital Universitario 12 de Octubre Madrid
Steinman et al. [50]	A Dutch expert panel about VBHC consisting of nine members	The generating of a consensus on key actions and practices for VBHC implementation	The Netherlands	Qualitative research using the Delphi technique with a group of 9 Dutch experts on actions and practices that would contribute to implementing VBHC in the Dutch healthcare system	---	The healthcare system in the Netherlands
Krebs et al., [51]	Members of Germany's healthcare system	Exploration of stakeholders' perspectives on the relevance and feasibility of actions and practices related to the implementation of VBHC in the German healthcare system.	Germany	Mixed methodology through interviews and questionnaires (using the Delphi method) with health experts	2 years	The healthcare system in Germany

Tabla 4. *List of studies included for the scoping review*

Reference	Methods	VBHC Definition	Key Elements of Implementing VBHC	Outcomes of VBHC Implementation
Nilsson et al. [41]	Qualitative	Value is defined as health outcomes achieved per "dollar" spent. VBHC implies creating value for patients; basing the organisation of medical practice on medical conditions and care cycles; and measuring medical outcomes and costs.	Organising healthcare around integrated care units; involving patients or patient representatives; the identification of outcome measures that create value for patients; the accessibility of data—up-to-date IT systems; time; the presence of leadership; measuring the costs of the entire care process.	- Patients appreciated the value-focused care they received; practitioners were more aware of what creates value for patients; increased co-operation between departments and the professionals working in them. - Increased awareness about the necessity of cooperation between inpatient and outpatient care; increased accessibility to patients by receiving care at the appropriate level; improvements in outcome measurement, patient follow-up, and the understanding of different conditions in each department and different patient subgroups.
Nilsson et al. [42]	Qualitative	Patient value refers to the quality of care and treatment provided.	The presence of leadership; the identification of outcome measures that create value for patients; the accessibility of data—up-to-date IT systems; involving patients.	- Better quality of care; increased staff job satisfaction. - Improved communication between inpatient and outpatient care; improvements in outcome measurement and patient monitoring.
Nilsson et al. [43]	Qualitative	Value is defined as health outcomes achieved per 'dollar' spent. VBHC implies creating value for patients; basing the organisation of medical practice on medical conditions and care cycles; and measuring medical outcomes and costs.	The presence of leadership; time; planning and preparation in the pre-implementation phase.	- It enhanced the importance of including the patients' perspective and what is important to them.
Cossio Gil et al. [32]	Qualitative	VBHC means improving outcomes for patients in relation to the costs of care while reducing the burden on professionals and improving their job satisfaction.	Organising healthcare around integrated care units; the accessibility of data—up-to-date IT systems; the identification of outcome measures that create value for patients; involving patients; the presence of leadership.	---
Daniels et al. [44]	Qualitative	VBHC is defined as the best outcomes for the patient divided by the costs of achieving those outcomes.	Organising healthcare around integrated care units; the presence of leadership; accessibility of data—up-to-date IT systems; time; organisational readiness in the pre-implementation phase; involving professionals from outside the VBHC team.	- Increased knowledge of best VBHC practices. - Increased efficiency in hospital systems.

Reference	Methods	VBHC Definition	Key Elements of Implementing VBHC	Outcomes of VBHC Implementation
Heijster et al. [45]	Qualitative	VBHC is defined as the improvement of patient outcomes in relation to the optimal use of resources.	Organising healthcare around integrated care units; the presence of leadership; involving patients or patient representatives; organisational readiness in the pre-implementation phase; multidisciplinary VBHC implementation teams; the hiring of external consultants.	- Improvement in the process of care by ensuring the inclusion of patients' wishes and needs; the use of systematic measures to assess patient outcomes reduced interpretation bias, ensured consistent recording, and avoided missing data.
Makdisse et al. [46]	Quantitative and qualitative	Value is defined as the ratio of health outcomes to costs for each patient.	Organising healthcare around integrated care units.	---
NG [47]	Qualitative	Value requires improved results per unit cost.	Organising healthcare around integrated care units; organisational readiness in the pre-implementation phase; the presence of leadership; the accessibility of data—up-to-date IT systems.	Increased efficiency in hospital systems.
Steinman et al. [48]	Qualitative	At VBHC, value is what matters most to patients. Value is defined as the health status of the patient (outcomes) divided by the resources required to achieve that status (costs).	Organising healthcare around integrated care units; the presence of leadership; accessibility of data—up-to-date IT systems; time; organisational readiness in the pre-implementation phase; involving professionals from outside the VBHC team.	- Improved communication between the different care units involved in the complete care cycle of a disease; improved efficiency of hospital services. - Improved collaboration between team members by creating a sense of shared responsibility for certain objectives.
Verela-Rodríguez et al. [49]	Qualitative	VBHC is defined as an international trend that involves significant changes at various levels of healthcare institutions, from management to the doctor–patient relationship.	Organising healthcare around integrated care units; the presence of leadership; the accessibility of data—up-to-date IT systems; involving patients or patient representatives; the identification of outcome measures that create value for patients; measuring the costs of the entire care process.	Reduction in interpretation bias and improvement of data quality (thanks to PROMs).
Steinman et al. [50]	Qualitative	Value is defined as patient health status (outcomes) divided by the resources needed to achieve it (costs).	Organising healthcare around integrated care units; involving patients or patient representatives; the identification of outcome measures that create value for patients.	---
Krebs et al. [51]	Quantitative and qualitative		Involving patients or patient representatives; the accessibility of data; up-to-date IT systems; multidisciplinary VBHC implementation teams.	---

Note. *Several studies that were examined did not provide information on certain aspects being reviewed, which explains the absence of data in specific table cells.*

3.2. Results and Analysis

3.2.1. Definitions of Value-Based Care

The first specific objective was to identify and compare the definitions of value-based care extracted from the scoping literature review. All the definitions found in the reviewed literature placed the patient at the centre of the definition of VBHC. Nilsson et al. [41,42] described VBHC as an approach based on three principles: first, creating as much value as possible for the patient; second, basing the organisation of healthcare on the patients' medical conditions and full care cycles; and third, the measurement of medical outcomes and costs.

Aligned with the first principle highlighted by Nilsson et al. [41,43]; Steinman et al. [48,50] stated that 'value consists of what matters most to patients,' while Daniels et al. [44] emphasised that patient value is defined as 'the best possible patient-relevant health outcomes and patient experience divided by the costs to achieve those outcomes.' In this line of thought, Heijster et al. [45] explained that a key element of VBHC is 'to improve outcomes in daily practice that matter to patients while optimizing resource utilization.'

The optimisation of resource utilisation has been also mentioned in the definitions found in Cossio Gil et al. [32]; Makdisse et al. [46]; Ng, S. [47], and Steinman et al. [48]; in these, it was mentioned that, within a VBHC approach, improving value requires improving outcomes per unit of cost. Thus, the importance of measuring both health outcomes and costs, as supported by Nilsson et al. [41–43] in their third principle of VBHC, is highlighted. This idea was also supported by the definition extracted from a study by Makdisse et al. [46], according to which 'the value equation is where value is defined as health outcomes relative to the cost.'

Furthermore, for Cossio Gil et al. [32], VBHC must put patient outcomes at the centre of the healthcare process. This idea is in line with the second principle of VBHC from Nilsson et al. [39,41], regarding basing the organisation of healthcare on the patients' medical conditions. This has also been supported by the work of Makdisse et al. [46], who recommended a value agenda in which healthcare should be organised into integrated practice units. This authors, as part of this value agenda, also mentioned that healthcare systems should move to bundled payments for care cycles and that information technology platforms must be enabled in order to achieve VBHC.

Cossio Gil et al. [32] also stated the importance of VBHC for professionals, as it can be a key aspect for reducing the burden on professionals and improving satisfaction with their work.

Finally, Verela-Rodríguez et al. [49] described VBHC as 'an international trend that implies significant changes at several levels of the healthcare institutions from managerial viewpoints to the doctor–patient relationship.'

The analysis of all the selected studies confirms the presence of commonalities among the identified definitions. For instance, the term 'patient' is consistently present in all definitions, and the correlation between outcomes and costs is observed in 72.7% of the studies. Yet, the distinctions among the definitions emerge in terms of how they articulate the correlation between costs and outcomes. This connection is occasionally directly associated with the VBHC concept, while in other cases, it is associated solely with the definition of 'value' as a constituent within the concept. Additionally, references to supplementary factors beyond patient outcomes and costs, like the impact on professionals' workload and their job contentment, underscore the presence of a gap in comprehending the concept.

3.2.2. Key Elements of Implementing and Delivering Value-Based Care

The second specific objective of this present scoping literature review was to identify the key elements of implementing and delivering value-based care into the healthcare context.

Among the reviewed studies, the following key elements have been identified: leadership, involving the patients' perspective, organising the delivery of care in integrated care units, the standardisation of outcome measures and accessibility of data, and having enough resources in terms of time and human capital.

A total of nine studies considered the presence of leadership as a key element to support and guide the (multidisciplinary) teams implementing the VBHC approach within the hospital: Nilsson et al. [41,43]; Hejister et al. [45]; Daniels et al. [44]; Cossio et al. [32]; NG [47]; Steinman et al. [48] and Varela et al. [49]. According to Nilsson et al. [41,43], effective leadership occupies a role within the team that is persevering, committed throughout the process, able to motivate and drive the team, and is constantly able to bring new ideas and approaches. This effective leadership was considered essential to ensure that the implementation does not slow down or even that the value-based work does not come to an end.

Hejister et al. [45]; Daniels et al. [44], and Cossio et al. [32] highlighted that effective leadership is based on ensuring the involvement of patients and/or patient representatives, as well as the necessary financial resources for the successful implementation of VBHC. Likewise, Hejister et al. [45] highlights the figure of the clinical leader, and Daniels et al. [44] highlights the figure of the medical leader as figures responsible for leadership in order to successfully launch the implementation of the model. While for NG [47], in the frame of VBHC, great leaders are those that support the implementation of changes and reforms to ensure organisational efficiency with clear pathways for patients [47].

On the one hand, several of these studies focused on the importance of leadership in structuring the work among the team in the pre-implementation phases of VBHC [43,48]. In this sense, studies confirm that leadership by the hospital director, according to which the VBHC approach should be used as a management tool, allows for the legitimacy of decisions within the teams and is conceived as crucial for the prior organisational redesign necessary for the subsequent successful implementation of VBHC [43,48]. On the other hand, another study highlighted the relevance of leadership in both the pre-implementation phase and also in the leading of the implementation process to ensure the motivation of the team during the first months [41]. Although, without providing details, other studies also allude to leadership and coordination as a key step in ensuring the successful implementation of VBHC [49].

Studies also agree on the importance of involving the patients' perspective, although they differ in their manner. Some of the studies emphasised that the patient is at the core or centre of VBHC [43,47,51]. In the same line, other studies highlighted the importance of involving patients or patient representatives during the implementation process [41,45]. According to Nilsson et al. [41], patient involvement is key to understanding the patients' point of view and to ensure that there are no discrepancies between patients' experiences of value and how teams implement VBHC. In this sense, involving patients or patient representatives allows teams to seriously evaluate care delivery in relation to patient value [41]. In the same vein, other studies highlight that patients as well as teams need to have access to data in order to discuss changes in the care process together [32]. Finally, other studies confirmed that VBHC contributed to highlighting the importance of including the patients' perspective and what is important to them [43].

Other studies emphasised that patients' involvement alongside the multidisciplinary team needs to be present not only at the implementation phase but also during the preimplementation design process. In this sense, patients are considered members of the value team, and their participation is essential to ensure personalised care in which their wishes and needs are included, and the outcomes that will be relevant to measure in later stages are selected [45]. Other studies considered the patient perspective to be essential when implementing VBHC, because patients' perspective is key to developing tools that are relevant to actually assess patient-reported outcomes (PROMs) and patient experience (PREMs) through systematic measurements [32,49].

Other studies also mentioned involving patients in the shared decision-making process as one of the most important elements of VBHC [32,50,51].

Another key element for VBHC is embedded according to the studies in the preimplementation phase, known by some studies as organisational [48], or more generically, they refer to the organisational structure of hospitals [45,47].

In this respect, the studies emphasised that, prior to the implementation of VBHC, it is essential to modify the healthcare organisation, which is usually organised in separate departments, into integrated care units [32,41,44,49,50]. According to these studies, healthcare systems that are organised in specialised departments make it difficult to assess outcomes, to measure costs along the whole process, and to follow patients during the course of the disease as they move from one department to another. For these reasons, it is considered necessary to organise care delivery in integrated care units or in multidisciplinary care pathways around a specific patient group with a specific medical condition [32,40,48–50] or, in other words, towards a disease-oriented organisation that allows the entire care process to be evaluated in terms of costs and clinical outcomes [48].

Standardisation of outcome measures and accessibility of data: Importance of ICTs.

As previously said, patients' involvement is essential to know what value for patients is. Thus, the identification of outcome measures relevant to patient groups, which creates value for patients, is another key element in the implementation of VBHC [32,41,47–49]. Alongside the identification of outcome measures, the studies highlight the importance of new technologies for recording and accessing outcomes which facilitates the implementation of VBHC. Several examples that confirm that IT support is an important factor for a successful delivery of VBHC are presented in the reviewed literature. These include the following: the creation of information platforms that enable communication and inform both clinical teams about PROMs and patients about their health status [32], the development of a coding system to measure outcomes across a whole group of patients [42], the installation of supporting IT tools that allow for the searching of data in different IT systems of a hospital [42,51] or that allow, in a given hospital, the systematic recording of information from the primary source, the existence of an up-to-date IT system containing the data, the opportunity to search for statistics for outcome measurement mapping [41], or even the presence of national data registers [44].

Alongside the measurement of outcomes, several studies highlight the importance of measuring the costs of the entire care cycle [40,48,49]. Along these lines, some studies highlight that, in order to calculate the value for patients, it is necessary to measure the costs per patient of the entire care process [49,50] or, in other words, to measure the costs of the care cycles for each of the diseases they treat [48].

A few studies also highlighted the importance of having enough resources available during the design and/or implementation of VBHC for the successful implementation of this approach. In this regard, time was considered one of the most important resources in many studies [41,43,44].

When planning VBHC implementation, time was found to be essential in order to ensure the sufficient preparation of the teams to understand the meaning of VBHC and what value-based work implies, to decide on the administrative resources needed for the implementation process [43], to adjust the essential IT systems that would be key during the implementation [41,43], and to detect, with the staff involved in the teams, which results were interesting to measure the amount of time necessary to schedule the required follow-up meetings to monitor the implementation process [50]. Once VBHC was implemented, time was seen as a key resource to reflect and adapt to all changes without losing track of the work being done [40,43,44]. Apart from time, human capital was also found as a key resource for the successful implementation of VBHC. Several studies highlighted the importance of having multidisciplinary teams for VBHC implementation to ensure integrated and multidisciplinary value-based care [44,45,49,50]. Other studies highlighted the hiring of external consultants as a key figure to structure the work in the pre-implementation phase and to lead the implementation process in the first months, supporting, guiding, and motivating the teams during the implementation process [41,45]. In other cases, it was also considered essential to involve professionals outside the VBHC team, as it was felt that all professionals involved in the care of a given patient group should support improvement initiatives [44].

Despite the recent implementation of this model, there is consistency across studies regarding the critical elements necessary to guarantee its effectiveness in implementation. In 75% of the studies, both the leadership and the organisation of integrated care units emerge as prominent elements. Moreover, the significance of involving patients, ensuring data accessibility, and updating IT systems is evident in over half of the studies. These examples signify a substantial consensus among stakeholders regarding the essential components aimed at enhancing care within a value-based care model.

Nevertheless, despite these commonalities, the differences among studies, even those addressing identical elements, are striking. Certain studies mention leadership yet diverge in attributing this role to various individuals, such as the hospital director, or remain vague about who should possess this capacity. Moreover, there are differing perspectives on its significance at different stages, with some emphasising its importance during the pre-implementation organisational phase, while others highlight its relevance specifically during the implementation of value-based care. Similar variability exists regarding the inclusion of patients in these studies. While some emphasise considering the patients directly, others discuss the potential inclusion of patient representatives. The discrepancies in identifying crucial elements for the effective adoption of the value-based care model imply a lack of uniformity in the understanding of its implementation. Consequently, this variation in understanding could lead to differences in measurement and outcomes, thereby complicating comparisons between implementations.

3.2.3. Resulting Outcomes of Implementing Value-Based Care

The third specific objective of this scoping literature review was to identify and summarise the resulting outcomes, in terms of improvement in the quality of the care process, of implementing VBHC, and how this may contribute to improving the efficiency and sustainability of a healthcare system. Studies show positive results from the implementation of VBHC, including improvements in the awareness of cooperation and actual cooperation between the different departments involved in the patient care process and a better understanding of the different conditions in each department and different patient subgroups. This improved coordination, together with VBHC, facilitated the achievement of outcome measurements and improved the quality of data. In terms of patients, the implementation of VBHC increased accessibility for patients to receive care at the appropriate level of care and better patient follow-up. In general, VBHC implementation increased the sustainability of organisations, in particular of those where professionals were committed, and strong leadership was in place.

Different studies referred to certain human resources involved in VBHC implementation for their ability to guide positive outcomes [44,48]. In this sense, the studies highlighted that involving professionals from outside the VBHC team (e.g., from other hospitals) who care for a certain group of patients allows for the professionals to share the actions that are being implemented with them and increase knowledge about the best practices [50]. The specific presence of other professional profiles, such as managers, also was mentioned due to their ability to foster communication between the different care units involved in the full care cycle of a disease [48].

Generally, some studies highlight that working according to a standardised care plan contributes not only to a greater awareness on the part of professionals to use hospital time efficiently and a better structured care process but also to the higher job satisfaction of the staff [42].

Other studies have highlighted that, in the implementation of VBHC, the commitment and input of physicians and managers, together with clinical leadership, enabled organisations to innovate and drive changes and reforms, achieving greater efficiency in hospital services [44,47,48]. In this sense, some studies highlight that the most successful and sustainable organisations have been those in which there was a greater degree of commitment between doctors and managers [47]. Along the same lines, other studies have highlighted physician leadership as a success factor due to the positive involvement of the physician leader as an inspirational and motivating character with the ability to involve others and assume responsibility [44], which led to a successful delivery of VBHC. Finally, some studies highlight leadership within implementation teams as very beneficial for the proper organisation of teams [48].

On the other hand, the studies highlighted that emphasising value for patients brings benefits for the healthcare organisation implementing VBHC, as it enables (team) participants to understand the patients' point of view, become enthusiastic about the concept, and strongly engage in implementation work [41].

Another important outcome of VBHC implementation was organisational improvement in terms of increased cooperation between departments and between professionals in these departments. In turn, this improved cooperation facilitated the achievement of outcome measurements, patient follow-up, and the understanding of the different conditions in each department and different patient subgroups [41]. In terms of improving cooperation on a broader level, the implementation of VBHC also increased the awareness of cooperation between inpatient and outpatient care, contributing to increased accessibility for patients to receive care at the appropriate level of care [41,42].

The creation of integrated units around medical conditions also triggered positive consequences by considering the fact that they could enable closer collaboration between all those involved in the treatment of patients with a particular medical condition and allow hospitals to better address the interdependencies of the different activities necessary for patient care [43].

Finally, studies highlight that the implementation of VBHC improved data quality by using systematic measures to actually assess patient-reported outcomes (PROMs) and patient-reported experience (PREMs) as well as enter the information into the system from the primary source (physician/patient). This reduced interpretation bias, ensured systematic recording, and avoided missing data [46,48]. More briefly, other studies conclude that the use of patient-reported outcome measures has itself been a stimulating factor for the implementation of VBHC [44]. Furthermore, the transparent display of health outcome information, so that it is available to both care providers and the general public, has also been shown to facilitate improvements in the health outcomes achieved [51]. In the same vein, other studies confirm that having a coding system to measure health outcomes in a subgroup of patients allows the team to critically examine processes and decisions in relation to different treatment regimens [42]. More generally, other studies have emphasised that value-based metrics have a driving effect on collaboration among team members by creating a sense of shared accountability for certain goals [48].

In conclusion, the studies included in this scoping review present results (66.6%) that refer to predominantly positive outcomes. These studies correlate these favourable outcomes with the presence of key elements highlighted in the implementation of VBHC. Nevertheless, a notable proportion of studies (33.4%) within this review do not present specific outcomes or results. Furthermore, the disparities observed in the examined results are due to the absence of a standardised foundation for the selection of key elements and their implementation.

4. Discussion

This review describes the state of the art regarding the concept of VBHC, key elements for its successful implementation, and the resulting positive outcomes of implementing VBHC within a healthcare system.

In terms of the VBHC conceptualisation, the definitions found in this literature review referred to both the general term VBHC and the meaning of value within the model. Most of the studies agree on the definition of value and define it as the health outcomes achieved for patients in relation to the costs of the whole process of care [27,35,52]. In this sense, delivering value to the patient means improving health outcomes for the patient.

This definition of value is aligned with the definition of value of Michael Porter and Elizabeth Teisberg in their 2006 book on redefining healthcare [26], with these authors in this particular work being the pioneering authors of the VBHC approach.

Despite the unanimity in the definition of value, studies vary in their consideration of the key elements or factors in the implementation of VBHC. This ambiguity in the conception of the term has resulted in multiple ways of implementing VBHC depending on the geographical context and management of health systems [53]. This study may contribute to unveiling this cloak of ambiguity about the key elements of VBHC implementation presented in the scientific literature.

Thus, with regard to the key elements of VBHC, those most frequently examined were, firstly, the existence of a leader with the capacity to motivate and guide the team in the pre-implementation and implementation phase; secondly, the involvement of patient perspectives to ensure that the implementation of VBHC is responsive to the patient experience and to guarantee personalised care; thirdly, the creation of integrated care units around specific patient groups or specific medical conditions that allow patients to be followed throughout the process; fourthly, the identification and storing of patient perspectives to ensure that the VBHC implementation responds to patient experiences and guarantees personalised care; fifthly, the identification and standardisation of relevant outcome measures for patients in conjunction with the development or improvement of IT systems to ensure the recording, transparency, and accessibility of data by care providers and patients; and finally, the provision of time and human resources to ensure that implementation teams have the necessary time for preparation and the necessary reforms prior to implementation and for monitoring and adapting to changes during the implementation process. These elements have been identified in a wide variety of scientific studies [45,49], and it is recognised that their combination is considered essential for VBHC implementation. The pioneering work of Porter and Teisberg [26], as well as their further research, has shown that the transformation from volume-based care to value-based care must be based on a combination of six elements: organising around integrated care units, measuring outcomes and costs per patient, bundled payments by care cycles, expanding geographic reach, and enabling an informatics platform, with most of them being aligned with the key elements of implementing VBHC found in this scoping review.

Regarding the identification of positive outcomes resulting from the VBHC implementation, some benefits have been identified that could shed light for future implementation actions.

Among them, some of the reviewed studies described improvements in cooperation between professionals working in the healthcare system, both in terms of raising awareness of the need of cooperation and improvements in actual cooperation between professionals and departments involved in the patient care process. Cooperation has been shown to be essential for optimal care provision in other studies [54,55]. In addition, it was described in several of the reviewed studies [41,42] that the creation of integrated units was also seen as beneficial in enabling closer collaboration between all those involved in the treatment of patients with a disease and between the different levels of care (inpatient and outpatient). This improvement is supported by the 'integrated care' approach that seeks to better coordinate care around people's needs [56]. Along these lines, it was also found that the implementation of VBHC increased accessibility for patients to receive care at the appropriate level of care and better follow-up. Other positive outcomes of the delivery of VBHC are that implementing this model facilitated the achievement of outcome measurements and the quality of the data collected. As widely highlighted by the ICHOM—International Consortium for Health Outcomes Measurement—group, measuring outcomes is important to deliver optimal healthcare that matters to patients. Thus, the improvement found in our literature review in those terms are aligned with the ICHOM group's vision, as they contribute to value maximisation, where value is understood as 'the best possible patient-relevant health outcomes and patient experience divided by the costs to achieve those outcomes' [44]. Previous studies confirm the high degree of the interpretive variability of the concept as well as the lack of consensus on its conceptualisation and the paucity of information on the evaluation of the strategies implemented [57]. In this sense, the present scoping review addresses the interpretative variability and differences in the conceptualisation of VBHC, providing an individual and comparative analysis of the studies included, thus adding value to previously published studies that agree on the existence of a gap around a generalised definition and understanding of the model. In addition, this study sought to address the paucity of results reported in previous studies on the evaluation of the implementation strategies in place by providing a comprehensive analysis of the positive results reported in these Studies.

Despite the meaningful contributions of this literature review, this study is not without its limitations. First, our study protocol was not prepared neither registered, as recommended by the PRISMA 2020 guidelines. Moreover, our search was limited to studies published in English and Spanish between 2013 and 2023, which may exclude studies published in other languages that might be relevant to understand VBHC. In addition, most of the studies included in this literature review are based on a qualitative methodology, which may limit the extent to which the findings of this study can be generalised, and a number of the reviewed studies simply narrate experiences without assessing the effectiveness of implementing the system-wide intervention, which presents a major limitation, as there are no data to guarantee that these interventions work. We believe that there is sufficient consistency in the results analysed in this scoping literature review to be useful in guiding future research, even though the identified limitations suggest the need for additional research to address the gaps in our understanding of this critical healthcare paradigm, as well as on the scalability and sustainability of the VBHC model.

5. Conclussions

In conclusion, based on the findings of this scoping literature review, the implementation of VBHC may contribute to an improvement in the efficiency and sustainability of healthcare.

While most studies refer to some of Porter and Teisberg's key elements, there is no agreed generalisation of all of them, and there is interpretative variability that translates differently in the way VBHC initiatives are implemented and the variety of positive outcomes achieved in terms of effectiveness and the sustainability of healthcare.

These findings point to an urgent need for a common conceptualisation of VBHC, focusing on key elements to reduce interpretive variability and to achieve a shared understanding of its application.

Supplementary Materials

The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/ijerph21020134/s1, PRISMA-ScR checklist [36].

Author Contributions

Conceptualization, M.F.S. and T.A.B.; methodology, M.F.S. and T.A.B.; analysis, M.F.S., T.A.B. and G.C.; manuscript writing, M.F.S. and T.A.B.; critical review, T.A.B. and J.G.F. All authors have read and agreed to the published version of the manuscript.

Funding

This study has received funding from the FPU (Formación de Profesorado Universitario) contract from the Spanish Ministry of Universities with the reference FPU19/04167 and from the H2020 programme of the European Commission (ref. 875215).

Institutional Review Board Statement

Not applicable.

Informed Consent Statement

Not applicable.

Data Availability Statement

No new data were created or analysed in this study. Data sharing is not applicable to this article.

Conflicts of Interest

The authors declare no conflicts of interest.

References

Ogura, S.J.; Jakovljevic, M.M. Global population aging-health care, social and economic consequences. Front. Public Health **2018**, 6, 335. [Google Scholar] [CrossRef]

Panadeiros, M.; Pessino, C. Consecuencias fiscales del envejecimiento poblacional: Proyecciones agregadas del gasto en salud para 10 países de América Latina. Doc. De DiscusiÓN Del BID **2018,** 601. [Google Scholar] [CrossRef]

Barnett, K.; Mercer, S.W.; Norbury, M.; Watt, G.; Wyke, S.; Guthrie, B. Epidemiology of multimorbidity and implications for health care, research, and medical education: A cross-sectional study. Lancet **2012,** 380, 37–43. [Google Scholar] [CrossRef]

Salive, M.E. Multimorbidity in older adults. Epidemiol. Rev. 2013, 35, 75–83. [Google Scholar] [CrossRef]

Kingston, A.; Robinson, L.; Booth, H.; Knapp, M.; Jagger, C. Projections of multi-morbidity in the older population in England to 2035: Estimates from the Population Ageing and Care Simulation (PACSim) model. Age Ageing **2018,** 47, 374–380. [Google Scholar] [CrossRef]

Teisberg, E.; Wallace, S.; O'hara, S. Defining and implementing value-based health care: A strategic framework. Acad. Med**. 2020,** 95, 682. [Google Scholar] [CrossRef]

Moore, M.; Khagram, S. On Creating Public Value: What Business Might Learn from Government about Strategic Management; Harvard University: Cambridge, MA, USA, **2006.** [Google Scholar]

Barrubés, J.; Honrubia, L.; De Vicente, M.; Nake, A.; Sopeña, L.; Vilardell, C.; Carrillo, E.; Triquell, L.; Portella, E. Value-Based Healthcare. In De la Teoría a la Acción; Antares Consulting: Barcelona, Spain, **2019.** [Google Scholar]

Vandenberghe, D.; Albrecht, J. The financial burden of non-communicable diseases in the European Union: A systematic review. Eur. J. Public Health **2020,** 30, 833–839. [Google Scholar] [CrossRef]

Ekman, I.; Swedberg, K.; Taft, C.; Lindseth, A.; Norberg, A.; Brink, E.; Carlsson, J.; Dahlin-Ivanoff, S.; Johansson, I.-L.; Kjellgren, K.; et al. Person-centered care—Ready for prime time. Eur. J. Cardiovasc. Nurs. **2011,** 10, 248–251. [Google Scholar] [CrossRef] [PubMed]

Porter, M.; Lee, T. The strategy that will fix healthcare. Harv. Bus. Rev. **2013,** 93, 50–70. [Google Scholar]

Rodríguez, J.; Dackiewicz, N.; Toer, D. La gestión hospitalaria centrada en el paciente. Arch. Argent. De PediatrÍA **2014,** 112, 55–58. [Google Scholar]

Elío-Calvo, D. La relación Médico Paciente. Revista Médica La Paz **2021,** 27, 92–101. [Google Scholar]

Oh Nelson, H. Doctor–patient relationship. Wiley Blackwell Companion Med. Sociol. 2021, 495–515. [Google Scholar]

Morgan, S.; Yoder, L. A concept analysis of person-centeres care. J. Holist. Nurs. **2012**, 30, 6–15. [Google Scholar] [CrossRef]

Balint, E. The possibilities of patient-centered medicine. J. R. Coll. Gen. Pract. **1969,** 17, 269. [Google Scholar]

Santana, M.J.; Manalili, K.; Jolley, R.J.; Zelinsky, S.; Quan, H.; Lu, M. How to practice person-centred care: A conceptual framework. Health Expect **2018,** 21, 429–440. [Google Scholar] [CrossRef]

Carvalho, J.; Rodrigues, N. Perceived quality and users' satisfaction with public–private partnerships in health sector. Int. J. Environ. Res. Public Health **2022,** 19, 8188. [Google Scholar] [CrossRef]

Mallat, A.; Vrontis, D.; Thrassou, A. Patient satisfaction in the context of public–private partnerships. Int. J. Organ. Anal**. 2021**, 29, 1395–1422. [Google Scholar] [CrossRef]

Caro, M.J.; Barrionuevo, R.; Solans, M.; Almazán, C. Atenció sanitària centrada en valor a Catalunya: Reptes i oportunitats per contribuir al futur; Agència de Qualitat i Avaluació Sanitàries de Catalunya. Departament de Salut. Generalitat de Catalunya: Barcelona, España, **2019.** [Google Scholar]

Porter, M.E.; Lee, T.H. From volume to value in health care: The work begins. JAMA **2016,** 316, 1047–1048. [Google Scholar] [CrossRef]

Porter, M.; Larsson, S.; Lee, T. Standardizing patient outcomes measurement. N. Engl. J. Med. **2016**, 374, 504–506. [Google Scholar] [CrossRef]

Bohmer, R.M. The four habits of high-value health care organizations. N. Engl. J. Med. **2011,** 365, 2045–2047. [Google Scholar] [CrossRef]

Porter, M.E.; Teisberg, E.O. Redefining Health Care: Creating Value-Based Competition on Results; Harvard Business School Press: Boston, MA, USA, **2006.** [Google Scholar]

Porter, M.E. What is value in health care. N. Engl. J. Med. **2010,** 363, 2477–2481. [Google Scholar] [CrossRef]

Benington, J.; Moore, M. Public Value: Theory and Practice; Bloomsbury Publishing: London, UK, **2010.** [Google Scholar]

Alford, J.; O'flynn, J. Making sense of public value: Concepts, critiques and emergent meanings. Int. J. Public Adm. **2009,** 32, 171–191. [Google Scholar] [CrossRef] de Vasconcelos Silva, A.C.P.; Araujo, B.M.; Spiegel, T.; Reis, A.D.C. May value-based healthcare practices contribute to comprehensive care for cancer patients? A systematic literature review. J. Cancer Policy **2022,** 34, 100350. [Google Scholar] [CrossRef]

Porter, M.E.; Teisberg, E.O. Redefining competition in health care. Harv. Bus. Rev. **2004,** 82, 64–76. [Google Scholar]

Miller, H.D. From value to value: Better ways to pay for health care. Health Aff. **2009,** 28, 1418–1428. [Google Scholar] [CrossRef]

Montaño, C.A.; Rivadeneira, A.G.; Garzón, F.G.; Escobar, Á.M.; Ruget, M.A. Hacia la atención en salud basada en el valor: Revisión de la literatura. Rev. Médica Sanitas **2017,** 20, 164–173. [Google Scholar]

Cossio-Gil, Y.; Omara, M.; Watson, C.; Casey, J.; Chakhunashvili, A.; Gutiérrez-San Miguel, M.; Stamm, T. The roadmap for implementing value-based healthcare in European university hospitals—Consensus report and recommendations. Value Health **2022,** 25, 1148–1156. [Google Scholar] [CrossRef] [PubMed]

Munn, Z.; Peters, M.; Stern, C.; Tufanaru, C.; McArthu, A.; Aromataris, E. Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. BMC Med. Res. Methodol. **2018,** 18, 143. [Google Scholar] [CrossRef] [PubMed]

Yepes, N.J.J.; Urrutia, G.; Romero-Garcia, M.; Alonso-Fernandez, S. Declaración PRISMA 2020: Una guía actualizada para la publicación de revisiones sistemáticas. Revista Española De Cardiología **2020,** 74, 790–799. [Google Scholar]

Ciapponi, A. La declaración PRISMA 2020: Una guía actualizada para reportar revisiones sistemáticas. Evid. Actual. En La Práctica Ambulatoria **2021,** 24, e002139. [Google Scholar] [CrossRef]

Tricco, A.C.; Lillie, E.; Zarin, W.; O'Brien, K.K.; Colquhoun, H.; Levac, D.; Moher, D.; Peters, M.D.; Horsley, T.; Weeks, L.; et al. PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. Ann. Intern. Med. **2018,** 169, 467–473. [Google Scholar] [CrossRef]

da Costa Santos, C.M.; de Mattos Pimenta, C.A.; Nobre, M.R. The PICO strategy for the research question construction and evidence search. Rev. Lat. Am. Enferm. **2007,** 15, 508–511. [Google Scholar] [CrossRef]

Alarcón-Gil, M.; Osorio Toro, S.; Baena-Caldas, G. The evidence-based medicine PICO strategy applied to dentistry using MeSH, Emtree and DeCS. Rev. Fac. De Odontol. Ía Univ. De Antioq. **2019,** 31, 91–101. [Google Scholar]

Manterola, C.; Astudill, P.; Ariasb, E.; Claro, N.; Mincir, G. Revisiones sistemáticas de la literatura. Qué se debe saber acerca de ellas. Cirugía Española **2013,** 91, 149–155. [Google Scholar] [CrossRef]

Damen, J.; Moons, K.; van Smeden, M.; Hooft, L. How to conduct a systematic review and meta-analysis of prognostic model studies. Clin. Microbiol. Infect. **2023,** 29, 434–440. [Google Scholar] [CrossRef]

Nilsson, K.; Bååthe, F.; Andersson, A.E.; Wikström, E.; Sandoff, M. Experiences from implementing value-based healthcare at a Swedish University Hospital–a longitudinal interview study. BMC Health Serv. Res. **2017,** 17, 169. [Google Scholar] [CrossRef]

Nilsson, K.; Bååthe, F.; Erichsen, A.A.; Sandoff, M. Value-based healthcare as a trigger for improvement initiatives. Leadersh. Health Serv. **2017,** 30, 364–377. [Google Scholar] [CrossRef]

Nilsson, K.; Bååthe, F.; Erichsen Andersson, A.; Sandoff, M. The need to succeed–learning experiences resulting from the implementation of value-based healthcare. Leadersh. Health Serv. **2018,** 31, 2–16. [Google Scholar] [CrossRef]

Daniels, K.; Rouppe van der Voort, M.B.; Biesma, D.H.; van der Nat, P.B. Five years' experience with value-based quality improvement teams: The key factors to a successful implementation in hospital care. BMC Health Serv. Res. **2022,** 22, 1271. [Google Scholar] [CrossRef] [PubMed]

Heijsters, F.A.; van Breda, F.G.; van Nassau, F.; van der Steen, M.K.; Ter Wee, P.M.; Mullender, M.G.; de Bruijne, M.C. A pragmatic approach for implementation of value-based healthcare in Amsterdam UMC, the Netherlands. BMC Health Serv. Res. **2022,** 22, 550. [Google Scholar] [CrossRef] [PubMed]

Makdisse, M.; Ramos, P.; Malheiro, D.; Katz, M.; Novoa, L.; Neto, M.C.; Ferreira, J.H.G.; Klajner, S. Value-based healthcare in Latin America: A survey of 70 healthcare provider organisations from Argentina, Brazil, Chile, Colombia and Mexico. BMJ Open **2022,** 12, e058198. [Google Scholar] [CrossRef] [PubMed]

Ng, S.M. A qualitative study on relationships and perceptions between managers and clinicians and its effect on value-based healthcare within the national health service in the UK. Health Serv. Manag. Res. **2022,** 35, 251–258. [Google Scholar] [CrossRef]

Steinmann, G.; Daniels, K.; Mieris, F.; Delnoij, D.; van de Bovenkamp, H.; van Der Nat, P. Redesigning value-based hospital structures: A qualitative study on value-based health care in the Netherlands. BMC Health Serv. Res. **2022,** 22, e043367. [Google Scholar] [CrossRef] [PubMed]

Varela, R.C.; García., C.A.; Baselga, P.B.; Ruiz, L.P.M. Value-based healthcare project implementation in a hierarchical tertiary hospital: Lessons learned. Front. Public Health **2022,** 9, 755166. [Google Scholar] [CrossRef] [PubMed]

Steinmann, G.; Delnoij, D.; Van De Bovenkamp, H.; Groote, R.; Ahaus, K. Expert consensus on moving towards a value-based healthcare system in the Netherlands: A Delphi study. BMJ Open **2021,** 11, e043367. [Google Scholar] [CrossRef]

Krebs, F.; Engel, S.; Vennedey, V.; Alayli, A.; Simic, D.; Pfaff, H.; Stock, S.; on behalf of the Cologne Research and Development Network (CoRe-Net) Transforming. Health Care Delivery towards Value-Based Health Care in Germany: A Delphi Survey among Stakeholders. Healthcare **2023,** 11, 1187. [Google Scholar] [CrossRef] [PubMed]

Porter, M.E. Value-based health care delivery. Ann. Surg. **2008,** 248, 503–509. [Google Scholar] [CrossRef] [PubMed]

Steinmann, G.; Van De Bovenkamp, H.; De Bont, A.; Delnoij, D. Redefining value: A discourse analysis on value-based health care. BMC Health Serv. Res. **2020,** 20, 862. [Google Scholar] [CrossRef]

Reeves, S.; Pelone, F.; Harrison, R.; Goldman, J.; Zwarenstein, M. Interprofessional collaboration to improve professional practice and healthcare outcomes. Cochrane Database Syst. Rev. **2017,** 6, CD000072. [Google Scholar] [CrossRef]

Bosch, B.; Mansell, H. Interprofessional collaboration in health care: Lessons to be learned from competitive sports. Can. Pharm. J**. 2015,** 148, 176–179. [Google Scholar] [CrossRef]

Goodwin, N. Understanding Integrated Care. Int. J. Integr. Care **2016,** 16, 6. [Google Scholar] [CrossRef]

van Staalduinen, D.J.; van den Bekerom, P.; Groeneveld, S.; Kidanemariam, M.; Stiggelbout, A.M.; van den Akker-van Marle, M.E. The implementation of value-based healthcare: A scoping review. BMC Health Serv. Res. **2022,** 22, 270. [Google Scholar] [CrossRef]

Artículo 3

Implementation of a Comprehensive and Personalised Approach for Older People with Psychosocial Frailty in Valencia (Spain): Study Protocol for a Pre-Post Controlled Trial

1. Introduction

The ageing of the world's population is indeed a complex and multifaceted phenomenon with both positive and challenging aspects. An ageing population can have far-reaching socioeconomic consequences, for instance, on the care system due to increases in public spending on health and social care [1,2]. As people age, they are at increased risk for chronic diseases, functional impairments, and frailty [3,4,5]. Frailty is indeed considered one of the most problematic expressions of ageing, constituting a risk factor for falls, loss of mobility, cognitive impairment, disability, dementia, hospital admissions, cardiovascular diseases, loneliness, and even mortality [6,7,8]. Research examining the relationship between frailty and loneliness has found strong associations between these two factors, and it suggests a bidirectional relationship [9,10]. Recent studies have confirmed that frail, older people have smaller social networks and higher levels of loneliness [11,12]. Likewise, older people who experience high levels of loneliness have an increased risk of becoming physically frail or prefrail [13]. Similar to frailty, loneliness has also been observed to be closely associated with different negative health outcomes, such as cardiovascular disease, disability, cognitive impairments, depression, disability, and mortality [10,14,15].

In terms of prevalence, in Europe and, in particular, Spain, there is no consensus on the prevalence of frailty. Although studies have confirmed that frailty increases with age and is more frequent in women than in men [16,17,18,19], there are notable variations, depending on the assessment tools, in population variability in terms of geographical location, socioeconomic status, gender, and the presence of chronic diseases [19,20]. A recent study showed that >50% of the population over 50 years of age in Europe is pre-frail/frail, with the overall prevalence of pre-frailty being 42.9% and of frailty 7.7% [20]. In Spain, the most recent studies have shown a prevalence of frailty higher than 25% for the population aged 70 years and older, with significant differences according to geographical areas and being twice as high in women as in men [17,18].

Another issue when studying frailty is that the physical frailty phenotype has received significant attention in the literature, and it is often the most prominent aspect of frailty discussed [21]. However, it is important to note that frailty is a multidimensional concept, and there are other dimensions of frailty that are equally important but may not receive as much attention in the literature. These dimensions include the psychological and social aspects of frailty [22].

In recent years, there has been a growing interest in expanding the understanding of frailty to include these other dimensions and develop more comprehensive and a more holistic approach to managing and preventing frailty and its associated adverse health outcomes. Moreover, the bidirectional relationship between loneliness and frailty, coupled with the multidimensional nature of both constructs, underscores the need for comprehensive strategies to address these issues in older adults [23]. In this sense, the implementation of value-based healthcare principles in the context of frailty lies in addressing frailty from an integrative perspective, reorganising care around patients in an effective and efficient manner supported by digital health solutions [24]. Concretely, among the key principles of value-based care are individualized care plans, shared decision-making, holistic assessments including measurable outcomes, the provision of integrated services, and early interventions. All of these aspects of the value-based care model are essential to addressing the complex interplay of frailty, depression, and social support in older adults [25]. The adoption of value-based care in addressing these conditions among older adults leads to improved health indicators, such as reduced hospitalisations, better mental and physical health, enhanced quality of life, and lower healthcare costs. By focusing on patient-centred, comprehensive, and coordinated care, VBC transforms the healthcare experience for older adults and yields measurable health benefits [26,27].

The literature has shown that social participation is key when developing comprehensive strategies to address frailty, especially frailty understood as a holistic concept including social and psychological aspects [28]. Social participation has been proven to effectively address psychological and social frailty and loneliness [29]. In particular, when developing interventions, it is essential to address the individual dimension, taking into account the individuality of each person, favouring empowerment, and allowing them to manage their own loneliness [14]. In this sense, the literature suggests the need to educate the population about actively investing in their social supports (family and friends) and also emphasises the great importance of boosting the person's own motivation to actively change their situation [30].

In this regard, the motivational interview technique may be presented as a useful tool to support intervention strategies focused on improving intrinsic motivation and behavioural change among older adults experiencing frailty. Motivational interviewing is a counselling approach developed to help individuals find motivation within themselves to make positive behavioural change [31]. The core principle of motivational interviewing involves engaging in a collaborative conversation with individuals to explore and resolve their ambivalence toward change. Therefore, motivational interviewing may be used for supporting individuals in planning their personal objectives, boosting their motivation, and moving forward with behavioural change that may lead to improved frailty status and loneliness feelings.

This study is framed within the ValueCare project—Value-based methodology for integrated care supported by ICT—a research project funded by the European Commission under the Horizon 2020 programme. This project conforms a consortium of 17 partners from 8 European countries. The aim of the ValueCare project is to provide efficient and outcome-based integrated (health and social) care to the population aged ≥65 experiencing frailty, cognitive impairment, and/or multiple chronic conditions, with the objective of improving their quality of life by applying value-based methodologies supported by digital solutions. In this project, study sites in seven European countries are implementing and validating the ValueCare intervention: Valencia in Spain, Rijeka in Croatia, Athens in Greece, Cork/Kerry in Ireland, Coimbra in Portugal, and Rotterdam in the Netherlands. In each of these sites, the ValueCare intervention is aimed to address a specific health condition. In this particular study, the Spanish intervention focused on frailty is presented.

Objectives

The aim of this study is to evaluate the ValueCare approach implemented in the pilot of Valencia (Spain), whose intervention is based on motivational interviewing, supported by a digital tool, to encourage behavioural change towards greater social engagement and healthier living. This study, using a pre–post controlled design with a study sample of 240 older adults experiencing frailty (120 individuals in the intervention group and 120 in the comparison group), specifically addressed the benefits for older people experiencing psychosocial frailty to be able to evaluate implementation outcomes. We intend to accomplish this objective through the following specific objectives:

(a) To compare the benefits of the ValueCare intervention deployed in the Valencia pilot vs. usual care for older people in terms of frailty, loneliness, social support, health-related quality of life, and healthy lifestyle behaviour.

(b) To evaluate the benefits of the ValueCare approach deployed in the Valencia pilot centre in terms of reducing the use of outpatient and inpatient health and social care among older people.

(c) To evaluate the satisfaction of the target population with the ValueCare intervention deployed in the Valencia pilot centre.

2. Materials and Methods

2.1. Design

An experimental design involving both intervention and comparison groups will be employed in a controlled pre–post study, aiming to investigate the effects of the intervention by comparing outcomes between the two groups before and after the intervention period.

2.2. Study Participants: Inclusion and Exclusion Criteria

The study sample was composed of 240 older adults experiencing frailty (120 individuals in the intervention group and 120 in the comparison group). Participants were randomly assigned to each of the groups. Expecting a 20% loss to follow-up between T0 and T1 (e.g., due to mortality, rehousing, or study withdrawal), we expected to obtain complete data from 96 participants in the intervention group and 96 participants in the control group of each large-scale pilot site (in n = 192 study participants with complete data at follow up, equally divided over the intervention group and the control group). We assumed equal standard deviations in the intervention group and the control group, an alpha level of 0.05, and a power of 0.80. For this expected overall sample size and assumptions, with regard to the continuous outcome measures, a difference of 0.23 SD (standard deviation) between the intervention group and the control group can be detected at follow-up.

Participants in the intervention group engaged in a 12-month intervention phase tailored to their needs, receiving a personalised care plan agreed through a shared decision-making process, whereas those in the comparison group maintained their usual care. All participants were evaluated at baseline, after 12 months, and after 18 months.

The inclusion criteria encompassed individuals aged 65 or above, experiencing frailty, residing independently within the community, and affiliated with one of the seven healthcare centres under the Malvarrosa-Clinic Health Department within the Valencia study area. The exclusion criteria involved individuals with cognitive impairments, significant dependency, institutionalisation, inability to provide informed consent, or lack of proficiency in the Spanish language.

Patients who met the inclusion criteria were invited to participate in the ValueCare project, where a comprehensive explanation of their involvement in the project was provided. Patients interested in participating in this study were requested to sign the informed consent form, indicating their voluntary, informed, and explicit consent to participate in this study and permit the processing of their data.

2.3. Recruitment and Randomization

The recruitment of the study participants was carried out by social and healthcare professionals from seven participating healthcare centres: Alfahuir Health Centre, Salvador Pau Health Centre, Benimaclet Health Centre, Serrería I Health Centre, Salvador Pau Allende Health Centre, República Argentina Health Centre, and Chile Health Centre. All of these centres belong to the Malvarosa-Clinic Health Department in the city of Valencia.

The general practitioners, who are familiar with their patient's clinical record, contacted them to ensure that these individuals met the inclusion criteria mentioned above, ensuring their potential eligibility as participants. Once included, participants were requested to complete the baseline assessment. Following the completion of the baseline questionnaire, the allocation of study participants into either the intervention or control group occurred through a randomization procedure. To ensure the concealment of the randomisation sequence, the Oxford Minimization and Randomization (OxMaR) system was employed. This computer-based centralised method ensures proven security measures to prevent bias in the sequence [32]. For safeguarding personal information, every participant was assigned an identification code that corresponds to their group and the specific healthcare centre with which they are affiliated.

2.4. Data Collection Process

Data collection and measurement were conducted using an assessment questionnaire that included the International Consortium for Health Outcomes Measurement (ICHOMs) [33] dataset for the older population, as well as additional measurement questionnaires. Each instrument comprising the assessment questionnaire is described in the Section 2.7. Measurement instruments without validated translation into Spanish were translated using the back-translation method to ensure cross-cultural adaptation of the measures.

Researchers inputted the paper-based collected data into the Generic Medical Survey Tracker (GemsTracker) software, chosen for its security measures and capability to collect, submit, and make modifications to the data. Data were collected from participants in three phases: at baseline (T0), 12 months after the end of the intervention (T1), and 18 months (T2).

2.5. Description of the Intervention: Design and Implementation

An intervention protocol incorporating aspects like motivational interviewing, social prescription, the transtheoretical model, and person-centred care, was formulated based on an extensive literature review [1]. This review aimed to identify evidence-based interventions

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[1] El protocolo de intervención mencionado se encuentra disponible en el Anexo 3.

addressing psychosocial frailty and establish the methodology to be employed in the intervention process. Moreover, this intervention protocol includes the phases and procedures to be followed to guarantee the effectiveness and sustainability of the intervention. Social and healthcare professionals, including psychologists and social workers, collaborated to design and implement the ValueCare intervention in the Valencia pilot, specifically tailored for individuals aged over 65 experiencing frailty.

All individuals (120) within the intervention group identified as experiencing frailty participated in the intervention phase. After completion of the baseline assessment questionnaire (T0) by the intervention participants, their results were extracted to validate the presence of psychosocial frailty according to the Tilburg Frailty Index [34] and the UCLA 3 Items Loneliness Scale [35].

Participants identified as frail commence the intervention phase by engaging in an initial meeting with social and healthcare professionals. This initial meeting serves a dual purpose: firstly, to present and elucidate the results derived from the baseline questionnaire to the participants, and secondly, to collaboratively design a personalised value-based care plan using a consensus-based co-design approach. This plan was crafted based on the results, preferences, and interests of the participants and will undergo periodic reviews as part of a shared decision-making process.

During the 12 months of the intervention, participants engaged in regular meetings (once a month) with the social and healthcare professionals responsible for their follow-up, during which motivational interviews were conducted. The motivational sessions aimed to achieve several objectives: identifying the psychosocial needs of the individual; assessing the person's stage of change according to the Transtheoretical Model by Prochaska and DiClemente [36]; fostering motivation to steer the individual towards a readiness for change by assisting in exploring and resolving ambivalences about unhealthy behaviours or habits; and ultimately, collaboratively establishing objectives through a professional–patient negotiation process to guide the transition toward desirable behaviours. The motivational interviews allow a space of trust where the professional's attitude is one of acceptance and empathy towards the patient's needs, preferences, and experiences in order to increase and strengthen personal motivation and commitment to change, helping the participant to explore and resolve the ambivalence that arises in people when they have to make decisions that involve behavioural change.

At the end of each monthly motivational session, specific psychosocial objectives focusing on enhanced social participation and the expansion of social networks are agreed with the participant. These objectives will be revisited by social and healthcare professionals in the subsequent meeting for review. The objectives are embedded in the framework of the term "social-prescribing", where the professional, during the motivational interview, presents to the participant the existing community resources that could potentially enhance their health and well-being [37,38]. These resources are tailored to match the participants' psychosocial needs, interests, and preferences. Among the community resources introduced may be activities promoted by third-sector entities (associations, foundations, community groups, NGOs…), as well as resources provided by municipally owned institutions such as libraries, art museums, sports centres, theatres, retirement centres, and even the use of a municipality's green spaces [39,40].

Apart from the motivational sessions with social and healthcare professionals, participants are able to engage in social workshops organized on a monthly basis in each of the health centres participating in the study. These workshops offer opportunities for interaction among participants within the intervention group. Additionally, communication will be facilitated through WhatsApp groups and the dedicated ValueCare APP, allowing further interaction and engagement among participants. In this way, face-to-face relationships are strengthened through information and communication technologies, doubly favouring the active participation of older people in the community, reducing social frailty and improving mental well-being [41].

Specifically, the ValueCare application (Vodafone Innovus, Athens, Greece) [42] is a mobile application with which the participants of the intervention group will be able to interact and through which the achievement of the prescribed goals will be encouraged and healthy lifestyles will be promoted. To ensure that the ValueCare digital solution is adapted to the local context as well as to the needs and interests of older people, informal caregivers, managers, policy-makers, ICT experts, and health and social practitioners, strategies based on collaborative approaches such as co-design are implemented. In this sense, co-design is paramount to providing integrated person-centred care, as it allows for the involvement of all stakeholders in the development of digital health solutions [43]. A total of 2 rounds of co-design were implemented before the ValueCare implementation phase with 212 participants. All co-design rounds included focus group sessions to explore the opinions, perceptions, preferences, and experiences of the target groups around the ValueCare concept and ValueCare solution. A more generic first round aims to define the value-based model and the digital solution to build the concept and the digital solution according to the needs of all stakeholders, presenting and discussing the added value of the value-based concept in today's society. The second, more specific co-design round aims to define the technical features and properties of the ValueCare solution as well as its involvement and interaction during the implementation phase of the intervention.

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[1] El protocolo de intervención mencionado se encuentra disponible en el Anexo 3.

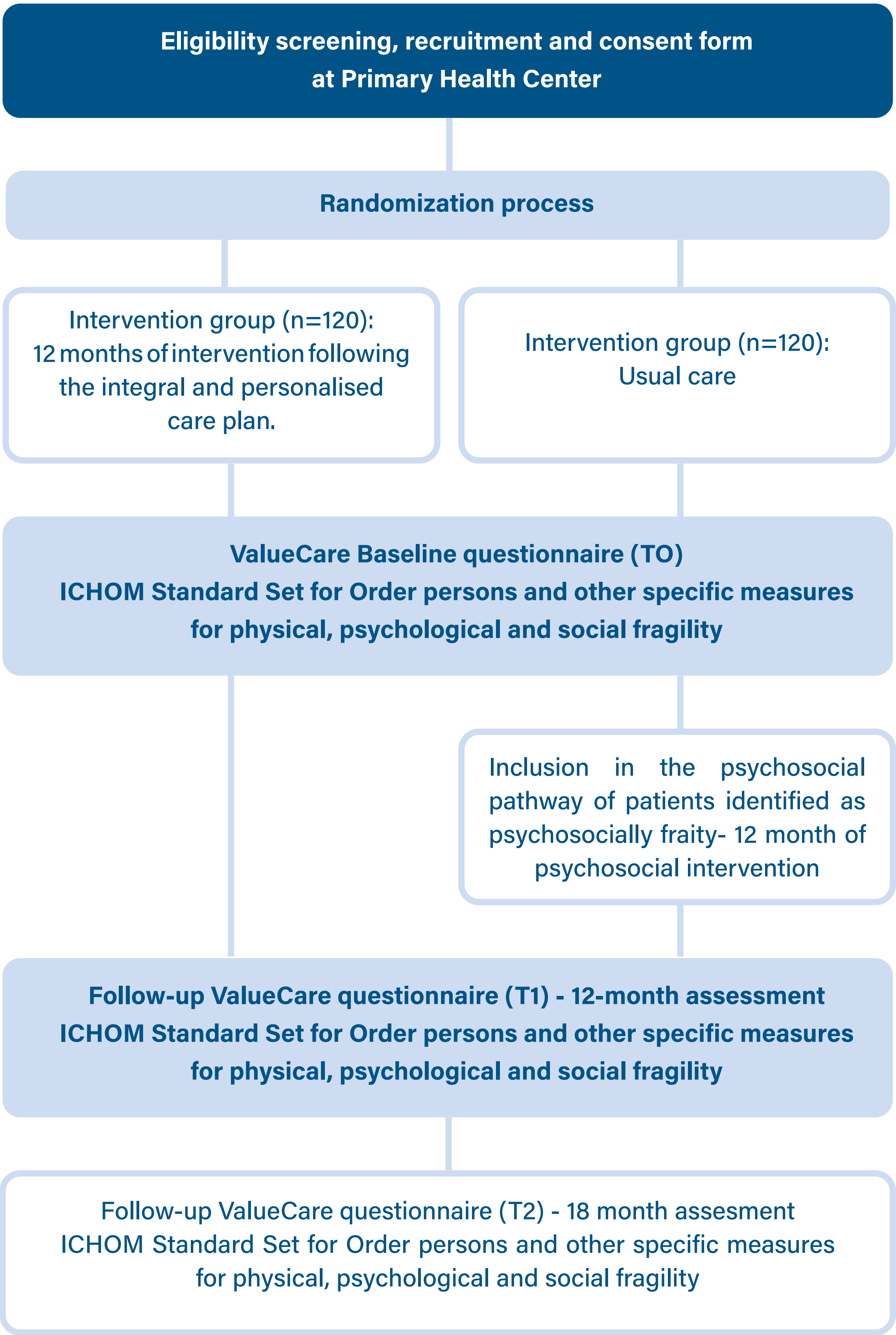
The ValueCare application provides each participant with the personalised care plan that has been agreed upon during the professional-participant co-design process. Participants can visualise in the application which are the weekly objectives to be met. Healthcare professionals are in charge of sending these objectives and monitoring the progress of the participants through the Vida 24 web platform (Vidavo S.A., Thessaloniki, Greece. Vida 24 [44] consists of a connected care IT platform that has been operational in Europe for over 10 years and which allows data from multiple sources to be synchronised, personalised, and adapted to specific needs, allowing participants to view the information in the ValueCare Application and professionals to view real-time information on the participants in the Vida 24 platform. In addition, the platform will integrate a virtual coach tool developed by the Fondazione Bruno Kessler [45] that will act as a persuasive chat bot based on dialogue to motivate participants to achieve their objectives and reinforce positive behaviours. In addition, the ValueCare application has different sections where participants can view content in video or text format on existing resources at the community level to maintain an active and healthy lifestyle, tips to increase their social participation, and knowledge on physical frailty, social frailty, and loneliness, among others.

2.6. Control Group

During the 12-month intervention phase, the control group, comprising 120 individuals, continued to receive their usual care, visiting primary care centres or hospital care centres to receive attention when needed, as they did before their involvement in the project. Upon completion of the intervention phase, control group participants undergo follow-up evaluation and receive a comparative health outcomes report contrasting T0 and T1. Additionally, a comprehensive guide offering advice on physical, psychological, and social health promotion is delivered to these participants. This guide presents the assets/ opportunities available in their local area, encouraging physical activity, healthy eating, and enhancing their active participation in society.

Figure 1 details the flow of participants from recruitment to the last follow-up contact for control and intervention subjects.

Figure 1. *Flow diagram of the participants through the trial*



2.7. Outcomes

First, the screening process for participant eligibility involved the assessment of frailty, dependency levels, and cognitive impairments, according to the inclusion and exclusion criteria.

The FRAIL scale [46] was the tool selected to categorise the level of frailty among participants. It is a commonly used tool that presents a simple and quick assessment that helps identify the presence of frailty based on five key components: fatigue, endurance, ambulation, illness, and weight loss. If the older adult scores ≥1, a high likelihood of frailty is considered to exist [47], and then it meets the criteria for inclusion in the study.

The level of dependency was assessed with the Barthel Index [48]. The Barthel Index is an ordinal scale that measures a person's ability to perform 10 activities of daily living (ADLs) by providing a quantitative estimate of the subject's ability to carry out these activities. The ADLs included in the index are eating, personal grooming, toileting, bathing/showering, transferring between the chair and bed, transferring (walking on a smooth surface or in a wheelchair), going up/downstairs, dressing/dressing, stool control, and urine control. Participants were excluded from this study if they scored >60 points on this index.

Finally, cognitive impairments were assessed using the SPMSQ [49], which is a short assessment questionnaire with 10 questions that allows the exploration of different cognitive areas, specifically assessing the functions of orientation, recall memory, concentration, and calculation. If the older adult obtains a score between 0 and 2 on this questionnaire, it is considered a highly suggestive result of cognitive impairment, and the participant is excluded from the study.

The initial assessment (T0) included a comprehensive evaluation of the physical and mental health of the total study sample based on the International Consortium for Outcome Measurement (ICHOM) as a standard set for older people. The main outcome was the health-related quality of life score measured through the Patient-Reported Outcomes Measurement Information System—Global Health (PROMIS-10), which is a 10-item survey that assesses physical health, mental health, satisfaction with social activities and relationships, and quality of life [50]. In particular, to evaluate psychosocial frailty, the Tilburg Frailty Indicator (TFI) was used, which is an instrument that includes the physical, psychological, and social dimensions of frailty [33]. Loneliness was assessed with the UCLA 3-item Loneliness Scale [35]. Health-related quality of life was assessed with the EQ-5D-5L [51], and lifestyle was evaluated in terms of the BMI, smoking, alcohol consumption, physical activity, and nutrition. Moreover, falls were assessed using the previous history of falls and the Visual Analogue Scale for Fear of Falling [52]. Medication adherence was assessed with the Medication Risk Questionnaire (MRQ-10) [53]. Healthcare utilization was assessed with the Modified SMRC

Health Care Utilization Questionnaire 18 [54], and finally, socio-demographic data (age, sex, educational level, type of household income, net monthly household income, marital status, and household composition) were also collected.

Complementary to the baseline questionnaire, protein intake was assessed using the Proteiner Screen 55+ [55], and physical performance was evaluated in terms of balance, walking speed, and lower limb strength to get up from a chair using the Short Physical Performance Battery (SPPB) [56].

Table 1 describes the outcome measures used in the evaluation for older people.

Table 1. *Describes the outcome measures used in the evaluation for older people.*

Outcome	Outcome measure (s)	Methods and Instruments
Health, wellbeing and quality of life	Physical HR-QoL Mental HR-QoL Self-perceived health Frailty Comorbidities Loneliness Activities of daily living Falls	PROMIS-10 [45] EQ-5D-5L [46] Tilburg Frailty Indicator [30] ICHOM Older Person Set [29] UCLA 3-Item Loneliness Scale [31] Modified 10-item Barthel Index [43] Visual Analogue Scale for Fear of Falling [47]
Lifestyle behaviour	BMI Smoking status Alcohol consumption Sitting time Physical activity Nutrition and undernutrition	ICHOM Older Person Set [29] ICHOM Older Person Set [29] ICHOM Older Person Set [29] One Internal Physical Activity Questionnaire (IPAQ) One item of the SHARE-Frailty [57] SNAQ+65[58]
Medication Use	Medication intake	Medication Risk Questionnaire (MRQ- 10) [48]
Care Use	Care utilization	Modified SMRC Health Care Utilization Questionnaire [49]

2.8. Ethics

This research was conducted without any commercial interest on the part of the investigators, the staff of the primary care health centres, or the older people involved in the study. This study received a statement of support based on a previous ethical evaluation by the Human Research Ethics Committee (CEIH) of the Experimental Research Ethics Committee of the University of Valencia (7 May 2020). The content of this study was communicated in a transparent and detailed manner during the recruitment phase, and participation in the study was engaged on a voluntary basis. Participation was consolidated by the individual completion of the informed consent form by each participant. Participants were encouraged throughout the study to contact the investigators if any concerns or questions arose. Informed consent was either collected on paper or electronically. Participants may suspend their participation at any time during this study without disclosing the reasons for their withdrawal. All activities, including data collection and processing throughout the project, comply with ethical principles and relevant national, EU, and international legislation, such as the Chapter of Fundamental Rights of the EU and the European Convention on Human Rights. Provisions of Directive 95/46/EC and the General Data Protection Regulation (proposed in (European Commission, 2012) have been shown to be highly relevant to the protection of research participants and service users. In addition, this study followed the ethical standards and data protection requirements of the GDPR 670/2016.

3. Registration and Dissemination

The study protocol has been registered in the International Standard Randomised Controlled Trial Number (ISRCTN25089186; registration date: 16 November 2021).

The investigators aim to disseminate the results of the project in peer-reviewed journals on a regular basis.

4. Discussion

This study aims to evaluate the implementation of the ValueCare approach compared to usual care, specifically in the pilot centre in Valencia (Spain), as part of the ValueCare project, focusing on older adults experiencing frailty. In particular, frailty is understood as a multicomponent condition that includes psychological and social aspects in addition to physical ones. The benefits of the intervention will be measured in a wide range of domains for older people: health-related quality of life (HRQoL), activities of daily living, falls, BMI, smoking, alcohol consumption, physical activity, frailty, comorbidities, loneliness nutrition and malnutrition, medication intake, and care utilisation. The outcomes of the implementation will be measured in terms of appropriateness, acceptability, feasibility, fidelity, and costs. A pre–post controlled design will be used to explore the effects of the ValueCare approach on a total of 240 participants belonging to the seven primary care centres that are part of Malvarrosa-Clinic Health as part of the Valencia (Spain) pilot site.

This study is not only highly significant given the high prevalence of pre-frailty and frailty in older people, but also because of the scarcity of comprehensive studies tackling frailty, encompassing its social and psychological dimensions. Indeed, the available literature suggests a scarcity of intervention studies targeting older adults categorised as frail using a comprehensive definition of frailty and who have received personalised treatments [59,60].

Furthermore, the study design within this protocol presents an evaluation of the

ValueCare approach in comparison with 'usual care' practices in terms of the benefits for older adults experiencing frailty. The benefits of the intervention will be measured in multiple domains apart from frailty: loneliness, health-related quality of life, lifestyle (BMI, smoking, alcohol consumption, physical activity, and nutrition), falls, medication adherence, protein intake, physical performance, and care utilisation.

This study not only offers a comprehensive assessment of frailty but also aims to deliver insights into the effectiveness of a personalised and comprehensive intervention for mitigating and reversing psychosocial frailty by following a pre–post control trial design.

The effects of multidomain interventions related to psychosocial aspects have not been consistent due to the small number of studies examining these outcomes, the scarcity of studies with sufficient statistical power due to inadequate sample size calculation, or even because the beneficial effects on psychosocial health have not been included as primary outcomes [61]. Moreover, this study differs from previous ones as it relies on the value-based care model, with social support being one of the interventions provided within this paradigm. The existing literature on the benefits of social support to prevent or address frailty does not typically use the value-based care approach. The novelty of this approach lies in centring the preferences and needs of each participant, setting goals collaboratively, and supporting them throughout the care continuum.

In addition, to ensure that the design and implementation of the ValueCare approach and ValueCare solution responded to the needs, interests, and preferences of the target groups, the research team implemented collaborative, co-design-based approaches to support adherence to the ValueCare intervention and the use of the ValueCare digital solution by the target groups.

In this sense, this study will address a key gap in the current evidence on the existence of comprehensive interventions. The findings of this study will be disseminated in scientific journals and through scientific and professional conferences.

The proposed study has some limitations, and some challenges are expected to be encountered. Firstly, the recruitment process may be problematic due to the presence of multimorbidities, sensory deficits, transport problems, the influence of other people, fear that the study may harm health, etc. [62,63]. Furthermore, the recruitment process might impose an extra burden on physicians, as they carry the responsibility of enlisting participants from their pool of patients. Thus, research staff can assist in the process by conducting the baseline evaluation after the patient confirms their willingness to participate in the study. Since our target group consists of frail older adults, it is also expected that the participation rate may decrease during the intervention period due to physical or psychological deterioration. Finally, a randomised design is implemented to ensure equal opportunities for subjects to access either the control group or the intervention group. However, this approach might elevate the likelihood of dropout among participants in the control group. This heightened risk can stem from the fact that individuals in the control group solely receive feedback from researchers upon completing evaluation questionnaires (T0–T1).

5. Conclusions

Given the rapid growth of the older population worldwide, frailty will place increasing pressure on healthcare systems and will be a major public health care issue in the coming decades. While most studies have addressed frailty by focusing on the phenotypic model of physical frailty, the most current evidence supports the importance of identifying and addressing frailty through a multidimensional approach that takes into account the loss of harmonious relationships between different domains (physical, psychological, and social). New studies incorporating a comprehensive evaluation of frailty must be conducted to introduce innovative interventions that merge social and healthcare aspects. These interventions should aim to yield improved outcomes for older individuals. The literature confirms the fact that psychosocial factors modify the association of frailty with adverse outcomes, with a frail person's psychosocial resources acting as a protector against adverse outcomes. In this sense, primary care teams need to advance the utilisation of personalised strategies that consider an individual's social resources, interests, and preferences related to personal activities or social behaviours. These approaches should also incorporate an individual's ability to self-manage their resources and activities. By fostering the person's capability to establish and sustain social relationships, as well as encouraging the initiation of social engagement, these strategies aim to enhance social participation. Therapeutic approaches based on motivational interviewing are considered a good starting point in the treatment of psychosocial frailty due to their capacity to strengthen, through a collaborative environment and respect for the autonomy of the person, the intrinsic motivation of the person to enhance self-efficacy towards the initiation and maintenance of behaviour changes towards healthier lifestyles.

Author Contributions

M.F.-S. and T.A.-B. contributed to the planning and writing of the protocol, providing the description of the design, research methods, outcome measures, data management, and analysis plan. J.G.-F. was responsible for monitoring the writing process. All authors have read and agreed to the published version of the manuscript.

Funding

This study protocol preparation has received funding from the FPU (Formación de Profesorado Universitario) contract from the Spanish Ministry of Universities with the reference FPU19/04167 and from the H2020 programme of the European Commission (ref. 875215).

Institutional Review Board Statement

This study will be conducted in accordance with the European and national guidelines and received a statement of support based on a previous ethical evaluation by the Human Research Ethics Committee (CEIH) of the Experimental Research Ethics Committee of the University of Valencia (7 May 2020).

Informed Consent Statement

Digital or paper informed consent is obtained from all subjects participating in the study.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest.

References

Prince, M.J.; Wu, F.; Guo, Y.; Robledo, L.M.G.; O'Donnell, M.; Sullivan, R.; Yusuf, S. The burden of disease in older people and implications for health policy and practice. *Lancet* **2015,** 385, 549–562. [Google Scholar] [CrossRef] [PubMed]

Rudnicka, E.; Napierała, P.; Podfigurna, A.; Męczekalski, B.; Smolarczyk, R.; Grymowicz, M. The World Health Organization (WHO) approach to healthy ageing. *Maturitas* **2020,** 139, 6–11. [Google Scholar] [CrossRef] [PubMed]

Lette, M.; Stoop, A.; Gadsby, E.; Ambugo, E.A.; Mateu, N.C.; Reynolds, J.; Nijpels, G.; Baan, C.; De Bruin, S.R. Supporting older people to live safely at home–findings from thirteen case studies on integrated care across Europe. *Int. J. Integr. Care* **2020,** 20, 1. [Google Scholar] [CrossRef]

Dogra, S.; Dunstan, D.W.; Sugiyama, T.; Stathi, A.; Gardiner, P.; Owen, N. Active aging and public health: Evidence, implications, and opportunities. *Annu. Rev. Public Health* **2022,** 43, 439–459. [Google Scholar] [CrossRef] [PubMed]

Liberale, L.; Badimon, L.; Montecucco, F.; Lüscher, T.; Libby, P.; Camici, G. Inflammation, aging, and cardiovascular disease: JACC review topic of the week. *J. Am. Coll. Cardiol.* **2022,** 79, 837–847. [Google Scholar] [CrossRef]

Pons Raventos, M.; Rebollo Rubio, A.; Jiménez Ternero, J. Fragilidad: ¿Cómo podemos detectarla? *Enfermería Nefrológica* **2016,** 19, 170–173. [Google Scholar] [CrossRef]

Brivio, P.; Paladini, M.; Racagni, G.; Riva, M.; Calabrese, F.; Molteni, R. From healthy aging to frailty: In search of the underlying mechanisms. *Curr. Med. Chem.* **2019,** 26, 3685–3701. [Google Scholar] [CrossRef]

Martin, F.; O'Halloran, A. Tools for assessing frailty in older people: General concepts. In Frailty and Cardiovascular Diseases: Research into an *Elderly Population;* Springer: Cham, Switzerland, **2020;** pp. 9–19. [Google Scholar]

Zhao, L.; Wu, L. The association between social participation and loneliness of the Chinese older adults over time—The mediating effect of social support. Int. J. Environ. *Res. Public Health* **2022,** 19, 815. [Google Scholar] [CrossRef]

Davies, K.; Maharani, A.; Chandola, T.; Todd, C.; Pendleton, N. The longitudinal relationship between loneliness, social isolation, and frailty in older adults in England: A prospective analysis. *Lancet Healthy Longev.* **2021,** 2, e70–e77. [Google Scholar] [CrossRef]

Sancho, P.; Sentandreu-Mañó, T.; Fernández, I.; Tomás, J. El impacto de la soledad y la fragilidad en el bienestar de los mayores europeos. *Rev. Latinoam. Psicol*. **2022,** 54, 86–93. [Google Scholar] [CrossRef]

Hoogendijk, E.; Suanet, B.; Dent, E.; Deeg, D.; Aartsen, M. Adverse effects of frailty on social functioning in older adults: Results from the Longitudinal Aging Study Amsterdam. Maturitas **2016,** 83, 45–50. [Google Scholar] [CrossRef] [PubMed]

Gale, C.; Westbury, L.; Cooper, C. Social isolation and loneliness as risk factors for the progression of frailty: The English Longitudinal Study of Ageing. *Age Ageing* **2018,** 47, 392–397. [Google Scholar] [CrossRef] [PubMed]

Park, C.; Majeed, A.; Gill, H.; Tamura, J.; Ho, R.C.; Mansur, R.B.; Nasri, F.; Lee, Y.; Rosenblat, J.D.; Wong, E.; et al. The effect of loneliness on distinct health outcomes: A comprehensive review and meta-analysis. *Psychiatry Res.* **2020,** 294, 113514. [Google Scholar] [CrossRef] [PubMed]

Altintas, H.; Coban, S.; Cantekin, I. Relationship between frailty and loneliness among community-dwelling Turkish older people. *Psychogeriatrics* **2023,** 23, 243–251. [Google Scholar] [CrossRef] [PubMed]

Gordon, E.H.; Hubbard, R.E. Differences in frailty in older men and women. *Med. J. Aust.* **2020,** 212, 183–188. [Google Scholar] [CrossRef] [PubMed]

Rivas-Ruiz, F.; Machón, M.; Contreras-Fernández, E.; Vrotsou, K.; Padilla-Ruiz, M.;

Diez Ruiz, A.I.; de Mesa Berenguer, Y.; Vergara, I.; Group GIFEA. Prevalence of frailty among community-dwelling elderly persons in Spain and factors associated with it. *Eur. J. Gen. Pract.* **2019,** 25, 190–196. [Google Scholar] [CrossRef] [PubMed]

Menéndez-González, L.; Izaguirre-Riesgo, A.; Tranche-Iparraguirre, S.; Montero-Rodríguez, Á.; Orts-Cortés, M.I. Prevalencia y factores asociados de fragilidad en adultos mayores de 70 años en la comunidad. *Atención Primaria* **2021,** 53, 102128. [Google Scholar] [CrossRef]

O'Caoimh, R.; Sezgin, D.; O'Donovan, M.; Molloy, D.; Clegg, A.; Rockwood, K.; Liew, A. Prevalence of frailty in 62 countries across the world: A systematic review and meta-analysis of population-level studies. *Age Ageing* **2021,** 50, 96–104. [Google Scholar] [CrossRef]

Manfredi, G.; Midão, L.; Paúl, C.; Cena, C.; Duarte, M.; Costa, E. Prevalence of frailty status among the European elderly population: Findings from the Survey of Health, Aging and Retirement in Europe. Geriatr. Gerontol. Int. **2019,** 19, 723–729. [Google Scholar] [CrossRef]

Vermeiren, S.; Vella-Azzopardi, R.; Beckwee, D.; Habbig, A.K.; Scafoglieri, A.; Jansen, B.; Bautmans, I.; Verté, D.; Beyer, I.; Petrovic, M.; et al. Frailty and the prediction of negative health outcomes: A meta-analysis. *J. Am. Med. Dir. Assoc.* **2016,** 17, 1163-e1. [Google Scholar] [CrossRef]

Wleklik, M.; Uchmanowicz, I.; Jankowska, E.A.; Vitale, C.; Lisiak, M.; Drozd, M.; Pobrotyn, P.; Tkaczyszyn, M.; Lee, C. Multidimensional approach to frailty. *Front. Psychol.* **2020,** 11, 564. [Google Scholar] [CrossRef] [PubMed]

Ge, L.; Yap, C.; Heng, B. Associations of social isolation, social participation, and loneliness with frailty in older adults in Singapore: A panel data analysis. *BMC Geriatr.* **2022,** 22, 26. [Google Scholar] [CrossRef] [PubMed]

Fürstenau, D.; Haneke, H.; Spies, C.; Walz, T.; Schewina, K.; Höft, M.; Mörgeli, R.; Balzer, F. Tackling the frailty burden with an integrative value-based approach: Results from a mixed-methods study. *J. Public Health* **2022,** 30, 99–110. [Google Scholar] [CrossRef]

Boreskie, K.F.; Hay, J.L.; Boreskie, P.E.; Arora, R.C.; Duhamel, T.A. Frailty-aware care: Giving value to frailty assessment across different healthcare settings. *BMC Geriatr*. **2022,** 22, 13. [Google Scholar] [CrossRef]

Di Pollina, L.; Guessous, I.; Petoud, V.; Combescure, C.; Buchs, B.; Schaller, P.; Kossovsky, M.; Gaspoz, J.M. Integrated care at home reduces unnecessary hospitalizations of community-dwelling frail older adults: A prospective controlled trial. *BMC Geriatr.* **2017,** 17, 53. [Google Scholar] [CrossRef]

Abbasi, M.; Khera, S.; Dabravolskaj, J.; Chevalier, B.; Parker, K. The seniors' community hub: An integrated model of care for the identification and management of frailty in primary care. *Geriatrics* **2021,** 6, 18. [Google Scholar] [CrossRef] [PubMed]

Sun, J.; Kong, X.; Li, H.; Chen, J.; Yao, Q.; Li, H.; Zhou, F.; Hu, H. Does social participation decrease the risk of frailty? Impacts of diversity in frequency and types of social participation on frailty in middle-aged and older populations. *BMC Geriatr.* **2022,** 22, 553. [Google Scholar] [CrossRef] [PubMed]

Paquet, C.; Whitehead, J.; Shah, R.; Adams, A.M.; Dooley, D.; Spreng, R.N.; Dubé, L. Social prescription interventions addressing social isolation and loneliness in older adults: Meta-review integrating on-the-ground resources. *J. Med. Internet Res.* **2023,** 25, e40213. [Google Scholar] [CrossRef] [PubMed]

O'Rourke, H.M.; Collins, L.; Sidani, S. Interventions to address social connectedness and loneliness for older adults: A scoping review. *BMC Geriatr.* **2018,** 18, 214. [Google Scholar] [CrossRef]

Miller, W.; Rollnick, S. Motivational interviewing: Preparing people for change. Book Review. *J. Stud. Alcohol.* **2002,** 63, 776–777. [Google Scholar]

Guillaumes, S.; O'Callaghan, C. Versión en español del software gratuito OxMaR para minimización y aleatorización de estudios clínicos. *Gac. Sanit.* **2019,** 33, 395–397. [Google Scholar] [CrossRef] [PubMed]

Akpan, A.; Roberts, C.; Bandeen-Roche, K.; Batty, B.; Bausewein, C.; Bell, D.; Bramley, D.; Bynum, J.; Cameron, I.D.; Chen, L.K.; et al. Standard set of health outcome measures for older persons. *BMC Geriatr.* **2018,** 18, 36. [Google Scholar] [CrossRef] [PubMed]

Gobbens, R.J.; van Assen, M.A.; Luijkx, K.G.; Wijnen-Sponselee, M.T.; Schols, J.M. The Tilburg frailty indicator: Psychometric properties. *J. Am. Med. Dir. Assoc.* **2010,** 11, 344–355. [Google Scholar] [CrossRef] [PubMed]

Hughes, M.; Waite, L.; Hawkley, L.; Cacioppo, J. A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Res. Aging* **2004,** 26, 655–672. [Google Scholar] [CrossRef] [PubMed]

Prochaska, J.O.; DiClemente, C. Toward a comprehensive model of change. *In Treating Addictive Behaviors: Processes of Change; Springer:* Boston, MA, USA, **1986;** pp. 3–27. [Google Scholar]

Rempel, E.; Wilson, E.; Durrant, H.; Barnett, J. Preparing the prescription: A review of the aim and measurement of social referral programmes. *BMJ Open* **2017,** 7, e017734. [Google Scholar] [CrossRef] [PubMed]

Bickerdike, L.; Booth, A.; Wilson, P.; Farley, K.; Wright, K. Social prescribing: Less rhetoric and more reality. A systematic review of the evidence. *BMJ Open* **2017,** 7, e013384. [Google Scholar] [CrossRef] [PubMed]

Vidovic, D.; Reinhardt, G.Y.; Hammerton, C. Can social prescribing foster individual and community well-being? A systematic review of the evidence. *Int. J. Environ. Res. Public Health* **2021,** 18, 5276. [Google Scholar] [CrossRef] [PubMed]

Pescheny, J.; Randhawa, G.; Pappas, Y. The impact of social prescribing services on service users: A systematic review of the evidence. *Eur. J. Public Health* **2020,** 30, 664–673. [Google Scholar] [CrossRef] [PubMed]

Gauthier, A.; Lagarde, C.; Mourey, F.; Manckoundia, P. Use of digital tools, social isolation, and lockdown in people 80 years and older living at home. *Int. J. Environ. Res. Public Health* **2022,** 19, 2908. [Google Scholar] [CrossRef]

Vodafone Innovus. Available online: https://www.vodafoneinnovus.com/ (accessed on 16 November 2023).

Sanz, M.F.; Acha, B.V.; García, M.F. Co-design for people-centred care digital solutions: A literature review. *Int. J. Integr. Care* **2021,** 21, 16. [Google Scholar] [CrossRef]

Vidavo, S.A. Available online: https://www.vidavo.eu/ (accessed on 16 November 2023).

Fondazione Bruno Kessler. Available online: https://www.fbk.eu/en/ (accessed on 16 November 2023).

Van Kan, G.; Rolland, Y.; Bergman, H.; Morley, J.; Kritchevsky, S.; Vellas, B. Geriatric Advisory Panel. The IANA Task Force on frailty assessment of older people in clinical practice. *J. Nutr. Health Aging* **2018,** 12, 29–37. [Google Scholar] [CrossRef] [PubMed]

Gleason, L.; Benton, E.; Alvarez-Nebreda, M.; Weaver, M.; Harris, M.; Javedan, H. FRAIL questionnaire screening tool and short-term outcomes in geriatric fracture patients. *J. Am. Med. Dir. Assoc.* **2017,** 18, 1082–1086. [Google Scholar] [CrossRef] [PubMed]

Collin, C.; Wade, D.T.; Davies, S.; Horne, V. The Barthel ADL Index: A reliability study. *Int. Disabil. Stud.* **1988,** 10, 61–63. [Google Scholar] [CrossRef] [PubMed]

Pfeiffer, E. A short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients*. J. Am. Geriatr. Soc*. **1975,** 23, 433–441. [Google Scholar] [CrossRef] [PubMed]

Katzan, I.; Lapin, B. PROMIS GH (patient-reported outcomes measurement information system global health) scale in stroke: A validation study. *Stroke* **2018,** 49, 147–154. [Google Scholar] [CrossRef] [PubMed]

EuroQol Research F Research Foundation. EQ-5D-5L User Guide Version 3.0: Basic Information on How to Use the EQ-5D-5L *Instrument.* **2019.** Available online: https://euroqol.org/publications/user-guides (accessed on 1 February 2024).

Scheffer, A.; Schuurmans, M.; van Dijk, N.; Van Der Hooft, T.; De Rooij, S. Reliability and validity of the visual analogue scale for fear of falling in older persons. *J. Am. Geriatr. Soc.* **2010,** 58, 2228. [Google Scholar] [CrossRef] [PubMed]

Levy, H. Self-administered medication-risk questionnaire in an elderly population. *Ann. Pharmacother.* **2003,** 37, 982–987. [Google Scholar] [CrossRef] [PubMed]

Zhang, S.; Meng, L.; Qiu, F.; Yang, J.; Sun, S. Medication-related risk factors associated with health-related quality of life among community-dwelling elderly in China. *Patient Prefer. Adherence* **2018,** 12, 529–537. [Google Scholar] [CrossRef] [PubMed]

Wijnhoven, H.; Elstgeest, L.; de Vet, H.; Nicolaou, M.; Snijder, M.; Visser, M. Development and validation of a short food questionnaire to screen for low protein intake in community-dwelling older adults: The Protein Screener 55+(Pro55+). *PLoS ONE* **2018,** 13, e0196406. [Google Scholar] [CrossRef]

Guralnik, J.M.; Simonsick, E.M.; Ferrucci, L.; Glynn, R.J.; Berkman, L.F.; Blazer, D.G.; Scherr, P.A.; Wallace, R.B. A short physical performance battery assessing lower extremity function: Association with self-reported disability and prediction of mortality and nursing home admission. *J. Gerontol.* **1994,** 49, M85–M94. [Google Scholar] [CrossRef]

Romero-Ortuno, R. The Frailty Instrument of the Survey of Health, Ageing and Retirement in Europe (SHARE-FI) predicts mortality beyond age, comorbidities, disability, self-rated health, education and depression. *Eur. Geriatr. Med.* **2011,** 2, 323–326. [Google Scholar] [CrossRef] [PubMed]

Wijnhoven, H.A.; Schilp, J.; de Vet, H.C.; Kruizenga, H.M.; Deeg, D.J.; Ferrucci, L.; Visser, M. Development and validation of criteria for determining undernutrition in community-dwelling older men and women: The Short Nutritional Assessment Questionnaire 65+. *Clin. Nutr.* **2012,** 31, 351–358. [Google Scholar] [CrossRef] [PubMed]

Ng, T.P.; Feng, L.; Nyunt, M.S.Z.; Feng, L.; Niti, M.; Tan, B.Y.; Chan, G.; Khoo, S.A.; Chan, S.M.; Yap, P.; et al. Nutritional, physical, cognitive, and combination interventions and frailty reversal among older adults: A randomized controlled trial. *Am. J. Med.* **2015,** 128, 1225–1236. [Google Scholar] [CrossRef] [PubMed]

Strandberg, T.; Pitkälä, K.; Tilvis, R. Frailty in older people. *Eur. Geriatr. Med.* **2011,** 2, 344–355. [Google Scholar] [CrossRef]

Dedeyne, L.; Deschodt, M.; Verschueren, S.; Tournoy, J.; Gielen, E. Effects of multi-domain interventions in (pre) frail elderly on frailty, functional, and cognitive status: A systematic review. *Clin. Interv. Aging* **2017,** 12, 873–896. [Google Scholar] [CrossRef] [PubMed]

Bloch, F.; Charasz, N. Attitudes of older adults to their participation in clinical trials: A pilot study. *Drugs Aging* **2014,** 31, 373–377. [Google Scholar] [CrossRef]

Pitkala, H.; Strandberg, T. Clinical trials in older people. *Age Ageing* **2022,** 51, afab282. [Google Scholar] [CrossRef]

Artículo 4

Efficacy of a Comprehensive and Personalised Approach for Frail Older People in Valencia (Spain): A Pre-Post Controlled Trial

1. Introduction

Population ageing continues to boom with an accelerating expansion of the older population worldwide [1,2]. According to United Nations projections, it is estimated that in 2025, worldwide, one in six people will be 65 years of age or older [3], which represents approximately 31% of the European population in 2100 [4]. This progressive and accelerated increase in population ageing brings with it multiple challenges for health systems and public health budgets, as it is associated with a sharp increase in care services [5]. Specifically, the increasing frailty, disability, and morbidity associated with ageing impose a growing burden on health systems that require reform to meet the growing need for medical and social resources [6,7]. Identifying effective and efficient interventions in terms of promoting the health-related quality of life of older people is a European policy priority, and clinicians, policymakers, healthcare managers, scientists, and researchers should consider the potential of comprehensive and coordinated approaches to care [5,8].

Among the different conditions faced by the older population, frailty is one of the most pressing, yet preventable and reversible. The determinants of frailty are driven by multiple interrelated risk factors that can be reversed and prevented, such as falls, depression, unhealthy diet, physical inactivity, and social isolation [9,10,11]. Frailty is a controversial term that encompasses multiple meanings depending on the context and is interpreted differently by clinical and non-clinical settings. While for the older population that suffers from frailty, frailty may be associated with negative connotations because of its association with physical deterioration, generating rejection in older people because of the stigma of bodily deterioration associated with old age, for those who label it, frailty also encompasses multiple conceptualisations despite the consensus that it is a clinical category that needs to be detected and addressed to reduce its negative impact on the health of the population [12,13]. Although frailty is common among older adults, epidemiological data and interventions aimed at preventing and reversing this condition have traditionally identified and managed it based on the phenotypic model, which emphasizes physical frailty [14]. Extensive literature highlights the necessity of identifying and addressing frailty through a multidimensional, integrated, and holistic approach to care. This is essential because frailty impacts multiple aspects of health, including physical, psychological, cognitive, social, and emotional domains [15,16]. In this way, the recent multidimensional conceptual model understands frailty as the lack of harmonious interaction between multiple dimensions leading to homeostatic instability [17]. From this holistic approach, frailty is therefore understood as a dynamic state resulting from deficits in any of the social, psychological, and physical domains that contribute to health, and therefore requires the identification, assessment, and care of the condition from a biopsychosocial approach [18,19].

Achieving better health outcomes for patients requires reorganising care for patients efficiently and effectively, and in this regard, health systems are advocating for innovative models of care that move away from a volume-based approach to care towards a value-based approach to care, supported by digital solutions [20]. The goal of this approach is the delivery of value to patients with the understanding that value is defined as improved health outcomes achieved from the entire care process [21]. In this context, the quality of care is multidimensional, just like the life of an older person experiencing frailty [22]. This necessitates assessment measures that cover all aspects of human functioning—physical, psychological, and social—related to frailty, highlighting the importance of a holistic approach. The evidence confirms that the Tilburg Frailty Instrument (TFI) is a key self-report instrument for assessing frailty in older people living in the community [23]. Furthermore, taking a holistic approach to addressing frailty in community-dwelling older adults can help manage other issues such as social isolation and loneliness. Evidence indicates that socially isolated older adults are much more likely to develop both physical and psychological frailty, as loneliness often leads to emotional depression [24].

Given the positive and significant relationship between loneliness and frailty, where each can impact the other, studies recommend not only a holistic assessment that addresses loneliness but also multidimensional and personalised interventions that focus on enhancing psychosocial resources [25]. In this regard, recent literature highlights the need to raise awareness among older adults about actively investing in their existing social ties, such as family and friends. It also highlights the necessity of enhancing their motivation to actively improve their situation [26]. Following this line, motivational interviewing (MI) can be an effective therapeutic technique for its ability to promote communication and commitment, encouraging changes toward healthy lifestyles. This approach is empathic and collaborative, with achievable goals set according to the needs and interests of the person being interviewed [27]. Given that evidence confirms a positive association between information and communication technology (ICT) use and social support, incorporating ICT into interventions to address psychosocial frailty can be beneficial for maintaining and extending social connections [28,29].

However, studies on value-based care programmes supported by technological solutions that address the multidimensional nature of frailty and evaluate their effects on older patients with frailty are currently scarce and have limitations, such as the lack of controlled trials [22]. In this study, the purpose is to analyse the effect of a comprehensive and personalised approach based on motivational interviewing, supported by a digital tool on the reduction of frailty, especially psychosocial frailty, in older adults.

This study is part of the ValueCare project—Value-based methodology for integrated care supported by ICT—an initiative funded by the European Commission under the Horizon 2020 programme. The project brings together a consortium of 17 partners from eight European countries. The aim of the ValueCare project is to provide efficient and outcome-based integrated care (both health and social) for people aged 65+ with frailty, cognitive impairment, and/or multiple chronic conditions. The ValueCare intervention has been implemented and validated in study sites located in seven European countries: Valencia in Spain, Rijeka in Croatia, Athens in Greece, Cork/Kerry in Ireland, Coimbra in Portugal, and Rotterdam in the Netherlands. In each of these sites, the ValueCare intervention focuses on addressing a specific health condition. Through value-based methodologies supported by digital solutions, the project aims to improve the quality of life of this population. In Spain (Valencia), the ValueCare approach supported by a digital tool and therapeutic tool based on motivational interviewing has been implemented for people over 65 diagnosed with frailty.

This study aims to increase knowledge about the potential effects of a comprehensive, personalised, and coordinated intervention, supported by digital solutions, in the context of frailty. The main objective of this study was to evaluate the effects of ValueCare intervention on frailty, including its social, psychological, and physical domains. Additionally, this study analysed the impact of the intervention on other health-related variables, namely, global health, loneliness, health-related quality of life, and the use of health resources, the hypothesis being that after intervention, participants would also show an improvement in these variables.

2. Materials and Methods

2.1. Study Design

This study was a randomised, parallel-controlled clinical trial with a control group and an intervention group and a pre- and post-evaluation design. It was conducted with the support of the Malvarrosa Clinic Health Department of the city of Valencia (Spain). Participants included in this study were assessed at baseline and at 12 months after completion of the intervention. All study participants gave written informed consent. The clinical trial protocol had previously been approved by the Human Research Ethics Committee (HREC) of the Experimental Research Ethics Committee of the University of Valencia (7 May 2020), and it has been registered in the International Standard Randomised Controlled Trial registry (ISRCTN25089186; registration date 16 November 2021). A full description of the methods, design, and procedure is available in the trial protocol [30].

2.2. Study Participants: Inclusion and Exclusion Criteria

Recruitment for this study was carried out in the city of Valencia (Spain) with the support of a total of seven primary care health centres belonging to the Malvarrosa Clinic Health Department. Citizens aged 65 years and over who lived in the community were telephoned by the socio-health professionals of each of the participating health centres for recruitment according to the clinical history and the established inclusion criteria. Persons eligible to participate in the current study were those who met the following eligibility criteria: (a) aged 65 years or older, (b) frailty, and (c) independent residence in the community and affiliation to one of the seven participating health centres belonging to the Malvarrosa Clinic Health Department. In addition, citizens were ineligible to participate in the study when they presented any of the following conditions: (a) cognitive impairment, (b) significant dependency, (c) institutionalisation, (d) inability to make an informed decision regarding participation in the study, and (e) lack of Spanish language proficiency. Participants were randomly assigned to intervention and control groups. Randomisation was performed using a computer-generated list of random numbers through the Oxford Minimisation and Randomisation (OxMaR) system to ensure concealment of the randomisation sequence. Of the 242 who were eligible for randomisation, 122 were assigned to the intervention group (to receive the 12-month ValueCare programme) and 120 to the control group (to receive no intervention/receive usual care). Adherence to the study was estimated to be 71.9% (individuals who completed the intervention against those lost in follow-up).

2.3. Measures

2.3.1. Primary Outcome Variables

Frailty was assessed through the Tilburg Frailty Index (TFI) [31]. The TFI is based on a holistic approach to frailty, including physical, psychological, and social domains. It is composed of three subscales: physical frailty, psychological frailty, and social frailty, as well as a total score on frailty. The TFI's total score ranges from 0 to 15, with a score ranging from 0 to 8 for physical frailty, 0 to 4 for psychological frailty, and 0 to 4 for social frailty. Higher scores refer to greater frailty, and scores greater than or equal to 5 indicate the presence of frailty. TFI has shown robust evidence of reliability and validity [22].

2.3.2. Secondary Outcome Variables

Global health was assessed using the PROMIS-10 Global Health survey which includes two subscales on physical health and mental health. Raw PROMIS-10 scores were converted to standardised t-score values [32]. A t-score of 50 represents the mean of the general population, and higher scores indicate better physical and mental health [32] according to the established t-score cut-offs for fair-to-poor health ratings (physical health < 42 and mental health < 40) [33].

Loneliness was assessed using the UCLA Three-Item Loneliness Scale [34]. This scale asks how often a person felt that they (1) lacked companionship; (2) were left out; and (3) were isolated from others on a 3-point Likert scale coded from 1 (hardly ever) to 3 (often). The scores for each individual question can be added together to give a possible range of scores from 3 to 9, with higher scores indicating greater loneliness. People who score 3–5 are identified as 'not lonely' and people scoring 6–9 as 'lonely.' The Spanish version of the scale has shown good psychometric properties [35].

Health-related quality of life was evaluated with the 5Q-5D-5L [36]. The EQ-5D instrument was developed by EuroQol (www.euroqol.org—accessed on 14 February 2020) and is one of the most reliable generic health-related quality of life measurement and widely used around the world. The EQ-5D-5L is divided into five dimensions—mobility, selfcare, usual activities, pain/discomfort, anxiety/depression—within five levels of problem severity in responses from 'no problems' to 'extreme problems.' The measure includes a visual analogue rating scale (VAS), which was not included in our current study.

Use of healthcare resources was evaluated by asking participants for their number of primary care visits and hospitalisation days over the past 12 months (at baseline and at post-intervention).

2.4. Intervention

The ValueCare intervention to improve psychosocial frailty and loneliness in older people by encouraging behavioural change towards healthy lifestyles and greater social engagement lasted 12 months and consisted of three elements: (i) periodic motivational social prescription sessions under the motivational interviewing approach (ii) support through the implementation of monthly social workshops in the participating primary care centres, and (iii) monitoring and support of the intervention through the ValueCare digital solution.

Motivational sessions developed using the approach of motivational interviewing were offered monthly during the 12 months of intervention, with a duration of 30 min–1.5 h. A protocol was established to guide the sessions, its development was supported by scientific evidence on the effectiveness of this methodology to promote behavioural change, commitment to change, and adherence to the intervention. The sessions focused on identifying the individual's psychosocial needs, assessing their readiness for change, and stimulating motivation to prepare them for change. They also helped participants explore and resolve ambivalences related to unhealthy behaviours or habits. Ultimately, the sessions involved jointly setting objectives within the framework of social prescription through a negotiation process between the professional and the patient to facilitate the transition toward healthy habits. The motivational sessions were conducted by social and health professionals such as social workers and psychologists with knowledge of the clinical condition of each participant. The objectives established in terms of social prescription allowed the professional to present to the participant the existing community resources that could favour their health and well-being, as well as the social workshops to be implemented within the framework of the intervention. During the development of the motivational sessions, an atmosphere of trust was established based on empathy through active and reflective listening in which participants were enabled to explore and resolve ambivalence in changing behaviour towards healthy lifestyles, promoting intrinsic motivation that encourages change.

Social participation in social workshops was used to support the achievement of the social prescription goals set in the motivational sessions in terms of reducing loneliness and improving the psychosocial frailty of older people. Socio-health professionals organised a monthly group social workshop in each primary care centre, where participants were invited to attend with the aim of increasing social connections and networks with other project participants. The workshops covered different themes: (a) healthy ageing workshop on the importance of physical activity and social prescription, (b) workshop on healthy nutrition based on the knowledge of the Harvard plate for a balanced diet, (c) workshop on the use and usefulness of new technologies in the framework of the ValueCare digital solution, (d) workshop on art and cognitive stimulation to exercise functions such as memory, (e) workshop on emotional management through plastic arts to work on the areas of expressiveness and emotional management, and (f) workshop on age discrimination and mistreatment of the elderly to work on tools to deal with ageism. Social workshops with a leisure character are beneficial in reducing loneliness and depression levels among their users, as well as favouring their life satisfaction and providing a sense of place, enjoyment, and support among older people that is rooted in a sense of relevance [37].

In addition, for older people, the use of digital technologies can be challenging, as they are generally later adopters of technological innovation [38]. In this sense, motivational interviewing together with social workshops were further employed as a way to ensure adherence and follow-up of the element. In this sense, participants were provided with a space where they were encouraged in each motivational session and each workshop to report any doubts or comments about the ValueCare digital application.

Both the goals to be achieved by older people agreed to in the motivational sessions and the description of and invitation to the social workshops were included in the ValueCare digital solution. This ValueCare app1 presented the personalised care plan for each of the participants in the intervention group, which was set up and monitored by the social and health professionals. In addition, the application had a messaging portal through which the professionals reminded the participants of the objectives to be achieved agreed to in the motivational sessions. In this way, the participants had access to their personalised care plan, in which they could also interact through the application thanks to the existence of a virtual coach who acted as a persuasive chatbot. This chatbot was based on dialogue, motivating the participants to achieve the prescribed objectives and reinforcing positive behaviours by confirming that the objective had been met or encouraging the participant to reach it. In addition, the ValueCare digital solution featured a section of content in audio-visual and text format on services available in the community to promote an active and healthy lifestyle, suggestions for increasing social interaction, and information about physical frailty, social frailty, and loneliness, among other relevant topics. A tablet was provided free of charge to each participant, and training sessions were developed on a voluntary basis to ensure the proper installation of the digital solution and teaching on the use and usefulness of the solution. It is worth mentioning that the ValueCare app and the tablets were available for use on a voluntary and unmonitored basis for up to six months after the end of the intervention. During these six months, researchers continued to voluntarily send personalised motivational messages to participants in the intervention group that included physical and nutritional recommendations, as well as information about health promotion activities available at their health centres. Participants were also encouraged to download the app on their mobile phones to continue accessing the audio-visual content portal available on the app. Finally, all participants were invited to a final event after the end of the intervention, where they received a paper guide with health recommendations and upcoming health promotion events available at their health centres. The aim of these non-intervention actions was to reduce the possible feeling of dropout at the end of the study by ensuring a staggered exit.

2.5. Data Analysis

Analysis of the effectiveness of the intervention was conducted through intragroup analyses to determine the evolution of outcome measures in the comparison and the intervention group, and intergroup analyses to compare the two groups in two different moments: pre-intervention and 12 months later.

The impact of the intervention on the outcome measures—frailty, global health, loneliness, health-related quality of life, and use of healthcare resources—was assessed using Student's t test. For variables of a categorical nature, chi-squares tests were performed for intergroup analyses, and intragroup differences were analysed using McNemar's test.

A threshold of $p < 0.05$ for statistical significance was used. Additionally, effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8). Data were analysed using IBM SPSS Statistics version 28.

3. Results

Participants had an average age of 72.9, ranging from 65 to 90 years old, and included both females (73.6%) and males (25.6%). Intervention group participants were slightly younger than comparison group participants (mean age 72.8 vs. 73.1), and the percentage of women was also slightly higher in the intervention group (75.4% vs. 71.7%).

Participants in this study showed medium levels of frailty according to the TFI, for which scores greater than or equal to 5 indicate the presence of frailty. Regarding the effect of the intervention on frailty, as presented in Table 1, participants in the intervention group showed a slight reduction in the psychological and social domains of frailty and a slight increase in the physical domain and in overall frailty. The comparison group did not experience any changes in the social or psychological domains and showed a slight reduction in physical and overall frailty. However, none of these changes in frailty was found to be statistically significant for either of the groups.

Table 1. *Intragroup and intergroup differences in frailty*

		Intervention Group	Comparison Group	Intergroup Differences
TFI total score	Pre, Mean ± SD	4.91 ± 3.15	5.42 ± 3.25	t = 1.234; p = 0.109
	Post, Mean ± SD	5.17 ± 3.35	4.89 ± 3.11	t = −0.574; p = 0.283
	Intragroup differences*	t = −0.623; p = 0.267	t = −0.981; p = 0.164	
	Effect size **	0.32	0.24	
TFI physical score	Pre, Mean ± SD	2.34 ± 1.78	2.86 ± 2.16	t = 1.450; p = 0.074
	Post, Mean ± SD	2.72 ± 2.15	2.42 ± 1.98	t = −0.989; p = 0.162
	Intragroup differences*	t = −1.226; p = 0.112	t = 1.443; p = 0.076	
	Effect size **	0.14	0.17	
TFI psychological score	Pre, Mean ± SD	1.41 ± 1.11	1.37 ± 1.12	t = 0.602; p = 0.274
	Post, Mean ± SD	1.39 ± 1.08	1.37 ± 1.12	t = −0.289; p = 0.386
	Intragroup differences*	t = 0.072; p = 0.471	t = 0.129; p = 0.449	
	Effect size **	0.01	0.01	
TFI social score	Pre, Mean ± SD	1.11 ± 0.99	1.13 ± 0.94	t = 0.215; p = 0.415
	Post, Mean ± SD	1.05 ± 0.92	1.13 ± 0.92	t = 0.543; p = 0.294
	Intragroup differences*	t = 0.360; p = 0.360	t = 0.000; p = 0.500	
	Effect size **	0.06	0	

** Intragroup and intergroup differences were analysed using Student's t test.*

*** Effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8).*

Global health results, which were measured using the PROMIS-10 Global Health survey, showed that participants in both groups had fair global physical and mental health. As presented in Table 2, physical health was significantly improved among intervention group participants (p = 0.029) with a small effect size (0.22), while the comparison group showed no statistically significant improvement on this variable. Regarding mental health, improvement was found only for the intervention group, but this was not statistically significant (p = 0.238).

Table 2. *Intragroup and intergroup differences in frailty*

	Intervention Group		Comparison Group	Intergroup Differences
PROMIS Physical Health	Pre, Mean ± SD	42.07 ± 8.07	42.69 ± 9.06	t = 0.605; p = 0.273
	Post, Mean ± SD	43.82 ± 9.52	43.68 ± 8.83	t = −0.097; p = 0.462
	Intragroup differences*	t = −1.932; p = 0.029	t = −1.554; p = 0.062	
	Effect size **	0.22	0.15	
PROMIS Mental Health	Pre, n (%)	44.87 ± 6.90	44.69 ± 7.29	t = −0.255; p = 0.399
	Post, n (%)	45.44 ± 7.93	44.59 ± 8.08	t = −0.703; p = 0.242
	Intragroup differences*	t = −0.717; p = 0.238	t = 0.172; p = 0.432	
	% of change	0.08	0.02	

** Intragroup differences were analysed using McNemar's test and intergroup analyses using chi-squared test.*

*** Effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8).*

In terms of loneliness, no differences in the feeling of loneliness were found between the groups at baseline and at follow-up, as shown in Table 3. The intervention did not show any statistically significant improvement for either group, and participants remained identified as 'not lonely,' according to the UCLA scoring.

Table 3. *Intragroup and intergroup differences in loneliness*

	Intervention Group		Comparison Group	Intergroup Differences
UCLA scores	Pre, Mean ± SD	3.59 ± 1.27	3.69 ± 1.28	t = 0.306; p = 0.380
	Post, Mean ± SD	3.63 ± 1.19	3.69 ± 1.42	t = 0.729; p = 0.233
	Intragroup differences*	t = −0.196; p = 0.423	t = 0.000; p = 0.500	
	Effect size **	0.02	0	

** Intragroup differences were analysed using Student's t test.*

*** Effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8).*

As shown in Table 4, changes in health-related quality of life were found in both groups when comparing baseline with follow-up measurements on 5Q-5D-L5 general score. Both intervention and comparison group participants reported improvements in their quality of life after 12 months, and these changes were statistically significant. A medium effect size (0.61) was found for the intervention group, while for the comparison group, the effect size was smaller (0.45). Apart from the improvements found for the general score on quality of life, significant improvements were found for the pain and anxiety/depression subscales of the 5Q-5D-L5. Pain issues were reduced by 34.4% (p = 0.000) among the older adults who attended the intervention, and anxiety/depression issues were reduced by 27.1% (p = 0.000). On the other hand, in the same time period, comparison group participants also had reduced pain issues by 30.9% (p = 0.000) and anxiety/depression issues by 18.3% (p = 0.009).

Table 4. *Intragroup and intergroup differences of health-related quality of life*

	Intervention Group		Comparison Group	Intergroup Differences
5Q-5D-L5 general score	Pre, Mean ± SD	0.75 ± 0.23	0.72 ± 0.29	t = –1.791; p = 0.074
	Post, Mean ± SD	0.88 ± 0.16	0.83 ± 0.24	t = –1.434; p = 0.077
	Intragroup differences*	t = –5.215; p = 0.000	t = –4.695; p = 0.000	
	Effect size **	0.61	0.45	
5Q-5D-L5 mobility issues	Pre, n (%)	31 (25.4%)	35 (29.2%)	X2 = 0.430; p = 0.512
	Post, n (%)	17 (13.9%)	23 (19.2%)	X2 = 0.004; p = 0.949
	Intragroup differences*	McNemar; p = 1.000	McNemar; p = 0.152	
	% of change	–11.5%	–10.0%	
5Q-5D-L5 self-care issues	Pre, Mean ± SD	1.41 ± 1.11	1.37 ± 1.12	t = 0.602; p = 0.274
	Post, Mean ± SD	1.39 ± 1.08	1.37 ± 1.12	t = –0.289; p = 0.386
	Pre, n (%)	12 (9.8%)	18 (15.0%)	X2 = 1.485; p = 0.223
	Post, n (%)	4 (3.3%)	15 (12.5%)	X2 = 4.161; p = 0.041
	Intragroup differences*	McNemar; p = 1.000	McNemar; p = 1.000	
	% of change	–6.5%	–2.5%	
5Q-5D-L5 pain issues	Intragroup differences*	t = 0.360; p = 0.360	t = 0.000; p = 0.500	
	Pre, n (%)	77 (63.1%)	80 (66.7%)	X2 = 0.335; p = 0.563
	Post, n (%)	35 (28.7%)	43 (35.8%)	X2 = 0.213; p = 0.645
	Intragroup differences*	McNemar; p = 0.000	McNemar; p = 0.000	
	% of change	–34.4%	–30.9%	
5Q-5D-L5 daily activities issues	Pre, n (%)	27 (22.1%)	29 (24.2%)	X2 = 1.41; p = 0.707
	Post, n (%)	11 (9.0%)	18 (15.0%)	X2 = 0.355; p = 0.551
	Intragroup differences*	McNemar; p = 1.000	McNemar; p = 1.000	
	% of change	–13.1%	–9.2%	
5Q-5D-L5 anxiety depression issues	Pre, n (%)	50 (41.0%)	56 (46.7%)	X2 = 0.794; p = 0.373
	Post, n (%)	17 (13.9%)	34 (28.4%)	X2 = 2.697; p = 0.101
	Intragroup differences*	McNemar; p = 0.000	McNemar; p = 0.009	
	% of change	–27.1%	–18.3%	

** Intragroup differences were analysed using McNemar's test and intergroup analyses using chi-squared test.*

*** Effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8).*

Finally, the effects of the intervention on the use of healthcare resources are presented in Table 5. The average number of primary care visits was significantly reduced among intervention group participants (p = 0.036). Prior to being included in the intervention, this group visited the primary care doctor an average of 4.2 times per year, while after the intervention, this average was reduced to 3.4 visits per year. Hospitalisation was also reduced by 9% (p = 0.049) among intervention group participants. No effect was found in the use of healthcare resources among the comparison group on visits to primary care or hospitalisation.

Table 5. *Intragroup and intergroup differences in use of healthcare resources *.*

	Intervention Group		Comparison Group	Intergroup Differences
Visits to primary care	Pre, Mean ± SD	4.22 ± 3.25	4.48 ± 3.77	t = 0.714; p = 0.238
	Post, Mean ± SD	3.37 ± 2.12	4.17 ± 3.17	t = 1.992; p = 0.024
	Intragroup differences*	t = 1.824; p = 0.036	t = 0.575; p = 0.283	
	Effect size **	0.22	0.06	
Hospitalisations	Pre, n (%)	17 (13.9%)	13 (10.8%)	X2 = 0.572; p = 0.450
	Post, n (%)	6 (4.9%)	11 (9.2%)	X2 = 0.448; p = 0.503
	Intragroup differences*	McNemar; p = 0.049	McNemar; p = 1.000	
	% of change	−9.0%	−1.6%	

** Intragroup differences were analysed using Student's t test.*

*** Effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8).*

4. Discussion

The increasing frailty that accompanies the trend of population ageing is a major public health problem that represents a significant burden on the healthcare system, given the consequences of this condition on the overall health and health-related quality of life of older people [39,40]. Despite this, existing epidemiological data as well as interventions implemented over the years have focused on the physical frailty phenotype. Although in the last two decades, the scientific community has striven to reach a consensus definition of frailty assessment, there is currently no international standard definition of frailty [41,42]. Recently a large body of literature has suggested that the condition of frailty should be identified and addressed from a multidimensional approach, giving rise to a new conceptual model of frailty based on the loss of harmonious interaction between different domains, which gives importance to the social and psychological domains in addition to the physical domain [43]. Given the variability in the identification, assessment, and management of frailty, we are faced with the absence of an adequate evidence base on effective interventions to manage frailty [44].

To our knowledge, this is the first study to investigate the effectiveness of a value-based, holistic, and personalised approach combining motivational techniques and social prescription supported by digital solutions in frail older adults.

In fact, the main objective of this study was to evaluate the effects of the ValueCare intervention on frailty, including its social, psychological, and physical domains. The results of the statistical analyses on frailty showed that for the participants in the intervention group, there was a slight reduction in the social and psychological domains of frailty, while physical frailty was slightly increased; however, these reductions were not statistically significant. Although the absence of previous studies similar to this one hinders a comprehensive comparison of our results, other randomised clinical trials have confirmed the efficacy of multifactorial interventions. These interventions included social supports like home telecare to prevent or delay the progression of frailty [45] and participation in psychosocial programs featuring practical and group activities, which significantly reduced frailty and improved functional health [46].

Additionally, this study analysed the impact of the intervention on other health-related variables, namely, global health, loneliness, health-related quality of life, and the use of health resources, the hypothesis being that after intervention, participants would also show an improvement in these variables. The results indicated that regarding global health, participants in the intervention group experienced significant improvements in physical health, while no statistically significant changes were observed for mental health. Previous studies support the effectiveness of multifactorial interventions in enhancing functional status [47]. In terms of loneliness, the intervention did not result in statistically significant improvement for either group according to the UCLA score. Regarding health-related quality of life, the analysis found that the ValueCare intervention led to statistically significant improvements in the overall 5Q-5D-5L quality-of-life score after 12 months of implementation for both the comparison and control groups. Previous studies with programmes that included physical and nutritional interventions have shown significant improvements for physical frailty compared to social programmes [48], suggesting that multicomponent intervention may be the key to improving overall frailty.

In this context, despite the limited results, it is noteworthy that study protocols have been developed for multifactorial interventions similar to the present study. These protocols include the assessment of psychosocial frailty and the incorporation of motivational interviewing and social prescription to reduce frailty [49]. Significant improvements were also observed after the intervention period compared to baseline for the pain and anxiety/depression subscales, with a reduction in both pain and anxiety among participants in the intervention group. Other multifactorial studies have reported similar findings, showing that addressing anxiety and depression as elements related to frailty leads to improvements in these conditions following the implementation of a multicomponent intervention [50].

Finally, concerning the use of healthcare resources and hospitalisations, the intervention led to statistically significant improvements for the comparison group, showing a reduction in both the number of visits and hospitalisations. As reflected in other studies, this could indicate that a multidimensional value-based intervention offers good value for money in terms of improving the frailty status of older people and reducing the costs of usual care [51]. However, this study was unable to find evidence against the hypothesis that a value-based intervention based on motivational interviewing and supported by digital solutions is effective in addressing frailty status with the current sample size. More data will be needed.

Among the strengths of this study, to date, no study has explored and addressed frailty from a holistic, personalised, and integrated value-based approach supported by digital solutions and motivational methodologies using a longitudinal design in older Spanish people living in the community. However, our findings must be interpreted within the limitations of this study, given that the paucity of previous similar studies with a sizeable sample makes it difficult to compare the present results with existing ones. While it is true that the present study showed no negative impact for participants, no statistically significant broad improvements have been observed, suggesting the need for further value-based multidimensional research in larger samples demonstrating efficacy in the specific management of frailty. Furthermore, despite the positive and significant relationship between frailty and loneliness, the present study did not reflect statistically significant improvements for loneliness, suggesting the need for future alternative screening and intervention programmes to prevent frailty and loneliness in people aged 65 years and older.

5. Conclusions

Given that frailty is a common condition in older people presenting multiple risks to their health and quality of life, it is important to note that the present study shows promising effects of implementing personalised and comprehensive value-based interventions supported by digital solutions, which may be a viable strategy to reverse this condition and improve patient outcomes. In conclusion, the results of the implementation of the ValueCare approach highlight the need to assess and address frailty from a multidimensional, comprehensive, and personalised value-based approach to reverse and curb this syndrome, considering that it is one of the most prevalent conditions with the greatest impact on the health of older people. To date, the identification, treatment, and prevention of frailty represents a challenge for health and social systems, due to its multidimensionality and the need to implement effective responses from a biopsychosocial approach and not only a unidimensional one based on attention to physical condition. From a practical point of view, this innovative value-based programme supported by digital solutions can be used as an effective alternative to other programmes (classical multicomponent exercise programmes and unidimensional programmes based on

Fried's physical phenotype) to optimise improvements in frailty syndrome, well-being, and quality of life in the older population. Finally, improving patient health outcomes in relation to the cost of care is a concern expressed by all stakeholders in the healthcare system, including providers, patients, researchers, and governmental organisations; therefore, more studies are needed that advocate the implementation of value-based care approaches with a large sample and that also consider follow-up beyond the end of the intervention period and thus can confirm and extend the findings of this study.

Author Contributions

T.A.-B., J.G.-F. and M.F.-S. contributed to the conception and design of the project; M.F.-S. contributed to the data acquisition; T.A.-B. and M.F.-S. contributed to the analysis and interpretation of the data; M.F.-S. and T.A.-B. drafted the article. All authors have read and agreed to the published version of the manuscript.

Funding

This article's preparation received funding from an FPU (Formación de Profesorado Universitario) contract from the Spanish Ministry of Universities with the reference FPU19/04167 and from the H2020 programme of the European Commission (875215).

Institutional Review Board Statement

This study was approved on 7 May 2020 by the Institutional Review Board (IRB) at the University of Valencia.

Informed Consent Statement

Informed consent was obtained in digital or paper format from all subjects who participated in the study.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Acknowledgments

We would like to thank all participating older persons and all organisations and professionals involved in this study.

Conflicts of Interest

The authors have no conflicts of interest to declare. All co-authors have seen and agree with the contents of the manuscript. We certify that the submission is original work and is not under review with any other publisher.

References

Grundy, E.M.; Murphy, M. Population ageing in Europe. In *Oxford Textbook of Geriatric Medicine;* Oxford University Press: Oxford, UK, **2017;** pp. 11–18. [Google Scholar]

Ofori-Asenso, R.; Zomer, E.; Curtis, A.J.; Zoungas, S.; Gambhir, M. Measures of Population Ageing in Australia from 1950 to 2050. *J. Popul. Ageing* **2017,** 11, 367–385. [Google Scholar] [CrossRef]

United Nations. World Population Prospects 2022; Department of Economic and Social Affairs, Population Division, The United Nations: New York, NY, USA, 2022. [Google Scholar]

EUROSTAT. *Population Structure and Ageing.* **2019.** Available online: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_structure_and_ageing/pt (accessed on 3 April 2024).

Franse, C.B.; van Grieken, A.; Alhambra-Borras, T.; Valia-Cotanda, E.; van Staveren, R.; Rentoumis, T.; Markaki, A.; Bilajac, L.; Marchesi, V.V.; Rukavina, T.; et al. The effectiveness of a coordinated preventive care approach for healthy ageing (UHCE) among older persons in five European cities: A pre-post controlled trial. *Int. J. Nurs. Stud.* **2018,** 88, 153–162. [Google Scholar] [CrossRef]

Cristea, M.; Noja, G.G.; Stefea, P.; Sala, A. El impacto del envejecimiento de la población y el apoyo a la salud pública en los mercados laborales de la UE. *Int. J. Environ. Res. Public Health* **2020,** 17, 1439. [Google Scholar] [CrossRef] [PubMed]

Officer, A.; Thiyagarajan, J.A.; Schneiders, M.L.; Nash, P.; de la Fuente-Núñez, V. Ageism, Healthy Life Expectancy and Population Ageing: How Are They Related? *Int. J. Environ. Res. Public Health* **2020,** 17, 3159. [Google Scholar] [CrossRef]

Knežević, B.; Marinković, V. Quality improvement in healthcare: Towards to integrated care models in EU. Tehnika **2019,** 74, 147–151. [Google Scholar] [CrossRef]

Beswick, A.D.; Gooberman-Hill, R.; Smith, A.; Wylde, V.; Ebrahim, S. Maintaining independence in older people. *Rev. Clin. Gerontol.* **2010,** 20, 128–153. [Google Scholar] [CrossRef]

Hoogendijk, E.O.; Afilalo, J.; Ensrud, K.E.; Kowal, P.; Onder, G.; Fried, L.P. Frailty: Implications for clinical practice and public health. *Lancet* **2019,** 394, 1365–1375. [Google Scholar] [CrossRef] [PubMed]

Pérez-Ros, P.; Vila-Candel, R.; López-Hernández, L.; Martínez-Arnau, F.M. Nutritional status and risk factors for frailty in community-dwelling older people: A cross-sectional study. Nutrients **2020,** 12, 1041. [Google Scholar] [CrossRef]

Cluley, V.; Martin, G.; Radnor, Z.; Banerjee, J. Talking about frailty: The relationship between precarity and the fourth age in older peoples' constructions of frailty. *J. Aging Stud.* **2021,** 58, 100951. [Google Scholar] [CrossRef]

Cluley, V.; Martin, G.; Radnor, Z.; Banerjee, J. Talking about frailty: Health professional perspectives and an ideological dilemma. *Ageing Soc.* **2021,** 42, 204–222. [Google Scholar] [CrossRef]

Fried, L.; Tangen, C.; Walston, J.; Newman, A.B.; Hirsch, C.; Gottdiener, J.; Seeman, T.; Tracy, R.; Kop, W.J.; Burke, G. Fragilidad en adultos mayores: Evidencia de un fenotipo. *J. Gerontol. Ser. A Biol. Med. Sci.* **2001,** 56, M146–M157. [Google Scholar] [CrossRef]

Kim, D. Measuring frailty in health care databases for clinical care and research. *Ann. Geriatr. Med. Res.* **2020,** 24, 62–74. [Google Scholar] [CrossRef]

Adja, K.Y.C.; Lenzi, J.; Sezgin, D.; O'Caoimh, R.; Morini, M.; Damiani, G.; Buja, A.; Fantini, M.P. The Importance of Taking a Patient-Centered, Community-Based Approach to Preventing and Managing Frailty: A Public Health Perspective. *Front. Public Health* **2020,** 8, 599170. [Google Scholar] [CrossRef] [PubMed]

Cella, A.; Veronese, N.; Pomata, M.; Quispe Guerrero, K.L.; Musacchio, C.; Senesi, B.; Prete, C.; Tavella, E.; Zigoura, E.; Siri, G.; et al. Multidimensional Frailty Predicts Mortality Better than Physical Frailty in Community-Dwelling Older People: A Five-Year Longitudinal Cohort Study. *Int. J. Environ. Res. Public Health* **2021,** 18, 12435. [Google Scholar] [CrossRef]

Sutton, J.L.; Gould, R.L.; Daley, S.; Coulson, M.C.; Ward, E.V.; Butler, A.M.; Nunn, S.P.; Howard, R.J. Psychometric properties of multicomponent tools designed to assess frailty in older adults: A systematic review. *BMC Geriatr.* **2016,** 16, 55. [Google Scholar] [CrossRef] [PubMed]

Wleklik, M.; Uchmanowicz, I.; Jankowska, E.A.; Vitale, C.; Lisiak, M.; Drozd, M.; Pobrotyn, P.; Tkaczyszyn, M.; Lee, C. Multidimensional approach to frailty. *Front. Psychol.* **2020,** 11, 564. [Google Scholar] [CrossRef] [PubMed]

Valencia-Mayer, C. Atención en salud basada en el valor: Retos y oportunidades. *Rev. Salud Bosque* **2019,** 9, 35–46. [Google Scholar] [CrossRef]

van Staalduinen, D.J.; van den Bekerom, P.; García-García, A.; Arias, A.; Aguilar, A.; van den Akker-van Marle, M.E. La implementación de la atención médica basada en el valor: Una revisión del alcance. *Serv. Salud BMC Res.* **2022,** 22, 270. [Google Scholar]

Fürstenau, D.; Haneke, H.; Spies, C.; Walz, T.; Schewina, K.; Höft, M.; Mörgeli, R.; Balzer, F. Abordar la carga de la fragilidad con un enfoque integrador basado en valores: Resultados de un estudio de métodos mixtos. *J. Public Health* **2022,** 30, 99–110. [Google Scholar] [CrossRef]

Gobbens, R.J.; Uchmanowicz, I. Evaluación de la fragilidad con el Indicador de fragilidad de Tilburg (TFI): Una revisión de la confiabilidad y la validez. *Clin. Interv. Aging* **2021,** 16, 863–875. [Google Scholar] [CrossRef]

Kojima, G.; Aoyama, R.; Tanabe, M. Associations between social isolation and physical frailty in older adults: A systematic review and meta-analysis. *J. Am. Med. Dir. Assoc.* **2022,** 23, e3–e6. [Google Scholar] [CrossRef]

Gardiner, C.; Geldenhuys, G.; Gott, M. Interventions to Reduce Social Isolation and Loneliness among Older People: An Integrative Review. *Health Soc. Care Community* **2018,** 26, 147–157. [Google Scholar] [CrossRef]

De Jong Gierveld, J.; Fokkema, T. Strategies to prevent loneliness. In *Addressing Loneliness;* Taylor and Francis: London, UK, **2015;** pp. 218–230. [Google Scholar]

Bischof, G.; Bischof, A.; Rumpf, H.J. Motivational Interviewing: An Evidence-Based Approach for Use in Medical Practice. *Dtsch. Arztebl. Int.* **2021,** 118, 109–115. [Google Scholar] [CrossRef] [PubMed]

Chen, Y.-R.R.; Schulz, P.J. The effect of information communication technology interventions on reducing social isolation in the elderly: A systematic review. *J. Med. Internet Res.* **2016,** 18, e18. [Google Scholar] [CrossRef] [PubMed]

Chen, A.T.; Ge, S.; Cho, S.; Teng, A.K.; Chu, F.; Demiris, G.; Zaslavsky, O. Reactions to COVID-19, Information and Technology Use, and Social Connectedness among Older Adults with Pre-Frailty and Frailty. *Geriatr. Nurs.* **2021,** 42, 188–195. [Google Scholar] [CrossRef]

Fernández-Salido, M.; Alhambra-Borrás, T.; Garcés-Ferrer, J. Implementation of a Comprehensive and Personalised Approach for Older People with Psychosocial Frailty in Valencia (Spain): Study Protocol for a Pre–Post Controlled Trial. *Int. J. Environ. Res. Public Health* **2024,** 21, 715. [Google Scholar] [CrossRef] [PubMed]

Gobbens, R.J.; van Assen, M.A.; Luijkx, K.G.; Wijnen-Sponselee, M.T.; Schols, J.M. The Tilburg Frailty Indicator: Psychometric properties. *J. Am. Med. Dir. Assoc.* **2010,** 11, 344–355. [Google Scholar] [CrossRef]

Katzan, I.; Lapin, B. Escala PROMIS GH (sistema de información de medición de resultados informados por el paciente en salud global) en accidentes cerebrovasculares: Un estudio de validación. Stroke **2018,** 49, 147–154. [Google Scholar] [CrossRef]

Hays, R.D.; Spritzer, K.L.; Thompson, W.W.; Cella, D. US general population estimate for “excellent” to “poor” self-rated health item. *J. Gen. Intern. Med.* **2015,** 30, 1511–1516. [Google Scholar] [CrossRef]

Hughes, M.; Waite, L.; Hawkley, L.; Cacioppo, J. A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Res. Aging* **2004,** 26, 655–672. [Google Scholar] [CrossRef]

Trucharte, A.; Calderón, L.; Cerezo, E.; Contreras, A.; Peinado, V.; Valiente, C. Three-item loneliness scale: Psychometric properties and normative data of the Spanish version. *Curr. Psychol.* **2023,** 42, 7466–7474. [Google Scholar] [CrossRef]

Herdman, M.; Gudex, C.; Lloyd, A.; Janssen, M.F.; Kind, P.; Parkin, D.; Bonsel, G.; Badia, X. Development and preliminary testing of the new five-level version of EQ-5D (EQ-5D-5L). *Qual. Life Res.* **2011,** 20, 1727–1736. [Google Scholar] [CrossRef] [PubMed]

Mthembu, T.; Abdurahman, I.; Ferus, L.; Langenhoven, A.; Sablay, S.; Sonday, R. Older adults' perceptions and experiences regarding leisure participation and leisure. *Afr. J. Phys. Health Educ. Recreat. Danc.* **2015,** 21, 215–235. [Google Scholar]

Yáñez-Yáñez, R.; Draguicevic, N.M.A. Older people and their incorporation into new technologies, shows their resilience and defeat of old-fashioned stereotypes. *Rev. Medica Chile* **2021,** 149, 1097–1109. [Google Scholar] [CrossRef] [PubMed]

Moreno-Aguilar, M.; Garcia-Lara, J.M.A.; Aguilar-Navarro, S.; Navarrete-Reyes, A.P.; Amieva, H.; Avila-Funes, J.A. The phenotype of frailty and health-related quality of life. *J. Frailty Aging* **2013,** 2, 2–7. [Google Scholar] [CrossRef]

Wang, X.; Hu, J.; Wu, D. Risk factors for frailty in older adults. Medicine **2022,** 101, e30169. [Google Scholar] [CrossRef] [PubMed]

Kojima, G.; Liljas, A.; Iliffe, S. Frailty syndrome: Implications and challenges for health care policy. *Risk Manag. Healthc. Policy* **2019,** 12, 23–30. [Google Scholar] [CrossRef]

Pilotto, A.; Custodero, C.; Maggi, S.; Polidori, M.C.; Veronese, N.; Ferrucci, L. A multidimensional approach to frailty in older people. *Ageing Res. Rev.* **2020,** 60, 101047. [Google Scholar] [CrossRef]

Veronese, N.; Custodero, C.; Cella, A.; Demurtas, J.; Zora, S.; Maggi, S.; Barbagallo, M.; Sabbà, C.; Ferrucci, L.; Pilotto, A. Prevalence of multidimensional frailty and pre-frailty in older people in different settings: A systematic review and meta-analysis. *Ageing Res. Rev*. **2021,** 72, 101498. [Google Scholar] [CrossRef]

Dent, E.; Martin, F.C.; Bergman, H.; Woo, J.; Romero-Ortuno, R.; Walston, J.D. Management of frailty: Opportunities, challenges, and future directions. *Lancet* **2019,** 394, 1376–1386. [Google Scholar] [CrossRef]

Huguet, L.G.; González, M.N.; Kostov, B.; Carmona, M.O.; Francia, C.C.; Nieto, M.C.; Docón, A.H.; Sauquet, R.V.; Prado, R.G.; Sisó-Almirall, A. Pre frail 80: Multifactorial intervention to prevent progression of pre-frailty to frailty in the elderly. *J. Nutr. Health Aging* **2018,** 22, 1266–1274. [Google Scholar] [CrossRef]

Seino, S.; Nishi, M.; Murayama, H.; Narita, M.; Yokoyama, Y.; Nofuji, Y.; Taniguchi, Y.; Amano, H.; Kitamura, A.; Shinkai, S. Effects of a multifactorial intervention comprising resistance exercise, nutritional and psychosocial programs on frailty and functional health in community-dwelling older adults: A randomized, controlled, cross-over trial. Geriatr. Gerontol. Int. **2017,** 17, 2034–2045. [Google Scholar] [CrossRef] [PubMed]

Romera-Liebana, L.; Orfila, F.; Segura, J.M.; Real, J.; Fabra, M.L.; Möller, M.; Lancho, S.; Ramirez, A.; Marti, N.; Cullell, M.; et al. Effects of a primary care-based multifactorial intervention on physical and cognitive function in frail, elderly individuals: A randomized controlled trial. *J. Gerontol. Ser. A* **2018,** 73, 1668–1674. [Google Scholar] [CrossRef]

Kapan, A.; Winzer, E.; Haider, S.; Titze, S.; Schindler, K.; Lackinger, C.; Dorner, T.E. Impact of a lay-led home-based intervention programme on quality of life in community-dwelling pre-frail and frail older adults: A randomized controlled trial. *BMC Geriatr.* **2017,** 17, 154. [Google Scholar] [CrossRef]

Werner, C.; Wolf-Belala, N.; Nerz, C.; Abel, B.; Braun, T.; Grüneberg, C.; Thiel, C.; Büchele, G.; Muche, R.; Hendlmeier, I.; et al. A multifactorial interdisciplinary intervention to prevent functional and mobility decline for more participation in (pre-) frail community-dwelling older adults (PromeTheus): Study protocol for a multicenter randomized controlled trial. *BMC Geriatr.* **2022,** 22, 124. [Google Scholar] [CrossRef] [PubMed]

Theou, O.; Park, G.H.; Garm, A.; Song, X.; Clarke, B.; Rockwood, K. Reversing frailty levels in primary care using the CARES model. *Can. Geriatr. J.* **2017,** 20, 105–111. [Google Scholar] [CrossRef]

Fairhall, N.; Sherrington, C.; Kurrle, S.E.; Lord, S.R.; Lockwood, K.; Howard, K.; Hayes, A.; Monaghan, N.; Langron, C.; Aggar, C.; et al. Economic evaluation of a multifactorial, interdisciplinary intervention versus usual care to reduce frailty in frail older people. *J. Am. Med. Dir. Assoc.* **2015,** 16, 41–48. [Google Scholar] [CrossRef] [PubMed]

5.1. Otras contribuciones

Durante el desarrollo de esta tesis, se desarrollaron y fueron publicados simultáneamente otros resultados para maximizar el impacto alcanzado.

1. La doctoranda colaboró, constando como segunda autora, en la publicación científica titulada "The Risk of Household Socioeconomic Deprivation Related to OlderLong-Term Care Needs: A Qualitative Exploratory Study in Italy and Spain", publicada en la revista Sustainabilidad de la editorial MDPI en el año 2023. Detalles: https://doi.org/10.3390/su152015031.

2. La doctoranda colaboró, constando como cuarta autora, en la publicación científica titulada "Health Access, Health Promotion, and Health Self-Management: Barriers When Building Comprehensive Ageing Communities", publicada en la International Journal of Environmental Research and Public Health de la editorial MDPI en el año 2023. Detalles: https://doi.org/10.3390/ijerph20196880

3. La doctoranda presentó, como representante del Piloto Español del proyecto ValueCare, una comunicación en el marco del workshop titulado "Boosting digitally enabled, value-based, integrated health and social care for older adultsacroos Europe"en la 22nd International Conference on Integrated Care (ICIC22) en el año 2022. Detalles: https://ijic.org/articles/10.5334/ijic.ICIC22439

4. La doctoranda presentó una comunicación titulada "Social work and motivational interviewing: an innovative approach to foster social participation among older adults experiencing loneliness" en la European Social Work Conference (IFSW) en el año 2023.

5. La doctoranda presentó una comunicación titulada "The ValueCareproject: A model of comprehensive and personalized care to improve the quality of life and care of frail older people" en la 3rd International Conference on Cognitive and Behavioural neurosciences en el año 2023.

6. La doctoranda presentó un poster oral titulado "Empowering Change: The Impact of Motivational Interviewing on Reducing Frailty Among Older Adults" en la 24th la International Conderence on Integrated Care (ICIC24) en el año 2024.

7. Conclusiones

Cómo se ha anticipado, las próximas décadas estarán marcadas por un aumento progresivo del envejecimiento. Este aumento conducirá a su vez a un incremento de la fragilidad y de las necesidades de CLD, lo que acarreará una demanda sin precedentes de los servicios sociales y sanitarios para la población mayor (Bock et al., 2016; Salinas-Rodríguez et al., 2019; Hernández-Gómez et al., 2021). La evidencia constata que los años adicionales vividos a partir de los 65 años van acompañados de una disminución de la capacidad y la independencia (Kingston et al.,2017), lo que acarreará múltiples repercusiones para las personas, las familias y los sistemas sanitarios (World Health Organization, 2015), siendo una de las principales el aumento de los costes y del uso de los servicios sanitarios y sociales (Bock et al., 2016; Liotta et al., 2019).

Pese a estos retos, el aumento de la longevidad y el envejecimiento poblacional supone uno de los grandes logros alcanzados y las amplias contribuciones que las personas mayores pueden aportar a la sociedad, requieren un envejecimiento activo y saludable (Pola et al., 2022). Por ello, la finalidad de esta tesis ha radicado en proporcionar evidencia científica que apoye la adecuada transformación de los sistemas sanitarios ante los nuevos requerimientos de la población. Se precisan enfoques sanitarios centrados en la prevención en lugar de en la gestión de las enfermedades y, en este sentido, la atención de la fragilidad basada en el valor busca prevenir el riesgo de presentar fragilidad y revertir la condición en quienes la presentan, con un enfoque centrado en la calidad de la atención, en lugar de en la cantidad de procedimientos asistenciales proporcionados.

La fragilidad es una condición/síndrome multifacética y dinámica que antecede a la discapacidad, siendo esta uno de sus principales resultados adversos para la salud (Galluzo et al., 2023). Por su parte, la discapacidad se define como la dificultad o dependencia para llevar a cabo las actividades de la vida diaria (AVD) (Jauregui y Rubin, 2012; Almenaras et al., 2021). Así, partiendo de la premisa de que la fragilidad es un síndrome prevenible, tratable y reversible, es fundamental atraer los recursos necesarios para llevar a cabo acciones que beneficien tanto a las personas más vulnerables como a la sociedad en su conjunto (Pola et al., 2022). Si abordando la fragilidad reducimos el riesgo de que se produzcan ortos resultados adversos, es esencial identificar las acciones más eficaces para tal termino.

Los sistemas sanitarios de todo el mundo están adoptando de forma progresiva una agenda de atención de la salud basada en el valor, con el propósito de lograr un entorno de prestación de atención más centrado en el paciente y, en este contexto, los responsables de políticas deben aunar sus esfuerzos, para instituir una cultura basada en el valor entre los proveedores, que impulse la implementación de la Atención Sanitaria basada en el valor.

La presente tesis doctoral ha abordado algunos de los desafíos más importantes asociados al crecimiento progresivo de personas mayores, así como su mayor longevidad, como es el caso de los cuidados de larga duración prestados a las personas mayores en situación de dependencia (Regueiro-Ons y López-Valcárcel, 2023). Las previsiones prevén aumentos sustanciales en los requerimientos de atención que ponen en peligro la sostenibilidad socioeconómica de las familias. Los cambios demográficos ligados a la disminución de las tasas de fecundidad están limitando la capacidad de las familias para atender las necesidades de dependencia, especialmente en aquellos países donde los CLD se atienden fundamentalmente en el marco del sistema familiar (Yakita, 2020). A través de un enfoque cualitativo de carácter comparativo, en Fernández-Salido et al., (2022) se presenta un análisis exhaustivo, que culmina en un marco general sobre las características de las políticas y acciones activas implementadas en Europa, focalizadas en paliar los efectos sociales y económicos, derivados de la prestación de cuidados de larga duración que brindan las familias.

En segundo lugar, dada la necesidad apremiante de adoptar un modelo de sistema sanitario sostenible, donde la consecución de resultados se alinee con las expectativas de los pacientes y una relación optima de los costos, se ofrece en Fernández-Salido et al. (2024a) una revisión exploratoria sobre el Modelo de Atención basado en el Valor que culmina en un marco de conocimiento global sobre la definición, los elementos y eficacia de este enfoque, permitiendo esclarecer la falta de consenso en su definición y reducir la brecha de conocimiento sobre los efectos positivos de su implementación, dada la escasez de estudios previos que evalúen minuciosamente las estrategias implementadas.

Por último y en base a los hallazgos anteriormente citados, se presentan en Fernández-Salido et al. (2024b) y Fernández-Salido et al. (2024c) el diseño, la implementación y evaluación de un programa en el marco de la atención basada en el valor, de carácter integral, personalizado y apoyado por soluciones tecnológicas, para abordar a la fragilidad multidimensional en población mayor. Estos últimos estudios pretenden cerrar una brecha en la literatura académica, proporcionando un marco teórico basado en la evidencia científica, que pueda servir como punto de partida para futuras investigaciones en esta área de estudio.

A partir de la exposición de las conclusiones alcanzadas tras el desarrollo de los 4 manuscritos que compendian esta investigación, se presenta en última instancia la correlación entre las hipótesis y los objetivos, esclareciendo si dichas hipótesis han sido confirmadas o refutadas.

Estudio 1. Innovating European Long-Term Care policies through the Socio-Economic support of families: a lesson from practices

Objetivo 1: Identificar y analizar, mediante metodologías cualitativas, el contexto europeo en torno a las políticas y características innovadoras de apoyo a las condiciones de privación socioeconómicas que experimentan las personas mayores y sus familias, como consecuencia de la prestación de cuidados de larga duración a población mayor en situación de dependencia.

Se confirma la hipótesis 1. Tras realizar el análisis comparativo de las características de innovación social, presentes en las políticas europeas activas, para contrarrestar el riesgo de privación socioeconómica de las personas mayores y sus familias, se confirma la carencia de políticas que contemplan simultáneamente el apoyo social y económico, siendo las mismas, medidas recientes, al haberse activado la política o incorporado el carácter innovador a una ya existente, mayoritariamente en las últimas tres décadas. Se confirma asimismo la existencia de una variabilidad notoria entre las políticas de los diferentes países, dependiente del régimen de bienestar europeo al que pertenezca el país.

Estudio 2. Value-based healthcare delivery: A scoping review

Objetivo 2: Explorar y sintetizar la evidencia científica, a través de una revisión bibliográfica de alcance, en torno a la atención basada en el valor, su conceptualización y resultados de la implementación en el contexto de la atención sanitaria, informando cómo estos pueden contribuir a mejorar la eficiencia y la sostenibilidad del sistema público de atención sanitaria.

Se confirma la hipótesis 2. Los resultados muestran cierta unanimidad en la definición de la atención basada en el valor, lo cual es menos visible al considerar los elementos clave para garantizar la eficacia en la implementación. Sumada a la falta de consenso en la conceptualización se observa un número reducido de estudios que evalúen la implementación del modelo y, sin embargo, los estudios analizados, reportan resultados positivos de la implementación de VBHC dentro del sistema de atención médica.

Estudio 3. Implementation of a Comprehensive and Personalised Approach for Older People with Psychosocial Frailty in Valencia (Spain): Study Protocol for a Pre-Post Controlled Trial

Estudio 4. Efficacy of a comprehensive and personalized approach for frail older people in Valencia (Spain): a pre-post controlled trial

Objetivo 3: Evaluar un programa de atención integral y personalizado basado en el valor, ValueCare, para abordar el carácter multidimensional de la fragilidad en el adulto mayor que vive en la comunidad.

Se confirma parcialmente la hipótesis 3. Los resultados sobre los análisis estadísticos de la fragilidad mostraron mejoras estadísticamente significativas para la fragilidad física y otras variables como la calidad de vida, la reducción del uso de recursos sanitarios y hospitalizaciones, y niveles más bajos de dolor y depresión/ansiedad en comparación con la línea de base. Pese a estos resultados no se hallaron mejoras estadísticamente significativas para los dominios psicológico y social de la fragilidad.

8. Limitaciones y futuras líneas de investigación

El trabajo de investigación aquí presentado engloba diferentes estudios que presentan algunas limitaciones de carácter metodológico. Con respecto al Análisis Cualitativo Comparativo de las políticas y/o acciones implementadas en el contexto europeo, para paliar el riesgo de privación socioeconómica derivada de la provisión de CLD, hayamos diferencias contextuales en el abordaje de los cuidados de larga duración según el país y especialmente el régimen de bienestar. Esto se tradujo en la inexistencia de un marco de clasificación internacional y por ende la falta de un sistema de codificación estándar de las políticas y/o iniciativas identificadas, dificultando la comparación. Pese a que la estrategia de búsqueda fue minuciosa y abarco múltiples pasos para reducir el riesgo de no encontrar datos, incluyéndose la literatura gris como fuente de documentación aceptada en el presente estudio, la disponibilidad y calidad de los datos fue otra limitación dadas las dificultades para encontrar datos declarados o actualizados sobre algunas medidas innovadoras, como por ejemplo, sobre las prestaciones económicas cuya función social es proporcionar apoyo económico a la persona cuidadora en el entorno familiar y garantizar que las personas en situación de dependencia puedan permanecer en su núcleo de convivencia. Por último, se pueden destacar limitaciones referentes al investigador relativas a la falta de acceso a personas, en este caso expertos, que ratificasen las iniciativas identificadas.

Por lo que refiere a la revisión de alcance entorno al enfoque de Atención Sanitaria Basada en el Valor, también cabe destacar algunas limitaciones metodológicas relacionadas con el tamaño de la muestra y los criterios de elegibilidad, que hacen que los resultados sean menos generalizables. En este sentido, la búsqueda se limitó a identificar estudios enmarcados en un espacio temporal concreto y un idioma que no difiriese del español o el inglés, lo que dejo necesariamente de lado literatura rica sobre la conceptualización y evaluación de estrategias basadas en el valor y puede haber causado un sesgo por países. Por otro lado, la inclusión mayoritaria de estudios de índole cualitativa, limita la generalización de los resultados ya que los mismos se basan en información subjetiva derivada de las experiencias narradas por los profesionales socio-sanitarios, aspecto que no garantiza objetivamente la efectividad de los enfoques basados en el valor implementados.

Por último, el estudio relativo a la implementación y evaluación de un programa personalizado e integral basado en el valor, para mejorar la fragilidad de las personas mayores residentes en la comunidad en la ciudad de Valencia (España), tampoco estuvo exento de limitaciones. Así, cabe destacar la restringida capacidad de comparabilidad de los resultados hallados dada la escasez de estudios similares. En este sentido, cabe la posibilidad, como sugieren otros autores de que los resultados sean específicos de cada contexto y por consiguiente sería necesario una validación adicional para extrapolar los resultados de este estudio a otras poblaciones (Cucino et al., 2022). Además, se requiere que, en futuros estudios, investigadores de otros países adopten el mismo enfoque. Asimismo, los estudios existentes presentan insuficiencias en el tamaño la muestra o en el tratado de la misma. Los estudios que no utilizan la aleatorización limitan la representatividad y generalización, lo que precisa de más ensayos controlados para facilitar la comparabilidad (Lee et al., 2020; Fürstenau et al., 2022).

9. Recomendaciones para los sistemas de salud

En España, según las proyecciones demográficas disponibles, la inflexión demográfica y el envejecimiento poblacional determinaran notorios incrementos del gasto público sanitario ante un aumento continuado de la población mayor de 65 años y por ende una mayor presencia del síndrome de fragilidad, discapacidad y morbimortalidad. Dado que la fragilidad responde a un síndrome que antecede a la discapacidad y permite la identificación de individuos con mayor riesgo de sufrir episodios adversos para la salud, como la dependencia, institucionalización, caídas y hospitalización, entre otros, es imprescindible fomentar la investigación para determinar y establecer las intervenciones más efectivas en términos de diagnosticar e intervenir la fragilidad. A este respecto, la investigación actual ha evidenciado que para el abordaje efectivo de la fragilidad cabe considerar una perspectiva basada en el valor, con carácter integral y centrada en el paciente, que tenga en cuenta la relación optima entre los resultados para el paciente y los costos del ciclo de atención (Fürstenau et al., 2022). En base a este trabajo, se proporcionan a continuación algunas recomendaciones útiles para los sistemas públicos de salud:

Como se ha adelantado, es primordial proporcionar servicios integrales y personalizados que aborden la provisión de atención social y sanitaria desde una perspectiva basada en el valor. Esto incluye que:

- El objetivo principal de la prestación de los servicios de salud debe radicar en lograr mejores resultados de salud para las personas manteniendo una relación óptima con los costes. En lugar de centrar la efectividad del sistema exclusivamente en la cantidad de servicios prestados, la ASBV se centra de manera simultánea en la calidad de la atención y los resultados alcanzados para el paciente.

- La atención debe organizarse en base a unidades integradas de acuerdo al diagnóstico del paciente y los ciclos propios de las enfermedades. En este sentido, los proveedores de la atención médica y social deben trabajar conjuntamente para abordar las necesidades del paciente desde una perspectiva holística, teniendo en cuenta: necesidades físicas, psicológicas y sociales de una persona.

- Se debe utilizar un conjunto estándar de resultados y medidas de salud centradas en el paciente y basados en el valor. En esta línea, el conjunto de estándares ICHOM permiten medir el valor de la atención sanitaria, al haber desarrollado un conjunto estándar global de medidas de resultados, para la evaluación integral de la población mayor.

- El paciente se sitúa en el centro de la atención, siendo un participante activo en todo el proceso asistencial. Se deben priorizar las necesidades y percepciones del paciente, mediante la implementación de un proceso de toma de decisiones compartidas basado en el co-diseño. Este proceso implica la co-creación en el diseño del plan de atención del paciente, donde el profesional sociosanitario tienen la responsabilidad de informar y empoderar al paciente, para que este tome decisiones informadas siendo consciente de los riesgos y beneficios de las opciones de tratamiento disponibles. La toma de decisiones, supone así un acto de carácter simétrico en la diada profesional-paciente, en la que ambos son sujetos activos. El profesional invitará al paciente a expresar sus necesidades, inquietudes y preferencias, en términos de elaborar un plan de atención personalizado basado en la corresponsabilidad.

Pese a las premisas anteriormente mencionadas, potenciar la transformación del modelo actual basado en el volumen hacia un modelo basado en el valor, requerirá, en primer lugar, que los gobiernos desarrollen políticas que apoyen la atención sanitaria basada en el valor y fomenten la investigación en curso y, en segundo lugar, que los proveedores del sistema de atención social y sanitario se formen para poseer el conocimiento necesario que les permita tomar consciencia e impulsar el cambio.

10. Referencias bibliográficas

Abdalla, M. M., Oliveira, L. G. L., Azevedo, C. E. F., & Gonzalez, R. K. (2018). Quality in qualitative organizational research: Types of triangulation as a methodological alternative. Administracao Ensino E Pesquisa, 19 (1), 66–98.

Acosta-Benito, M. Á., & Martín-Lesende, I. (2022). Fragilidad en atención primaria: diagnóstico y manejo multidisciplinar. *Atención Primaria, 54* (9), 102395.

Afilalo, J. (2016). Conceptual models of frailty: the sarcopenia phenotype. *Can. J. Cardiol.* 32, 1051–1055. doi: 10.1016/j.cjca.2016.05.017.

Agost Felip, M. R., Martín Alfonso, L., & Moreno Sandoval, A. (2021). Políticas públicas sobre envejecimiento poblacional promulgadas en el contexto internacional, europeo y español entre 1982-2017. *Revista Cubana de Salud Pública, 47*(1).

Alhambra-Borrás, T., Durá-Ferrandis, E., & Ferrando-García, M. (2019). Effectiveness and estimation of cost-effectiveness of a group-based multicomponent physical exercise programme on risk of falling and frailty in community-dwelling older adults. *International journal of environmental research and public health, 16*(12), 2086.

Alonso Galbán, P., Sansó Soberats, F. J., Díaz-Canel Navarro, A. M., Carrasco García, M., & Oliva, T. (2007). Envejecimiento poblacional y fragilidad en el adulto mayor. *Revista cubana de salud pública, 33*(1), 0-0.

Alpízar, L. M. A. (2009). Interdisciplinariedad y triangulación en ciencias sociales. *Diálogos revista electrónica de Historia, 10*(1), 120-136.

Ardoy, L., Pasadas, S., & Ruiz, J. (2004). La triangulación metodológica en el ámbito de la investigación social: dos ejemplos de uso. *Instituto de Estudios Sociales de Andalucía (IESA/CSIC). Departamento de Estudios telefónicos (España).*

Arsenijevic, J., Pavlova, M., Rechel, B., & Groot, W. (2016). Catastrophic health care expenditure among older people with chronic diseases in 15 European countries. *PloS one, 11*(7), e0157765.

Bagur-Pons, S., Rosselló-Ramon, M. R., Paz-Lourido, B., & Verger, S. (2021). Integrative approach of mixed methodology in educational research. *Relieve, 27*(1), 1-21.

Barrubés, J. O. A. N., Honrubia, L. A. D. I. S. L. A. O., De Vicente, M. A. R. T. A., Nake, A. L. M. U. D. E. N. A., Sopeña, L. A. U. R. A., Vilardell, C. A. R. L. E. S., ... & Portella, E. D. U. A. R. D. (2019). Value-Based Healthcare. De la Teoría a la Acción; Antares Consulting: Barcelona, Spain.

Belachew, A., Cherbuin, N., Bagheri, N., & Burns, R. (2024). A Systematic Review and Meta-analysis of the Socioeconomic, Lifestyle, and Environmental Factors Associated with Healthy Ageing in Low and Lower-Middle-Income Countries. *Journal of Population Ageing,* 1-23.

Benavides, M. O., & Gómez-Restrepo, C. (2005). Métodos en investigación cualitativa: triangulación. *Revista colombiana de psiquiatría, 34*(1), 118-124.

Bloom, D. E., Chatterji, S., Kowal, P., Lloyd-Sherlock, P., McKee, M., Rechel, B., ... & Smith, J. P. (2015). Macroeconomic implications of population ageing and selected policy responses*. The Lancet,* 385(9968), 649-657.

Bock, J. O., König, H. H., Brenner, H., Haefeli, W. E., Quinzler, R., Matschinger, H., ... & Heider, D. (2016). Associations of frailty with health care costs–results of the ESTHER cohort study. *BMC health services research, 16*, 1-11.

Brinkman, S., Voortman, T., Kiefte-de Jong, J. C., van Rooij, F. J., Ikram, M. A., Rivadeneira, F., ... & Schoufour, J. D. (2018). The association between lifestyle and overall health, using the frailty index. *Archives of gerontology and geriatrics, 76*, 85-91.

Buttery, A. K., Busch, M. A., Gaertner, B., Scheidt-Nave, C., & Fuchs, J. (2015). Prevalence and correlates of frailty among older adults: findings from the German health interview and examination survey. *BMC geriatrics, 15,* 1-9.

Cabrero, G. R., & Gallego, V. M. (2013). La atención a la dependencia en una perspectiva europea: de la asistencialización a la cuasi-universalización. In *Los Estados de bienestar en la encrucijada: políticas sociales en perspectiva comparada* (pp. 237-261). Tecnos.

Castelblanco-Toro, S. M. (2024). Longevidad: la mejor oportunidad en el siglo XXI. *Medicina, 46*(1), 242-252.

Castelblanque, E., & Cuñat, V. A. (2002). ¿Quiénes son ancianos frágiles-ancianos de riesgo? Estudio en personas mayores de 65 años del Área Sanitaria de Guadalajara (y III). *Medicina General, 45,* 443-630.

Cella, A., Veronese, N., Pomata, M., Leslie Quispe Guerrero, K., Musacchio, C., Senesi, B., ... & Pilotto, A. (2021). Multidimensional frailty predicts mortality better than physical frailty in community-dwelling older people: a five-year longitudinal cohort study. *International journal of environmental research and public health, 18*(23), 12435.

Clegg, A., Young, J., Iliffe, S., Rikkert, M. O., & Rockwood, K. (2013). Frailty in elderly people. *The lancet, 381*(9868), 752-762.

Cobacho-Salmoral, O., Parra-Martos, L., Laguna-Castro, M., & Crespo-Montero, R. (2021). Factores asociados a la fragilidad en el paciente en tratamiento renal sustitutivo con diálisis. Una revisión sistemática. *Enfermería Nefrológica, 24*(3), 233-248.

Collard, R. M., Boter, H., Schoevers, R. A., & Oude Voshaar, R. C. (2012). Prevalence of frailty in community‐dwelling older persons: a systematic review. *Journal of the american geriatrics society, 60*(8), 1487-1492.

Contel, J. C., Muntané, B., & Camp, L. (2012). La atención al paciente crónico en situación de complejidad: el reto de construir un escenario de atención integrada. *Atención Primaria, 44*(2), 107-113.

Corral-Pérez, J., Ávila-Cabeza-de-Vaca, L., González-Mariscal, A., Espinar-Toledo, M., Ponce-González, J. G., Casals, C., & Vázquez-Sánchez, M. Á. (2023). Risk and protective factors for frailty in pre-frail and frail older adults. *International journal of environmental research and public health, 20*(4), 3123.

Cortés, J. J. B., González-Montalvo, J. I., Jaurrieta, J. J. S., & Calvod, M. H. (2000). Atención sanitaria al anciano frágil: de la teoría a la evidencia científica. *Medicina clínica, 115*(18), 704-717.

Creagh Peña, M., García Ones, D., & Valdés Cruz, R. (2015). Envejecimiento poblacional como reto de la ciencia, la técnica y la sociedad. *Revista Habanera de Ciencias Médicas, 14*(6), 884-886.

Cucino, V., Lungu, D., DE ROSIS, S., & Piccaluga, A. (2022). Innovation from frailty: creating value from purpose-based innovation. *In Boosting knowledge & trust for a sustainable business* (Vol. 1, pp. 255-259). Fondazione CUEIM.

Da Mata, F. A. F., Miranda Forte Gomes, M., Lício Ferreira Santos, J., Aparecida de Oliveira Duarte, Y., & Gomes Pereira, M. (2021). Depression and frailty in older adults: A population-based cohort study. *Plos one, 16*(3), e0247766.

Değer, M. S., y İşsever, H. (2024, May). Service Quality and Related Factors in Primary Health Care Services: A Cross-Sectional Study. In *Healthcare* (Vol. 12, No. 10, p. 965). MDPI.

Dent, E., Kowal, P., & Hoogendijk, E. O. (2016). Frailty measurement in research and clinical practice: a review. *European journal of internal medicine, 31*, 3-10.

Dogan, M. y Pelassy, D. (1990) How to compare nations. Chatham (NJ). Chatam House

Elío-Calvo, D. (2021). La relación Médico Paciente. *Revista Médica La Paz, 27*(2), 92-101.

Esteban Herrera, L., & Rodríguez Gómez, J. Á. (2015). Situaciones de dependencia en personas mayores en las residencias de ancianos en España. *Ene,* 9(2), 0-0.

EUROSTAT (2019): Population projections at national level [online]. Eurostat [cit. 18.09.2019]. Available at: http://ec.europa.eu/eurostat/data/database

Fatoye, C. T., Gebrye, T., & Fatoye, F. (2022). The effectiveness of personalisation on health outcomes of older people: A systematic review. Research on *Social Work Practice, 32*(2), 146-154.

Feng, Z., Lugtenberg, M., Franse, C., Fang, X., Hu, S., Jin, C., & Raat, H. (2017). Risk factors and protective factors associated with incident or increase of frailty among community-dwelling older adults: A systematic review of longitudinal studies. *PloS one, 12*(6), e0178383.

Fernández, I., Sentandreu-Mañó, T., & Tomas, J. M. (2020). Impacto del estatus de fragilidad sobre la salud y calidad de vida en personas mayores españolas. *Atención primaria, 52*(10), 731-737.

Fernández-Salido, M., Alhambra-Borrás, T., & Garcés-Ferrer, J. (2024). Implementation of a Comprehensive and Personalised Approach for Older People with Psychosocial Frailty in Valencia (Spain): Study Protocol for a Pre–Post Controlled Trial. *International Journal of Environmental Research and Public Health, 21*(6), 715.

Fernández-Salido, M., Alhambra-Borrás, T., Casanova, G., & Garcés-Ferrer, J. (2024). Value-based healthcare delivery: A scoping review. *International Journal of Environmental Research and Public Health, 21*(2), 134.

Fhon, J. R. S., Rodrigues, R. A. P., Santos, J. L. F., Diniz, M. A., Santos, E. B. D., Almeida, V. C., & Giacomini, S. B. L. (2018). Factors associated with frailty in older adults: a longitudinal study. *Revista de saude publica, 52*, 74.

Fideli, R. (1998) La comparazione. Milán. Agneli.

Franc, R. (2018). Introduction to Triangulating Data. Understanding Youth Participation Across Europe: From Survey to Ethnography, 209-226.

Fried LP, Tangen CM, Walston J, Newman AB, Hirsch C, Gottdiener J, et al. Frailty in older adults: evidence for a phenotype. J Gerontol A Biol Sci Med Sci. 2001;56(3):M146-156.

Fried, L. P., Kronmal, R. A., Newman, A. B., Bild, D. E., Mittelmark, M. B., Polak, J. F., ... & Cardiovascular Health Study Collaborative Research Group. (1998). Risk factors for 5-year mortality in older adults: the Cardiovascular Health Study. *Jama,* 279(8), 585-592.

Fried, L. P., Tangen, C. M., Walston, J., Newman, A. B., Hirsch, C., Gottdiener, J., ... & McBurnie, M. A. (2001). Frailty in older adults: evidence for a phenotype. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences, 56*(3), M146-M157.

Frost, R., Avgerinou, C., Goodman, C., Clegg, A., Hopkins, J., Gould, R. L., ... & Walters, K. (2022). Clinical and cost-effectiveness of a personalised health promotion intervention enabling independence in older people with mild frailty ('HomeHealth') compared to treatment as usual: study protocol for a randomised controlled trial. *BMC geriatrics, 22*(1), 485.

Fürstenau, D., Haneke, H., Spies, C., Walz, T., Schewina, K., Höft, M., ... & Balzer, F. (2022). Tackling the frailty burden with an integrative value-based approach: results from a mixed-methods study. *Journal of Public Health, 1*-12.

Gagliardi, C., Piccinini, F., Lamura, G., Casanova, G., Fabbietti, P., & Socci, M. (2022). The burden of caring for dependent older people and the resultant risk of depression in family primary caregivers in Italy. *Sustainability, 14*(6), 3375.

Galluzzo, L., Noale, M., Maggi, S., Feraldi, A., Baldereschi, M., Di Carlo, A., ... & ILSA Working Group. (2023). Frailty prevalence, incidence, and association with incident disability in the Italian longitudinal study on aging. *Gerontology, 69*(3), 249-260.

García, A. A., & Catalán, C. E. (2010). Solidaridad familiar y dependencia entre las personas mayores. In *La familia ante la enfermedad* (pp. 203-226). Universidad Pontificia Comillas.

García-García, F. J., Zugasti, J. L. L., & Manas, L. R. (2011). Fragilidad: un fenotipo en revisión. *Gaceta Sanitaria, 25,* 51-58.

Gavira, S. A., & Osuna, J. B. (2015). La triangulación de datos como estrategia en investigación educativa. Pixel-bit*. Revista de medios y educación*, (47), 73-88.

Glonti, K., Cauchi, D., Cobo, E., Boutron, I., Moher, D., & Hren, D. (2019). A scoping review on the roles and tasks of peer reviewers in the manuscript review process in biomedical journals. *BMC medicine, 17,* 1-14.

Gobbens, R. J. (2018). Associations of ADL and IADL disability with physical and mental dimensions of quality of life in people aged 75 years and older. *PeerJ, 6*, e5425.

Gobbens, R. J., van Assen, M. A., Luijkx, K. G., Wijnen-Sponselee, M. T., & Schols, J. M. (2010). The Tilburg frailty indicator: psychometric properties. *Journal of the American Medical Directors Association, 11*(5), 344-355.

González Rodríguez, R., Cardentey García, J., Hernández Díaz, D. D. L. C., Rosales Álvarez, G., & Jeres Castillo, C. M. (2017). Comportamiento de la fragilidad en adultos mayores. *Revista Archivo Médico de Camagüey, 21*(4), 498-509.

Govia, I., Robinson, J. N., Amour, R., Stubbs, M., Lorenz-Dant, K., Comas-Herrera, A., & Knapp, M. (2021). Mapping long-term care in Jamaica: addressing an ageing population. *Sustainability, 13*(14), 8101.

Grant, M. J., & Booth, A. (2009). A typology of reviews: an analysis of 14 review types and associated methodologies. *Health information & libraries journal, 26*(2), 91-108.

Gray, S. L., Anderson, M. L., Hubbard, R. A., LaCroix, A., Crane, P. K., McCormick, W., ... & Larson, E. B. (2013). Frailty and incident dementia. *Journals of Gerontology Series A: Biomedical Sciences and Medical Sciences, 68*(9), 1083-1090.

Grundy, E. M., & Murphy, M. (2017). Population ageing in Europe. *Oxford textbook of geriatric medicine, 3,* 11-18.

Gu, D., Andreev, K., & Dupre, M. E. (2021). Major trends in population growth around the world. *China CDC weekly, 3*(28), 604.

Guillaumes, S., & O'Callaghan, C. A. (2019). Versión en español del software gratuito OxMaR para minimización y aleatorización de estudios clínicos. *Gaceta Sanitaria, 33*, 395-397.

Hansen, T., & Slagsvold, B. (2015). Feeling the squeeze? The effects of combining work and informal caregiving on psychological well-being. *European journal of ageing, 12*, 51-60.

Heger, D., & Korfhage, T. (2018). Care choices in Europe: to each according to his or her needs? *INQUIRY: The Journal of Health Care Organization, Provision, and Financing, 55*, 0046958018780848.

Heitmueller, A., & Inglis, K. (2007). The earnings of informal carers: Wage differentials and opportunity costs. *Journal of health economics, 26*(4), 821-841.

Hernández Gómez, M. A., Fernández Domínguez, M. J., Sánchez Sánchez, N. J., Blanco Ramos, M. Á., Perdiz Álvarez, M. C., & Castro Fernández, P. (2021). Soledad y envejecimiento. *Revista Clínica de Medicina de Familia, 14*(3), 146-153.

Hernández, C. Z. (2020). Definición de fragilidad social en personas mayores: una revisión bibliográfica. *Revista médica de Chile, 148*(12), 1787-1795.

Herrera-Perez, D., Soriano-Moreno, A. N., Rodrigo-Gallardo, P. K., & Toro-Huamanchumo, C. J. (2020). Prevalencia del síndrome de fragilidad y factores asociados en adultos mayores. *Revista Cubana de Medicina General Integral, 36*(2).

Hesse-Biber, S., & Johnson, R. B. (2013). Coming at things differently: Future directions of possible engagement with mixed methods research. *Journal of Mixed Methods Research, 7*(2), 103–109.

Hoogendijk, E. O., Afilalo, J., Ensrud, K. E., Kowal, P., Onder, G., & Fried, L. P. (2019). Frailty: implications for clinical practice and public health. *The Lancet, 394*(10206), 1365-1375

Hughes, M. E., Waite, L. J., Hawkley, L. C., & Cacioppo, J. T. (2004). A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Research on aging, 26*(6), 655-672.

Ilinca, S., Rodrigues, R., & Schmidt, A. E. (2017). Fairness and eligibility to long-term care: an analysis of the factors driving inequality and inequity in the use of home care for older Europeans. *International journal of environmental research and public health,* 14(10), 1224.

INE - Instituto Nacional de Estadística. (2024). Proyecciones de Población Años 2024-

2074. Disponible en: https://www.ine.es/dyngs/Prensa/PROP20242074.htm

Ismail, M., & Hussein, S. (2021). An evidence review of ageing, long-term care provision and funding mechanisms in Turkey: Using existing evidence to estimate long-term care cost. *Sustainability, 13*(11), 6306.

Jauregui, J. R., & Rubin, R. K. (2012). Fragilidad en el adulto mayor. *Revista del hospital italiano de Buenos Aires, 32*(3), 110-115.

Joseph, G., & Joseph, A. (2019). Exploring employment as a space of respite and resistance for family caregivers. *Health & social care in the community, 27*(6), 1481-1489.

Jung, H. W., Kim, S. W., Ahn, S., Lim, J. Y., Han, J. W., Kim, T. H., ... & Kim, C. H. (2014). Prevalence and outcomes of frailty in Korean elderly population: comparisons of a multidimensional frailty index with two phenotype models. *PloS one, 9*(2), e87958.

Karagiannidou, M., & Wittenberg, R. (2022). Social insurance for long-term care. *Journal of Population Ageing, 15*(2), 557-575.

Katzan, I. L., & Lapin, B. (2018). PROMIS GH (patient-reported outcomes measurement information system global health) scale in stroke: a validation study. *Stroke, 49*(1), 147-154.

Kaur, M. (2016). Application of mixed method approach in public health research. *Indian Journal of Community Medicine,* 41(2), 93-97.

Kaur, S., & Lum, C. M. (2022). Redefining Doctor-Patient Relationship and Professional Ethics in Elderly Care. In *Ageing with Dignity in Hong Kong and Asia: Holistic and Humanistic Care* (pp. 395-406). Singapore: Springer Nature Singapore.

Keevil, V. L., & Romero-Ortuno, R. (2015). Ageing well: a review of sarcopenia and frailty. *Proceedings of the Nutrition Society, 74*(4), 337-347.

Kerschan-Schindl, K., Föger-Samwald, U., & Pietschmann, P. (2017). Pathophysiology of Bone Fragility. *Principles of Bone and Joint Research, 83*-97.

Kingston, A., Wohland, P., Wittenberg, R., Robinson, L., Brayne, C., Matthews, F. E., ... & Weller, R. (2017). Is late-life dependency increasing or not? A comparison of the Cognitive Function and Ageing Studies (CFAS). *The lancet, 390*(10103), 1676-1684.

Kojima, G., Liljas, A. E., & Iliffe, S. (2019). Frailty syndrome: implications and challenges for health care policy. *Risk management and healthcare policy, 23*-30.

Lahousse, L., Maes, B., Ziere, G., Loth, D. W., Verlinden, V. J., Zillikens, M. C., ... & Stricker, B. H. (2014). Adverse outcomes of frailty in the elderly: The Rotterdam Study. *European journal of epidemiology,* 29, 419-427.

Lázaro, E., & Poutou, C. (2018, January). En pos de un envejecimiento constructivo y sostenible. In *Cuba Salud* 2018.

Lazcano-Ponce, E., Salazar-Martínez, E., Gutiérrez-Castrellón, P., Angeles-Llerenas, A., Hernández-Garduño, A., & Viramontes, J. L. (2004). Ensayos clínicos aleatorizados: variantes, métodos de aleatorización, análisis, consideraciones éticas y regulación. *Salud pública de México, 46*(6), 559-584.

Lee, W. J., Peng, L. N., Lin, C. H., Lin, S. Z., Loh, C. H., Kao, S. L., ... & Chen, L. K. (2020). First insights on value-based healthcare of elders using ICHOM older person standard set reporting. *BMC geriatrics, 20,* 1-9.

Leeson, G. W. (2014). Increasing longevity and the new demography of death. *International Journal of Population Research,* 2014(1), 521523.

Lera, J., Pascual-Sáez, M., & Cantarero-Prieto, D. (2021). Socioeconomic inequality in the use of long-term care among European older adults: An empirical approach using the share survey. *International Journal of Environmental Research and Public Health, 18*(1), 20.

Lesende, I. M., Benito, M. Á. A., Ruiz, N. G., & Herreros, Y. H. (2021). Visión del manejo de la fragilidad en Atención Primaria. *Revista española de salud pública,* (95), 30.

Lesende, M., Iturbe, G., Pavón, G., JJ, B. C., & Soler, A. (2009). The frail elderly. Detection and management in Primary Care. *Atencion Primaria, 42*(7), 388-393.

Leusder, M., Porte, P., Ahaus, K., & van Elten, H. (2022). Cost measurement in value-based healthcare: a systematic review. *BMJ open, 12*(12), e066568.

Lim, W. S., Wong, S. F., Leong, I., Choo, P., & Pang, W. S. (2017). Forging a frailty-ready healthcare system to meet population ageing. *International journal of environmental research and public health, 14*(12), 1448.

Lindt, N., van Berkel, J., & Mulder, B. C. (2020). Determinants of overburdening among informal carers: a systematic review. *BMC geriatrics, 20*, 1-12.

Liotta, G., Gilardi, F., Orlando, S., Rocco, G., Proietti, M. G., Asta, F., ... & Scarcella, P. (2019). Cost of hospital care for the older adults according to their level of frailty. A cohort study in the Lazio region, Italy. *PLoS One, 14*(6), e0217829.

Maj-Waśniowska, K., & Jedynak, T. (2020). The issues and challenges of local government units in the era of population ageing. *Administrative Sciences, 10*(2), 36.

Manterola, C., Astudillo, P., Arias, E., Claros, N., & MINCIR, G. (2013). Revisiones sistemáticas de la literatura. Qué se debe saber acerca de ellas. *Cirugía española, 91*(3), 149-155.

Maxwell, J. A. (2016). Expanding the history and range of mixed methods research. *Journal of mixed methods research, 10*(1), 12-27.

Mayer, C. V. (2019). Atención en salud basada en el valor. *Revista Salud Bosque, 9*(1).

McGowan, J., Straus, S., Moher, D., Langlois, E. V., O'Brien, K. K., Horsley, T., ... &

Tricco, A. C. (2020). Reporting scoping reviews—PRISMA ScR extension. *Journal of clinical epidemiology, 123,* 177-179.

McMaughan, D. J., Oloruntoba, O., & Smith, M. L. (2020). Socioeconomic status and access to healthcare: interrelated drivers for healthy aging. *Frontiers in public health, 8,* 231.

Metzelthin, S. F., Daniels, R., Rossum, E. V., Witte, L. D., & Heuvel, W. J. vd, & Kempen, GI (2010). The psychometric properties of three self-report screeninginstruments for identifying frail older people in the community.[ResearchArticle]. *BMC Public Health, 10*, 176.

Miller, H. D. (2009). From volume to value: better ways to pay for health care. *Health Affairs, 28*(5), 1418-1428.

Ministerio de Sanidad Igualdad y Servicios sociales. (2013). Documento de consenso sobre prevención de fragilidad y caídas en la persona mayor: Estrategia de Promoción de la Salud y Prevención en el SNS. *Inf Estud e Investig, 1*-85.

Mitchell, E., & Walker, R. (2020). Global ageing: successes, challenges and opportunities. *British journal of hospital medicine, 81*(2), 1-9

Moher, D., Schulz, K. F., Simera, I., & Altman, D. G. (2010). Guidance for developers of health research reporting guidelines. *PLoS medicine, 7*(2), e1000217.

Montaño, C. A., Rivadeneira, A. G., Garzón, F. G., Escobar, Á. M., & Ruget, M. A. (2017). Hacia la atención en salud basada en el valor: Revisión de la literatura*. Rev. Médica Sanitas, 20,* 164-173.

Morales Ochoa, J. A. (2022). Análisis demográfico sobre el envejecimiento poblacional europeo y sus repercusiones en el gasto público en salud.

Morley, J. E., Vellas, B., Van Kan, G. A., Anker, S. D., Bauer, J. M., Bernabei, R., ... & Walston, J. (2013). Frailty consensus: a call to action. *Journal of the American Medical Directors Association, 14*(6), 392-397.

Morlino, L. (2005) Introduzione alla ricerca comparata. Bologna. Il Mulino

Moya-Martínez, P., Escribano-Sotos, F., & Pardo-García, I. (2012). La participación en el mercado laboral de los cuidadores informales de personas mayores en España. *Innovar, 22*(43), 55-66.

Munn, Z., Peters, M. D., Stern, C., Tufanaru, C., McArthur, A., & Aromataris, E. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach*. BMC medical research methodology, 18*, 1-7.

Navarrete-Villanueva, D., Gómez-Cabello, A., Marín-Puyalto, J., Moreno, L. A., Vicente-Rodríguez, G., & Casajús, J. A. (2021). Frailty and physical fitness in elderly people: a systematic review and meta-analysis. *Sports Medicine, 51*, 143-160.

Niimi, Y. (2018). Does providing informal elderly care hasten retirement? Evidence from Japan. *Review of Development Economics, 22*(3), 1039-1062.

O'Caoimh, R., Gao, Y., Svendrovski, A., Healy, E., O'Connell, E., O'Keeffe, G., ... & Molloy, W. D. (2014). Screening for markers of frailty and perceived risk of adverse outcomes using the Risk Instrument for Screening in the Community (RISC). *BMC geriatrics, 14,* 1-12.

Obbia, P., Graham, C., Duffy, F. R., & Gobbens, R. J. (2020). Preventing frailty in older people: An exploration of primary care professionals' experiences. *International journal of older people nursing, 15*(2), e12297.

Officer, A., Thiyagarajan, J. A., Schneiders, M. L., Nash, P., & De la Fuente-Núñez, V. (2020). Ageism, healthy life expectancy and population ageing: how are they related?. *International journal of environmental research and public health, 17*(9), 3159.

Oficina Europea de Estadística. (2019). Population (demography, migration and projections). Recuperado de https://ec.europa.eu/eurostat/statistics%20explained/index.php?title=People_in_the_EU_-_population_projections#Population_projections

Ofori-Asenso, R., Zomer, E., Curtis, A. J., Zoungas, S., & Gambhir, M. (2018). Measures of population ageing in Australia from 1950 to 2050. *Journal of Population Ageing, 11,* 367-385.

Oliveira, D. R., Bettinelli, L. A., Pasqualotti, A., Corso, D., Brock, F., & Erdmann, A. L. (2013). Prevalencia de síndrome de fragilidad en los adultos mayores de una institución hospitalaria. *Revista Latino-Americana de Enfermagem, 21*, 891-898.

Ortega Sánchez, D., & Heras Sevilla, D. (2021). Diseño Exploratorio Secuencial (DEXPLOS), procedimientos e instrumentos para el análisis de narrativas históricas escolares desde la perspectiva de género. *Revista interuniversitaria de formación del profesorado.*

Orueta Sánchez, R., Rodríguez de Cossío, Á., Carmona de la Morena, J., Moreno Álvarez-Vijande, A., García López, A., & Pintor Córdoba, C. (2008). Anciano frágil y calidad de vida. *Revista Clínica de Medicina de Familia, 2*(3), 101-105.

Pacolet, J. (2006). Protección social de personas mayores dependientes: sostenibilidad del Estado de Bienestar y ámbito del seguro de cuidados de larga duración. *Revista española del tercer sector,* (3), 111-160.

Pajares Ramirez, L. F., & Pajuelo Vasquez, R. E. (2023). Asociación entre cuatro criterios del fenotipo de fragilidad según Fried y el Síndrome de Riesgo Cognitivo Motor.

Pérez Díaz, J. et al. Un perfil de las personas mayores en España 2023. Indicadores estadísticos básicos. https://envejecimientoenred.csic.es/wp-content/uploads/2023/10/enred-indicadoresbasicos2023.pdf (2023)

Petretto, D. R., Pili, R., Gaviano, L., López, C. M., & Zuddas, C. (2016). Envejecimiento activo y de éxito o saludable: una breve historia de modelos conceptuales. *Revista española de geriatría y Gerontologia, 51*(4), 229-241.

Pilotto, A., Custodero, C., Maggi, S., Polidori, M. C., Veronese, N., & Ferrucci, L. (2020). A multidimensional approach to frailty in older people. *Ageing research reviews, 60,* 101047.

PINILLA CÁRDENAS, M. A., ORTIZ ÁLVAREZ, M. A., & Suárez-Escudero, J. C. (2021). Adulto mayor: envejecimiento, discapacidad, cuidado y centros día. Revisión de tema. *Revista Salud Uninorte, 37*(2), 488-505.

Pola Ferrández, E., Zuza Santacilia, I., Gil Tarragato, S., Justo Gil, S., Campos Esteban, P., & López Franco, M. (2022). Promoción del envejecimiento saludable a través del abordaje de la fragilidad. *Revista Española de Salud Pública, 95,* e202106095.

Radtke, J. P., Albers, P., Hadaschik, B. A., Graefen, M., Meyer, C. P., Behr, B., y Nüesch, S. (2024, May). Value-based Health Care for Prostate Cancer Centers by Implementing specific Key Performance Indicators using a Balanced Score Card. In *Healthcare* (Vol. 12, No. 10, p. 991). MDPI.

Rebollido, J. M. R., del Rey, M. M. L. R., Mora, J. L. A., & Curbelo, V. B. G. (2021). Ejercicio físico y envejecimiento exitoso: consideraciones de una relación necesaria. *Revista Científica Cultura, Comunicación y Desarrollo, 6*(3), 88-96.

Redin, J. M. (2002). Comprehensive geriatric assessment (I). Evaluation of the geriatric patient and the concept of fragility. *Anales del Sistema de Salud, 3*, 34-49.

Regueiro-Ons, C., & López-Valcárcel, B. G. (2023). Los retos del sistema sanitario a la luz de la transición demográfica. *Papeles de Economía Española,* (176), 112-196.

Reynolds, S. L., & Silverstein, M. (2003). Observing the onset of disability in older adults. *Social Science & Medicine, 57*(10), 1875-1889.

Robine, J. M., Saito, Y., & Jagger, C. (2009). The relationship between longevity and healthy life expectancy. *Quality in Ageing and Older Adults, 10*(2), 5-14.

Robles Raya, M. J., Miralles Basseda, R., Llorach Gaspar, I., & Cervera Alemany, A. M. (2006). Definición y objetivos de la especialidad de geriatría. Tipología de ancianos y población diana. *Tratado de geriatría para residentes. Sociedad Española de Geriatría y Gerontología (SEGG*), 28-29.

Rodríguez Ávila, N. (2018). Envejecimiento: Edad, salud y sociedad. *Horizonte sanitario, 17*(2), 87-88.

Rodríguez-Mañas, L., Féart, C., Mann, G., Viña, J., Chatterji, S., Chodzko-Zajko, W., ... & Scuteri, A. (2013). Searching for an operational definition of frailty: a Delphi method based consensus statement. The frailty operative definition-consensus conference project. *Journals of gerontology series a: biomedical sciences and medical sciences, 68*(1), 62-67.

Rohrmann, S. (2020). Epidemiology of frailty in older people. Frailty and cardiovascular diseases: *Research into an elderly population, 21*-27.

Rojas Huerta, A. V. (2022). Trajectories of frailty and related factors of elderly people in Mexico. *Poblacion y salud en mesoamerica, 19*(2), 81-103.

Rueda Hernández, L. V. (2022). Esperanza de vida e inicio de la etapa de adulto mayor. *Revista Salud Uninorte, 38*(1), 5-20.

Rueda Sánchez, M. P., Armas, W. J., & Sigala-Paparella, S.-P. (2023). Análisis cualitativo por categorías a priori: reducción de datos para estudios gerenciales. *Ciencia y Sociedad, 48*(2), 83–96.

Salido, M. F., Moreno-Castro, C., Belletti, F., Yghemonos, S., Ferrer, J. G., & Casanova, G. (2022). Innovating European Long-Term Care policies through the Socio-Economic support of families: a lesson from practices. *Sustainability, 14*(7), 4097.

Salinas-Rodríguez, A., Manrique-Espinoza, B., Heredia-Pi, I., Rivera-Almaraz, A., & Ávila-Funes, J. A. (2019). Healthcare costs of frailty: implications for long-term care. *Journal of the American Medical Directors Association, 20*(1), 102-103.

Sánchez, M. P. R., Armas, W. J., & Sigala-Paparella, S. P. (2023). Análisis cualitativo por categorías a priori: reducción de datos para estudios gerenciales. *Ciencia y Sociedad, 48*(2), 83-96.

Sánchez-Salmerón, V., Pérez-Eransus, B., & Martínez-Virto, L. (2021). Challenging through the spanish long-term care model: the goal to guarantee adequate support for the most vulnerable population inequality. *Prisma Social, 32,* 167-195.

Sander, M., Oxlund, B., Jespersen, A., Krasnik, A., Mortensen, E. L., Westendorp, R. G. J., & Rasmussen, L. J. (2015). The challenges of human population ageing. *Age and ageing, 44*(2), 185-187.

Sartori, G. (1984) La polìtica, lògica y mètodo en las ciencias sociales. México. Fondo de Cultura Económico

Scott, A. J. (2021). The longevity society. *The Lancet Healthy Longevity, 2*(12), e820-e827.

Segura Barrios, I. M., & Barrera Ortiz, L. (2016). Un llamado a Enfermería para responder al cuidado de la salud de las personas en situación de enfermedad crónica por su impacto en su calidad de vida. *Revista salud uninorte, 32*(2), 228-243.

Serra-Rexach, J. A., Facet, G. M., & Astiz, M. V. (2011). Anciano frágil. *Nutrición Hospitalaria, 4*(3), 28-34.

Sethi, B., Williams, A., & Ireson, R. (2017). Supporting caregiver employees: managers' perspective in Canada. *International Journal of Workplace Health Management, 10*(1), 25-41.

Smajic, E., Avdic, D., Pasic, A., Prcic, A., & Stancic, M. (2022). Mixed methodology of scientific research in healthcare. *Acta Informatica Medica, 30*(1), 57.

Soler, P. A., Pavón, J. G., Lesende, I. M., & Cortés, J. J. B. (2010). Detección y prevención de la fragilidad: una nueva perspectiva de prevención de la dependencia en las personas mayores. *Medicina clínica, 135*(15), 713-719.

Somagutta, M. R., Uday, U., Bathula, N. R., Pendyala, S., Mahadevaiah, A., Jain, M. S., ... & Baptiste, J. J. (2022). Diagnosing frailty in primary care practice. *Cureus, 14*(3).

Soysal, P., Veronese, N., Thompson, T., Kahl, K. G., Fernandes, B. S., Prina, A. M., ... & Stubbs, B. (2017). Relationship between depression and frailty in older adults: a systematic review and meta-analysis. *Ageing research reviews, 36,* 78-87.

Steverink, N. (2001). When and why frail elderly people give up independent living: The Netherlands as an example. *Ageing & Society, 21*(1), 45-69.

Tello-Rodríguez, T., & Varela-Pinedo, L. (2016). Fragilidad en el adulto mayor: detección, intervención en la comunidad y toma de decisiones en el manejo de enfermedades crónicas. *Revista Peruana de Medicina Experimental y Salud Publica, 33,* 328-334.

Teychenne, M., Ball, K., & Salmon, J. (2008). Physical activity and likelihood of depression in adults: a review. *Preventive medicine, 46*(5), 397-411.

Tompa, E., Scott-Marshall, H., Dolinschi, R., Trevithick, S., & Bhattacharyya, S. (2007). Precarious employment experiences and their health consequences: towards a theoretical framework. *Work, 28*(3), 209-224

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., ... & Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Annals of internal medicine, 169*(7), 467-473.

Tzouganatou, S. G. (2022). The Ageing Population of the European Union: Challenges and Prospects. *HAPSc Policy Briefs Series, 3*(1), 206-214.

United Nations Department of Economic and Social Affairs, Population Division (2022). World Population Prospects 2022: Summary of Results. UN DESA/POP/2022/TR/NO. 3.

United Nations. World Population Prospects 2019, custom data acquired via website. Department of Economic and Social Affairs, Population Division. 2019. (Consultado el 2/12/2020.) Disponible en: https://www.ine.es/jaxiT3/Tabla.htm?t=36643&L=0

Valencia, M. I. B. (2012). Envejecimiento de la población: un reto para la salud pública. *Revista Colombiana de Anestesiología, 40*(3), 192-194.

Van Assen, M. A., Helmink, J. H., & Gobbens, R. J. (2022). Associations between lifestyle factors and multidimensional frailty: a cross-sectional study among community-dwelling older people. *BMC geriatrics, 22,* 1-13.

Van Engen, V., Bonfrer, I., Ahaus, K., & Buljac-Samardzic, M. (2022). Value-based healthcare from the perspective of the healthcare professional: a systematic literature review. *Frontiers in public health, 9*, 800702.

Van Hoorn, E. S., Ye, L., Van Leeuwen, N., Raat, H., & Lingsma, H. F. (2024). Value-based integrated care: A systematic literature review. *International Journal of Health Policy and Management, 13.*

Van Iersel, M. B., & Rikkert, M. G. (2006). Frailty criteria give heterogeneous results when applied in clinical practice. *J Am Geriatr Soc, 54*(4), 728-9.

Verbeek-Oudijk, D., Woittiez, I., Eggink, E., y Putman, L. (2015). Who cares in Europe? Geron, 17(1), 62-65. https://doi.org/10.1007/s40718-015-0119-y

Vos, T., Lim, S. S., Abbafati, C., Abbas, K. M., Abbasi, M., Abbasifard, M., ... & Bhutta, Z. A. (2020). Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The lancet, 396*(10258), 1204-1222.

Wang, X., Hu, J., & Wu, D. (2022). Risk factors for frailty in older adults. *Medicine, 101*(34), e30169.

Willink, A., Davis, K., Mulcahy, J., Wolff, J. L., & Kasper, J. (2019). The financial hardship faced by older Americans needing long-term services and supports. *Issue Brief (Commonw Fund),* 2019, 1-12.

Wilson, J., Heinsch, M., Betts, D., Booth, D., & Kay-Lambkin, F. (2021). Barriers and facilitators to the use of e-health by older adults: a scoping review. *BMC public health, 21,* 1-12.

World Health Organization. (2015). *World report on ageing and health.* World Health Organization.

World Health Organization. (2020). Ageing.

Yábar-Palacios, C., Ramos, W., Rodríguez-Casamayor, L., & Díaz-Santisteban, V. (2009). Prevalencia, características clínicas, sociofamiliares y factores asociados a fragilidad en adultos mayores de 75 años de un hospital de Chimbote. Octubre 2006-abril 2007. *Revista Peruana de Epidemiología, 13*(3), 1-8.

Yakita, A. (2020). Economic development and long-term care provision by families, markets and the state. *The Journal of the Economics of Ageing, 15,* 100210.

Zanotto, B. S., da Silva Etges, A. P. B., Marcolino, M. A. Z., & Polanczyk, C. A. (2021). Value-based healthcare initiatives in practice: a systematic review. *Journal of Healthcare Management, 66*(5), 340-365.

Zhang, W., & Creswell, J. (2013). The use of "mixing" procedure of mixed methods in health services research. *Medical care, 51*(8), e51-e57.

Zhylkybekova, A., Koshmaganbetova, G. K., Zare, A., Mussin, N. M., Kaliyev, A. A., Bakhshalizadeh, S., ... & Tamadon, A. (2024). Global research on care-related burden and quality of life of informal caregivers for older adults: a bibliometric analysis. *Sustainability, 16*(3), 1020.

Anexos

Consentimiento informado para participar en

Estimada/o Señora/Señor,

Ha sido invitado a participar en este estudio, dentro del proyecto de investigación europeo VALUECARE. El objetivo principal de este proyecto es estudiar los factores asociados con la salud y el bienestar de las personas mayores, estudiar los factores asociados con el uso de la atención sociosanitaria por parte de las personas mayores y estudiar las experiencias de las personas mayores y los cuidadores informales con la atención que reciben. prestados, y las experiencias de los profesionales del cuidado de las personas mayores con la atención que brindan. Además, se evalúan los beneficios del enfoque ValueCare para el proceso de atención a la salud y el bienestar. Para ello, realizamos una investigación en la que recogemos información de las propias personas mayores, de los cuidadores informales y de los profesionales de la atención sociosanitaria, a través de cuestionarios o entrevistas. Además, después de solicitar su permiso, se recopilará información sobre el uso de la atención y el uso de tecnología (como una aplicación móvil). Además, estudiamos el bienestar y la satisfacción (laboral) de los cuidadores informales y los profesionales de la salud y la asistencia social, que están involucrados en el cuidado de las personas mayores. Los conocimientos de nuestro estudio contribuirán a la promoción de la salud y el bienestar de las personas mayores y a una mejor atención de las personas mayores en el futuro.

En concreto, este documento contiene información organizada en tres partes:

- Parte I: Información general sobre el estudio
- Parte II: Consentimiento informado (debe ser firmado si acepta participar en el estudio)
- Parte III: Formulario de revocación (a firmar solo en caso de que desee abandonar el estudio)

Debe saber que, si no desea participar, esto no afectará su relación con Las Naves, Fundación de la Comunidad Valenciana para la Promoción Estratégica el Desarrollo y la Innovación, ni con su Centro de Salud, de ninguna manera, ni tendrá consecuencias negativas para usted. En caso de que acepte participar, también puede abandonar el estudio en cualquier momento, sin necesidad de una justificación adicional. Siempre se respetarán sus derechos y elecciones individuales.

La participación de las personas en los proyectos de investigación es fundamental para obtener resultados útiles y relevantes. A tal efecto, necesitamos que nos proporcione su consentimiento por escrito para cooperar con nosotros. Lea atentamente la Parte I de este documento informativo antes de tomar una decisión. También puede solicitar más aclaraciones si cree que algo no está suficientemente claro en el documento.

Por favor, firme la Parte II de este documento solo si:

- Ha entendido completamente el tipo de estudio y su procedimiento.
- Está dispuesto a dar su consentimiento por escrito.
- Comprende sus derechos como participante en este proyecto de investigación.

PARTE I: INFORMACIÓN GENERAL

1. ¿Cuál es el propósito de este estudio?

Este estudio forma parte de las actividades del proyecto de investigación VALUECARE, cofinanciado por la Comisión Europea en el programa Horizon2020, en el marco del Acuerdo de subvención n ° 875215. El objetivo general del proyecto VALUECARE es ayudar al envejecimiento de la población europea mediante la promoción de una atención personaliza de cuidados integrados apoyados por soluciones digitales, que se probará y evaluará a través de 7 proyectos piloto a gran escala en Europa:

- Holanda [Rotterdam]
- Portugal [Coimbra]
- Italia [Treviso]
- Grecia [Atenas]
- España [Valencia]
- Croacia [Rijeka]
- Irlanda [Cork/Kerry]

El propósito del proyecto ValueCare es estudiar los factores asociados con la salud y el bienestar de las personas mayores, estudiar los factores asociados con el uso del cuidado por parte de las personas mayores y estudiar las experiencias de las personas mayores y los cuidadores informales con la atención que reciben y las experiencias de los profesionales de la atención sociosanitaria con la atención que prestan. Además, se evalúan los beneficios del enfoque ValueCare para el proceso de atención a la salud y el bienestar. Para ello, realizamos una investigación en la que recogemos información de las propias personas mayores, de los cuidadores informales y de los profesionales del cuidado, a través de cuestionarios o entrevistas. Además, después de solicitar su permiso, se recopilará información sobre el uso de la atención y el uso de tecnología (como una aplicación móvil). Además, estudiamos el bienestar y la satisfacción (laboral) de los cuidadores informales y los profesionales de la salud y la asistencia social, que están involucrados en el cuidado de las personas mayores. Los conocimientos de nuestro estudio contribuirán a la promoción de la salud y el bienestar de las personas mayores, y a una mejor atención de las personas mayores en el futuro.

2. ¿Quién es el responsable del estudio en la ciudad de Valencia?

El consorcio del proyecto consiste en 17 socios europeos. En España, la institución responsable de las actividades del proyecto piloto ValueCare de Valencia (España) es Las Naves, Fundación de la Comunidad Valenciana para la Promoción Estratégica el Desarrollo y la Innovación. En Las Naves, la persona responsable del estudio y del procesamiento de datos es:

- Nombre – Elena Rocher
- Contactos – Teléfono: 963 91 04 77 - e-mail: valuecare@lasnaves.com

Asimismo, en el piloto Valuecare de Valencia participarán las siguientes entidades socias en el proyecto:

- Instituto de Investigación en Políticas de Bienestar Social (POLIBIENESTAR) – Universitat de València
- Senior Europa, S.L. (K-veloce I+D+i)

Todos los contactos relevantes están disponibles a continuación en las secciones 7 y 10.

3. ¿Cómo funcionará este estudio?

El piloto de ValueCare de Valencia consiste en una intervención personalizada apoyada por soluciones digitales, en concreto una aplicación móvil (APP), que se probará con las personas mayores, para comprender si se adapta a sus necesidades.

Los cuidadores formales e informales podrán conocer la información y resultados de la información tratada en la APP. Esta APP tiene por objetivo ofrecer un plan personalizado de atención, teniendo en cuenta las particularidades de cada participante a nivel sociosanitario. En concreto, esta solución digital se compone de una APP que sincronizará datos relacionados con múltiples fuentes (sanitarias y sociales) para proporcionar a los participantes un plan de atención personalizada que combinará prescripciones médicas y sociales, así como información de servicios sociales y culturales. Los participantes podrán utilizar esta App, y los cuidadores-familiares podrán realizar el seguimiento del cumplimiento del plan personalizado a través de una plataforma digital. Asimismo, en esta fase del piloto desempeñarán un papel importante los profesionales socio-sanitarios del Hospital Clínico Universitario de Valencia y de su Centro de Salud. Con el objetivo de llevar a cabo la atención personalizada se desarrollará una colaboración entre Las Naves y el Hospital, pudiendo existir intercambio de información de los participantes entre del departamento de salud Valencia-Clínico-Malvarrosa.

En este punto del proyecto, se realizará una selección aleatoria de los participantes, donde se crearán dos grupos:

1) Grupo de intervención que tendrán acceso a la intervención personalizada y realizarán una serie de cuestionarios al inicio, a los 12 y a los 18 meses.
2) Grupo de control: realizarán una serie de cuestionarios al inicio, a los 12 y 18 meses, pero recibirán el cuidado ordinario en su centro de salud.

El objetivo de esta división de los participantes es comparar los resultados una vez haya finalizado el proyecto y, de este modo, poder obtener los beneficios reales de esta solución de cuidados personalizada e integrada.

3.1. El concepto de ValueCare y el estudio de investigación

Cuando se una al estudio, se le ofrecerá recibir atención de acuerdo con el enfoque de ValueCare y participar en el estudio de investigación. Esto implica los siguientes elementos:

3.1.2 Cuestionario de evaluación

Le pedimos que complete un cuestionario inicial sobre su salud tres veces: 1) cuando comience el estudio, 2) después de 12 meses y 3) después de 18 meses. Esto se hace para recopilar la información necesaria para el estudio de investigación. Sus respuestas también ayudarán a su proveedor de atención a evaluar cómo le está yendo y qué es importante para usted. Un investigador del proyecto le ayudará a completarlo. Completar el cuestionario tardará unos 20 o 30 minutos.

Evaluación inicial (al principio): Una vez que acepte participar en el estudio, le invitamos a completar el primer cuestionario. En este cuestionario recopilamos información con respecto a su salud, bienestar, calidad de vida, estilo de vida, uso de la atención sociosanitaria y los factores que son importantes para ellos. También recopilamos información de antecedentes (por ejemplo, edad, sexo, educación, ocupación) y su situación de vida actual.

Evaluación intermedia (después de 12 meses): Una vez que el período de intervención ha terminado (después de alrededor de 12 meses), recibirá un segundo cuestionario. Este cuestionario incluye preguntas con respecto a su salud, bienestar, calidad de vida, estilo de vida y uso de la atención sociosanitaria, y los factores que son importantes para ellos.

Evaluación final (después de 18 meses): Al final del estudio (después de 18 meses), un cuestionario final pregunta sobre su salud, bienestar, calidad de vida, estilo de vida y uso de cuidado, y los factores que son importantes para ellos.

Consulta con un profesional de atención médica o social

El profesional de atención médica o social podrá ver sus respuestas. Los resultados de los cuestionarios se utilizarán para brindar atención que se adapte a sus necesidades y preferencias. Se le invitará a una consulta con su profesional de atención sociosanitaria para comentar los resultados del cuestionario. Su cuidador informal le puede acompañar. Sobre la base de los resultados del cuestionario y sus necesidades, se discutirá un plan de atención personalizado entre usted, su cuidador informal y su(s) profesional(es) de atención sociosanitaria. El plan de atención que decidan juntos se puede revisar y ajustar periódicamente de acuerdo con sus necesidades.

APP ValueCare

Se puede usar la aplicación móvil de salud (APP) para apoyar una vida saludable, recibir información o comunicarse con sus cuidadores. Esta es la aplicación ValueCare. Puede descargar la aplicación ValueCare en su teléfono inteligente o tablet. Una investigadora del proyecto ValueCare le explicará la aplicación y le ayudará a comenzar. Si no dispone de un teléfono inteligente o una tablet, comunícaselo a su profesional sociosanitario del centro de salud o a las investigadoras del proyecto.

En la aplicación ValueCare, tiene acceso a un rango de funcionalidades, como asesoramiento sobre estilo de vida y gestión de enfermedades (por ejemplo, seguimiento de medicamentos). Allí, los principales elementos disponibles son:

- Actividad Física
- Nutrición
- Prescripción Social
- Adherencia a la Medicación

En la aplicación, un "Asistente virtual" lo ayudará a lograr sus objetivos. Este asistente virtual tiene como objetivo apoyarlo haciéndole preguntas y proporcionando comentarios. De esta forma, el Asistente Virtual puede ayudarte a autocontrolar tu desempeño y motivarte a alcanzar tus metas. Para facilitar el uso de la aplicación ValueCare, se le ofrece una formación. Las investigadoras del proyecto ValueCare le informará de los detalles de esta formación.

Su equipo de atención sociosanitaria tendrá acceso a los resultados de la aplicación ValueCare en la aplicación web de ValueCare. Esta aplicación web ValueCare proporciona una descripción general de sus resultados, lo que les permite monitorear su progreso, salud y bienestar.

Durante el proyecto, podemos solicitar su permiso para utilizar cierta información específica recopilada por la aplicación ValueCare con fines de investigación. También podemos solicitar su permiso para recopilar información sobre su salud y el uso de la atención de su equipo de atención con fines de investigación.

3.2 Wearables (dispositivos tecnológicos)

A algunas de las personas que participan en el estudio se les pedirá que usen un reloj inteligente para monitorizar el ejercicio físico. Los relojes inteligentes son dispositivos portátiles que pueden ayudarle, por ejemplo, a moverse más o dormir mejor. Si se le pide que use un reloj inteligente en este estudio, recibirá información adicional sobre cómo usar el dispositivo, qué se medirá, dónde se almacenan los datos y para qué se utilizarán. También se le puede pedir permiso para el uso de la información recopilada por los relojes inteligentes con fines de investigación.

4. ¿Cuáles son los beneficios de su participación en el estudio?

Al participar en este estudio y aportar sus opiniones y comentarios, está contribuyendo al desarrollo de un sistema de servicios que tiene como objetivo apoyar la prestación de atención a medida que envejece. Por lo tanto, contribuirá al desarrollo de un sistema de apoyo al cuidado integrado eficiente y práctico no solo para las personas mayores, sino también para sus cuidadores formales e informales.

5. ¿Existen riesgos, molestias o efectos secundarios relacionados con su participación en este estudio?

Dado que es un estudio no invasivo, no se prevé ningún riesgo significativo. Sin embargo, si tiene alguna duda, dificultad o problema, comuníquese con el investigador principal del estudio en Valencia.

6. ¿Hay algún coste involucrado en participar en el estudio? ¿Existe algún reembolso económico para los participantes?

No surgirá ningún coste ni ninguna otra consecuencia financiera para usted como participante de este estudio. Los participantes no recibirán ninguna compensación económica por participar en el estudio.

7. Protección de Datos

7.1. ¿Con qué finalidad recabamos tu información personal?

Para obtener los objetivos de nuestra investigación tratamos sus datos con los siguientes fines:

- Gestión del consentimiento informado para la participación en el Proyecto Europeo ValueCare.
- Participación en actividades formativas y de difusión.
- Generar datos de los usuarios para usar en el estudio ValueCare como se mencionó anteriormente (sección 1).
- Gestión administrativa del proyecto ValueCare.
- Gestionar su alta en la solución digital creada para desarrollar el presente proyecto, donde se llevará a cabo un plan de atención y cuidado personalizado para cada participante incluido en el grupo intervención.
- Realización de sesiones formativas, entrevistas, juegos.
- Difusión pública de imágenes relacionadas con estas actividades.

7.2 ¿Quién es el responsable del tratamiento?

Son instituciones u organizaciones corresponsables del tratamiento de los datos personales:

- Fundación de la Comunitat Valenciana para la promoción estratégica, el desarrollo y la innovación urbana, C/ Joan Verdeguer 16, 46024 Valencia. CIF. Núm. G98406002.
- Instituto de Investigación en Políticas de Bienestar Social (POLIBIENESTAR) – Universitat de València; Campus de Tarongers, Calle Serpis, nº 29, 46022 – Valencia
- Senior Europa, S.L. (K-veloce I+D+i); Avenida del Comte de Torrefiel, 10 - 1 4, Ontinyent, 46870, Valencia.

Asimismo, para el desarrollo del proyecto se contará con la colaboración del departamento de salud Valencia-Clínico-Malvarrosa, que ha puesto a disposición del proyecto a distintos profesionales sanitarios y sociales de los centros de salud de Salvador Pau, Benimaclet, Serrería I I, Alfahuir, Chile, República Argentina y Tavernes Blanques.

Con el objetivo de llevar a cabo dicha colaboración y desarrollar el proyecto, podrá existir intercambio de información de los participantes entre Las Naves y el Hospital del departamento de salud Valencia-Clínico-Malvarrosa. La finalidad de este intercambio de información se encuentra en ofrecer un plan personalizado de atención, teniendo en cuenta las particularidades de cada participante a nivel socio-sanitario. Ambas entidades actuarán de forma independiente como responsables del tratamiento de los datos de carácter personal objeto de intercambio.

En concreto, la colaboración se desarrollará a través de la solución digital VALUECARE. Esta solución digital se compone de una aplicación (App) que sincronizará datos relacionados con múltiples fuentes (sanitarias y sociales) para proporcionar a los participantes un plan de atención personalizada que combinará prescripciones médicas y sociales, así como información de servicios sociales y culturales. Los participantes podrán utilizar esta App, y las profesionales socio-sanitarios podrán realizar el seguimiento del cumplimiento del plan a través de una plataforma.

7.3. ¿Qué datos personales se van a tratar en el proyecto?

- Solicitamos su consentimiento para recopilar, utilizar y almacenar sus datos. Recopilamos, usamos y almacenamos sus datos para responder las preguntas de este estudio y publicar los resultados científicos. Los datos a recopilar son:

(1) Datos de los cuestionarios (datos de investigación o del estudio),

(2) Datos de contacto para comunicarnos con usted sobre el estudio,

(3) Datos de salud y estilo de vida recopilados a través de la aplicación ValueCare y la aplicación web ValueCare. Los tipos de datos que pueden recopilarse y procesarse a lo largo del proyecto son:

- Datos identificativos: Nombre y Apellidos; DNI/NIF/NIE/Pasaporte; Dirección; Firma; Correo electrónico; Imagen; Teléfono (fijo o móvil).

- Datos de características personales: Edad; Sexo; Fecha de nacimiento.

- Datos de circunstancias sociales: Estilos de vida; Aficiones; Participación y apoyo social.

- Datos de categoría especial: Salud [Actividad física; Autonomía y control; Nutrición; Medicamentos; Dolencias y enfermedades; Salud emocional].

7.4 Datos de los cuestionarios y datos de contacto:

Para proteger su privacidad, le asignamos un código a sus datos de investigación y datos de contacto. Sus datos de contacto solo se utilizan para comunicarse con usted sobre el estudio y se almacenan por separado de los datos de la investigación. En cuanto a su información de identificación personal en los datos de investigación, se reemplaza por el código (es decir, pseudo-anonimización). De esta manera, no utilizamos su información de identificación personal dentro de los análisis del estudio, ya que solo utilizamos el código en los análisis. Solo los investigadores del piloto de Valencia estipulados en este documento informativo tienen la clave del código y pueden saber quién es la persona detrás del número de código. Para fines de análisis, podemos vincular su pseudocódigo al pseudocódigo de su cuidador informal y/o al código de su proveedor de atención sociosanitaria. Mantenemos datos pseudo-anonimizados para la investigación en Erasmus MC (Países Bajos) durante 15 años después de que el estudio haya terminado, después será destruido. Hacemos esto para realizar estudios científicos por parte de los socios en el proyecto ValueCare.

Asimismo, se puede comprobar si el estudio científico se ha realizado de forma adecuada y fiable. Los datos de investigación pseudonimizados pueden intercambiarse entre los 17 socios de los países de la Unión Europea que participan en el proyecto ValueCare para llevar a cabo el estudio ValueCare. Sus datos de investigación pseudónimos también pueden ser importantes en futuras investigaciones científicas sobre la salud y el bienestar de las personas mayores. Por lo tanto, es posible que en el futuro sus datos pseudónimos se compartan con otras instituciones científicas dentro y fuera de la Unión Europea, con su consentimiento. Sus datos de contacto, información de identificación personal o el código de esta información nunca serán compartidos. Antes de compartir sus datos pseudónimos con otras instituciones científicas, el equipo del proyecto realiza acuerdos adicionales con la institución científica para garantizar que los investigadores a quienes ponemos a disposición los datos de la investigación manejen los datos de manera cuidadosa y confiable. Estos acuerdos adicionales dependen del país en el que se encuentre el destinatario. Si no acepta compartir sus datos en el futuro, aún puede participar en el estudio ValueCare.

Otros investigadores pueden desear tener acceso a datos pseudoanónimos de este estudio en el futuro. Si este es el caso, el Investigador Principal del Proyecto se asegurará de que los demás investigadores cumplan con las pautas legales, de protección de datos y éticas. Los datos pseudoanónimos no incluyen nombres ni direcciones y no es posible identificar participantes individuales a partir de datos pseudoanónimos.

Cualquier informe o publicación que surja del estudio contendrá datos totalmente pseudoanónimos por lo que no podrá ser reconocido en el mismo.

Datos de salud y estilo de vida recopilados a través de la aplicación ValueCare y la aplicación web ValueCare:

Los datos de salud recopilados por la aplicación ValueCare, la aplicación web ValueCare y los “wearables” son procesados por Vodafone Innovus, Fondazione Bruno Kessler y VIDAVO en nombre de los socios del piloto de Valencia. Estos datos son almacenados por Vodafone Innovus en una nube con sede en Grecia. Estas organizaciones tienen sus propias políticas de protección de datos y cumplen con el Reglamento General de Protección de Datos (RGPD) de la Unión Europea.

Una vez finalizado el proyecto, Vodafone Innovus, Fondazione Bruno Kessler y VIDAVO transferirán todos los datos recopilados en la aplicación ValueCare, la aplicación web ValueCare y los “wearables” a los socios del piloto de Valencia. Estos datos de bienestar pueden estar vinculados a los datos de investigación para realizar los análisis científicos de una manera pseudo-anonimizada.

7.5 ¿Cómo puede contactar con nuestro delegado de protección de datos?

El delegado de protección de datos es la persona encargada de supervisar que cumplimos las normas sobre protección de datos y ayudarle. Si tiene alguna duda o consulta sobre cómo tratamos los datos puede contactar con el delegado de protección de datos en lasnaves@dpoexterno.com.

7.6. ¿Con qué derecho o base legal tratamos su información personal?

Los integrantes del proyecto de investigación tratarán los datos en virtud de:

- Consentimiento de la persona interesada en participar en la investigación (artículo 6.1.a) RGPD).
- Misiones de interés público en la divulgación de notas de prensa, noticias o memorias de actividad de imágenes o datos personales cuando concurra el derecho a la información (artículo 6.1.e) RGPD).

7.7. ¿Quiénes son destinatarios de sus datos personales?

- Cesiones de datos.
  - Órganos de gestión y control de la Comisión Europea para el cumplimiento de obligaciones contractuales (art. 6.b) RGPD).
  - Solo se compartirán datos seudoanonimizados e informatizados con otros socios del consorcio (todos dentro de la Unión Europea) para un análisis agregado. Esto significa que su nombre se asociará a un número de código y solo los investigadores del estudio podrán acceder a él. Por lo tanto, no habrá ningún vínculo entre sus respuestas y su información personal, y ningún otro investigador podrá identificar sus respuestas.
  - Publicaciones de información sobre los resultados del proyecto, actividades públicas, premios o concursos (artículo 6.1.e) RGPD).
  - Departamento de salud Valencia-Clínico-Malvarrosa, con la finalidad de ofrecer un plan personalizado de atención, teniendo en cuenta las particularidades de cada participante a nivel socio-sanitario (artículo 6.1. b) y e) RGPD).

7.8. ¿Se realizan transferencias internacionales de datos?

No se prevén transferencias internacionales de datos a países fuera de la Unión Europea.

7.9. ¿Durante cuánto tiempo conservamos sus datos?

- Los datos personales se conservarán durante la vida del proyecto (junio 2024).
- La información se conservará debidamente bloqueada por los periodos adicionales necesarios para la prescripción de eventuales responsabilidades legales. Es decir, una vez transcurrido el obligatorio plazo de 15 años, tras finalizar el proyecto, con la finalidad de hacer frente a posibles revisiones internas de este proyecto, por parte de la Unión Europea, todos los datos personales serán destruidos.
- La información pseudoanonimizada se conservará durante 15 años con fines de investigación y podrá ser objeto de compartición con otras entidades para estos fines.

7.10. ¿Cómo protegemos la información?

Los socios integrados en el sector público aplican las medidas técnicas y organizativas que nos dicta el Esquema Nacional de Seguridad. Los restantes socios aplican medidas equivalentes.

El equipo de investigación involucrado en este estudio asegura que el material resultante se almacenará en un lugar seguro y protegido, no más de cinco años después de la finalización del estudio. Además, todos los miembros del equipo del proyecto están sujetos a los estándares europeos de protección de datos (GDPR).

7.11. ¿Cómo puede ejercer sus derechos?

Para poder mantener en todo momento el control sobre sus datos tiene derecho a acceder a su información personal, así como a solicitar la rectificación de los datos inexactos o, en su caso, solicitar su cancelación o supresión. En determinadas circunstancias, y por motivos relacionados con su situación particular, podrá oponerse al tratamiento de sus datos. De igual forma, puede ejercer el derecho de limitación del tratamiento de la información personal, solicitando su conservación y también el derecho a la portabilidad de sus datos.

El ejercicio de derechos es personal y por ello necesitamos identificarle de modo inequívoco. Puede ejercer sus derechos de dos modos:

- Mediante el envío de un mensaje de correo electrónico.

Para ello, utilice esta dirección: lasnaves@dpoexterno.com.

Únicamente atenderemos las solicitudes que se realicen desde cuentas de correo electrónico que consten en nuestras bases de datos previa identificación de su titular.

- Mediante la presentación de un escrito directamente o por correo postal dirigido a:

Fundación de la Comunitat Valenciana para la promoción estratégica el desarrollo y la innovación urbana: Calle Joan Verdeguer 16, 46024 Valencia.

En este caso, debe aportar documentación acreditativa:

- Acreditación de la identidad del interesado mediante cualquier documento válido, como DNI o pasaporte.
- Nombre y apellidos del interesado o, cuando corresponda, de la persona que le represente, así como el documento acreditativo de tal representación.
- Petición en que se concreta la solicitud.
- Dirección a efectos de notificaciones, fecha y firma del solicitante.
- Documentos acreditativos de la petición que formula, si corresponde.
- En caso de la rectificación o cancelación, indicación del dato a rectificar o cancelar y la causa que lo justifica.

7.12. ¿Quién garantiza sus derechos? ¿Ante quién puede reclamar?

En caso de que desee presentar una reclamación u obtener información adicional sobre la regulación del tratamiento de datos personales puede dirigirse a nuestro Delegado de Protección de Datos (lasnaves@dpoexterno.com) o presentar una reclamación ante la autoridad competente en España: Agencia Española de Protección de Datos (Jorge Juan, 6 28001-Madrid o www.aepd.es).

8. Retirada anticipada de su participación en el estudio

Puede interrumpir su participación en cualquier momento, sin tener que dar ninguna explicación.

El retiro eventual no tendrá absolutamente ninguna consecuencia negativa para usted en Las Naves ni en su Centro de Salud.

Incluso después de completar el estudio, tiene derecho a exigir que se retiren y eliminen sus datos, excepto aquellos que ya hayan sido publicados o utilizados en informes, que no se pueden recuperar ni modificar. Ya sea para interrumpir su participación en el proyecto o para solicitar la retirada o eliminación de sus datos, comuníquese con el investigador a cargo del proyecto en Valencia, por teléfono o correo electrónico, a través de los siguientes datos de contacto:

- Investigador principal responsable del estudio ValueCare en Las Naves
  Nombre: Elena Rocher
  Dirección: C/ Juan de Verdeguer 16, Valencia 46024
  Teléfono: 963 91 04 77
  E-mail: valuecare@lasnaves.com

9. Posibilidad de discutir otros temas.

Si tiene más preguntas sobre el proyecto o su participación en él, puede comunicarse con el Investigador Principal en Las Naves (ver sección 10), en cualquier momento. También puede ponerse en contacto con el Coordinador del proyecto, responsable del mismo a nivel internacional - Hein Raat, Erasmus Universitair Medisch Centrum Rotterdam, Dr Molewaterplein 40, Rotterdam, Holanda, 3015 GD e-mail: h.ratt@erasmusmc.nl.

10. Contactos

- Investigador principal responsable del estudio ValueCare en Las Naves
  Nombre: Elena Rocher
  Dirección: C/ Juan de Verdeguer 16, Valencia 46024
  Teléfono: 963 91 04 77
  E-mail: elena.rocher@lasnaves.com
- Delegado de Protección de Datos en Las Naves
  Nombre: ACE & NIU CONSULTING S.L. (Audedatos)
  Dirección: Edifico Innsomnia: Moll de Ponent, 46024 Valencia.
  E-mail: lasnaves@dpoexterno.com
- Coordinador de proyectos a nivel internacional
  Nombre: Hein Raat
  Dirección: Erasmus Universitair Medisch Centrum Rotterdam, Dr Molewaterplein 40, Rotterdam, Holanda, 3015 GD
  E-mail: ProjectValueCare@erasmusmc.nl

Si desea participar en el estudio VALUECARE, nos gustaría que complete y firme la **Parte II: Declaración de consentimiento informado**. Debe conservar este documento.

PARTE II: DECLARACIÓN DE CONSENTIMIENTO INFORMADO PERSONAS MAYORES

- ☐ He sido informado completa y exhaustivamente sobre el significado, los objetivos y el alcance de la sesión de **cocreación/estudio de pre-evaluación/estudio de evaluación** de VALUECARE, así como sobre los requisitos resultantes o los posibles riesgos e impactos para mí y mi vida.
  - ► Esta información fue proporcionada por la Sra. _______________________.
- ☐ **He leído/me han leído** las páginas informativas anteriores.
- ☐ He tenido la oportunidad de hacer preguntas al respecto, y todas las preguntas que he formulado han sido respondidas satisfactoriamente.
- ☐ En consecuencia, puedo confirmar que he entendido la información proporcionada.
- ☐ Cumpliré con los requisitos necesarios para la realización del estudio, reservándome el derecho a retirar mi participación voluntaria en cualquier momento, sin que esto implique consecuencias negativas.

Doy mi consentimiento para participar voluntariamente en este proyecto de investigación:

- ☐ Declaro mi consentimiento para participar en este estudio.
- ☐ Declaro mi consentimiento para el tratamiento de mis datos personales, en concreto, para la grabación (incluida la grabación y transcripción de la voz de la entrevista), la transferencia y el almacenamiento de mis datos, como se describe en las secciones 3 y 7.
- ☐ Declaro mi consentimiento para el intercambio de datos seudoanonimizados con organizaciones relacionadas con el proyecto VALUECARE durante el período de tiempo establecido, según se define en el apartado 7.
- ☐ Declaro mi consentimiento para la captación y difusión de mi imagen, en la página web y Redes Sociales de Las Naves, así como las RRSS y página web del proyecto VALUECARE, con la finalidad de dar visibilidad pública al presente proyecto.
- ☐ Doy mi consentimiento para compartir mis datos de investigación con otras instituciones científicas y terceros para futuras investigaciones científicas, como se indica en la carta informativa.
- ☐ Doy mi consentimiento para contactarme después de este estudio para participar en un estudio de seguimiento.

Nombre del participante:____

Número nacional de identidad: ______________________

Código de identificación:________________________

He recibido una copia de este formulario de consentimiento informado para participar en el estudio ValueCare. El formulario original se almacenará en Las Naves.

Firma del participante:___________________________

Día/mes/año: ________/_______________/________

COMPLETAR LA PERSONA RESPONSABLE DEL ESTUDIO EN LA ORGANIZACIÓN

YO,____declaro que tanto el participante, como su cuidador o familiar, firmaron y aceptaron espontáneamente su participación en este estudio.

Nombre de la persona mayor: _________________________

Nombre del cuidador o familiar (si corresponde):____

También declaro que:

- ▶ Proporcioné al participante y su cuidador o familiar toda la información necesaria para la comprensión de este estudio, sus propósitos, procedimientos, posibles riesgos y beneficios.
- ▶ Confirmé que el participante y su cuidador o familiar entendieron la información proporcionada.
- ▶ Proporcioné tiempo para la reflexión y la oportunidad de hacer preguntas sobre el estudio.
- ▶ No he ejercido ninguna coerción ni he influido de otra manera en su consentimiento.

Firma:

____

Fecha:____/______/_________

PARTE III: FORMULARIO DE REVOCACIÓN

PARA SER UTILIZADO ÚNICAMENTE EN CASO DE QUE DESEE SALIR DEL ESTUDIO VALUECARE

Querido/a Señor/a,

Ha sido invitado a participar en el estudio VALUECARE, un proyecto de investigación europeo financiado con el objetivo principal de lograr una mayor eficiencia en la coordinación de la atención sociosanitaria, a través de la creación de una herramienta digital personalizable y basada en resultados para la atención integral.

Sin embargo, usted se reserva el derecho de interrumpir su participación en cualquier momento, sin tener que proporcionar una explicación particular, y sin estar sujeto a ninguna consecuencia negativa asociada para usted en Las Naves. En caso de que desee ejercer ese derecho, complete sus datos a continuación, si es posible, con su propia letra.

Yo, Sr./Sra..., con el número de identificación ...., REVOCO el consentimiento previamente prestado para la inclusión de mis datos en el estudio de investigación VALUECARE, sin haber recibido ningún tipo de oposición o consecuencias indeseables por ello.

Lugar y Fecha

________________, _____ del ______________ de 20___.

[Si es posible, firme con su propia letra]

El/la Participante: ____

El/la Persona cuidadora o familiar (si corresponde):_______________________________

E S			P	
Country code	Organization code	Study group code	Target group code	Participant code (unique for each participant)

ValueCare

Cuestionario para personas mayores

DECLARACIÓN DE CONSENTIMIENTO INFORMADO PERSONAS MAYORES

- He sido informado completa y exhaustivamente sobre el significado, los objetivos y el alcance de la sesión **de cocreación/estudio de pre-evaluación/estudio de evaluación** de VALUECARE, así como sobre los requisitos resultantes o los posibles riesgos e impactos para mí y mi vida.
- Esta información fue proporcionada por la Sra. ___________________________.
- **He leído/me han leído** las páginas informativas anteriores.
- He tenido la oportunidad de hacer preguntas al respecto, y todas las preguntas que he formulado han sido respondidas satisfactoriamente.
- En consecuencia, puedo confirmar que he entendido la información proporcionada.
- Cumpliré con los requisitos necesarios para la realización del estudio, reservándome el derecho a retirar mi participación voluntaria en cualquier momento, sin que esto implique consecuencias negativas.

Doy mi consentimiento para participar voluntariamente en este proyecto de investigación:

- Declaro mi consentimiento para participar en este estudio.
- Declaro mi consentimiento para el tratamiento de mis datos personales, en concreto, para la grabación (incluida la grabación y transcripción de la voz de la entrevista), la transferencia y el almacenamiento de mis datos, como se describe en las secciones 3 y 7.
- Declaro mi consentimiento para el intercambio de datos seudoanonimizados con organizaciones relacionadas con el proyecto VALUECARE durante el período de tiempo establecido, según se define en el apartado 7.
- Declaro mi consentimiento para la captación y difusión de mi imagen, en la página web y Redes Sociales de Las Naves, así como las RRSS y página web del proyecto VALUECARE, con la finalidad de dar visibilidad pública al presente proyecto.
- Doy mi consentimiento para compartir mis datos de investigación con otras instituciones científicas y terceros para futuras investigaciones científicas, como se indica en la carta informativa.
- Doy mi consentimiento para contactarme después de este estudio para participar en un estudio de seguimiento.

Nombre del participante: ______________________

Número nacional de identidad: ______________________

Código de identificación: ______________________

He recibido una copia de este formulario de consentimiento informado para participar en el estudio ValueCare. El formulario original se almacenará en Las Naves.

Firma del participante: ______________________

Día/mes/año: / /

Instrucciones del cuestionario

- Por favor, responda a todas las preguntas, incluso si parecen ser las mismas: estas preguntas nos ayudan a ver la situación de nuevo desde un ángulo diferente.
- Marque una respuesta por pregunta. Si es posible marcar más de una respuesta, se mencionará para esta pregunta específica.
- Responda al cuestionario con un bolígrafo azul o negro.
- Cuando haya terminado, compruebe que no ha olvidado ninguna pregunta.

Cometer un error
Si selecciona una casilla incorrecta y quiere corregirla, coloree la casilla incorrecta de negro.

Ejemplo: usted es mujer

1 ¿Cuál es su género?

☒ Hombre
☐ Mujer

Seleccionas una casilla errónea y quieres corregirla

1 ¿Cuál es su género?

■ Hombre
☒ Mujer

Corregido: ahora ha respondido que es mujer

El texto o los números deben rellenarse dentro de la caja.

2 ¿Cuántas tazas de café se tomó ayer?

Correcto

Incorrecto

Su calidad de vida

(Por favor marque solo una opción por pregunta)

En general...		Exce-lente	Muy buena	Buena	Regular	Mala
A1	... diría que su salud es:	☐	☐	☐	☐	☐
A2	... diría que su calidad de vida es:	☐	☐	☐	☐	☐
A3	... ¿cómo calificaría su salud física?	☐	☐	☐	☐	☐
A4	... ¿cómo calificaría su salud mental, incluidos su estado de ánimo y su capacidad para pensar?	☐	☐	☐	☐	☐
A5	... ¿cómo calificaría su satisfacción con sus actividades sociales y sus relaciones con otras personas?	☐	☐	☐	☐	☐
A6	... califique en qué medida puede realizar sus actividades sociales y funciones habituales.	☐	☐	☐	☐	☐

A7 ¿En qué medida puede realizar sus actividades físicas diarias, como caminar, subir escaleras, cargar las compras o mover una silla?

Completamente	En su mayoria	Moderadamente	Un poco	Para nada
☐	☐	☐	☐	☐

A8 En los últimos 7 días, ¿Con qué frecuencia le han afectado problemas emocionales como sentir ansiedad, depresión o irritabilidad?

Nunca	Rara vez	Algunas veces	A menudo	Siempre
☐	☐	☐	☐	☐

A9 En promedio, ¿cómo calificaría su cansancio?

Ninguno	Leve	Moderado	Intenso	Muy intenso
☐	☐	☐	☐	☐

A10 En promedio, ¿cómo calificaría su dolor?

Ningún dolor										El peor dolor imaginable
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
0	1	2	3	4	5	6	7	8	9	10

Debajo de cada enunciado, marque UNA casilla, la que mejor describe su salud HOY.

A11 Movilidad

☐ No tengo problemas para caminar
☐ Tengo problemas leves para caminar
☐ Tengo problemas moderados para caminar
☐ Tengo problemas graves para caminar
☐ No puedo caminar

A12 Autocuidado

☐ No tengo problemas para lavarme o vestirme
☐ Tengo problemas leves para lavarme o vestirme
☐ Tengo problemas moderados para lavarme o vestirme
☐ Tengo problemas graves para lavarme o vestirme
☐ No puedo lavarme o vestirme

A13 Actividades habituales

Actividades cotidianas (Ej.: trabajar, estudiar, hacer las tareas domésticas, actividades familiares o actividades durante el tiempo libre)

☐ No tengo problemas para realizar mis actividades cotidianas
☐ Tengo problemas leves para realizar mis actividades cotidianas
☐ Tengo problemas moderados para realizar mis actividades cotidianas
☐ Tengo problemas graves para realizar mis actividades cotidianas
☐ No puedo realizar mis actividades cotidianas

A14 Dolor / Malestar

☐ No tengo dolor ni malestar
☐ Tengo dolor o malestar leve
☐ Tengo dolor o malestar moderado
☐ Tengo dolor o malestar fuerte
☐ Tengo dolor o malestar extremo

A15 Ansiedad / Depresión

☐ No estoy ansioso ni deprimido
☐ Estoy levemente ansioso o deprimido
☐ Estoy moderadamente ansioso o deprimido
☐ Estoy muy ansioso o deprimido
☐ Estoy extremadamente ansioso o deprimido

B

Su salud y bienestar

B1 **¿Se siente físicamente sano?**

☐ Si ☐ No

B2 **¿Ha perdido mucho peso recientemente de forma involuntaria?** (6 kg o más en los *últimos 6 meses* o 3kg o más en el *último mes*)

☐ Si ☐ No

¿Ha experimentado problemas en su vida diaria como:		**Si**	**No**
B3	... dificultad para caminar?	☐	☐
B4	... dificultad para mantener el equilibrio?	☐	☐
B5	... peor audición?	☐	☐
B6	... peor vision?	☐	☐
B7	... pérdida de fuerza en las manos?	☐	☐
B8	... cansancio?	☐	☐

Componentes psicológicos:		**Si**	**Alguna vez**	**No**
B9	¿Ha tenido problemas de memoria?	☐	☐	☐
B10	¿Se ha sentido triste en el último mes?	☐	☐	☐
B11	¿Se ha sentido nervioso o con ansiedad?	☐	☐	☐
B12	¿Es capaz de enfrentarse a los problemas?	☐		☐

Componentes sociales:		**Si**	**Alguna vez**	**No**
B13	¿Vive solo?	☐		☐
B14	¿A veces echa de menos tener gente alrededor?	☐	☐	☐
B15	¿Recibe suficiente ayuda de otras personas?	☐		☐

¿Alguna vez un médico le ha dicho que usted tiene una o más de las siguientes enfermedades o problemas de salud?

(Por favor marque solo una opción por pregunta)		**Si**	**No**
B16	Enfermedad cardiovascular (por ejemplo, angina, infarto cardíaco o insuficiencia cardíaca)	☐	☐
B17	Tensión arterial alta o hipertensión	☐	☐
B18	Enfermedad pulmonar, como bronquitis crónica o enfisema	☐	☐
B19	Dolor de piernas al caminar debido a la mala circulación	☐	☐

(Por favor marque solo una opción por pregunta)

		Si	No
B20	Diabetes (Tipo I o Tipo II)	☐	☐
B21	Enfermedad renal	☐	☐
B22	Enfermedad del sistema nervioso (por ejemplo, enfermedad de Parkinson o esclerosis múltiple)	☐	☐
B23	Enfermedad hepática	☐	☐
B24	Cáncer (en los últimos 5 años)	☐	☐
B25	Depresión	☐	☐
B26	Colesterol elevado (a veces denominado hiperlipidemia)	☐	☐
B27	Un ictus o enfermedad cerebral vascular	☐	☐
B28	Artritis, incluida la osteoartritis o el reumatismo	☐	☐
B29	Osteoporosis	☐	☐
B30	Dolor de espalda	☐	☐
B31	Fractura de cadera o fractura femoral	☐	☐
B32	Catarata	☐	☐
B33	Úlcera de estómago o duodenal, úlcera péptica	☐	☐
B34	No tengo ninguna condición crónica	☐	☐
B35	Otras condiciones, a saber...	☐	☐

¿Con qué frecuencia...		Casi nunca	Algunas veces	A menudo
B36	...siente que le falta compañía?	☐	☐	☐
B37	...se siente excluido?	☐	☐	☐
B38	...se siente aislado de los demás?	☐	☐	☐

C

Tu funcionamiento físico

Elija la afirmación que más se corresponda con su nivel actual de capacidad.
(Por favor marque solo una opción por pregunta)

C1 Alimentación

☐ Soy capaz de comer solo.
☐ Puedo comer solo con la excepción de cortar la carne, girar la tapa de un tarro, etc.
☐ Puedo comer solo, pero necesito ayuda para verter la leche, usar la sal y la pimienta, untar la mantequilla, etc.
☐ Puedo utilizar los cubiertos, pero alguien tiene que ayudarme activamente durante la comida.
☐ Solo puedo hacerlo con la ayuda de alguien.

C2 Lavarse / bañarse

☐ Puedo bañarme en la bañera o utilizar la ducha por mí mismo.
☐ Necesito supervisión por razones de seguridad (entrar/salir de la bañera/ducha, temperatura del agua, etc.).
☐ Necesito ayuda para entrar/salir de la bañera/ducha, para lavarme o secarme.
☐ Puedo colaborar de alguna manera.
☐ Dependo completamente de otros para lavarme.

C3 Aseo personal
(lavarme la cara, peinarme, cepillarme los dientes, afeitarme, etc.)

☐ Soy capaz de cuidar mi higiene personal.
☐ Soy capaz de cuidar mi higiene, requiriendo asistencia mínima.
☐ Necesito ayuda para una o más tareas de higiene personal.
☐ Puedo colaborar de alguna manera.
☐ Dependo completamente de los demás para mi higiene personal.

C4 Vestirse

☐ Puedo vestirme solo.
☐ Solo necesito ayuda para ciertas cosas, como cerrar botones, cremalleras, un sujetador o los cordones de zapatos.
☐ Necesito ayuda para ponerme o quitarme cualquier prenda de ropa.
☐ Puedo colaborar de alguna manera.
☐ Dependo completamente de los demás para vestirme.

C5 Control de heces

☐ No tengo pérdidas. Soy capaz de usar supositorios o ponerme un enema si es necesario.
☐ Tengo pérdidas ocasionales. Necesito supervisión para el uso de supositorios o enemas.
☐ Necesito ayuda para limpiarme o para usar pañales.
☐ Puedo colaborar de alguna manera.
☐ No tengo control intestinal.

C6 Control de orina

☐ Tengo control total de la vejiga (día y noche) y / o puedo usar dispositivos (pañales, catéter o colector) sin ayuda.
☐ Tengo pérdidas ocasionales de orina (de día o de noche) y / o necesito asistencia mínima para el uso de dispositivos.
☐ Tengo pérdidas de orina por la noche y necesito ayuda para usar los dispositivos.
☐ Tengo pérdidas de orina pero puedo colaborar para el uso de dispositivos.
☐ Tengo incontinencia urinaria o tengo un catéter permanente. Necesito ayuda para usar dispositivos.

C7 Usar el retrete

☐ Puedo usar el baño solo.
☐ Necesito supervisión para usar el baño de manera segura. Utilizo la silla del inodoro de forma independiente, pero no puedo vaciarla ni limpiarla.
☐ Necesito ayuda para desvestirme / vestirme y sentarme / levantarme.
☐ Puedo colaborar de alguna manera.
☐ Dependo completamente de otros para usar el baño.

C8 Traslado silla/cama

Elija la afirmación que más se corresponda con *su nivel actual de capacidad.*

☐ Puedo meterme y levantarme de la cama, la silla o la silla de ruedas yo solo.
☐ Necesito supervisión por motivos de seguridad para el traslado.
☐ Necesito ayuda mínima para el traslado.
☐ Necesito la máxima ayuda para el traslado.
☐ Dependo completamente de otros para el traslado.

C9 Desplazarse

☐ Puedo caminar solo por más de 50m con o sin ayuda para caminar (por ejemplo, bastón, andador).

☐ Puedo caminar solo por menos de 50m. Necesito supervisión en situaciones peligrosas.

☐ Ocasionalmente necesito ayuda para el uso de ayudas para caminar (por ejemplo, bastón o andador).

☐ Necesito ayuda constante para caminar.

☐ No puedo caminar, uso silla de ruedas.

C10 Subir y bajar escaleras

☐ Puedo subir y bajar escaleras.

☐ Generalmente no necesito ayuda. Ocasionalmente, necesito supervisión por razones de seguridad.

☐ Puedo subir y bajar escaleras con ayuda para caminar.

☐ Necesito ayuda para subir y bajar escaleras.

☐ No puedo subir y bajar escaleras.

Caídas:

C11 ¿Tiene miedo a caerse?

No tengo miedo										**Mucho miedo**
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

C12 ¿Se ha caído alguna vez en los últimos 12 meses?

☐ Si → Por favor, vaya a la pregunta C13

☐ No → Por favor, vaya a la pregunta D1

C13 ¿Cuantas veces se ha caído en los últimos 12 meses?

☐ 1 vez

☐ 2 veces

☐ 3 veces

☐ 4 o más veces

Estilo de vida

D1 ¿Cuánto mide? ☐ centímetros

D2 Aproximadamente, ¿cuánto pesa? ☐ kilogramos

D3 **¿Fuma usted (cigarrillos, puros, puritos o pipas) en la actualidad?**

☐ Si
☐ No, nunca he fumado
☐ No, pero soy exfumador

D4 **¿Con qué frecuencia toma alguna bebida alcohólica?**

☐ + de 4 veces por semana
☐ 2-3 veces a la semana
☐ 2-4 veces al mes
☐ Una vez al mes o menos
☐ Nunca en el último año → Por favor, vaya a la pregunta D6

D5 **¿Cuantas consumiciones de bebidas alcohólicas suele realizar en un día de consumo normal?**

☐ 1 o 2
☐ 3 o 4
☐ 5 o 6
☐ 7 a 9
☐ 10 a más

D6 **Durante los *últimos 7 días,* ¿cuánto tiempo pasó *sentado* en un *día hábil?***

☐ horas al día

D7 **Durante los últimos 7 días, ¿en cuántos hizo actividades físicas moderadas como transportar pesos livianos, andar en bicicleta a velocidad regular o jugar dobles de tenis? Atención, no incluya caminar**

☐ Más de una vez a la semana
☐ Una vez a la semana
☐ Entre una y tres veces al mes
☐ Casi nunca, o nunca

D8 **Ha perdido *involuntariamente* 4 kg o más en los últimos 6 meses**

☐ Si ☐ No

D9 **Ha tenido en la última semana menos apetito?**

☐ Si ☐ No

D10 **¿Puede subir una escalera de 15 escalones hacia arriba y hacia abajo sin tomar un descanso?**
***Alternativa:* ¿Puede caminar fuera durante 5 minutos sin tener que descansar?**

☐ Si ☐ No

E

Su uso de medicamentos

Por favor, conteste las siguientes preguntas acerca de los medicamentos que toma: (Por favor marque solo una opción por pregunta)

		Si	No
E1	¿Toma 5 o más medicamentos diferentes?	☐	☐
E2	¿Toma 12 o más pastillas al día?	☐	☐
E3	¿Han cambiado 4 veces o más sus medicamentos o las instrucciones sobre cómo tomarlos en los últimos 12 meses?	☐	☐
E4	¿Es difícil para usted tomar sus medicamentos según lo prescrito?	☐	☐
E5	¿Normalmente le receta más de un médico sus medicamentos?	☐	☐
E6	¿Recoge usted mismo sus medicamentos de la farmacia?	☐	☐
E7	¿Le dispensan sus recetas siempre en la misma farmacia?	☐	☐
E8	¿Sabe para qué toma todos sus medicamentos?	☐	☐

		Si	No	No estoy seguro
E9	¿Toma medicación para 3 o más enfermedades diferentes?	☐	☐	☐
E10	¿Toma alguno de los siguientes medicamentos: carbamazepina, litio, fenitoína, warfarina, digoxina, fenobarbital, procainamida, teofilina, quinidine o cualquier otro que le ayude a controlar los latidos del corazón?	☐	☐	☐

F

Cuidado recibido

F1 **¿Ha visitado al médico (de cabecera o especialista) alguna vez en los últimos 12 meses?**

☐ No ☐ Si, ☐ veces

F2 **¿Debido a su salud, ¿ha tenido ayuda profesional en las tareas del hogar en los últimos 12 meses?**

☐ No ☐ Si, ☐ horos por semana, durante ☐ semanas

F3 **¿Ha recibido ayuda profesional para su propio cuidado en los últimos 12 meses?**

☐ No ☐ Si, ☐ horos por semana, durante ☐ semanas

F4 **¿Ha estado ingresado/a en un hospital en los últimos 12 meses?**

☐ No ☐ Si, ☐ dias

G

Cuestiones generales

G1 **Fecha de hoy**

☐ – ☐ – 20 ☐

dd mm yy

G2 **¿Se completó este cuestionario con la ayuda de un cuidador?**

☐ No

☐ Si, cuidador informal (por ejemplo, un familiar, un amigo)

☐ Si, profesional (de la salud)

G3 **¿Cuál es su edad?** ☐ años

G4 ¿Cúal es su género?

☐ Hombre ☐ Mujer ☐ Prefiero no decirlo

☐ Otros, concretamente

G5 ¿Cuál es su país de origen?

☐ España

☐ Otro país, nombre

G6 ¿Cuál es el país de origen de su madre?

☐ España

☐ Otro país, nombre

G7 ¿Cuál es el país de origen de su padre?

☐ España

☐ Otro país, nombre

G8 ¿Cuál es su estado civil?

☐ Soltero

☐ Casado

☐ Convivencia de larga duración, no casado

☐ Divorciado

☐ Viudo/a

G9 ¿Qué afirmación describe mejor su forma de vida?
(Marque sólo una casilla.)

☐ Vivir solo en su propia residencia

☐ Vivir con la pareja / el cónyuge / la familia / los amigos

☐ Vivir en una residencia de ancianos, un hospital o una residencia de larga duración

☐ Otros, a saber

G10 ¿Cuál es su nivel de estudios?
(Marque sólo una casilla.)

- ☐ Sin educación
- ☐ Educación primaria
- ☐ Educación secundaria inferior
- ☐ Educación secundaria superior
- ☐ Educación postsecundaria no terciaria
- ☐ Educación terciaria de ciclo corto
- ☐ Licenciatura o equivalente
- ☐ Máster o equivalente
- ☐ Doctorado o equivalente

G11 ¿A cuánto ascienden aproximadamente los ingresos netos mensuales de su hogar?

- ☐ Menos de 750€
- ☐ Entre 751€ y 1000€
- ☐ Entre 1001€ y 1300€
- ☐ Entre 1301€ y 1650€
- ☐ Entre 1651€ y 2000€
- ☐ Entre 2001€ y 2350€
- ☐ Entre 2351€ y 2800€
- ☐ Entre 2801€ y 3500€
- ☐ Entre 3501€ y 4600€
- ☐ 4601€ o más
- ☐ No lo sé / prefiero no contestar

G12 ¿Qué tipos de ingresos recibió su hogar en el último año?
(Seleccione todas las casillas que correspondan)

- ☐ Pensión pública de vejez
- ☐ Pensión de vejez privada (profesional)
- ☐ Subsidios familiares/por hijos
- ☐ Ingresos del trabajo (por cuenta ajena o por cuenta propia)
- ☐ Otras fuentes de ingresos no mencionadas anteriormente
- ☐ Ninguna fuente de ingresos

G13 ¿Recibe algún ingreso por su trabajo?

- ☐ No → Por favor, vaya a la pregunta G23
- ☐ Si

Las siguientes preguntas se refieren a su situación laboral. *Si no tiene trabajo remunerado,* por favor continúe con la pregunta G23

G14 ¿Cuál es su ocupación?

G10 **¿Cuál es su nivel de estudios?**
(Marque sólo una casilla.)

☐ Sin educación
☐ Educación primaria
☐ Educación secundaria inferior
☐ Educación secundaria superior
☐ Educación postsecundaria no terciaria
☐ Educación terciaria de ciclo corto
☐ Licenciatura o equivalente
☐ Máster o equivalente
☐ Doctorado o equivalente

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☐ Entre 2001€ y 2350€
☐ Entre 2351€ y 2800€
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☐ Entre 3501€ y 4600€
☐ 4601€ o más
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☐ Ingresos del trabajo (por cuenta ajena o por cuenta propia)
☐ Otras fuentes de ingresos no mencionadas anteriormente
☐ Ninguna fuente de ingresos

G13 **¿Recibe algún ingreso por su trabajo?**

☐ No → Por favor, vaya a la pregunta G23
☐ Si

Las siguientes preguntas se refieren a su situación laboral. *Si no tiene trabajo remunerado,* por favor continúe con la pregunta G23

G14 **¿Cuál es su ocupación?**

G15 **¿Cuántas horas a la semana trabaja?** (Cuente sólo las horas que le pagan.)

☐ horas

G16 **¿Cuántos días a la semana trabaja?**

☐ dias

G17 **¿Ha faltado al trabajo en las últimas 4 semanas por estar enfermo?** (Cuente sólo los días de trabajo perdidos en las últimas 4 semanas.)

☐ No → Por favor, vaya a la pregunta G20

☐ Si, he perdido...

☐ dias

G18 **¿Ha faltado al trabajo en el período anterior a *las últimas 4 semanas* por estar enfermo?** (Se refiere al último período completo e ininterrumpido en que faltó al trabajo por estar enfermo.)

☐ No → Por favor, vaya a la pregunta G20

☐ Si

G19 **¿Cuántos días duró este período ininterrumpido de ausencia del trabajo?**

☐ día(s)

Por favor, vaya a la pregunta ***G23***

G20 **¿Hubo días en las *últimas 4 semanas* en los que se vio obligado a realizar menos *trabajo remunerado* debido a problemas físicos o psicológicos?**

☐ No → Por favor, vaya a la pregunta G23

☐ Si

G21 **¿Cuántos días *en las últimas 4 semanas* ocurrió esto?**

☐ días

G22 **¿Cuánto trabajo de media ha podido hacer en esos días?**

No pude trabajar en esos días					**Pude hacer la mitad del trabajo**					**Pude trabajar tanto como de costumbre**
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

**Cuando se realiza un *trabajo no remunerado* (por ejemplo, trabajo de cuidados, trabajo voluntario), también se pueden experimentar problemas físicos o psicológicos.
Es posible que no puedas hacer todas las cosas que te gustaría hacer.**

Las siguientes preguntas se refieren al trabajo no remunerado.

G23 ¿Hubo días en las *últimas 4 semanas* en los que se vio obligado a hacer menos *trabajo no remunerado* debido a problemas físicos o psicológicos?

☐ No → Saltar las últimas dos preguntas

☐ Si

G24 ¿Cuántos días en las últimas 4 semanas ocurrió esto?

☐ días

G25 Si alguien (por ejemplo, su pareja, un familiar o un amigo) le ayudó durante esos días, y él o ella hizo todo el trabajo no remunerado que usted no pudo hacer por sí mismo, ¿cuántas horas de media dedicó esa persona a ello en esos días?

☐ horas

¿Tiene algún comentario con respecto a este cuestionario?

☐

¡Gracias por completar este cuestionario!

PLAN DE INTERVENCIÓN PSICOSOCIAL

Protocolo a seguir para la atención de las personas mayores con fragilidad psicosocial

Piloto Valencia

PROJECT ValueCare

Value-based methodology for
integrated care supported by ICT

ÍNDICE

1. *¿POR QUÉ ATENDER AL FACTOR PSICOSOCIAL DE LA FRAGILIDAD?*

La mayoría de las conceptualizaciones que refieren a la fragilidad definen la misma desde un punto de vista biológico, enfatizando en los problemas físicos que enfrenta la población mayor (Buchner y Wagner en 1992; Hamerman (1999); Fried et al., 2003; Gobbens et al., 2010).

A pesar de esto, son diversos los autores y estudios que han tratado de definir el síndrome de fragilidad atendiendo a factores biopsicosociales. En este sentido, Brocklehurst (1985) define la fragilidad como el riesgo de perder la capacidad para continuar viviendo en la comunidad, comoun "equilibrio precario" entre el estado de salud y los recursos sociales y sanitarios que se necesitan, pudiendo llevar al individuo a la institucionalización, la dependencia e incluso la muerte. En esta misma línea, Gobbens et al. (2010), consideran la importancia de abarcar los aspectos psicológicos y sociales, al temer que una definición únicamente centrada en los aspectosfísicos podría conllevar una atención fragmentada del individuo y, en consecuencia, la disminución de la calidad de la atención prestada a las personas mayores frágiles. Por ello, tomando como partida la definición de la salud de la Organización Mundial de la Salud (1948), definieron la fragilidad como un estado dinámico en el que la persona experimenta pérdidas en uno o más ámbitos (físico, psicológico, social), las cuales se producen por la influencia de una serie de variables conllevando un aumento del riesgo de sufrir resultados adversos.

No obstante, pese a la variabilidad de definiciones, existen algunos aspectos en los que se puede constatar la existencia de consenso. En primer lugar, en que la fragilidad se encuentra relacionadacon un estado de alteraciones fisiopatológicas que predispone al anciano que la tiene a presenciarun declive en múltiples sistemas corporales, debido a las alteraciones en la movilidad, equilibrio,potencia muscular, nutrición, coordinación motora, resistencia y capacidad de actividad física (Soler et al, 2010; Serra-Rexach,2011; Ramos,2018). En segundo lugar, existe consenso en que la fragilidad constituye un estado de prediscapacidad o de riesgo de desarrollar una nueva discapacidad desde una situación de limitación funcional incipiente. En tercer lugar, con independencia de la definición que se utilice, la fragilidad tiende a desarrollarse de forma escalonada, con empeoramientos progresivos (Lesende et al 2009; Contel et al, 2012). En cuartolugar, la fragilidad es un concepto que refiere a una condición dinámica y no estática, es decir, lomás probable es que cualquier persona mayor no permanezca por largos periodos de tiempo igualde frágil o vigoroso (Castelblanque y Cuñat, 2002; Gobbens et al; 2010). Por último, dado que la fragilidad responde a un síndrome multicausal, determinado por variables de diferente índole (clínicas, sociodemográficas, funcionales, mentales), los autores coinciden en que el reconocimiento clínico de la fragilidad ha de realizarse a través de la valoración integral de las personas mayores (Fried et al.,1998; Cortés et al.,2000; Redin,2002; Orueta et al.,2008; Soler et al., 2010; Ministerio de Sanidad, Igualdad y Servicios Social, 2013).

Atendiendo a este último aspecto, y como ya se ha mencionado anteriormente, la fragilidad responde a un síndrome de etiopatogenia compleja y multifactorial, por lo que la definición, valoración e intervención de la misma, es incompleta si se aborda exclusivamente de forma unicausal (Zugasti y Casa, 2019).

Por todo lo mencionado anteriormente, el presente protocolo de intervención psicosocial, como su propio nombre indica, se centra en atender el carácter multifactorial del síndrome al abordar los dominios psicológico y social en paralelo al resto de itinerarios contemplados (nutrición, ejerciciofísico y adherencia al tratamiento farmacológico), y por otra parte a su condición dinámica, en tanto que el objetivo es, proporcionar un plan de atención individualizado que permita, según el abordaje de las necesidades psicosociales presentadas en cada uno/a de los/las participantes, paralizar o revertir la condición de fragilidad a través de un plan de intervención integral.

2. VALORACIÓN INICIAL E INCLUSIÓN DE LOS PARTICIPANTES EN EL ITINERARIO PSICOSOCIAL

La identificación de los pacientes que presentan fragilidad se llevará a cabo en los Centros de Salud de Atención Primaria a través de los profesionales sanitarios pertinentes. En este caso, los médicos de familia serán los encargados de cribar la fragilidad de aquellos pacientes que tengan 65 años o más mediante la escala Frail (Abellan van Kan et al., 2008). Tras el cribado, podrán ser objeto de inclusión en el plan de atención individualizado aquellos pacientes con fragilidad leve o moderada, esto es, que hayan obtenido una puntuación ≥ 3 en la escala Frail. De esta manera, los criterios de inclusión se resumen en:

- Tener 65 años o más
- Tener fragilidad leve o moderada
- No presentar deterioro cognitivo

De forma posterior, los pacientes que deseen participar en el proyecto deberán cumplimentar el consentimiento informado, a efecto de dejar constancia por escrito de su intención de participar voluntariamente en la investigación, tras haber leído y comprendido toda la información presenteen el consentimiento informado (objetivos de la investigación, beneficios…).

En última instancia, se procederá a evaluar la fragilidad para decidir a cuál o cuáles itinerarios (actividad física, adherencia a la medicación, nutrición y apoyo psicosocial) debe de ser destinadocada uno/a de los/as participantes. En este caso, la toma de decisiones sobre a qué itinerario se deriva cada participante se realizará en dos fases complementarias. Una primera fase, donde se obtendrá la evaluación objetiva de la fragilidad, y de otras variables relacionadas, mediante la utilización de instrumentos estandarizados, y una segunda fase en la que los profesionales sanitarios a la vista de los resultados obtenidos y siendo conocedores de la historia médica, valoraran la inclusión de los participantes en los itinerarios que más se ajusten a sus necesidades.

Por lo que respecta a la inclusión de los participantes en el itinerario psicosocial, se incluirá además la valoración de los trabajadores sociales dado el conocimiento que estos poseen sobre el ámbito social.

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Para poder cribar de forma objetiva la fragilidad, en lo concerniente a los aspectos psicosociales,y saber qué pacientes deben ser incluidos en el Itinerario Social, se van a utilizar el Tilburg Fraility Index (Gobbens et al., 2010) y la escala UCLA 3 Item Loneliness Scale (Hughes et al., 2004). La valoración obtenida mediante estos instrumentos nos permitirá conocer el número de personas mayores que presentan fragilidad biopsicosocial y, por ende, son objeto de participación en el itinerario psicosocial.

A continuación, se presentan los puntos de corte que determinaran en cada una de las escalas la existencia de fragilidad psicosocial y/o soledad en las personas mayores, al existir evidencia científica de que los mismos cumplen con los parámetros de sensibilidad y especificidad.

De esta manera, el punto de corte en el Tilburg Fraility Index es de **>**2 para cada una de las subescalas de fragilidad psicológica (puntuaciones de 0-4) y fragilidad social (puntuaciones de 0-3)[1]. Y para la escala UCLA (3 ítems) el punto de corte es de ≥ 6, indicando las puntuacionesde 3-5 la inexistencia de soledad y de 6-9 la existencia de soledad[2].

De esta manera, serán objeto de inclusión en el Itinerario Social las personas mayores que obtengan una puntuación >2 en una u ambas de las subescalas del Tilburg Fraility Index (subescala psicológica y subescala social), y/o obtengan una puntuación ≥ 6 en la escala UCLA de 3 ítems.

Tabla 1

Cribado de la fragilidad psicosocial según puntos de corte por instrumento de evaluación

Instrumentos	Punto de corte
Fraility Tilburg Index	
Subescala psicológica	>2
Subescala social	>2
UCLA 3 ítems	≥ 6

Fuente: elaboración propia

De esta manera, tras la identificación de las personas que presentan fragilidad psicosocial, éstas serán derivadas al itinerario de intervención psicosocial, que se iniciará con la inclusión de cada uno/a de los/as participantes en dicho itinerario.

El mapa de procesos que a continuación se presenta, tiene por objetivo plasmar de una manera más visual, el procedimiento a seguir para la valoración e inclusión de los/as participantes en el itinerario de intervención psicosocial.

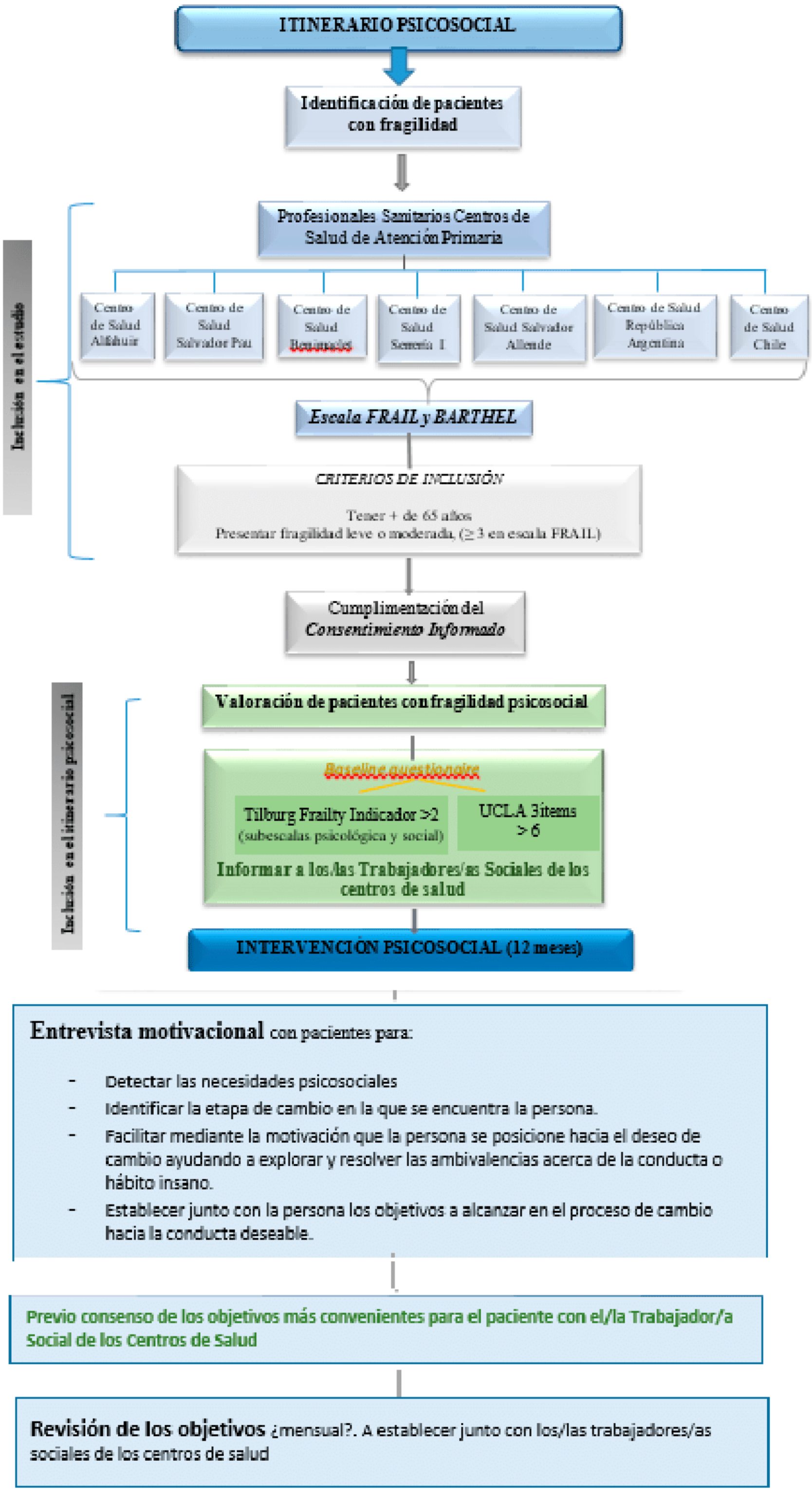
---

[1] Más información en: [Gobbens, R. J., van Assen, M. A., Augustijn, H., Goumans, M., & van der Ploeg, T. (2020).Prediction of mortality by the Tilburg Frailty Indicator (TFI). *Journal of the American Medical Directors Association*.]

[2] Más información en: [Steptoe, A., Shankar, A., Demakakos, P. y Wardle, J. (2013). Aislamiento social, soledad y mortalidad por todas las causas en hombres y mujeres mayores. *Actas de la Academia Nacional de Ciencias, 110* (15),5797-5801.] y [Shiovitz-Ezra, S. y Ayalon, L. (2012). Uso de enfoques directos versus indirectos para medir la soledaden la vejez. *Investigación sobre el envejecimiento, 34* (5), 572-591.]

Figura 1

Procedimiento a seguir para la valoración e inclusión de los/as participantes en el itinerario psicosocial



Entrevista motivacional con pacientes para:

- Detectar las necesidades psicosociales
- Identificar la etapa de cambio en la que se encuentra la persona.
- Facilitar mediante la motivación que la persona se posicione hacia el deseo de cambio ayudando a explorar y resolver las ambivalencias acerca de la conducta o hábito insano.
- Establecer junto con la persona los objetivos a alcanzar en el proceso de cambio hacia la conducta deseable.

Previo consenso de los objetivos más convenientes para el paciente con el/la Trabajador/a Social de los Centros de Salud

Revisión de los objetivos ¿mensual?. A establecer junto con los/las trabajadores/as sociales de los centros de salud

A continuación, se presenta de forma detallada, el enfoque a seguir durante todo el plan de intervención, y que constituye el pilar base de la interacción profesional-paciente, seguido del protocolo de actuación para cada una de las fases que componen el plan de intervención psicosocial.

3. ENFOQUE BASE DE UN PLAN INDIVIDUALIZADO DE ATENCIÓN: "LA ATENCIÓN CENTRADA EN LA PERSONA"

La relación entre el sistema sanitario y el paciente ha cambiado significativamente, pasando de una dinámica en la que el paciente era un sujeto pasivo a ser un participante activo. Anteriormente, la relación médico-paciente se caracterizaba por la dominancia del médico, quien tomaba las decisiones de tratamiento esperando la aceptación pasiva del paciente (Rodríguez, Dackiewicz y Toer, 2014).

Hace aproximadamente 40 años, se empezó a cuestionar esta relación asimétrica para fomentar una participación más activa y autónoma del paciente y mejorar la interacción entre ambos. En 1969, Enid Balint introdujo el concepto de "centrada en el paciente", describiendo la necesidad de tratar al paciente como un individuo único (Lipkin, Quill y Napodano, 1984). Posteriormente, en 2001, el Instituto de Medicina de Estados Unidos definió la atención centrada en el paciente como fundamental para la calidad y seguridad en la atención, destacando la colaboración entre profesionales, pacientes y sus familias, y priorizando las preferencias, necesidades y valores del paciente en la toma de decisiones clínicas (Baker, 2001; Ekman et al., 2011).

Este enfoque ha evolucionado hacia la "atención centrada en la persona", que reconoce al paciente como un ser integral con creencias y prácticas propias de su contexto (Ekman et al., 2011b). Morgan y Yoder (2012) describieron esta atención como un enfoque holístico que respeta y individualiza la atención, empoderando al paciente para participar en las decisiones sobre su cuidado. Autores como Nolan et al. (2004), McCormack (2004) y Brooker (2013) destacan la importancia de reconocer a cada persona como un ser singular, favoreciendo su autonomía y su interdependencia con el entorno social.

En este modelo, el paciente tiene un rol activo y discute con el profesional de la salud sobre las opciones de intervención, colaborando en el proceso y asumiendo el liderazgo del mismo (Instituto of Medicine, 2001; de Silvia, 2014). La participación activa del paciente permite adaptar y ajustar la atención, optimizando los servicios y resultados al ofrecer tratamientos adecuados en el momento y lugar oportunos (Mcmillan et al., 2013; Caro et al., 2019b).

En resumen, la participación del paciente desde el inicio de la atención es esencial para determinar los resultados que le importan, colaborando en la reflexión sobre su proceso terapéutico y ayudando a recopilar los datos necesarios para evaluar los resultados en cada fase (Barrubés et al., 2019e).

4. *PROFESIONALES ENCARGADOS DEL DESARROLLO Y SEGUIMIENTO DEL ITINERARIO SOCIAL*

En cuanto a los y las profesionales encargados del desarrollo y el seguimiento del Itinerario Social dirigido a las necesidades psicosociales de las personas mayores que presentan fragilidad, se encuentran expertos en trabajo social, psicología y medicina.

La base del trabajo desarrollado por los y las profesionales se centra en el enfoque interdisciplinar, mediante el cual, los y las profesionales aportan desde las diferentes disciplinas científicas, los conocimientos que, dentro de su campo, son necesarios para una compresión global de nuestro objeto de estudio.

Se genera así un espacio de comunicación e interacción donde los y las profesionales desarrollan acciones de forma conjunta, abordando el síndrome de fragilidad de un modo integral, pues, no olvidemos que la fragilidad responde a un síndrome complejo, dinámico y multifactorial, donde convergen necesidades físicas, nutricionales, psicológicas, sociales… que han de ser, por tanto, abordadas por los conocimientos y métodos científicos necesarios para atender la globalidad que caracteriza a la fragilidad.

En definitiva, la condición de fragilidad sobrepasa los límites de una única disciplina, por lo que la interdisciplinariedad nos permite proporcionar una valoración y atención integral de la misma.

5. *PLAN DE INTERVENCIÓN PSICOSOCIAL*

5.2 PRIMERA FASE: DETECCIÓN DE NECESIDADES PSICOSOCIALES

A través de este protocolo se pretende, como se ha mencionado con anterioridad, abordar la fragilidad psicosocial de acuerdo al enfoque de atención centrado en la persona. Desde esta perspectiva, se persigue la detección de las necesidades psicosociales, a través de la realización de diferentes acciones, que promuevan procesos de intervención social basados en la participación activa-constructiva y el empoderamiento por parte de las personas mayores, donde se logre una interacción profesional-paciente de carácter simétrico. En definitiva, la base de la participación del presente protocolo parte de los principios que definen la “atención centrada en la persona”.

Debido a que se pretende abordar la fragilidad desde su carácter multifactorial, es importante enfatizar en la influencia que los diferentes comportamientos y actitudes que adoptan las personas mayores en este periodo del ciclo vital, pueden tener sobre la mejora o el empeoramiento de la condición de fragilidad. Diversas teorías sociológicas que persiguen explicar esta etapa del ciclo vital, mediante una descripción de modelos en base a cuáles son los comportamientos de las personas mayores en la vejez, hacen alusión a cómo las personas mayores muestran una actitud en ciertas ocasiones, contraria a los cambios o adversa ante la modificación de su estilo de vida.

A través de la teoría de la desvinculación explicada por Cumming y Herny (1961) se considera que en la tercera edad existe un retraimiento tanto por parte de la sociedad como del individuo, en donde las personas mayores se van distanciando de sus relaciones sociales y reducen sus roles más activos. Y, simultáneamente, la sociedad contribuye a esta situación, pues niega la posibilidad de participación de las personas mayores. Por ejemplo, en la sociedad actual, las personas mayores pierden su valor al no poder contribuir en la productividad económica del país, algo esencial al encontrarnos en una sociedad capitalista, por lo que el valor y la participación que se les otorga a las personas mayores depende en gran medida de su personalidad y de cómo sean considerados por la sociedad. Así mismo, Rodríguez (1994) hace alusión a la teoría de los roles en tanto que, en la etapa de la vejez, las personas sufren una pérdida de roles experimentando por ello una disminución de las expectativas (Montoro, 2007).

Como podemos observar través de estas dos teorías sociológicas, las personas mayores pueden mostrarse contrarias a efectuar cambios cuando están en esta etapa del ciclo vital, contribuyendoen gran medida la sociedad a que se produzca esta situación. Es por ello que se justifica la necesidad de utilizar la entrevista motivacional, por su reconocida capacidad para propiciar la recuperación, aparición y el mantenimiento de actitudes y comportamientos saludables en personas con hábitos y actitudes insanos.

La entrevista motivacional fue descrita por primera vez por Miller en el año 1983, constituyéndose como un enfoque de terapia, cuyo objetivo era tratar la ambivalencia hacia el cambio. Supone una nueva forma de abordar la situación basada en la escucha activa, para disminuir la resistencia presentada por el paciente y aumentar así la motivación del mismo (Prochaska et al., 1986)

Los **principios** de la Entrevista motivacional (en adelante EM) se resumen en los siguientes (Bundy, 2004;Lizarraga y Ayarra, 2001; Flores y Castellanos, 2012):

- En primer lugar, **expresar empatía:** la empatía es la capacidad del profesional para ponerse en la situacióndel otro, como acto de reconocimiento de este como sujeto parecido con el que se comparten elementos comunes (Olivera, 2011), lo cual es clave para fomentar el cambio en la persona (Lizagarra y Ayarra, 2001).

- Por otro lado, **desarrollar la discrepancia**: el objetivo es conseguir que la persona reconozca dónde se encuentra y dónde le gustaría estar con respecto al comportamiento o hábito a modificar. Es por ello que este principio tiene como base identificar y reconocer por parte del paciente la disonancia entre el hábito o conducta insana y las metas y valores que realmente le importan (Ovejero, 1993).

- El siguiente principio consiste en **evitar argumentar y discutir** con el paciente sobre la conveniencia o utilidad de un cambio, ya que esto puede favorecer la resistencia (Lizarraga y Ayarra, 2001).Y, por último, **apoyar y fomentar el sentido de la autoeficacia**: en este sentido, las expectativas de autoeficacia percibidas refieren a las creencias que tiene una persona, de poseer las capacidades necesarias para llevar a cabo las acciones que le permitan obtener los resultados deseados (Bandeura, 1995). Por ello, creer en la posibilidad de cambiar es un aspecto motivacional imprescindible, ya que tiene una gran influencia en la capacidad para iniciar y mantener una nuevaconducta (Lizagarra y Ayarra).

Mediante estos cinco principios la EM trabaja la ambivalencia al cambio presentada por el paciente, permitiendo dichos principios guiar al mismo desde una atmósfera colaborativa, evocativa y favorecedora de su autonomía (Piñeiro, Míguez y Becoña, 2010).

Por otra parte, diferentes autores han definido las **estrategias** necesarias para crear una atmósfera adecuada, que favorezca la comunicación fluida con la que se conseguirá explorar la situación enla que se encuentra el paciente, evitando la resistencia al cambio. De esta manera, autores como Figlie y Guimarães (2014), Becoña y Cortes (2016), Miller y Rollnick (1991), Liras (2014) y Lizagarra y Ayarra (2001) definen las siguientes estrategias: *En primer lugar, solicitar un permiso previo al abordaje de cualquier tema*, en segundo lugar, *hacer preguntas de respuesta abierta*, en tercer lugar, *utilizar la escucha reflexiva y el reflejo*, (mediante la repetición, el refraseo, el parafraseo, el señalamiento emocional y los silencios), en cuarto lugar, *hacer resúmenes* y, por último, el *afirmar- refuerzo positivo*.

Así mismo, la EM retoma el modelo transteórico (en adelante MT) de etapas de cambio de Prochaska y DiClemente (1983), con el objetivo de identificar en qué fase o estadio de cambio se encuentra la persona y detectar las necesidades psicosociales, como base para poneren marcha las actuaciones que propicien dichos cambios en el comportamiento.

Las etapas de las cuales se compone el MT son las siguientes (Cabrera, 200; Becoña y Cortés, 2016; Lizagarra y Ayarra, 2001; Álvarez, 2008; Prochaska y Velicer, 1997; Chen et al, 2020; Nakabayashi et al, 2020; Rondon y Reyes,2019):

- **Estadio o etapa de pre-contempación:** en esta fase la persona no contempla el problema existente, no se cuestiona su situación y por lo tanto no tendrá la intención de tomar medidas que posibiliten un cambio en su comportamiento de riesgo para la salud.

Generalmente el tiempo de duración, según Cabrera (2020) es de 6 meses.

- **Estadio o etapa de contemplación**: En esta fase, las personas son conscientes de las consecuencias negativas de sus comportamientos, y empiezan por tanto a percibir ciertas ventajas de cambiar. El fenómeno denominado como procrastinación o contemplación crónica se produce cuando frente a la intención de realizar una tarea existe la falta de diligencia para empezar a desarrollarla (Díaz, 2019). El tiempo de permanencia en esta etapa varía en función de los autores. Según Mayor (1995), en esta etapa la persona puede permanecer hasta 6 meses, mientras que Cabrera (2000) considera que puede alargarse hasta 2 años.

- **La etapa de determinación hacia el cambio o preparación para la acción**. En esta etapa la persona se propone firmemente el cambio, considerando que los beneficios superan los perjuicios de mantener la conducta insana. Según Cabrera (2000) la preparación para el cambio puede durar en torno a 30 días.

- **Etapa o estadio de acción de cambios**. En esta etapa la persona ha hecho modificaciones específicas en su estilo de vida, ha tomado activamente medidas para cambiar. Es importante que el profesional proporcione ayuda emocional en tanto que retomar por parte del paciente el control de su vida es un momento estresante. Según Cabrera (2000), el periodode tiempo en esta etapa oscila entre 1 y 6 meses.

- **Etapa o estadio de mantenimiento**. El objetivo en esta etapa es concentrarse activamente para mantener el cambio evitando la tentación por volver al comportamiento modificado, es decir, previniendo una recaída. Según Cabrera (2000), la persona en esta etapa se encontrará en un periodo de tiempo entre 6 meses y 2 años.

- **Etapa o estadio de recaída**: Pese a que originalmente la recaída constituía una de las etapas del modelo original (Prochaska y Diclemente, 1983), en enunciaciones más recientes no se considera como una etapa como tal sino como una transición en la que las personas que se encuentran en la etapa de mantenimiento o acción, regresan a etapas anteriores (Lipschítz et al; 2015). Las recaídas se constituyen como un fenómeno normal y frecuente en el cambio de comportamientos arraigados, donde, no obstante, es importante distinguir entre una recaída mantenida y una ocasional.

Algunos autores como Prochaska y Velicer (1997) y Cabrera (2000), mencionan una séptima y última etapa que definen como "**terminación**". Etapa que la persona alcanzaría cuando tiene un 100% de confianza en el nuevo comportamiento, de autoeficacia ante situaciones que antes era tentadoras, como si nunca antes hubieran presentado la conducta insana.

5.1.1. MODELO DE ENTREVISTA MOTIVACIONAL

A continuación, se presenta el formato de entrevista motivacional, mediante el cual, a través del uso de las estrategias y herramientas anteriormente mencionadas, se pretende lograr:

- Detectar las necesidades psicosociales que presenta la persona.
- Conocer la etapa de cambio en la que se encuentra la persona.
- Facilitar mediante la motivación que la persona se posicione hacia el deseo de cambio ayudando a explorar y resolver las ambivalencias acerca de la conducta o hábito insano.
- Establecer junto con la persona mediante un proceso de negociación profesional-paciente los objetivos a alcanzar en el proceso de cambio hacia la conducta deseable.

Para facilitar la comprensión del proceso, se ha diseñado una entrevista motivacional a partir de un caso en concreto, que nos servirá de modelo al contemplar cómo se ha de actuar ante las diferentes respuestas que nos pueden proporcionar las personas mayores, según la etapa de cambio en la que se encuentren.

MODELO DE ENTREVISTA MOTIVACIONAL

Color marrón: entrevistadora
Color azul: persona mayor

1. Inicio de la entrevista y detección aproximada de necesidades
1.1 <u>1.1 La entrevistadora se presenta y de forma breve y sencilla recuerda al paciente el motivo de la entrevista.</u>

- *Buenos días Margarita, soy Mirian, una de las personas encargadas del proyecto que estamos llevando acabo. Si le parece bien, le voy a recordar lo que vamos a hacer durante este tiempo...*

1.2 <u>Solicitar permiso para iniciar el abordaje del tema en cuestión</u>: Esto va a permitir, por una parte, establecer un clima de confianza basado en el respeto a la autonomía del paciente y, por otra parte, poder realizar una primera aproximación a las necesidades psicosociales que presenta la persona.

- *¿Le parece un buen momento ahora para hablar sobre cómo se encuentra?*
  Si la respuesta es negativa: U

- *¿Cuándo le viene mejor que nos reunamos para hablar?*
  Si la respuesta es positiva: U

2. Detección de necesidades e identificación de la etapa en la que se encuentra la persona

2.1 <u>Utilización de preguntas de respuesta abierta:</u> van a permitir a la persona mayor expresar tanto como sea posiblelo que siente, y con ello que pueda aumentar la percepción sobre su situación. Esta información espontánea que nostransmite el entrevistado nos va a permitir además comprender cómo se encuentra la persona desde el inicio de la relación profesional-paciente.

Este es también un bueno momento para conocer cuáles son los gustos de la persona. Un conocimiento de lo que lapersona disfruta hacer en su día a día no va a permitir establecer objetivos orientados a sus preferencias.

- *Muy bien Margarita, pues como le he comentado me gustaría saber cómo se siente…*
- *¿Hay algo le preocupe? / ¿En qué puedo ayudarte? / ¿Qué aspectos de tu salud son los que más te preocupan? / ¿qué es lo que hace en su día a día/ ¿Hay alguna actividad que antes realizaba y ahora ya no? / ¿En qué invierte su tiempo libre? ¿cuáles son sus pasatiempos favoritos (coser, cocinar, pintarse las uñas, ver sálvame, leer novelas…)?*

2.2 <u>Utilización del reflejo</u>: devolver a la persona la información que nos ha proporcionado sin emitir valoraciones, mediante frases afirmativas, va a permitir que se dé cuenta por sí misma de si hay algo que quiera destacar, algo quehaya olvidado mencionar.

- *Si le he comprendido bien Margarita, dice que se siente sola, que no tiene motivación por relacionarsecon sus amigas (Parafraseo)*
- *Parece que esto de lo que estamos hablando te pone un poco triste/ te emociona… (Señalamientoemocional)*
- *Entonces dice que le encanta hablar con su amiga Loli por teléfono (Refraseo)*

3. Detección de la etapa de cambio en la que se encuentra la persona

3.1 Preguntas sobre el hábito saludable: De esta manera, previo establecimiento del objetivo vamos a remarcar laimportancia de realizar X actividad.

- *Entiendo Margarita, y ¿sabe lo importante que es que usted salga y se relacione como lo hacía antes?*

Respuesta negativa

- *No, en casa tampoco se está mal, hay muchas personas de mi edad que se quedan viendo la tele bien agusto.*

  La persona se encuentra en la etapa de pre-contemplación: Desconocimiento de los riesgos que para su salud tiene el hecho de haber dejado de salir y mantener el contacto social, y a su vez, desconocimiento delos beneficios que esta práctica comporta para su salud.

Respuesta positiva sobre el conocimiento del riesgo y los beneficios referentes a X, pero negativa al cambiopor desmotivación

- *Sí, pero no me apetece salir, antes sí que me arreglaba y quedaba, pero ahora no me apetece.*
  Etapa de Pre-contemplación, pero en este caso porque la persona se encuentra desanimada para realizar cambios.

Resaltar los beneficios de la conducta saludable

- *Pues Margarita sabe usted que cuando las personas se relacionan, salen a la calle con sus amigas, tomanel sol, hacen la compra y realizan diferentes actividades en su día mejora su bienestar psicológico, se encuentran más positivas y son capaces de afrontar situaciones de mayor complejidad, y, además, descansan mejor durante la noche.*

Introducción del posible objetivo

- *Margarita, ¿Qué le parecía llamar a su amiga y quedar con ella para tomar un café? Me había dicho queuna de las cosas que más le gustaban es el café que hacen en el bar al que van, y así de paso se ponen aldía.*

Respuesta procrastinadora:

- *Si, cuando quedo con ella me siento bien, nos contamos todo, pero esta semana creo que no saldré que nohe ido a la peluquería, mejor lo dejamos para la semana que viene*
  Etapa de contemplación: Conocimiento de los beneficios de mantenerse activa y relacionarse con su entorno, pero continúa percibiendo desventajas para el cambio, lo que provoca que experimente ambivalencia y no asuma el compromiso específico para cambiar.

Resolución de la ambivalencia mediante la acentuación de los beneficios de la conducta saludable, la reducción decosto y el fomento de la autoeficacia.

- *Ya veo a Margarita que disfruta mucho cuando sale y queda con su amiga,* (Refraseo) *¿y qué es lo quemás les gusta hacer cuando quedan?* (acentuar los beneficios de la conducta saludable)
- *Pero por lo de la peluquería no se preocupe Margarita, ahora mismo podemos llamar para coger cita(reducción de costos)*
- *Entonces Margarita, yo estoy segura de que podría ir a la peluquería esta semana y así de paso puedequedar con su amiga, le enseña el corte de pelo y se ponen al día…* (fomentar la autoeficacia)

Introducción del posible objetivo

- *Entonces Margarita, le parece si llamamos a la peluquería y así el miércoles puede quedar con su amigay ya tiene el pelo arreglado…*

Respuesta afirmativa:

- *Si, la verdad es que no quedo con ella tanto como lo hacía antes, pero una vez a la semana sí que me gusta salir y hablar con ella de cómo están nuestros hijos, nuestros nietos....*

Etapa de acción: importante apoyar el cambio y el sentido de la autoeficacia, para posteriormente poder avanzar progresivamente hacia el establecimiento de nuevas metas. Así mismo, conocer los motivos por los que no realiza X tanto como antes y buscar alternativas.

- *Claro que sí Margarita, me parece muy bueno que continúe saliendo y disfrute con su amiga. Pero,*
  ¿porque ya no sale tanto como antes? ...si me ha dicho que disfruta mucho con ella y se ponen al día de
  todo.

- *Pues es que como esta lo del COVID prefiero quedarme en casa que es más seguro.*

- *Ya entiendo Margarita, que no quiere salir más porque tiene un poco de miedo…*

Introducción del posible objetivo

- *¿Y ha pensado en la posibilidad de llamarla por teléfono?, así no tiene que salir a la calle, pero puedecontinuar manteniendo el contacto con ella, por ejemplo, si llama una tarde a la semana.*

4. Aclaraciones finales

Tras haber definido los objetivos, cerraremos la entrevista recordando a la persona que cuando cumpla X acción debe acordarse de notificarlo en la Tablet…

- *Margarita recuerde que cuando vaya a ver a su amiga, luego tiene marcar en la Tablet que eso ya estáhecho…*

5. Cierre la entrevista

Agradeceremos a la persona el tiempo que nos ha dedicado y solicitaremos permiso para contactar con ella a las dos semanas para realizar el seguimiento.

- *Pues Margarita, muchas gracias por todo, he disfrutado mucho hablando con usted… ¿le parece bien que le llame en dos semanas y así hablamos sobre cómo le está yendo?*

5.2 ESTABLECIMIENTO DE OBJETIVOS A ALCANZAR POR LA PERSONA MAYOR

Tras la evaluación de la fragilidad psicosocial es momento de dar respuesta a las necesidades psicosociales presentadas por las personas mayores. Para ello se establecerán los objetivos mediante el diseño de los mismos de forma conjunta entre la persona mayor y el profesional, a través de la realización de la entrevista motivacional.

Como se ha podido observar a lo largo del desarrollo del plan, tras la evaluación objetiva mediante los instrumentos de cribado y la valoración del profesional sanitario y social, los participantes incluidos en el itinerario psicosocial nos proporcionaran mediante la entrevista motivacional la información necesaria para el posterior establecimiento de objetivos (necesidades psicosociales, etapa de cambio en la que se encuentra…).

Así mismo, y siguiendo la base del enfoque por el que se rige la atención centrada en la persona, el establecimiento de los objetivos perseguirá obtener la participación de la persona mayor en la ejecución y planificación de los mismos, para alcanzar un resultado que integre los intereses de la persona, en cuanto a su percepción subjetiva, teniendo presente resultados objetivos obtenidos en el cribado de la fragilidad psicosocial.

En cualquier caso, los objetivos serán claros, concisos y alcanzables, para facilitar la consecución de los mismos, en el tiempo estimado.

5.3 SEGUIMIENTO DE LOS OBJETIVOS

Dado que los/las profesionales tendrán acceso a la plataforma digital podrán observar el plan personalizado de cada uno/a de los/las pacientes y el cumplimiento o no de los objetivos por parte de los mismos en base a las respuestas marcadas en la APP. Así mismo, se efectuarán mediante dicha APP recordatorios/ avisos semanales para recordar y motivar a las personas mayores en el alcance de los mismos.

Mediante este seguimiento se comprobará si las personas están actuando en la consecución del objetivo establecido, y, en el caso que la persona presente dificultades o inconvenientes para el alcance del mismo, se consideraran los motivos (falta de motivación, demasiada dificultad…), y se trataran junto con la persona para eliminar los obstáculos presentados para su alcance. En este caso, los profesionales a cargo realizaran dicha labor vía telefónica, y en el caso de que la situación lo permitiera, podría complementarsea través de visitas domiciliarias.

Posteriormente, tras la finalización del mes y habiéndose cumplido los objetivos, se procederá a aumentar la complejidad de los mismos o se introducirán nuevos objetivos, que podrán ser sumados a los existentes. En este sentido, la entrevista motivacional nos permitirá conocer cómo se ha sentido la persona durante el cumplimiento del objetivo y concretar junto a ella los siguientes objetivos a alcanzar

Los profesionales a cargo de la realización del seguimiento realizaran dicha tarea vía telefónica, dado que la situación derivada de la pandemia con el COVID-19 no hace posible la realización de un seguimiento presencial. En el caso de que la situación lo permitiera, podría complementarse a través de visitas domiciliarias. Puesto que los profesionales tienen acceso a la plataforma digital, podrán observar si se está llevando a cabo el cumplimiento de los objetivos en base a las respuestas marcadas en la APP por parte de las personas mayores. Así mismo, se efectuarán mediante dicha APP recordatorios/ avisos semanales para recordar y motivar a las personas mayores en el alcance de los mismos.

Mediante este seguimiento se comprobará si las personas están actuando en la consecución del objetivo establecido, y, en el caso que la persona presente dificultades o inconvenientes para el alcance del mismo, se consideraran los motivos (falta de motivación, demasiada dificultad…) y se trataran junto con la persona para eliminar los obstáculos presentados para su alcance.

Posteriormente, tras la finalización del mes se modificará el plan de intervención de acuerdo al grado de cumplimiento de los objetivos. Se procederá así a aumentar o disminuir la complejidad de los mismos o se introducirán nuevos objetivos, que podrán ser sumados a los existentes. En este sentido, la entrevista motivacional nos permitirá conocer cómo se ha sentido la persona durante el cumplimiento del objetivo y concretar junto a ella los siguientes objetivos a alcanzar.

A continuación, se refleja el proceso relativo al seguimiento de los objetivos a través de un mapa conceptual, con el objetivo de facilitar su comprensión de una forma más visual.

6. REFERENCIAS

Álvarez, C. (2008). Teoría transteorética de cambio de conducta: herramienta importanteen la adopción de estilos de vida activos. *MHSALUD: Revista en Ciencias del Movimiento Humano y Salud*, *5*(1).

Baker, A. (2001). *Crossing the quality chasm: a new health system for the 21st century* (Vol. 323, No. 7322, p. 1192). British Medical Journal Publishing Group.

Barrubés, J. O. A. N., Honrubia, L. A. D. I. S. L. A. O., de Vicente, M. A. R. T. A., Nake, A. L. M. U. D. E. N. A., Sopeña, L. A. U. R. A., Vilardell, C. A. R. L. E. S., ... & PORTELLA, E. (2019). Value Based Healthcare. *De la Teoría a la Acción; Antares Consulting*: Barcelona, Spain.

Becoña Iglesias, E., & Cortés Tomás, M. (2016). Manual de adicciones para psicólogos especialistas en psicología clínica en formación.

Brooker, D. (2013). Atención centrada en la Persona con Demencia. Barcelona: Octaedro.

Brocklehurst, J. C. (Ed.). (1985). *Textbook of geriatric medicine and gerontology*. Churchill Livingstone.

Buchner, D. M., & Wagner, E. H. (1992). Preventing frail health. *Clinics in geriatricmedicine*, *8*(1), 1-18.

Bundy, C. (2004). Changing behaviour: using motivational interviewing techniques. *Journal of the royal society of medicine*, *97*(Suppl 44), 43.

Cabrera, G. (2000). El modelo transteórico del comportamiento en salud. *Revista facultadnacional de salud pública*, *18*(2).

Caro-Mendivelso, J. M., Barrionuevo-Rosas, L., Solans-Domènech, M., & Almazán, C. (2019). Atenció sanitària centrada en valor a Catalunya: reptes i oportunitats per contribuir al futur.

Castelblanque, E., & Cuñat, V. A. (2002). ¿Quiénes son ancianos frágiles-ancianos de riesgo? Estudio en personas mayores de 65 años del Área Sanitaria de Guadalajara (y III). *Medicina General*, *45*, 443-630.

Chen, H., Wang, Y., Liu, C., Lu, H., Liu, N., Yu, F., ... & Shang, S. (2020). Benefits of atranstheoretical model-based program on exercise adherence in older adults with knee osteoarthritis: a cluster randomized controlled trial. *Journal of Advanced Nursing*.

Contel, J. C., Muntané, B., & Camp, L. (2012). La atención al paciente crónico en situación de complejidad: el reto de construir un escenario de atención integrada. *Atención Primaria*, *44*(2), 107-113.

Cortés, J. J. B., González-Montalvo, J. I., Jaurrieta, J. J. S., & Calvod, M. H. (2000). Atención sanitaria al anciano frágil: de la teoría a la evidencia científica. *Medicina clínica*, *115*(18), 704-717.

Díaz-Morales, J. (2019). Procrastinación: una revisión de su medida y sus correlatos. *Revista Iberoamericana de Diagnóstico y Evaluación–e Avaliação Psicológica*, *51*(2), 43-60.

De Silva, D. (2014). Helping measure person-centred care: a review of evidence about commonly used approaches and tools used to help measure person-centred care. Health Foundation.

Ekman, I., Swedberg, K., Taft, C., Lindseth, A., Norberg, A., Brink, E., ... & Sunnerhagen, K. S. (2011). Person-centered care—ready for prime time. *European journal of cardiovascular nursing*, *10*(4), 248-251.

Figlie, N. B., & Guimarães, L. P. (2014). A Entrevista Motivacional: conversas sobre mudança. *Boletim Academia Paulista de Psicologia*, *34*(87), 472-489.

Flórez-Alarcón, L., & Castellanos-Morales, C. A. (2012). Efectos de la entrevista motivacional sobre la motivación autónoma en jóvenes consumidores de alcohol. *Revistade salud pública*, *14*, 69-85.

Fried, L. P., Kronmal, R. A., Newman, A. B., Bild, D. E., Mittelmark, M. B., Polak, J. F.,

... & Cardiovascular Health Study Collaborative Research Group. (1998). Risk factors for5-year mortality in older adults: The Cardiovascular Health Study. *Jama*, *279*(8), 585-592.

Gobbens, R.J.J., van Assen, M. A.L.M., Luijkx, K.G., Wijnen-Sponselee, M.Th., Schols, J.M.G.A. (2010). The Tilburg Frailty Indicator: Psychometric Properties. *Journal of the American Medical Directors Association*, 344 – 355. DOI: 10.1016/j.jamda.2009.11.003

Gobbens, R. J. J., Luijkx, K. G., Wijnen-Sponselee, M. T., & Schols, J. M. G. A. (2010).Towards an integral conceptual model of frailty. *The journal of nutrition, health & aging*, *14*(3), 175-181.

Hamerman, D. (1999). Toward an understanding of frailty. *Annals of internal medicine*, *130*(11), 945-950.

Hazzard, W. R., Blass, J. P., Halter, J. B., & Ouslander, J. G. (2006). Principles of geriatric medicine and gerontology. *Australasian Journal on Ageing*, *25*(3), 169-171.

Hughes, M. E., Waite, L. J., Hawkley, L. C., & Cacioppo, J. T. (2004). A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Research on aging*, *26*(6), 655-672.

Lesende, M., Iturbe, G., Pavón, G., JJ, B. C., & Soler, A. (2009). The frail elderly.Detection and management in Primary Care. *Atencion primaria*, *42*(7), 388-393.

Lipkin Jr, M., Quill, T. E., & Napodano, R. J. (1984). The medical interview: a core curriculum for residencies in internal medicine. *Annals of internal medicine*, *100*(2), 277-284.Lipschitz, J. M., Yusufov, M., Paiva, A., Redding, C. A., Rossi, J. S., Johnson, S., ... y Prochaska, J. O. (2015). Transtheoretical principles and processes for adopting physical activity: A longitudinal 24-month comparison of maintainers, relapsers, and nonchangers.Journal of Sport and Exercise Psychology, 37(6), 592-606.

Liras, S. M. (2014). Entrevista motivacional en mediación. *Revista de mediacion*, *7*(1), 82-99.

Lizarraga, S., & Ayarra, M. (2001). The motivational interview. In *ANALES Sis San Navarra* (Vol. 24, No. 2, pp. 43-53).

Mayor, L. I. (1995). El cambio en las conductas adictivas. Revista de Psicología, 13(2), 129-142.

McCormack, B. (2004). Person-centredness in gerontological nursing: an overview of the literature. *Journal of clinical nursing*, *13*, 31-38.

McMillan, S. S., Kendall, E., Sav, A., King, M. A., Whitty, J. A., Kelly, F., & Wheeler, A. J. (2013). Patient-centered approaches to health care: a systematic review of randomized controlled trials. *Medical Care Research and Review*, *70*(6), 567-596.

Miller, E.R., & Rollnick, S. (1991). Motivational interviewing: Preparing people to change addictive behavior. New York: Guildford Press.

Ministerio de Sanidad Igualdad y Servicios sociales. (2013). Documento de consenso sobre prevención de fragilidad y caídas en la persona mayor: Estrategia de Promoción dela Salud y Prevención en el SNS. *Inf Estud e Investig*, 1-85.

Montoro, M. R. B. (2007). Modelos sociológicos de la vejez y su repercusión en los medios. In *Comunicación e persoas maiores: Actas do Foro Internacional* (pp. 77-94). Colexio Profesional de Xornalistas de Galicia.

Morgan, S., & Yoder, L. H. (2012). A concept analysis of person-centered care. *Journal of holistic nursing*, *30*(1), 6-15.

Nakabayashi, J., Melo, G. R. I., & Toral, N. (2020). Transtheoretical model-based nutritional interventions in adolescents: a systematic review. *BMC Public Health*, *20*(1),1-14.

Nolan, M. R., Davies, S., Brown, J., Keady, J., & Nolan, J. (2004). Beyond ‘person-centred’care: a new vision for gerontological nursing. *Journal of clinical nursing*, *13*, 45-53.

Olivera, J.;Braun, M.;Roussos, A. J. (2011) Instrumentos Para la Evaluación de la Empatía en Psicoterapia. Revista Argentina de Clínica Psicológica XX(Agosto) : Recuperado http://www.redalyc.org/articulo.oa?id=281922823003

Organización Mundial de la Salud (1948). Constitución de la Organización Mundial de la Salud [Documento en línea]. Disponible: http://www.who. int/gb/bd/PDF/bd46/s- bd46_p2.pdf [Consulta: 2007, Octubre 14.

Orueta Sánchez, R., Rodríguez de Cossío, Á., Carmona de la Morena, J., Moreno Álvarez-Vijande, A., García López, A., & Pintor Córdoba, C. (2008). Anciano frágil y calidad de vida. *Revista Clínica de Medicina de Familia*, *2*(3), 101-105.

Ovejero, A. (1993). La teoría de la disonancia cognoscitiva. *Psicothema*, *5*(1), 201-206.

Piñeiro, B., Mìguez, M. y Becoña, E. (2010). La entrevista motivacional en el tratamientodel tabaquismo: una revisión. Adicciones. 22 (4) 353-364.

Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: toward an integrative model of change. *Journal of consulting and clinical psychology*, *51*(3), 390.

Prochaska, J. O., DiClemente, C., Miller, W. R., & Heather, N. (1986). Treating addictive behaviours: processes of change.

Prochaska, J. O., & Velicer, W. F. (1997). The transtheoretical model of health behaviorchange. *American journal of health promotion*, *12*(1), 38-48.

Ramos Cordero, P. (2018). Guía de buena práctica clínica en Geriatría. Fragilidad y nutrición en el anciano.

Redín, J. M. (2002). Comprehensive geriatric assessment (I). Evaluation of the geriatric patient and the concept of fragility. *Anales del Sistema de Salud*, *3*, 34-49.

Rodríguez, J., Dackiewicz, N., & Toer, D. (2014). La gestión hospitalaria centrada en elpaciente. *Archivos argentinos de pediatría*, *112*(1), 55-58.

Rondón Bernard, J. E., & Reyes Fernández, B. (2019). Introducción al modelo transteórico: rol del apoyo social y de variables sociodemográficas. *Revista Electrónica de Psicología Iztacala*, *22*(3), 2601-2633.

Serra-Rexach, J. A., Facet, G. M., & Astiz, M. V. (2011). Anciano frágil. *Nutrición Hospitalaria*, *4*(3), 28-34.

Soler, P. A., Pavón, J. G., Lesende, I. M., & Cortés, J. J. B. (2010). Detección y prevención de la fragilidad: una nueva perspectiva de prevención de la dependencia en las personas mayores. *Medicina clínica*, *135*(15), 713-719.

Van Kan, G. A., Rolland, Y. M., Morley, J. E., & Vellas, B. (2008). Frailty: toward a clinical definition. *Journal of the American Medical Directors Association*, 9(2), 71-72.

Zugasti Murillo, A., & Casas Herrero, Á. (2019). Síndrome de fragilidad y estado nutricional: valoración, prevención y tratamiento. *Nutricion Hospitalaria*, *36.*

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Innovating European Long-Term Care Policies through the Socio-Economic Support of Families: A Lesson from Practices

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Abstract: LTC and socio-economic deprivation of families are two relevant issues in international debate. The economic or time investment made by families in caregiving has an impact on the socio-economic status of family members in terms of economic means and social inclusion. This study analyzes the practices that are supported by home LTC, examining their characteristics, identifying their strengths, weaknesses, drivers, and barriers, as well as identifying social innovation aspects. The study provides a qualitative interpretative comparison of 22 practices from eight countries, representing the four LTC care models existing in Europe. Cross-studies aid in the development of sustainable policies. The study highlights the differences and similarities between selected practices. The results indicate the effectiveness of integrative and coordination strategies at the macro, meso, and micro levels for the development of supportive policies for family members with burdens of care. Nevertheless, the results underline the lack of a genuine focus on families' socio-economic support for providing care. The partial support provided by compensatory cash benefits or unpaid care leave schemes partially addresses the difficulties of familial burden of care. The study recommends that fair economic compensation and social security benefits be incorporated into innovative and sustainable strategies for supporting caregiving in LTC and welfare schemes.

Keywords: older people; families; long-term care; welfare systems; informal care; socio-economic support; policies; comparative study

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Citation: Salido, M.F.; Moreno-Castro, C.; Belletti, F.; Yghemonos, S.; Ferrer, J.G.; Casanova, G. Innovating European Long-Term Care Policies through the Socio-Economic Support of Families: A Lesson from Practices. *Sustainability* **2022**, *14*, 4097. https://doi.org/10.3390/su14074097

Academic Editors: Valentina Hlebec, Giovanni Lamura and Marco Socci

Received: 17 February 2022
Accepted: 26 March 2022
Published: 30 March 2022

1. Introduction

Population aging is one of the most significant challenges today. According to the World Health Organization [1], by 2050, the proportion of the world's population aged 60 years or over is expected to nearly double from 12% to 22%, reaching 2.1 billion older adults, while the number of people aged 80 years or older is expected to triple in the same period, reaching 426 million. The international economic crisis of the last two decades has highlighted the risks of poverty and socio-economic deprivation in Europe [2,3]. The significance of these issues has been further intensified by the recent COVID-19 pandemic. Containment measures for COVID-19 had a detrimental effect on global economic growth and productivity, increasing the risk of poverty and social deprivation [4].

Moreover, the vulnerability associated with the aging process was exacerbated during confinement. Older adults are seen as a high-risk group for the SARS-CoV-2 (COVID-19) disease [5]. Data indicate that the over-65 population accounts for 80% of hospitalizations and faces a 23-fold increased risk of death compared to those under 65 years of age [6].

Social isolation, as a primary measure for preventing the spread of COVID-19, resulted in an increase in informal caregiving provided by families [7].

The challenge for policymakers is to address population aging and the increasing number of frail older people in need of long-term care, while also taking into account the impact on families in terms of their social inclusion and risk of socio-economic deprivation [8]. In addition, despite the fact that relatives continue to be the main caregivers for elderly people in a state of dependency [9], changes in demographic and social patterns may lead to a decrease in family support, which is typically the most critical source of support for older adults in a state of dependency in most systems [10,11].

Over the last decade, the international debate has emphasized the importance of home care in promoting social innovation (SI) in LTC because living at home supports the quality of life of older people while improving the efficiency of care provision [12]. The literature underlines how caregiving intersects with the gender issue, increasing its relevance as a social inclusion topic: women are the primary informal carers [13,14]. Moreover, caregivers' financial well-being, employment and, indirectly, their financial income may be negatively affected, increasing the risk of poverty [15]. The different European LTC models are distinguished by their internal balance of formal and informal care provision [16]. European LTC systems are being put to the ultimate test by sociodemographic and social changes, as well as welfare austerity, as a result of the international economic and public health crisis [17–19]. In 2017, Mosca and colleagues emphasized the relevance of cross-studying existing policies in order to build a new sustainability strategy for the European LTC system [20]. The purpose of this article is to analyze a sample of practices in Europe that support the long-term care system in order to examine its innovative aspects to counter the risk of socio-economic deprivation of the elderly and their families. The study takes part in the framework of the "Socio-Economic deprivation related to the effect of the presence of dependent older people: strategies for Innovative Policies in Europe" (SEreDIPE) project, realized thanks to the Marie Curie Individual Fellowship (g.a. 2019-888102), aims to analyze the effects of older people's care needs (aged 65+ years) on their family units' socio-economic conditions. The SEreDIPE project's conceptual framework recalls how families with dependent older people often invest in care-giving by directly purchasing care provisions, such as those provided by Migrant Care Workers (MCW), or by providing informal care, even at the expense of available working hours [21]. Both strategies may have an effect on the family member's socio-economic status in terms of economic resources and social inclusion [22]. The literature underlines how an LTC system relying on informal care and migrant care work is neither equitable nor sustainable [13,14].

The study begins by identifying the main characteristics of selected policies, including whether the policies' stated objectives explicitly include support for beneficiaries' socio-economic conditions. Additionally, the study proposes the analysis of strengths, weaknesses, drivers, and barriers to policies. Finally, this investigation enables us to denote which policies meet one or more of the social innovation requirements for LTC. In accordance with the SEreDIPE project's recommendations, this study collects policies from eight European countries representing the four LTC care models existing in Europe: Italy and Spain to describe the family-based care regime; Germany and Austria for the mixed-care regime; the Netherlands and Finland representing the universal care regime; and Romania and Poland for the transition countries' care regime [23]. The recent literature focuses the attention on innovation on LTC [12,23] national case studies [10] or on a specific typology of policy [13,14,17]. This study contributes to the literature by offering an overview of the innovative characteristics of policies supporting families providing care from a comparative perspective.

2. Materials and Methods

This study uses a qualitative methodology to examine existing practices in Europe that address the care of people over 65 years of age, who are in need of long-term care, and are in a state of dependency.

A descriptive interpretative approach was applied in order to provide an in-depth understanding of relationships between policies supporting home LTC and the risk of socio-economic deprivation for families. The comparative qualitative approach was deemed the most appropriate for capturing the specific characteristics of each in the good practices while allowing researchers to embrace their own disciplinary orientation [24].

The study identified policies from eight European Union countries (Germany, Poland, Romania, Austria, Italy, Spain, Finland, and The Netherlands), representing the four European LTC systems. Two main selection criteria were adopted: (a) The initiatives must participate in the studied country's LTC policies; (b) The initiatives must also strive to directly or indirectly mitigate the risk of socio-economic deprivation of the care recipient and/or his family caregiver. The selection excludes formal home care services and residential care because they are not innovative forms of services.

Multiple sets of searches were conducted from June to September 2021 to cover the cases of countries included in the study. A set of keywords were used to select the practices for each of the eight studied countries: LTC policies, home care, informal care, and cash benefits. The search was mainly carried out in English, but also in the national languages to ensure collection accuracy and to find each country's specific legislation or policy documentation.

Two of the authors (M.F.S., G.C.) provided native speaker translations of the keywords and data in Italian and Spanish. DeepL, a machine translator which is considered by the literature as a tool providing adequate translations for content qualitative analysis [25,26], was used to translate English to German, Finnish, Romanian, and Polish. The translation of collected documentation followed the same procedure based on the automatic translation by DeepL, from national languages to English. The Italian and Spanish translations had integrative checked by the above-mentioned native speaker authors.

In addition, the reading of available European research reports from the last five years (e.g., "European network on long-term care quality and cost-effectiveness and dependency prevention", and the project Mopact—Mobilizing The Potential of Active Ageing in Europe) was incorporated into the search for good practices.

A total of 22 practices were included in the study. Data collection was completed in English following a double stage of descriptive and analytic summarization of data on initiatives. To begin, each policy was summarized by its descriptive form, including eight dimensions: name, country, aims of the initiative, target, a summary of the initiative, type of initiative, and social innovation characteristics. The different SI characteristics for LTC are defined using the conceptualization provided by recent literature [12,27,28] which identified four different areas to promote social innovation in LTC: (a) new policies or revised policies to better meet social and LTC needs; (b) openness of the beneficiary's target in particular to informal carers; (c) support beneficiaries' quality of life (QoL); (d) promote collaboration between stakeholders and services. The collection of specific data on each practice comes from national reports on LTC policies experiences (e.g., ESPN Thematic National Reports on Challenges in LTC, CASE Network Studies and Analyses), European reports projects (e.g., "European network on long-term care quality and cost-effectiveness and dependency prevention", and the project Mopact—Mobilizing the Potential of Active Ageing in Europe). Table 1 detailed the coding of characteristics' modalities used to perform the analytic summarization of the data.

Table 1. Analytic characteristics, modalities, and coding.

Dimensions	Modalities (Synthetic Code)
Name of action/intervention	-
Year	-
Country	Italy (IT); Spain (ES); Germany (DE); Austria (AU); Finland (FI); Netherlands (NL); Poland (PL); Romania (RO).
Target population	Older people 65+ (1); People 75+ (2); working carers (3); Informal carers (4); Population in a state of dependency (5).
Type of initiative	Cash benefits (CB); Vouchers or cash benefits bound to specific types of costs (V); Support services (SS); Care leave scheme (CL); Fiscal and social security benefits (FS); Job Agreements (JA).
Level of governance	National (Nat.), Local (Loc.).
Level of implementation	National (Nat.), Local (Loc.); Municipality (M).
Included in LTC program or national reform	Yes (*)/No (-).
Existence of aims directly related to improving socio-economic conditions	Yes (*)/No (-).

3. Results

3.1. General Characteristics of Initiatives

The comparative analysis of the twenty-two initiatives makes it possible to observe that the initiatives studied are based on lengthy implementations (Table 2). Except for the Italian system, none of the systems presented initiatives after 2014. Likewise, we can observe that different countries (Germany, Austria, and Italy) have implemented recent policies in their long-term care systems, currently maintaining initiatives established in the 1990s and even in the 1980s, as in the case of Italy. Traditionally, institutions provided a cash benefit policy to promote financial support for care. Even now, this type of policy is the most common in Europe: 11 out of the 22 policies studied involve cash benefits. All countries have developed initiatives focused on providing financial benefits to help mitigate the costs associated with long-term care. These initiatives offer a fixed amount to the measure's beneficiaries. The inclusion criteria differ from initiative to initiative and from country to country. Generally, cash benefit policies are not means-tested. The results underline how cash benefit policies are independently run by other LTC policies: the only exception is the Finnish initiative "informal care support", which offers financial benefits and support services together with cash benefits. However, the initiatives in three countries are included in specific national programs, such as the national LTC insurance scheme (Germany) or a distinctive national reform on LTC (Spain and Austria).

Even the financial benefit linked to covering specific costs (V) stands out as one of the more commonly used types of initiatives (5 out of 22). The Spanish "financial benefit linked to the service" offers financial support for paying for a specific service when the person cannot access a public or concerted care service. In Germany, the voucher scheme supports home care buying and participation in national LTC insurance. Differently, in Austria, the "24 h care allowance" promotes the integrated scheme, including vouchers to support the cost of hiring migrant care workers (McW) and fiscal and social security benefits. In Germany and Spain, social security benefits are ensured for informal carers through specific measures included in their national schemes. A mixed scheme of policies is also supported by the recent Italian occupational welfare scheme, which allows working carers to access different policies (e.g., vouchers for care, fiscal and social security benefits, and care leave).

Table 2. General characteristics of selected practices: year of implementation, type of policy, governance and implementation level, and declared goal of supporting SE condition.

No.	Initiative Name	Year	Type	Target	Gov.	Implem.	National Policy	SE Condition's Goal
1	Voucher scheme for home care (DE)	1995	V	1	Nat.	Nat.	*	-
2	Allowance scheme for informal care (DE)	2015	CB	1	Nat.	Nat.	*	*
3	Social security benefits for family care givers (DE)	2015	FS	4	Nat.	Nat.	*	*
4	Long-term care allowance (Pflegegeld) (AU)	1993	CB	1	Nat.	Nat.	*	*
5	"24 h care allowance"(AU)	2007	V; FS	1	Nat.	Nat.	*	*
6	Care leave for working carers (Pflegekarenz) (AU)	2014	CL	3	Nat.	Nat.	*	-
7	Care leave benefit (AU)	2014	CB	3	Nat. + Loc.	Loc. (M)	-	*
8	Care benefits (dodatek pielęgnacyjny) (PL)	2003	CB	2	Nat.	Nat.	-	*
9	Nursing benefit (zasilek pielegnacyjny (PL)	2003	CB	4	Nat.	Loc.	-	*
10	Nursing allowance for informal care (świadczenie pielegnacyne) (PL)	2003	CB	4	Nat.	Loc.	-	*
11	Voucher scheme for home care (RO)	2000	V	1	Nat.	Nat.	-	*
12	Care allowances (RO)	2011	CB	1	Nat.	Nat.	-	*
13	Facilities for mobility and communication (RO)	2000	SS	1	Nat. + loc.	Loc. (M)	-	-
14	Occupational welfare schemes (IT)	2016	V; CL; FS	3	Nat.	Nat./Priv.	-	-
15	Cash benefit for informal care (IT)	1995	CB	1;4	Nat + Loc.	Loc. (M)	-	*
16	Care allowance (IT)	1980	CB	1	Nat.	Nat.	-	*
17	Financial benefit linked to the service (ES)	2006	V	5	Nat.	Loc.	*	*
18	Financial benefit for the purpose of care in the family setting and support for non-professional caregivers (ES)	2006	CB, FS	5	Nat.	Loc.	*	*
19	Financial benefit for personal care (ES)	2006	CB	5	Nat.	Loc	*	*
20	Care allowance for pensioners (FI)	n.a	CB	1	Nat.	Nat.	-	-
21	Informal care support (FI)	2005	CB; FS, SS	4	Nat.	Loc. (M)	-	*
22	Care leave scheme (NL)	n.a.	CL	3	Nat.	Nat.	-	*

Care leave experiences from Austria, Italy, and the Netherlands ensure that working carers are given the attention they deserve. The main aim of these measures is to improve care-work compatibility, allowing workers to provide informal care.

When it comes to beneficiaries, most of the initiatives are focused on care recipients, even if they are only potential: ten initiatives are dedicated to older people (65+), two are focused on the oldest-old (75+), and three on dependent people without reference to a specific age. This last characteristic can be seen in the initiatives implemented in Spain, highlighting a facet of Spanish strategy. In Germany, Poland, Finland, and Italy, five initiatives are directly oriented towards informal carers, while policies supporting working carers are implemented in Austria, Italy, and the Netherlands.

Table 2 depicts how most of the initiatives under examination are national measures characterized by national governance and implementation. The main exceptions are related to the Spanish and Italian initiatives. The Italian and Spanish decentralized social protection systems promote a multi-level governance and implementation, even for cash benefits, vouchers, and care leave policies. In these countries, the implementation of initiatives is realized at the local level by regional institutions and municipalities. Moreover, the private sector is involved in the implementation of Italian occupational welfare schemes [29]. Finally, the Austrian "care leave benefit", the Romanian facilities, and the Polish nursing benefits promote multi-level governance (national and local) to support local implementation [30–32].

The findings emphasize the objective of supporting beneficiaries' social-economic condition: 17 out of 22 selected practices aim to provide economic support for the provision of formal or informal care. The German voucher scheme and the Finnish "care allowance for pensioners" highlight the opportunity to use it to purchase LTC services, but do not state that the mitigation of material deprivation underpins this policy [33,34]. Likewise, the aims of Finnish and Austrian care leave schemes or the Italian "occupational welfare scheme" focus more on workers' work-family life balance than on the indirect effect of beneficiaries' socio-economic conditions. Five countries offer social security benefits for informal carers (FS), ensuring social security support for carers who are relatives. Germany and Spain recognize the entitlement to pension rights covered by a national social security system. Under Finnish schemes, informal care by a care worker is covered by an entitlement to receive a cash allowance, social security benefits, and days off.

3.2. Analysis of the Strengths and Weaknesses of Practices

The interpretative analysis of practices provides several outcomes on strengths, weaknesses, drivers, and barriers, which are summarized in Tables 3 and 4. Many of the policies examined find at least one of their strengths in the definition of the target because they include informal carers and working carers as direct beneficiaries of dedicated care allowances and care leave schemes. In addition, in Finland and recently in Germany, the care allowance for informal care allows neighbors and friends to be considered informal carers, in addition to family members of care recipients. Lastly, the Polish "nursing benefit" is dedicated to older people who do not receive care allowances, thus covering a need that is not covered by other policies. The strengths of some schemes are tied to meeting an unmet need in their respective countries. In Poland, Romania, and Italy, which are characterized by the family's strong duty to provide care [35–37], the allowances for care work cover an unrecognized need.

Table 3. Strengths and weaknesses in the practices examined.

	Strengths	**Initiative No.**
a.	Oriented towards informal carers for their social inclusion.	2, 4, 16, 19
b.	Focuses on working carers.	7, 8, 22
c.	Promotes a new definition of informal carers, including friends and neighbors. It promotes a shared responsibility of informal care.	21
d.	Reserved for beneficiaries not included in other measures.	9
e.	Universal measure to cover unmet needs.	10, 12, 14.
f.	The policy promotes flexible and integrative solutions to support care.	1, 2, 4, 5, 14, 15, 17, 18, 19, 21
g.	Promotes the interaction of health support and welfare schemes.	7, 14
h.	Promotes a minimum wage for providing care.	7, 8, 21
	Weaknesses	**Initiative No.**
i.	Low benefit amount/partial cover of care costs.	4, 6, 9, 10, 16, 20, 21
ii.	Not linked to household minimum income.	1, 2, 3, 6, 9, 10, 15, 16, 17, 18, 19, 20, 21
iii.	Care recipient is the exclusive beneficiary of measures.	1, 2, 4, 5, 8, 9, 11, 12, 17, 18, 19
iv.	Initiative is tailored on an individual basis.	8, 9, 10, 11, 12, 13, 14, 15, 16, 20, 22
v.	Inclusion criteria de facto promote the exclusion of high-need targets (e.g., marginal workers).	6, 7, 22
vi.	Temporary and fragmented.	14, 15
vii.	Compulsory universal insurance scheme with a direct impact on the beneficiary's income and eligibility (e.g., criteria include extra cost for childless people).	1, 2, 3
viii.	Daily leave is not included in the leave scheme.	7, 22

Table 4. Drivers and barriers in the practices examined.

	Drivers	**Initiative No.**
a.	It is part of national reform/legislation.	1, 2, 3, 4, 5, 18, 19, 20, 21
b.	It is subjected to periodic review.	1, 2, 3
c.	National measure.	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 14, 16, 20, 21, 22
d.	Direct benefit included in social security or pension schemes.	6, 8, 22
e.	Different stakeholders are involved in its implementation (e.g., municipalities, NGOs, private enterprises, and companies).	5, 14, 21, 17, 18, 19
f.	Coordinated multi-level governance of measure (national + local).	7, 13, 15, 17, 18, 19
	Barriers	**Initiative No.**
i.	Culture of care: informal care is mostly the responsibility of families.	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19
ii.	Culture of compensation for the care recipient's incapacity.	17, 21
iii.	Culture of fragmentation and separation of LTC issues.	8, 9, 10, 11, 12, 13, 14, 15, 16
iv.	Separation between governance and implementation.	9, 10, 13, 14, 15, 16, 21

Many initiatives (10 out of 22) are seen as "integrative and flexible action" because they include multiple types of interventions or dialogues with other national policies or welfare schemes (Table 3). The Finnish experience proposes internal integration, while Austria, Germany, and Spain, the latter to a partial extent, proposes the external coordination of different policies.

In Austria's case, additional financial assistance is granted over and above the LTC cash benefit for people with high care needs requiring 24-h care and who qualify for LTC cash benefits, if they fall below a specific income threshold. The system distinguishes between care provided by a self-employed carer (around 300 euros/month) and care provided by a carer employee (double the amount).

A part of the Austrian Pflegegeld benefit is dedicated to informal carers. This measure is based on seven categories of amounts ranging from less than 200 euros/month to an amount of up to 1600 euros/month, depending on the care needs and the burden of care provided.

Moreover, if a caregiver (providing care for the duration of at least one year) is unable to work for 1 to 6 months due to the provision of care, the care leave benefit can be availed of (for 1 to 6 months) (EC, 2018) [31]. The benefit is a wage replacement equivalent to 55 percent of the daily net income (like the unemployment benefit), with a minimum amount corresponding to the minimum wage (up to 400 euros/month) [38].

Altogether, the design of the Austrian initiative promotes the concept of a minimum wage for providing care. In Finland, the extent of informal care support defines the amount of benefits depending on whether the informal caregiver is able to work or otherwise, due to heavy care obligations.

Support is treated as taxable income and it accrues pension rights. A Finnish informal carer doing demanding care work gets three days off per month (EC, 2018f) [34].

The analyzed practices highlight certain weaknesses in the practical response to the initial necessity for which they were created: many schemes, particularly cash benefits, do not fully cover families' formal or informal care (Table 3). Moreover, in almost half of them (10 out of 22), the care recipients remain the single beneficiaries of benefits, even if the measure targets informal care. Generally, compensation policies are not designed to take household income into consideration. Local institutions in the Spanish and Italian decentralized welfare systems promote a diverse amount of benefits on a region by region basis, based on locally-defined income criteria [35,39]. These decentralized systems produce temporary and fragmented policies. In particular, in Italy, the cash benefit for informal carers is determined on an annual basis by local institutions, and the implementation of an occupational welfare scheme for LTC is left to the voluntary action of private companies, which have free rein on what kinds of services and benefits to include in their welfare schemes and criteria of use.

In countries with high familial responsibility for care provision (Italy, Spain, Poland, and Romania), the initiatives suffer from a weakness related to their being individually tailored, with little connection to other LTC or welfare measures.

In the German LTC insurance scheme, the main weakness is the direct impact of insurance payments on the individual income of all working-age and pensioner citizens. The insurance covers around 2–3% of an individual's gross income. Childless people must pay an additional 0.25%, while children and spouses earning less than EUR 450 per month are co-insured at no extra cost [33].

Compared to initiatives targeting working caregivers, the levels of care measures are characterized by a different internal definition, which generally does not include daily care permits. The option is not even included in the Austrian scheme, implying a lack of economic compensation through the care leave allowance. Furthermore, self-employed workers are not eligible for care leave schemes, resulting in their exclusion from support measures.

3.3. Drivers and Barriers in the Practices Examined

Aspects of implementation contexts influence the effectiveness of policies. In this regard, the results identify the national characteristics of measures as the main drivers for almost all the initiatives examined (Table 4). This aspect ensures that measures are disseminated throughout the territory and reach the intended beneficiaries homogeneously. In the German case, moreover, measures were periodically reviewed. This is another driver because it allows measures to be adapted to changing social needs.

Another facilitator is related to automatic access to benefits: if, generally, care leave initiatives are included in social security schemes, the nursing benefit in Poland is automatically added to pensions.

Finally, the involvement of the various stakeholders in the policies supports their implementation, thus strengthening mutual collaboration for the achievement of common objectives. In this regard, the Spanish reform calls for collaboration and coordination between national and regional institutions for the planning and governance of measures: the Autonomous Communities (regional institutions) are called upon to debate and consult with national ministries on the final implementation of the measures included in the national LTC Law (Ley de Dependencia) [39,40].

In the Italian occupational welfare scheme, the private sector is called upon to participate as an implementer of the policy, spreading awareness on rights to care support.

On the other hand, in some cases, the municipalities, which are fully delegated to implement the measure, independently define the eligibility criteria and internal characteristics of benefits, de facto reducing the number of beneficiaries (e.g., the Finnish informal care benefit) or producing local inequities (e.g., the Italian and Polish informal care benefits). In this case, the separation between governance and implementation seems to have become a barrier to the policy's effectiveness. Furthermore, this study shows that two cultural barriers still exist with regard to the development of innovative policies in the LTC sectors to support families and their socio-economic situation. In Italy, Spain, Poland, and Romania, the centrality of families in providing care is enshrined by formal law and cultural rules. The allocation of a compensation allowance recognizes the role of the informal care provided, but without a concrete valuation of the burden's economic and relational impact for relatives.

3.4. The Social Innovation Aspects of Selected Initiatives

The analysis confirmed the applicability of the areas identified in the literature for promoting social innovation in LTC. Most of the practices examined meet at least one of the four areas. Table 5 outlines how social innovation in these practices is driven by the formal identification of informal and working carers as specific beneficiaries of initiatives

(5 out of 22) and by the design of policies to improve their quality of life (4 out of 22). In this regard, the Austrian scheme based on a minimum wage for informal care includes both of the above innovative characteristics.

Table 5. The selected initiatives' social innovation aspects.

Social Innovation Aspects in the Policies	Initiatives
(a) It is a new policy or a revised policy to better meet social and LTC needs.	1, 2, 3, 7, 14
(b) It targets beneficiaries.	6, 7, 10, 14, 15
(c) It aims to support beneficiaries' QoL.	5, 6, 7, 22
(d) It promotes new relationships between stakeholders.	5, 14, 17, 18, 19, 21
(e) Lack of social innovation aspects.	8, 9, 10, 11, 12, 16

Five schemes were recently implemented: the three German practices stem from a review of the periodic insurance scheme, while the Austrian care leave benefit and the Italian occupational welfare scheme are new policies. In six cases, the stakeholders involved in a single initiative could produce specialized networks and new mixed collaborations for future policies. In contrast, active Polish and Romanian policies do not present any innovative aspects. However, innovative LTC policies have largely been debated in Romania and are included in a reform program that was drafted in 2018, but has not yet been implemented.

4. Discussion

The results show that, on the one hand, long-term care initiatives are recent, as the first major initiatives or transformations in long-term care policies occurred in the last three decades. On the other hand, there are many variations and differences between countries. This variability may be the result of various aspects. Firstly, the different definitions of long-term care that are used in Europe and which are characterized by a different valorization of health or social care [41]. Similarly, the country by country variability depends on different welfare state and care regime models [42]. Finally, different welfare cultures may influence the perception of recent social risks stemming from care needs [43,44].

Furthermore, this study highlights how initiatives promoting reconciliation between family and work-life are recent. This result is linked to the spread of the culture of family care responsibility existing in many European countries. In this case, the younger female member of the family often serves as the caregiver for all other family members [45]. In relation to this, the low number of non-economic measures observed in this study supports the assumption that policymakers do not recognize the impact of informal care on care recipients' quality of life and the overall quality of care provided.

All these factors can directly influence the development of initiatives focused on long-term care for the dependent population, both in terms of the products, services, and benefits offered as well as the target population group. However, in many European countries, the strategy for designing policies to support families in providing informal care is still based on the standard compensation awarded by national cash benefits. This strategy, traditionally based on compensation for care recipients' incapacity, does not meet the goal of countering the socio-economic consequences of care being provided by informal caregivers. Indeed, cash benefit policies become effective if they are integrated with other public policies and services [46].

The results reflect the effectiveness of integrative and coordination strategies at the macro, meso, and micro levels for the design of supporting policies for those family members providing care. At the macro level, coordination between different policies may become a driver if they are included in a national action or reform on LTC. This enables the design of a comprehensive system of policies to fully meet the care needs of recipients, while also taking into consideration the other social needs of families and care workers [28,47]. At the meso level, the involvement of different stakeholders is characterized by collaboration between local and national institutions. A mixed framework of design and governance helps to overcome some key barriers for establishing long-term care and welfare systems [48]. In this regard, two good examples are the Spanish reform on LTC and the German insurance on LTC, even with internal differences. Moreover, the participation of private companies and enterprises to realize specific policies for working carers is an opportunity to promote, even in countries with high familial responsibility, a culture of informal care that can appreciate and enhance the social identity of familial caregivers [49].

Implementing specific policies for informal or working carers integrates the LTC initiatives for the care recipient at the micro level. Nevertheless, informal care support is publicly stated but not fully realized when the policy is designed around care recipient characteristics. In this regard, the findings highlight the lack of actual orientation to socio-economic support for families providing care. Partial support provided through a cash benefits compensatory approach or unpaid care leave schemes does not fully respond to the difficulties of familial burden of care. In countries with a high familial responsibility for care, the family remains the main care provider without adequate support.

The parallelism between the objectives of the practices and the objectives of social innovation highlights how the development of these family assistance policies is one of the main ways to innovate the LTC and welfare systems. The Austrian scheme with the minimum wage for assistance is promising, but the figure of around 400 euros does not correspond to a pay that is linked to the cost of living. The suggestion is more accurate for many Italian local schemes, where the amounts for caregiving are defined in 200 euros/months.

In this regard, the results suggest that the right to receive fair economic compensation and social security benefits must be included in the design of welfare and LTC policies to support families in providing care. This innovative approach emphasizes the urgent need to break down cultural barriers to family responsibility and respect and remove the divide between social and health policies. To achieve these goals, some local Italian institutions design allowances for informal care with a progressive amount from 500 euros to 1100 euros depending on the level of care needs (e.g., Puglia Region and Trento Municipality)

5. Conclusions

This study analyzes support practices concerning family caregivers in different European countries, highlighting how these policies' effectiveness is also linked to their ability to counteract the adverse socio-economic effects of informal care for families. The results confirm how the adverse effects of providing care are still undervalued in policy design. The overview of different policies revealed a common strategy based on standard remuneration for informal care and schemes for working carers based on the level of care provided. In this scenario, families remain the main providers of home care, receiving only partial support from welfare and LTC schemes. It is, therefore, recommended that the right to receive fair economic compensation and social security benefits is included in the innovative and sustainable strategies for LTC and welfare schemes.

Finally, some limitations should be considered with regard to this study. To begin with, the lack of an international classification system that would allow for a standardized coding of the initiatives developed in different countries makes comparisons challenging. Moreover, the collection of policies was not checked with the help of experts from the countries under study. Multiple search step strategies reduced the risk of potentially not finding data, but the difficulty in locating updated data on individual practices suggests that further multiple research team studies, including with other countries, should be encouraged. Specifically, the realized desk collection of data by grey literature and literature did not allow to collect updated data (e.g., the different cash benefit amounts) useful to evaluate the effectiveness of practice because the data are not declared or not updated. Furthermore, multiple site studies will allow an in-depth analysis of how the practices work, taking into consideration specific welfare and LTC system characteristics. Despite these limitations, this study provides a general framework of the characteristics of active European LTC practices for supporting families caring for dependent people, with a focus on their effectiveness in overcoming adverse socioeconomic effects, as well as useful suggestions for the international LTC and welfare debate.

Author Contributions: Conceptualization, G.C.; methodology, G.C.; validation, C.M.-C.; formal analysis, M.F.S. and G.C.; investigation, M.F.S. and G.C.; data curation, M.F.S. and G.C.; writing—original draft preparation, M.F.S. and G.C.; writing—review and editing, M.F.S., G.C., J.G.F., F.B., S.Y.; supervision, G.C.; project administration, C.M.-C.; funding acquisition, G.C. All authors have read and agreed to the published version of the manuscript.

Funding: The study is being supported by the Marie Curie European Fellowship Grant. Horizon 2020 MSCA-IF-2019 Grant Agreement No. 888102.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Acknowledgments: The authors would like to thank Noelia Fernández Salido and Érika Bacher Revert for their contribution in gathering preliminary data on policies.

Conflicts of Interest: The authors declare that there are no conflict of interest. The funders had no role in the study's design, data collection, analyses, or interpretation, manuscript writing, or the decision to publish the results.

References

1. WHO. Aging and Life Cycle. Interesting Facts about Aging. 2021. Available online: https://www.who.int/news-room/fact-sheets/detail/ageing-and-health (accessed on 15 January 2022).
2. Deaton, A. Measuring and Understanding Behavior, Welfare, and Poverty. *Am. Econ. Rev.* **2016**, *106*, 1221–1243. [CrossRef]
3. Janković-Milić, V.; Lepojević, V.; Stanković, J. Poverty as a Heterogeneity Factor in EU Countries. *Facta Univ. Ser. Econ. Organ.* **2019**, *16*, 403–414. [CrossRef]
4. Buheji, M.; da Costa Cunha, K.; Beka, G.; Mavric, B.; De Souza, Y.L.; da Costa Silva, S.S.; Hanafi, M.; Yein, T.C. The Extent of COVID-19 Pandemic Socio-Economic Impact on Global Poverty. A Global Integrative Multidisciplinary Review. *Am. J. Econ. Am.* **2020**, *10*, 213–224. [CrossRef]
5. Wynants, L.; van Calster, B.; Bonten, M.M.J.; Collins, G.S.; Debray, T.P.A.; de Vos, M.; Riley, R.D.; Heinze, G.; Schuit, E.; Damen, J.A.A.; et al. Prediction Models for Diagnosis and Prognosis of COVID-19: Systematic Review and Critical Appraisal. *BMJ* **2020**, *369*, 1328. [CrossRef] [PubMed]
6. Mueller, A.L.; McNamara, M.S.; Sinclair, D.A. Why Does COVID-19 Disproportionately Affect Older People? *Aging* **2020**, *12*, 9959–9981. [CrossRef]
7. Inzitari, M.; Risco, E.; Cesari, M.; Buurman, B.M.; Kuluski, K.; Davey, V.; Bennett, L.; Varela, J.; Bettger, J.P. Nursing Homes and Long Term Care After COVID-19: A New ERA? *J. Nutr. Health Aging* **2020**, *24*, 1042–1046. [CrossRef]
8. Walsh, K.; Scharf, T.; Keating, N. Social Exclusion of Older Persons: A Scoping Review and Conceptual Framework. *Eur. J. Ageing* **2017**, *14*, 81–98. [CrossRef]
9. D'Argemir, C.D. Los cuidados de larga duración y el cuarto pilar del sistema de bienestar. *Rev. Antropol. Soc.* **2015**, *24*, 375–404.
10. Casado-Marín, D. La atención a la dependencia en España. *Gac. Sanit.* **2006**, *20*, 135–142. [CrossRef]
11. Grundy, E.M.; Murphy, M. Population Ageing in Europe. In *Oxford Textbook of Geriatric Medicine*; Oxford University Press: Oxford, UK, 2017; pp. 11–18.
12. Casanova, G.; Principi, A.; Lamura, G. Social Innovation in Long-Term Care: Lessons from the Italian Case. *Int. J. Environ. Res. Public Health* **2020**, *17*, 2367. [CrossRef]
13. Kroger, T.; Yeandle, S. *Combining Paid Work and Family Care: Policies and Experiences in International Perspective*; Policy Press: Bristol, UK, 2013.
14. Le Bihan, B.; Da Roit, B.; Sopadzhiyan, A. The turn to optional familialism through the market: Long-term care, cash-for-care, and caregiving policies in Europe. *Soc. Policy Adm.* **2019**, *53*, 579–595. [CrossRef]
15. European Commission. *Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability*; European Economy: Brussels, Belgium, 2016.
16. Kraus, M.; Riedel, M.; Mot, E.; Willemé, P.; Röhrling, G.; Czypionka, T. *A Typology of Long-Term Care Systems in Europe*; ENEPRI; University Library of Munich: Munich, Germany, 2010.
17. Pavolini, E.; Seeleib-Kaiser, M. Comparing occupational welfare in Europe: The case of occupational pensions. *Soc. Policy Adm.* **2018**, *52*, 477–490. [CrossRef]
18. Béland, D.; Marier, P. COVID-19 and Long-Term Care Policy for Older People in Canada. *J. Aging Soc. Policy* **2020**, *32*, 358–364. [CrossRef]

19. Martínez-López, J.Á.; Lázaro-Pérez, C.; Gómez Galán, J.; Raducea, M. Aproximación a los cuidados de larga duración durante el pico de la COVID-19 en la Región de Murcia. *Rev. Prism. Soc.* **2021**, *32*, 128–146.
20. Mosca, I.; Van Der Wees, P.J.; Mot, E.S.; Wammes, J.J.; Jeurissen, P.P. Sustainability of Long-Term Care: Puzzling Tasks Ahead for Policy-Makers. *Int. J. Health Policy Manag. Int.* **2016**, *6*, 195–205. [CrossRef]
21. Casanova, G.; Lillini, R. Disability in Older People and Socio-Economic Deprivation in Italy: Effects on the Care Burden and System Resources. *Sustainability* **2022**, *14*, 205. [CrossRef]
22. Martarelli, R.; Casanova, G.; Lamura, G. The Impact of Long-term Care Needs on the Socio-economic Deprivation of Older People and Their Families: A Scoping Review Protocol. 2021. Available online: https://www.researchsquare.com/article/rs-816117/v1 (accessed on 15 January 2022).
23. Schulmann, K.; Leichsenring, K. Social Support and Long-Term Care in EU Care Regimes. Framework Conditions and Initiatives of Social Innovation in an Active Ageing Perspective. WP8 Overview Report. MoPact. 2014, pp. 1–195. Available online: https://mopact.sites.sheffield.ac.uk/ (accessed on 15 January 2022).
24. Thorne, S. *Interpretative Description: Qualitative Research for Applied Practice*; Routledge: Abingdon-on-Thames, UK, 2016.
25. Bowker, L. Machine translation and author keywords: A viable search strategy for scholars with limited English proficiency? *Adv. Classif. Res. Online* **2018**, *29*, 13–16. [CrossRef]
26. Zulfiqar, S.; Wahab, M.F.; Sarwar, M.I.; Lieberwirth, I. Is Machine Translation a Reliable Tool for Reading German Scientific Databases and Research Articles? *J. Chem. Inf. Model.* **2018**, *58*, 2214–2223. [CrossRef]
27. Széman, Z.; Tróbert, A.M. Social innovation in the provision of services in long-term care. *Eur. J. Ment. Health* **2017**, *12*, 204–217. [CrossRef]
28. Schulmann, K.; Reichert, M.; Leichsenring, K. Social support and long-term care for older people: The potential for social innovation and active ageing. In *The Future of Ageing in Europe*; Palgrave Macmillan: Singapore, 2019; pp. 255–286.
29. Casanova, G.; Di Rosa, M.; Fisher, O.; Lamura, G. Between migrant care work and new occupational welfare tools: Changing home care arrangements in Italy. *Int. J. Environ. Res.* **2020**, *17*, 5511. [CrossRef]
30. Golinowska, S. *The System of Long-Term Care in Poland*; Research Report; Center Network Studies & Analyses (CASE): Warsaw, Poland, 2010.
31. European Commission. *ESPN Thematic Report on Challenges in Long-Term Care Austria*; European Comission: Brussels, Belgium, 2018.
32. European Commission. *ESPN Thematic Report on Challenges in Long-Term Care Romania*; European Comission: Brussels, Belgium, 2018.
33. European Commission. *ESPN Thematic Report on Challenges in Long-Term Care Germany*; European Comission: Brussels, Belgium, 2018.
34. European Commission. *ESPN Thematic Report on Challenges in Long-Term Care Finland*; European Comission: Brussels, Belgium, 2018.
35. European Commission. *ESPN Thematic Report on Challenges in Long-Term Care: Italy*; European Comission: Brussels, Belgium, 2018.
36. European Commission. *ESPN Thematic Report on Challenges in Long-Term Care: Poland*; European Comission: Brussels, Belgium, 2018.
37. European Commission. *ESPN Thematic Report on Challenges in Long-Term Care: The Netherland*; European Comission: Brussels, Belgium, 2018.
38. Hoyer, S.; Reich, N. Leave and Financial Support for Family Caregivers in EU Member States. 2016. Available online: http://beobachtungsstelle-gesellschaftspolitik.de/f/04d661be68.pdf (accessed on 15 January 2022).
39. European Commission. *ESPN Thematic Report on Challenges in Long-Term Care: Spain*; European Comission: Brussels, Belgium, 2018.
40. Casanova, G.; Lamura, G.; Principi, A. Valuing and integrating informal care as a core component of long-term care for older people: A comparison of recent developments in Italy and Spain. *J. Aging Soc. Policy* **2017**, *29*, 201–217. [CrossRef] [PubMed]
41. Salvador-Carulla, L.; Alvarez-Galvez, J.; Romero, C.; Gutiérrez-Colosía, M.R.; Weber, G.; McDaid, D.; Dimitrov, H.; Sprah, L.; Kalseth, B.; Johnson, S.; et al. Evaluation of an integrated system for classification, assessment and comparison of services for long-term care in Europe: The eDESDE-LTC study. *BMC Health Serv. Res.* **2013**, *13*, 1–12. [CrossRef] [PubMed]
42. Ranci, C.; Pavolini, E. *Reforms in Long-Term Care Policies in Europe: Investigating Institutional Change and Social Impacts*; Springer: New York, NY, USA, 2013; pp. 159–177.
43. Ranci, C. *Social Vulnerability in Europe*; The New Configuration of Social Risks; Springer: Berlin/Heidelberg, Germany, 2009.
44. Taylor-Gooby, P. (Ed.) *New Risks, New Welfare: The Transformation of the European Welfare State*; Oxford University Press: Oxford, UK, 2004.
45. Saraceno, C. *Gender and Care: Old Solutions, New Developments?* European University Institute: Fiesole, Italia, 2008.
46. Courbage, C.; Montoliu-Montes, G.; Wagner, J. The effect of long-term care public benefits and insurance on informal care from outside the household: Empirical evidence from Italy and Spain. *Eur. J. Health Econ.* **2020**, *21*, 1131–1147. [CrossRef] [PubMed]
47. Chiu, T.Y.; Yu, H.W.; Goto, R.; Lai, W.L.; Li, H.C.; Tsai, E.T.; Chen, Y.M. From fragmentation toward integration: A preliminary study of a new long-term care policy in a fast-aging country. *BMC Geriatr.* **2019**, *19*, 1–10. [CrossRef]
48. Walker, W.; Wyse, M. *Leadership and Governance of Long-Term Care Systems in Asia and the Pacific*; Asian Development Bank: Metro Manila, Philippines, 2021.
49. Eifert, E.K.; Adams, R.; Dudley, W.; Perko, M. Family caregiver identity: A literature review. *Am. J. Health Educ.* **2015**, *46*, 357–367. [CrossRef]

International Journal of
*Environmental Research
and Public Health*

Review

Value-Based Healthcare Delivery: A Scoping Review

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Abstract: Healthcare systems are transforming from the traditional volume-based model of healthcare to a value-based model of healthcare. Value generation in healthcare is about emphasising the health outcomes achieved by patients and organisations while maintaining an optimal relationship with costs. This scoping review aimed to identify the key elements and outcomes of implementing value-based healthcare (VBHC). The review process included studies published from 2013 to 2023 in four different databases (SpringerLink, PubMed, ProQuest and Scopus). Of the 2801 articles retrieved from the searches, 12 met the study's inclusion criteria. A total of 11 studies referred to value as the relationship between the outcomes achieved by patients and the costs of achieving those outcomes. Most of the studies highlighted the presence of leadership, the organisation of care into integrated care units, the identification and standardisation of outcome measures that generate value for the patient, and the inclusion of the patient perspective as the most prominent key elements for optimal VBHC implementation. Furthermore, some benefits were identified from VBHC implementation, which could shed light for future implementation actions. Therefore, the VBHC model is a promising approach that may contribute to an improvement in the efficiency and sustainability of healthcare.

Keywords: health systems; healthcare; value-based healthcare; integrated care; older patients

Citation: Fernández-Salido, M.; Alhambra-Borrás, T.; Casanova, G.; Garcés-Ferrer, J. Value-Based Healthcare Delivery: A Scoping Review. *Int. J. Environ. Res. Public Health* **2024**, *21*, 134. https://doi.org/10.3390/ijerph21020134

Academic Editor: Dean G. Smith

Received: 15 December 2023
Revised: 23 January 2024
Accepted: 24 January 2024
Published: 25 January 2024

1. Introduction and Background

Population ageing characterises one of the most important transformations in developed and emerging countries ever since the middle of the last century [1,2]. Along with a progressive increase in older people (65 years of age and older), the development of chronic conditions (multimorbidity), which increase with increasing age [3–5], has become a challenge for the provision and financing of healthcare and social services. In this regard, health systems aim to address one of the main concerns about citizen care: the effectiveness of healthcare outcomes [6]. In this field, effectiveness is a term that addresses both the quality of care and the optimisation of care processes [7,8]. Healthcare organisations are currently facing increased pressure on their total expenditure, the increased complexity of people's health status, and the increased democratisation of therapeutic interventions [9].

In this respect, several studies on the historical development of healthcare have recorded the various changes in the doctor–patient relationship and in the healthcare model [10,11]. In the traditional medical model, the patient is reduced in his or her relationship with the health system and health professionals to a passive subject and a generic person, i.e., without history or context. This model of healthcare began to be redefined in the 1970s [12–14]. Since then, various proposals on the therapeutic relationship, guided by the principles of quality, safety, and symmetry, have promoted an increasingly human, ethical, and social interpretation of the patient [15]. The application of these propositional visions has resulted in care provision models moving from 'patient-centred care' [16] to 'person-centred care' [17]. Moreover, the services of today's healthcare organisations take into account, as a reference point in the provision of care, both costs and satisfaction, as well as the active participation and experience of the population to be cared for [18–20], leading to a new 'value-based model of healthcare'.

This new paradigm of Value-Based Healthcare (VBHC) is presented as the optimal alternative to the current care approach to health services, the volume-based healthcare model [21]. The proposal of the VBHC model responds to the need to address the costs of health services in relation to their capacity to improve the situation of patients [22]. This need is one of the main challenges facing healthcare organisations today, given the limitation of public resources and the growing complexity, diversity, and plurality of the health status of populations [23,24]. The value-based model of healthcare addresses these material, socio-demographic, and care challenges or constraints of contemporary health provision with a holistic approach to the quality of health services [25]. In this sense, value in healthcare is understood as the trade-off between outcomes and costs, by extension, as the potential effectiveness of health services [26–28].

The volume-based model of healthcare operates with a quantitative approach to health service provision. Thus, at the level of clinical performance, the capacity of consultations is prioritised over the patients themselves, and the cost of provision is prioritised over the quality of services [29,30]. As a result, healthcare organisations are delivering healthcare that is increasingly efficient but more segmented by department and with less capacity for improvement [31]. Faced with this clinical trend of the loss of person-centredness, the value-based healthcare model is presented as a strategy that revitalises the active role of the patient and the viability of health services. This new paradigm of healthcare complements health economics with a qualitative and holistic approach to its administration and provision to the population. Thus, it is proposed as a normative healthcare strategy focused on the construction of the value chain of the care process [25]. Even though different initiatives on VBHC have been implemented and analysed over the last few years, there remains a lack of acceptance of the concept and a knowledge gap around the existence of a consensus on the definition of the VBHC concept. This is due to a number of factors, including variations among different health systems around the world and the paucity of available data demonstrating the effectiveness of measures implemented under the VBHC model [32]. There are different interpretations of value and of the key elements for its successful implementation, as well as a multitude of initiatives advocating different positive outcomes. Thus, this study strives to reduce this knowledge gap by bringing together the relevant literature and hopefully laying the groundwork for future research in this area.

Our study aims to explore and synthesise the existing knowledge, through a scoping literature review, of the VBHC conceptualisation and the key elements and outcomes of implementing value-based care in the healthcare context and to identify how these may contribute to improving the efficiency and sustainability of the healthcare system. Therefore, the aim of this study is to identify, compare, and summarise the findings of the literature on the following: (1) the definitions of value-based care extracted from the literature review; (2) the key elements of implementing/delivering value-based care into the healthcare context; and (3) the main outcomes, in terms of improvement in the quality of the care process, of implementing value-based care. Moreover, this scoping review aims to explore and identify pertinent gaps that would be beneficial for guiding future studies.

2. Materials and Methods

A scoping review responds to a specific methodology of locating and selecting existing studies on a specific topic, according to pre-specified eligibility criteria, in order to analyse, synthesise, and report the results found, with the aim of answering a clearly specified research question [33]. We adopted the guidelines of the PRISMA 2020 statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) for its relevance to this study, as it is primarily designed to evaluate systematic reviews of studies assessing the effects of health interventions, regardless of the design of the studies included [34,35]. In particular, the PRISMA extension for Scoping Reviews (PRISMA-ScR) checklist was used to guide the conduct of this review; the protocol of this scoping review has not been registered or published [36].

The bibliographic reference management application Zotero was used to transfer the studies identified in the electronic databases and eliminate duplicates. To maximise the evidence recovery from the databases, the literature search strategy was based on the PICO framework, consisting of the construction of the research question according to the description of the following components: patient or problem of interest (P), intervention (I), comparison (C) and outcomes (O) [37]. However, this study does not present an intervention with which to compare value-based care, so component C is omitted, leaving the format as PIO. Table 1 shows the PIO model.

Table 1. Elaboration of the research question using the PIO model.

Acronym and Components	Description on Components
(P) Population	Healthcare system at large
(I) Intervention	Value-based care approach
(O) Outcomes	Improving the efficiency and sustainability of healthcare systems, that is to say, the overall outcomes of care in terms of the quality of care.

After using the PIO model, the following research questions are presented:

Does the implementation of a value-based approach lead to an improvement in the efficiency and sustainability of healthcare?

If so, which are the key elements and the related outcomes of implementing the value-based care approach in the healthcare context?

In order to identify, select, and include relevant literature that answered the research question, and to discard studies that did not answer it, inclusion and exclusion criteria were defined. The following inclusion and exclusion criteria were used for study selection:

2.1. Eligibility Criteria

Inclusion criteria:

(1) Articles addressing the implementation of value-based care in the healthcare context;
(2) Articles published in the last 10 years (2013–2023);
(3) Articles published in English and Spanish;
(4) Articles published in scientific journals;
(5) Full and open access articles;
(6) Original or primary source studies that are descriptive, experimental, quasi-experimental, cross-sectional, and longitudinal articles.

Exclusion criteria:

(1) Articles that do not address the implementation of value-based care in the healthcare context or articles focused on a specific condition/disease;
(2) Articles that were published more than 10 years ago;
(3) Studies that were published in a language other than English and Spanish;
(4) Articles published in non-scientific journals or incomplete and non-open access articles;
(5) Secondary source studies, such as reviews and editorials.

2.2. Search Strategy

A scoping literature review was conducted according to the inclusion and exclusion criteria above in the electronic databases PubMed, ProQuest, Scopus, and SpringerLink. The databases were chosen for their international recognition and broad multidisciplinary coverage, with the intention of retrieving articles relevant to the subject of the scoping literature review. According to the eligibility criteria, articles that included descriptors related to the terms MeSH (Medical Subject Headings) and DeCS (Health sciences desCriptors) were selected [38]. The terms value-based, care, health, and healthcare were identified from the MeSH and DeCS descriptors and combined with a Boolean operator, as shown in Table 2, to develop a database search to achieve the proposed objectives.

Table 2. Search with descriptor and Boolean AND operators.

Descriptor	Boolean Operator	Descriptor	Boolean Operator	Boolean Operator	Descriptor
Value-based	AND	Care	AND		
Value-based	AND	Care	AND		
Value-based	AND	Care	AND		
Value-based	AND	Care	AND		
Value-based	AND	Care	AND	AND	Cost
Value-based	AND	Care	AND	AND	Quality of life

To reduce the risk of subjective interpretation and possible inaccuracies due to chance errors that might have affected the results of the review, two independent reviewers were involved in the selection of studies in the electronic searches [39]. Thus, after eliminating duplicate records, we proceeded with the preliminary data analysis, which included a three-stage selection process: the first phase based on selection by title, the second phase based on selection by abstract, and the third phase consisting of reading the full text of the studies selected by abstract. Each of the papers was assessed twice by two independent reviewers following the inclusion and exclusion criteria set above. A third reviewer was involved in the process when disagreement arose or consensus was not reached, making the final decision.

3. Results

3.1. Screening Results

A total of 2.801 records were identified covering the time span of January 2013 to December 2023, of which 1.609 duplicate registrations were deleted. Of the 1073 records obtained after eliminating duplicates, 439 records were identified in the title review. After applying the exclusion criteria in the selection by abstract, 396 were eliminated, leaving 43 scientific articles for full-text review. A total of 12 full text articles were reviewed, all of which met the inclusion criteria and were included in the final list of studies included for this research. To conduct and report this scoping review, we used the preferred reporting elements for systematic reviews and meta-analysis scoping reviews: PRISMA-ScR [34] (Supplementary Materials) together with the PRISMA 2020 flowchart [35] (Figure 1). Figure 1 presents the flow diagram, which was based on the PRISMA 2020 declaration [35], that illustrates the scoping literature review process and details the reasons for exclusion at each screening stage.

Preliminary Insights

A total of 12 studies were included for the scoping review. In terms of the methodology used in the studies, 10 of the 12 studies used qualitative techniques, either through interviews or focus groups, and 2 other studies used a mixed methodology, combining the use of interviews and questionnaires. The following table (Table 3) shows the PICOTS characteristics for each of the studies included in the scoping review [40]. Table 4 shows a summary of the results found from the analysis of the studies in the scoping review.

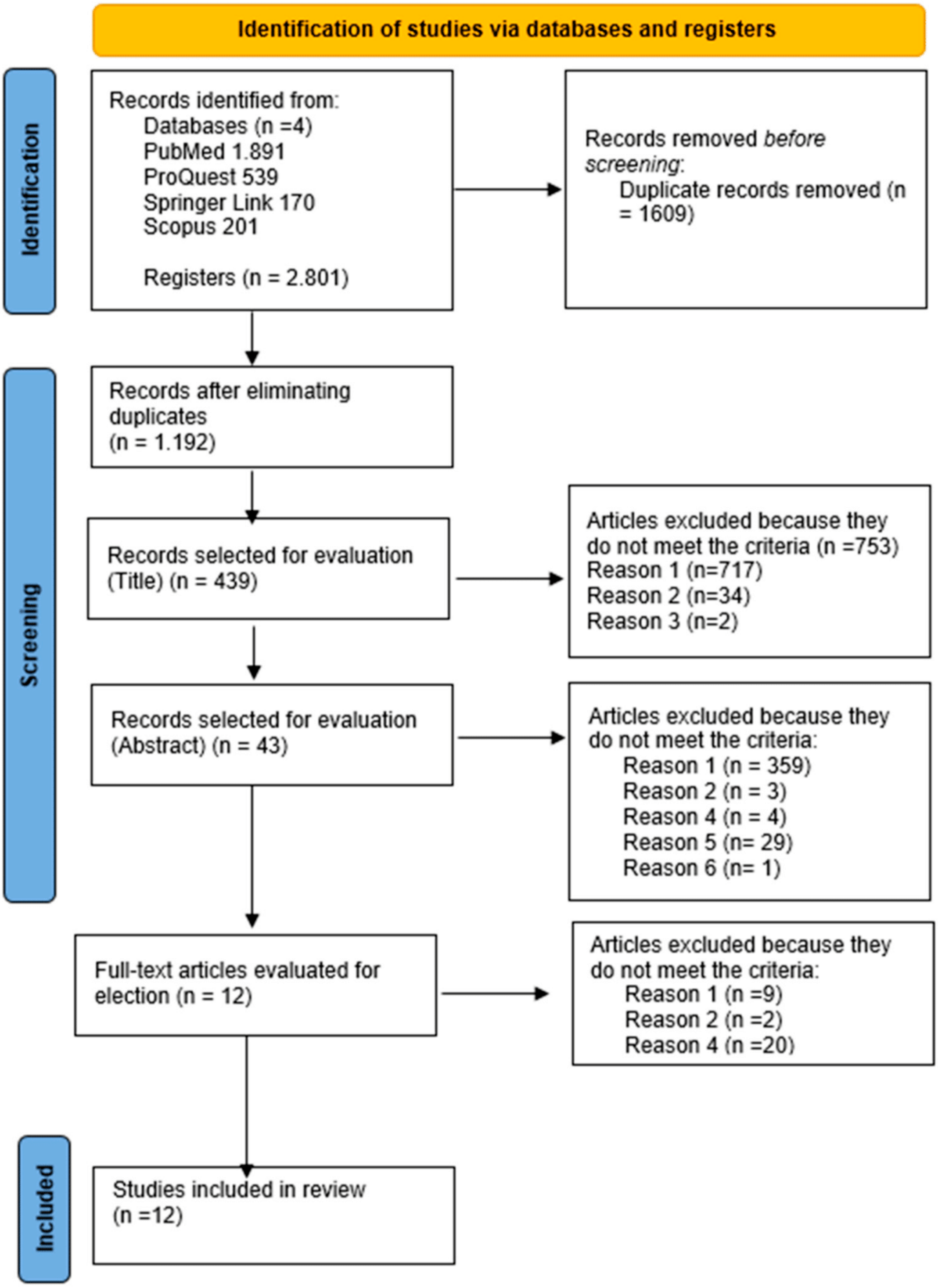

Figure 1. Flow diagram for our scoping review based on PRISMA. Note: Reason 1: Articles that do not address the implementation of value-based care in the healthcare context or articles focused on a specific condition/disease; Reason 2: Articles that were published more than 10 years ago; Reason 3: Studies that were published in a language other than English and Spanish; Reason 4: Articles published in non-scientific journals or incomplete and non-open access articles; Reason 5: Secondary source studies; Resource 6: Duplicate.

Table 3. PICOTS characteristics of reviewed studies.

Populations	Intervention	Country	Method/Outcomes	Timeframe
Professionals of VBHC implementation teams in a hospital	Exploration of how the representatives of four pilot project teams experienced implementing VBHC in four different groups of patients	Sweden	Qualitative analysis by conducting interviews over three periods with 20 members of the VBHC implementation teams, with a total of 59 interviews conducted	2 years
Professionals of VBHC implementation teams in a hospital	Exploration of four pilot teams' experiences of improvements resulting from the implementation of VBHC in a hospital	Sweden	Qualitative analysis through in-depth interviews with 20 members of the VBHC implementation teams	2 years
Professionals of VBHC implementation teams in a hospital	Exploration of four pilot teams' experiences of improvements resulting from the implementation of VBHC in a hospital	Sweden	Qualitative analysis through in-depth interviews with 20 members of the VBHC implementation teams	2 years
Members/professionals of EUHA	Presentation of a plan for the implementation of VBHC in hospitals	Europe	Qualitative analysis	2 years
Members of VBQI teams in a large Dutch top clinical teaching hospital	Exploration of the main hindering and/or supporting factors in the implementation of VBQI teams in hospital care	The Netherlands	Qualitative analysis with semi-structured interviews with 43 members of 8 VBQI teams	5 years
Members of Amsterdam UMC	Presentation of a pragmatic step-by-step approach for VBHC implementation, developed and applied in Amsterdam UMC	The Netherlands	A method for implementing VBHC in Amsterdam UMC based on 'experience-based co-design' (EBCD)	3 years
Top- and middle-level executives from 70 healthcare provider organisations (HPOs)	Investigation of how HPOs in five Latin American countries were implementing VBHC	Argentina, Brazil, Chile, Colombia, and Mexico	Mixed methods research using online questionnaires and semi-structured interviews with a total of 70 participants from health organisations in five Latin American countries	2 years

Table 3. *Cont.*

Populations	Intervention	Country	Method/Outcomes	Timeframe
Managers and clinicians of the NHS in the United Kingdom	Exploration of relationships, behaviours, and perceptions between managers and clinicians regarding value-based healthcare	United Kingdom	A qualitative research methodology of semi-structured in-depth interviews applied to a sample of 4 hospital consultants, 4 senior managers, and 4 board executives	---
Representatives of Dutch hospitals (the Netherlands)	Exploration of the ways in which Dutch hospitals were implementing and pursuing value-based redesign	The Netherlands	Qualitative study through semi-structured interviews and focus groups with representatives of Dutch hospitals	---
Professionals and Members of the Population attending the Hospital Universitario 12 de Octubre	Value-based healthcare project implementation in a hierarchical tertiary hospital	Spain	Pilot study for the implementation of VBHC, in which qualitative techniques such as focus groups and the Delphi technique were included	4 years
A Dutch expert panel about VBHC consisting of nine members	The generating of a consensus on key actions and practices for VBHC implementation	The Netherlands	Qualitative research using the Delphi technique with a group of 9 Dutch experts on actions and practices that would contribute to implementing VBHC in the Dutch healthcare system	---
Members of Germany's healthcare system	Exploration of stakeholders' perspectives on the relevance and feasibility of actions and practices related to the implementation of VBHC in the German healthcare system.	Germany	Mixed methodology through interviews and questionnaires (using the Delphi method) with health experts	2 years

Table 4. List of studies included for the scoping review.

Methods	VBHC Definition	Key Elements of Implementing VBHC	Outcomes of VBH
Qualitative	Value is defined as health outcomes achieved per "dollar" spent. VBHC implies creating value for patients; basing the organisation of medical practice on medical conditions and care cycles; and measuring medical outcomes and costs.	- Organising healthcare around integrated care units; involving patients or patient representatives; the identification of outcome measures that create value for patients; the accessibility of data—up-to-date IT systems; time; the presence of leadership; measuring the costs of the entire care process.	- Patients appreci care they receiv more aware of w tients; increased c partments and th in them. - Increased awarer of cooperation be patient care; incre tients by receivin level; improveme ment, patient fol standing of differ partment and dif
Qualitative	Patient value refers to the quality of care and treatment provided.	- The presence of leadership; the identification of outcome measures that create value for patients; the accessibility of data—up-to-date IT systems; involving patients.	- Better quality o job satisfaction. - Improved comn patient and out ments in outcom tient monitoring.
Qualitative	Value is defined as health outcomes achieved per 'dollar' spent. VBHC implies creating value for patients; basing the organisation of medical practice on medical conditions and care cycles; and measuring medical outcomes and costs.	- The presence of leadership; time; planning and preparation in the pre-implementation phase.	- It enhanced the i the patients' pers portant to them.
Qualitative	VBHC means improving outcomes for patients in relation to the costs of care while reducing the burden on professionals and improving their job satisfaction.	- Organising healthcare around integrated care units; the accessibility of data—up-to-date IT systems; the identification of outcome measures that create value for patients; involving patients; the presence of leadership.	-

Table 4. *Cont.*

Methods	VBHC Definition	Key Elements of Implementing VBHC	Outcomes of VBH
Qualitative	VBHC is defined as the best outcomes for the patient divided by the costs of achieving those outcomes.	- Organising healthcare around integrated care units; the presence of leadership; accessibility of data—up-to-date IT systems; time; organisational readiness in the pre-implementation phase; involving professionals from outside the VBHC team.	- Increased kn VBHC practices. - Increased efficien
Qualitative	VBHC is defined as the improvement of patient outcomes in relation to the optimal use of resources.	- Organising healthcare around integrated care units; the presence of leadership; involving patients or patient representatives; organisational readiness in the pre-implementation phase; multidisciplinary VBHC implementation teams; the hiring of external consultants.	- Improvement in suring the inclu and needs; the us to assess patient pretation bias, en ing, and avoided
Quantitative and qualitative	Value is defined as the ratio of health outcomes to costs for each patient.	- Organising healthcare around integrated care units.	-
Qualitative	Value requires improved results per unit cost.	- Organising healthcare around integrated care units; organisational readiness in the pre-implementation phase; the presence of leadership; the accessibility of data—up-to-date IT systems.	- Increased efficien
Qualitative	At VBHC, value is what matters most to patients. Value is defined as the health status of the patient (outcomes) divided by the resources required to achieve that status (costs).	- Organising healthcare around integrated care units. - The presence of leadership; Multidisciplinary VBHC implementation teams; the identification of outcome measures that create value for patients; measuring the costs of the entire care process.	- Improved comm different care un plete care cycle o ficiency of hospit - Improved colla members by crea sponsibility for c

Table 4. *Cont.*

	Methods	VBHC Definition	Key Elements of Implementing VBHC	Outcomes of VBH
9]	Qualitative	VBHC is defined as an international trend that involves significant changes at various levels of healthcare institutions, from management to the doctor–patient relationship.	- Organising healthcare around integrated care units; the presence of leadership; the accessibility of data—up-to-date IT systems; involving patients or patient representatives; the identification of outcome measures that create value for patients; measuring the costs of the entire care process.	- Reduction in i improvement o to PROMs).
	Qualitative	Value is defined as patient health status (outcomes) divided by the resources needed to achieve it (costs).	- Organising healthcare around integrated care units; involving patients or patient representatives; the identification of outcome measures that create value for patients.	-
	Quantitative and qualitative		- Involving patients or patient representatives; the accessibility of data; up-to-date IT systems; multidisciplinary VBHC implementation teams.	-

Note: Several studies that were examined did not provide information on certain aspects being reviewed, which explains the absence of data in specific t

3.2. Results and Analysis

3.2.1. Definitions of Value-Based Care

The first specific objective was to identify and compare the definitions of value-based care extracted from the scoping literature review. All the definitions found in the reviewed literature placed the patient at the centre of the definition of VBHC. Nilsson et al. [41,42] described VBHC as an approach based on three principles: first, creating as much value as possible for the patient; second, basing the organisation of healthcare on the patients' medical conditions and full care cycles; and third, the measurement of medical outcomes and costs.

Aligned with the first principle highlighted by Nilsson et al. [41,43]; Steinman et al. [48,50] stated that 'value consists of what matters most to patients', while Daniels et al. [44] emphasised that patient value is defined as 'the best possible patient-relevant health outcomes and patient experience divided by the costs to achieve those outcomes'. In this line of thought, Heijster et al. [45] explained that a key element of VBHC is 'to improve outcomes in daily practice that matter to patients while optimizing resource utilization'.

The optimisation of resource utilisation has been also mentioned in the definitions found in Cossio Gil et al. [32]; Makdisse et al. [46]; Ng, S. [47], and Steinman et al. [48]; in these, it was mentioned that, within a VBHC approach, improving value requires improving outcomes per unit of cost. Thus, the importance of measuring both health outcomes and costs, as supported by Nilsson et al. [41–43] in their third principle of VBHC, is highlighted. This idea was also supported by the definition extracted from a study by Makdisse et al. [46], according to which 'the value equation is where value is defined as health outcomes relative to the cost'.

Furthermore, for Cossio Gil et al. [32], VBHC must put patient outcomes at the centre of the healthcare process. This idea is in line with the second principle of VBHC from Nilsson et al. [39,41], regarding basing the organisation of healthcare on the patients' medical conditions. This has also been supported by the work of Makdisse et al. [46], who recommended a value agenda in which healthcare should be organised into integrated practice units. This authors, as part of this value agenda, also mentioned that healthcare systems should move to bundled payments for care cycles and that information technology platforms must be enabled in order to achieve VBHC.

Cossio Gil et al. [32] also stated the importance of VBHC for professionals, as it can be a key aspect for reducing the burden on professionals and improving satisfaction with their work.

Finally, Verela-Rodríguez et al. [49] described VBHC as 'an international trend that implies significant changes at several levels of the healthcare institutions from managerial viewpoints to the doctor–patient relationship'.

The analysis of all the selected studies confirms the presence of commonalities among the identified definitions. For instance, the term 'patient' is consistently present in all definitions, and the correlation between outcomes and costs is observed in 72.7% of the studies. Yet, the distinctions among the definitions emerge in terms of how they articulate the correlation between costs and outcomes. This connection is occasionally directly associated with the VBHC concept, while in other cases, it is associated solely with the definition of 'value' as a constituent within the concept. Additionally, references to supplementary factors beyond patient outcomes and costs, like the impact on professionals' workload and their job contentment, underscore the presence of a gap in comprehending the concept.

3.2.2. Key Elements of Implementing and Delivering Value-Based Care

The second specific objective of this present scoping literature review was to identify the key elements of implementing and delivering value-based care into the healthcare context.

Among the reviewed studies, the following key elements have been identified: leadership, involving the patients' perspective, organising the delivery of care in integrated care units, the standardisation of outcome measures and accessibility of data, and having enough resources in terms of time and human capital.

A total of nine studies considered the presence of leadership as a key element to support and guide the (multidisciplinary) teams implementing the VBHC approach within the hospital: Nilsson et al. [41,43]; Hejister et al. [45]; Daniels et al. [44]; Cossio et al. [32]; NG [47]; Steinman et al. [48] and Varela et al. [49]. According to Nilsson et al. [41,43], effective leadership occupies a role within the team that is persevering, committed throughout the process, able to motivate and drive the team, and is constantly able to bring new ideas and approaches. This effective leadership was considered essential to ensure that the implementation does not slow down or even that the value-based work does not come to an end.

Hejister et al. [45]; Daniels et al. [44], and Cossio et al. [32] highlighted that effective leadership is based on ensuring the involvement of patients and/or patient representatives, as well as the necessary financial resources for the successful implementation of VBHC. Likewise, Hejister et al. [45] highlights the figure of the clinical leader, and Daniels et al. [44] highlights the figure of the medical leader as figures responsible for leadership in order to successfully launch the implementation of the model. While for NG [47], in the frame of VBHC, great leaders are those that support the implementation of changes and reforms to ensure organisational efficiency with clear pathways for patients [47].

On the one hand, several of these studies focused on the importance of leadership in structuring the work among the team in the pre-implementation phases of VBHC [43,48]. In this sense, studies confirm that leadership by the hospital director, according to which the VBHC approach should be used as a management tool, allows for the legitimacy of decisions within the teams and is conceived as crucial for the prior organisational redesign necessary for the subsequent successful implementation of VBHC [43,48]. On the other hand, another study highlighted the relevance of leadership in both the pre-implementation phase and also in the leading of the implementation process to ensure the motivation of the team during the first months [41]. Although, without providing details, other studies also allude to leadership and coordination as a key step in ensuring the successful implementation of VBHC [49].

Studies also agree on the importance of involving the patients' perspective, although they differ in their manner. Some of the studies emphasised that the patient is at the core or centre of VBHC [43,47,51]. In the same line, other studies highlighted the importance of involving patients or patient representatives during the implementation process [41,45]. According to Nilsson et al. [41], patient involvement is key to understanding the patients' point of view and to ensure that there are no discrepancies between patients' experiences of value and how teams implement VBHC. In this sense, involving patients or patient representatives allows teams to seriously evaluate care delivery in relation to patient value [41]. In the same vein, other studies highlight that patients as well as teams need to have access to data in order to discuss changes in the care process together [32]. Finally, other studies confirmed that VBHC contributed to highlighting the importance of including the patients' perspective and what is important to them [43].

Other studies emphasised that patients' involvement alongside the multidisciplinary team needs to be present not only at the implementation phase but also during the pre-implementation design process. In this sense, patients are considered members of the value team, and their participation is essential to ensure personalised care in which their wishes and needs are included, and the outcomes that will be relevant to measure in later stages are selected [45]. Other studies considered the patient perspective to be essential when implementing VBHC, because patients' perspective is key to developing tools that are relevant to actually assess patient-reported outcomes (PROMs) and patient experience (PREMs) through systematic measurements [32,49].

Other studies also mentioned involving patients in the shared decision-making process as one of the most important elements of VBHC [32,50,51].

Another key element for VBHC is embedded according to the studies in the pre-implementation phase, known by some studies as organisational [48], or more generically, they refer to the organisational structure of hospitals [45,47].

In this respect, the studies emphasised that, prior to the implementation of VBHC, it is essential to modify the healthcare organisation, which is usually organised in separate departments, into integrated care units [32,41,44,49,50]. According to these studies, healthcare systems that are organised in specialised departments make it difficult to assess outcomes, to measure costs along the whole process, and to follow patients during the course of the disease as they move from one department to another. For these reasons, it is considered necessary to organise care delivery in integrated care units or in multidisciplinary care pathways around a specific patient group with a specific medical condition [32,40,48–50] or, in other words, towards a disease-oriented organisation that allows the entire care process to be evaluated in terms of costs and clinical outcomes [48].

Standardisation of outcome measures and accessibility of data: Importance of ICTs.

As previously said, patients' involvement is essential to know what value for patients is. Thus, the identification of outcome measures relevant to patient groups, which creates value for patients, is another key element in the implementation of VBHC [32,41,47–49]. Alongside the identification of outcome measures, the studies highlight the importance of new technologies for recording and accessing outcomes which facilitates the implementation of VBHC. Several examples that confirm that IT support is an important factor for a successful delivery of VBHC are presented in the reviewed literature. These include the following: the creation of information platforms that enable communication and inform both clinical teams about PROMs and patients about their health status [32], the development of a coding system to measure outcomes across a whole group of patients [42], the installation of supporting IT tools that allow for the searching of data in different IT systems of a hospital [42,51] or that allow, in a given hospital, the systematic recording of information from the primary source, the existence of an up-to-date IT system containing the data, the opportunity to search for statistics for outcome measurement mapping [41], or even the presence of national data registers [44].

Alongside the measurement of outcomes, several studies highlight the importance of measuring the costs of the entire care cycle [40,48,49]. Along these lines, some studies highlight that, in order to calculate the value for patients, it is necessary to measure the costs per patient of the entire care process [49,50] or, in other words, to measure the costs of the care cycles for each of the diseases they treat [48].

A few studies also highlighted the importance of having enough resources available during the design and/or implementation of VBHC for the successful implementation of this approach. In this regard, time was considered one of the most important resources in many studies [41,43,44].

When planning VBHC implementation, time was found to be essential in order to ensure the sufficient preparation of the teams to understand the meaning of VBHC and what value-based work implies, to decide on the administrative resources needed for the implementation process [43], to adjust the essential IT systems that would be key during the implementation [41,43], and to detect, with the staff involved in the teams, which results were interesting to measure the amount of time necessary to schedule the required follow-up meetings to monitor the implementation process [50]. Once VBHC was implemented, time was seen as a key resource to reflect and adapt to all changes without losing track of the work being done [40,43,44]. Apart from time, human capital was also found as a key resource for the successful implementation of VBHC. Several studies highlighted the importance of having multidisciplinary teams for VBHC implementation to ensure integrated and multidisciplinary value-based care [44,45,49,50]. Other studies highlighted the hiring of external consultants as a key figure to structure the work in the pre-implementation phase and to lead the implementation process in the first months, supporting, guiding, and motivating the teams during the implementation process [41,45]. In other cases, it was also considered essential to involve professionals outside the VBHC team, as it was felt that all professionals involved in the care of a given patient group should support improvement initiatives [44].

Despite the recent implementation of this model, there is consistency across studies regarding the critical elements necessary to guarantee its effectiveness in implementation. In 75% of the studies, both the leadership and the organisation of integrated care units emerge as prominent elements. Moreover, the significance of involving patients, ensuring data accessibility, and updating IT systems is evident in over half of the studies. These examples signify a substantial consensus among stakeholders regarding the essential components aimed at enhancing care within a value-based care model.

Nevertheless, despite these commonalities, the differences among studies, even those addressing identical elements, are striking. Certain studies mention leadership yet diverge in attributing this role to various individuals, such as the hospital director, or remain vague about who should possess this capacity. Moreover, there are differing perspectives on its significance at different stages, with some emphasising its importance during the pre-implementation organisational phase, while others highlight its relevance specifically during the implementation of value-based care. Similar variability exists regarding the inclusion of patients in these studies. While some emphasise considering the patients directly, others discuss the potential inclusion of patient representatives. The discrepancies in identifying crucial elements for the effective adoption of the value-based care model imply a lack of uniformity in the understanding of its implementation. Consequently, this variation in understanding could lead to differences in measurement and outcomes, thereby complicating comparisons between implementations.

3.2.3. Resulting Outcomes of Implementing Value-Based Care

The third specific objective of this scoping literature review was to identify and summarise the resulting outcomes, in terms of improvement in the quality of the care process, of implementing VBHC, and how this may contribute to improving the efficiency and sustainability of a healthcare system. Studies show positive results from the implementation of VBHC, including improvements in the awareness of cooperation and actual cooperation between the different departments involved in the patient care process and a better understanding of the different conditions in each department and different patient subgroups. This improved coordination, together with VBHC, facilitated the achievement of outcome measurements and improved the quality of data. In terms of patients, the implementation of VBHC increased accessibility for patients to receive care at the appropriate level of care and better patient follow-up. In general, VBHC implementation increased the sustainability of organisations, in particular of those where professionals were committed, and strong leadership was in place.

Different studies referred to certain human resources involved in VBHC implementation for their ability to guide positive outcomes [44,48]. In this sense, the studies highlighted that involving professionals from outside the VBHC team (e.g., from other hospitals) who care for a certain group of patients allows for the professionals to share the actions that are being implemented with them and increase knowledge about the best practices [50]. The specific presence of other professional profiles, such as managers, also was mentioned due to their ability to foster communication between the different care units involved in the full care cycle of a disease [48].

Generally, some studies highlight that working according to a standardised care plan contributes not only to a greater awareness on the part of professionals to use hospital time efficiently and a better structured care process but also to the higher job satisfaction of the staff [42].

Other studies have highlighted that, in the implementation of VBHC, the commitment and input of physicians and managers, together with clinical leadership, enabled organisations to innovate and drive changes and reforms, achieving greater efficiency in hospital services [44,47,48]. In this sense, some studies highlight that the most successful and sustainable organisations have been those in which there was a greater degree of commitment between doctors and managers [47]. Along the same lines, other studies have highlighted physician leadership as a success factor due to the positive involvement of the physician leader as an inspirational and motivating character with the ability to involve others and assume responsibility [44], which led to a successful delivery of VBHC. Finally, some studies highlight leadership within implementation teams as very beneficial for the proper organisation of teams [48].

On the other hand, the studies highlighted that emphasising value for patients brings benefits for the healthcare organisation implementing VBHC, as it enables (team) participants to understand the patients' point of view, become enthusiastic about the concept, and strongly engage in implementation work [41].

Another important outcome of VBHC implementation was organisational improvement in terms of increased cooperation between departments and between professionals in these departments. In turn, this improved cooperation facilitated the achievement of outcome measurements, patient follow-up, and the understanding of the different conditions in each department and different patient subgroups [41]. In terms of improving cooperation on a broader level, the implementation of VBHC also increased the awareness of cooperation between inpatient and outpatient care, contributing to increased accessibility for patients to receive care at the appropriate level of care [41,42].

The creation of integrated units around medical conditions also triggered positive consequences by considering the fact that they could enable closer collaboration between all those involved in the treatment of patients with a particular medical condition and allow hospitals to better address the interdependencies of the different activities necessary for patient care [43].

Finally, studies highlight that the implementation of VBHC improved data quality by using systematic measures to actually assess patient-reported outcomes (PROMs) and patient experience (PREMs) as well as enter the information into the system from the primary source (physician/patient). This reduced interpretation bias, ensured systematic recording, and avoided missing data [46,48]. More briefly, other studies conclude that the use of patient-reported outcome measures has itself been a stimulating factor for the implementation of VBHC [44]. Furthermore, the transparent display of health outcome information, so that it is available to both care providers and the general public, has also been shown to facilitate improvements in the health outcomes achieved [51]. In the same vein, other studies confirm that having a coding system to measure health outcomes in a subgroup of patients allows the team to critically examine processes and decisions in relation to different treatment regimens [42]. More generally, other studies have emphasised that value-based metrics have a driving effect on collaboration among team members by creating a sense of shared accountability for certain goals [48].

In conclusion, the studies included in this scoping review present results (66.6%) that refer to predominantly positive outcomes. These studies correlate these favourable outcomes with the presence of key elements highlighted in the implementation of VBHC. Nevertheless, a notable proportion of studies (33.4%) within this review do not present specific outcomes or results. Furthermore, the disparities observed in the examined results are due to the absence of a standardised foundation for the selection of key elements and their implementation.

4. Discussion

This review describes the state of the art regarding the concept of VBHC, key elements for its successful implementation, and the resulting positive outcomes of implementing VBHC within a healthcare system.

In terms of the VBHC conceptualisation, the definitions found in this literature review referred to both the general term VBHC and the meaning of value within the model. Most of the studies agree on the definition of value and define it as the health outcomes achieved for patients in relation to the costs of the whole process of care [27,35,52]. In this sense, delivering value to the patient means improving health outcomes for the patient.

This definition of value is aligned with the definition of value of Michael Porter and Elizabeth Teisberg in their 2006 book on redefining healthcare [26], with these authors in this particular work being the pioneering authors of the VBHC approach.

Despite the unanimity in the definition of value, studies vary in their consideration of the key elements or factors in the implementation of VBHC. This ambiguity in the conception of the term has resulted in multiple ways of implementing VBHC depending on the geographical context and management of health systems [53]. This study may contribute to unveiling this cloak of ambiguity about the key elements of VBHC implementation presented in the scientific literature.

Thus, with regard to the key elements of VBHC, those most frequently examined were, firstly, the existence of a leader with the capacity to motivate and guide the team in the pre-implementation and implementation phase; secondly, the involvement of patient perspectives to ensure that the implementation of VBHC is responsive to the patient experience and to guarantee personalised care; thirdly, the creation of integrated care units around specific patient groups or specific medical conditions that allow patients to be followed throughout the process; fourthly, the identification and storing of patient perspectives to ensure that the VBHC implementation responds to patient experiences and guarantees personalised care; fifthly, the identification and standardisation of relevant outcome measures for patients in conjunction with the development or improvement of IT systems to ensure the recording, transparency, and accessibility of data by care providers and patients; and finally, the provision of time and human resources to ensure that implementation teams have the necessary time for preparation and the necessary reforms prior to implementation and for monitoring and adapting to changes during the implementation process. These elements have been identified in a wide variety of scientific studies [45,49], and it is recognised that their combination is considered essential for VBHC implementation. The pioneering work of Porter and Teisberg [26], as well as their further research, has shown that the transformation from volume-based care to value-based care must be based on a combination of six elements: organising around integrated care units, measuring outcomes and costs per patient, bundled payments by care cycles, expanding geographic reach, and enabling an informatics platform, with most of them being aligned with the key elements of implementing VBHC found in this scoping review.

Regarding the identification of positive outcomes resulting from the VBHC implementation, some benefits have been identified that could shed light for future implementation actions.

Among them, some of the reviewed studies described improvements in cooperation between professionals working in the healthcare system, both in terms of raising awareness of the need of cooperation and improvements in actual cooperation between professionals and departments involved in the patient care process. Cooperation has been shown to be essential for optimal care provision in other studies [54,55]. In addition, it was described in several of the reviewed studies [41,42] that the creation of integrated units was also seen as beneficial in enabling closer collaboration between all those involved in the treatment of patients with a disease and between the different levels of care (inpatient and outpatient). This improvement is supported by the 'integrated care' approach that seeks to better coordinate care around people's needs [56]. Along these lines, it was also found that the implementation of VBHC increased accessibility for patients to receive care at the appropriate level of care and better follow-up. Other positive outcomes of the delivery of VBHC are that implementing this model facilitated the achievement of outcome measurements and the quality of the data collected. As widely highlighted by the ICHOM—International Consortium for Health Outcomes Measurement—group, measuring outcomes is important to deliver optimal healthcare that matters to patients. Thus, the improvement found in our literature review in those terms are aligned with the ICHOM group's vision, as they contribute to value maximisation, where value is understood as 'the best possible patient-relevant health outcomes and patient experience divided by the costs to achieve those outcomes' [44]. Previous studies confirm the high degree of the interpretive variability of the concept, as well as the lack of consensus on its conceptualisation and the paucity of information on the evaluation of the strategies implemented [57]. In this sense, the present scoping review addresses the interpretative variability and differences in the conceptualisation of VBHC, providing an individual and comparative analysis of the studies included, thus adding value to previously published studies that agree on the existence of a gap around a generalised definition and understanding of the model. In addition, this study sought to address the paucity of results reported in previous studies on the evaluation of the implementation strategies in place by providing a comprehensive analysis of the positive results reported in these studies.

Despite the meaningful contributions of this literature review, this study is not without its limitations. First, our study protocol was not prepared neither registered, as recommended by the PRISMA 2020 guidelines. Moreover, our search was limited to studies published in English and Spanish between 2013 and 2023, which may exclude studies published in other languages that might be relevant to understand VBHC. In addition, most of the studies included in this literature review are based on a qualitative methodology, which may limit the extent to which the findings of this study can be generalised, and a number of the reviewed studies simply narrate experiences without assessing the effectiveness of implementing the system-wide intervention, which presents a major limitation, as there are no data to guarantee that these interventions work. We believe that there is sufficient consistency in the results analysed in this scoping literature review to be useful in guiding future research, even though the identified limitations suggest the need for additional research to address the gaps in our understanding of this critical healthcare paradigm, as well as on the scalability and sustainability of the VBHC model.

5. Conclusions

In conclusion, based on the findings of this scoping literature review, the implementation of VBHC may contribute to an improvement in the efficiency and sustainability of healthcare.

While most studies refer to some of Porter and Teisberg's key elements, there is no agreed generalisation of all of them, and there is interpretative variability that translates differently in the way VBHC initiatives are implemented and the variety of positive outcomes achieved in terms of effectiveness and the sustainability of healthcare.

These findings point to an urgent need for a common conceptualisation of VBHC, focusing on key elements to reduce interpretive variability and to achieve a shared understanding of its application.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/ijerph21020134/s1, PRISMA-ScR checklist [36].

Author Contributions: Conceptualization, M.F.S. and T.A.B.; methodology, M.F.S. and T.A.B.; analysis, M.F.S., T.A.B. and G.C.; manuscript writing, M.F.S. and T.A.B.; critical review, T.A.B. and J.G.F. All authors have read and agreed to the published version of the manuscript.

Funding: This study has received funding from the FPU (Formación de Profesorado Universitario) contract from the Spanish Ministry of Universities with the reference FPU19/04167 and from the H2020 programme of the European Commission (ref. 875215).

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: No new data were created or analysed in this study. Data sharing is not applicable to this article.

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Ogura, S.J.; Jakovljevic, M.M. Global population aging-health care, social and economic consequences. *Front. Public Health* **2018**, *6*, 335. [CrossRef]
2. Panadeiros, M.; Pessino, C. Consecuencias fiscales del envejecimiento poblacional: Proyecciones agregadas del gasto en salud para 10 países de América Latina. *Doc. De DiscusiÓN Del BID* **2018**, 601. [CrossRef]
3. Barnett, K.; Mercer, S.W.; Norbury, M.; Watt, G.; Wyke, S.; Guthrie, B. Epidemiology of multimorbidity and implications for health care, research, and medical education: A cross-sectional study. *Lancet* **2012**, *380*, 37–43. [CrossRef]
4. Salive, M.E. Multimorbidity in older adults. *Epidemiol. Rev.* **2013**, *35*, 75–83. [CrossRef]
5. Kingston, A.; Robinson, L.; Booth, H.; Knapp, M.; Jagger, C. Projections of multi-morbidity in the older population in England to 2035: Estimates from the Population Ageing and Care Simulation (PACSim) model. *Age Ageing* **2018**, *47*, 374–380. [CrossRef]
6. Teisberg, E.; Wallace, S.; O'hara, S. Defining and implementing value-based health care: A strategic framework. *Acad. Med.* **2020**, *95*, 682. [CrossRef]
7. Moore, M.; Khagram, S. *On Creating Public Value: What Business Might Learn from Government about Strategic Management*; Harvard University: Cambridge, MA, USA, 2006.
8. Barrubés, J.; Honrubia, L.; De Vicente, M.; Nake, A.; Sopeña, L.; Vilardell, C.; Carrillo, E.; Triquell, L.; Portella, E. Value-Based Healthcare. In *De la Teoría a la Acción*; Antares Consulting: Barcelona, Spain, 2019.
9. Vandenberghe, D.; Albrecht, J. The financial burden of non-communicable diseases in the European Union: A systematic review. Eur. *J. Public Health* **2020**, *30*, 833–839. [CrossRef]
10. Ekman, I.; Swedberg, K.; Taft, C.; Lindseth, A.; Norberg, A.; Brink, E.; Carlsson, J.; Dahlin-Ivanoff, S.; Johansson, I.-L.; Kjellgren, K.; et al. Person-centered care—Ready for prime time. *Eur. J. Cardiovasc. Nurs.* **2011**, *10*, 248–251. [CrossRef] [PubMed]
11. Porter, M.; Lee, T. The strategy that will fix healthcare. *Harv. Bus. Rev.* **2013**, *93*, 50–70.
12. Rodríguez, J.; Dackiewicz, N.; Toer, D. La gestión hospitalaria centrada en el paciente. Arch. Argent. *De PediatrÍA* **2014**, *112*, 55–58.
13. Elío-Calvo, D. La relación Médico Paciente. *Revista Médica La Paz* **2021**, *27*, 92–101.
14. Oh Nelson, H. Doctor–patient relationship. *Wiley Blackwell Companion Med. Sociol.* **2021**, 495–515.
15. Morgan, S.; Yoder, L. A concept analysis of person-centeres care. *J. Holist. Nurs.* **2012**, *30*, 6–15. [CrossRef]
16. Balint, E. The possibilities of patient-centered medicine. *J. R. Coll. Gen. Pract.* **1969**, *17*, 269.
17. Santana, M.J.; Manalili, K.; Jolley, R.J.; Zelinsky, S.; Quan, H.; Lu, M. How to practice person-centred care: A conceptual framework. *Health Expect* **2018**, *21*, 429–440. [CrossRef]
18. Carvalho, J.; Rodrigues, N. Perceived quality and users' satisfaction with public–private partnerships in health sector. *Int. J. Environ. Res. Public Health* **2022**, *19*, 8188. [CrossRef]
19. Mallat, A.; Vrontis, D.; Thrassou, A. Patient satisfaction in the context of public–private partnerships. *Int. J. Organ. Anal.* **2021**, *29*, 1395–1422. [CrossRef]
20. Caro, M.J.; Barrionuevo, R.; Solans, M.; Almazán, C. *Atenció sanitària centrada en valor a Catalunya: Reptes i oportunitats per contribuir al futur*; Agència de Qualitat i Avaluació Sanitàries de Catalunya. Departament de Salut. Generalitat de Catalunya: Barcelona, España, 2019.
21. Porter, M.E.; Lee, T.H. From volume to value in health care: The work begins. *JAMA* **2016**, *316*, 1047–1048. [CrossRef]
22. Porter, M.; Larsson, S.; Lee, T. Standardizing patient outcomes measurement. *N. Engl. J. Med.* **2016**, *374*, 504–506. [CrossRef]
23. Bohmer, R.M. The four habits of high-value health care organizations. *N. Engl. J. Med.* **2011**, *365*, 2045–2047. [CrossRef]
24. Porter, M.E.; Teisberg, E.O. *Redefining Health Care: Creating Value-Based Competition on Results*; Harvard Business School Press: Boston, MA, USA, 2006.
25. Porter, M.E. What is value in health care. *N. Engl. J. Med.* **2010**, *363*, 2477–2481. [CrossRef]
26. Benington, J.; Moore, M. *Public Value: Theory and Practice*; Bloomsbury Publishing: London, UK, 2010.
27. Alford, J.; O'flynn, J. Making sense of public value: Concepts, critiques and emergent meanings. *Int. J. Public Adm.* **2009**, *32*, 171–191. [CrossRef]
28. de Vasconcelos Silva, A.C.P.; Araujo, B.M.; Spiegel, T.; Reis, A.D.C. May value-based healthcare practices contribute to comprehensive care for cancer patients? A systematic literature review. *J. Cancer Policy* **2022**, *34*, 100350. [CrossRef]
29. Porter, M.E.; Teisberg, E.O. Redefining competition in health care. *Harv. Bus. Rev.* **2004**, *82*, 64–76.
30. Miller, H.D. From value to value: Better ways to pay for health care. *Health Aff.* **2009**, *28*, 1418–1428. [CrossRef]
31. Montaño, C.A.; Rivadeneira, A.G.; Garzón, F.G.; Escobar, Á.M.; Ruget, M.A. Hacia la atención en salud basada en el valor: Revisión de la literatura. *Rev. Médica Sanitas* **2017**, *20*, 164–173.
32. Cossio-Gil, Y.; Omara, M.; Watson, C.; Casey, J.; Chakhunashvili, A.; Gutiérrez-San Miguel, M.; Stamm, T. The roadmap for implementing value-based healthcare in European university hospitals—Consensus report and recommendations. *Value Health* **2022**, *25*, 1148–1156. [CrossRef] [PubMed]
33. Munn, Z.; Peters, M.; Stern, C.; Tufanaru, C.; McArthu, A.; Aromataris, E. Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Med. Res. Methodol.* **2018**, *18*, 143. [CrossRef] [PubMed]
34. Yepes, N.J.J.; Urrutia, G.; Romero-Garcia, M.; Alonso-Fernandez, S. Declaración PRISMA 2020: Una guía actualizada para la publicación de revisiones sistemáticas. *Revista Española De Cardiología* **2020**, *74*, 790–799.

35. Ciapponi, A. La declaración PRISMA 2020: Una guía actualizada para reportar revisiones sistemáticas. Evid. Actual. *En La Práctica Ambulatoria* **2021**, *24*, e002139. [CrossRef]
36. Tricco, A.C.; Lillie, E.; Zarin, W.; O'Brien, K.K.; Colquhoun, H.; Levac, D.; Moher, D.; Peters, M.D.; Horsley, T.; Weeks, L.; et al. PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Ann. Intern. Med.* **2018**, *169*, 467–473. [CrossRef]
37. da Costa Santos, C.M.; de Mattos Pimenta, C.A.; Nobre, M.R. The PICO strategy for the research question construction and evidence search. *Rev. Lat. Am. Enferm.* **2007**, *15*, 508–511. [CrossRef]
38. Alarcón-Gil, M.; Osorio Toro, S.; Baena-Caldas, G. The evidence-based medicine PICO strategy applied to dentistry using MeSH, Emtree and DeCS. Rev. Fac. De Odontol. Ía Univ. *De Antioq.* **2019**, *31*, 91–101.
39. Manterola, C.; Astudill, P.; Ariasb, E.; Claro, N.; Mincir, G. Revisiones sistemáticas de la literatura. Qué se debe saber acerca de ellas. *Cirugía Española* **2013**, *91*, 149–155. [CrossRef]
40. Damen, J.; Moons, K.; van Smeden, M.; Hooft, L. How to conduct a systematic review and meta-analysis of prognostic model studies. *Clin. Microbiol. Infect.* **2023**, *29*, 434–440. [CrossRef]
41. Nilsson, K.; Bååthe, F.; Andersson, A.E.; Wikström, E.; Sandoff, M. Experiences from implementing value-based healthcare at a Swedish University Hospital–a longitudinal interview study. *BMC Health Serv. Res.* **2017**, *17*, 169. [CrossRef]
42. Nilsson, K.; Bååthe, F.; Erichsen, A.A.; Sandoff, M. Value-based healthcare as a trigger for improvement initiatives. *Leadersh. Health Serv.* **2017**, *30*, 364–377. [CrossRef]
43. Nilsson, K.; Bååthe, F.; Erichsen Andersson, A.; Sandoff, M. The need to succeed–learning experiences resulting from the implementation of value-based healthcare. *Leadersh. Health Serv.* **2018**, *31*, 2–16. [CrossRef]
44. Daniels, K.; Rouppe van der Voort, M.B.; Biesma, D.H.; van der Nat, P.B. Five years' experience with value-based quality improvement teams: The key factors to a successful implementation in hospital care. *BMC Health Serv. Res.* **2022**, *22*, 1271. [CrossRef] [PubMed]
45. Heijsters, F.A.; van Breda, F.G.; van Nassau, F.; van der Steen, M.K.; Ter Wee, P.M.; Mullender, M.G.; de Bruijne, M.C. A pragmatic approach for implementation of value-based healthcare in Amsterdam UMC, the Netherlands. *BMC Health Serv. Res.* **2022**, *22*, 550. [CrossRef] [PubMed]
46. Makdisse, M.; Ramos, P.; Malheiro, D.; Katz, M.; Novoa, L.; Neto, M.C.; Ferreira, J.H.G.; Klajner, S. Value-based healthcare in Latin America: A survey of 70 healthcare provider organisations from Argentina, Brazil, Chile, Colombia and Mexico. *BMJ Open* **2022**, *12*, e058198. [CrossRef] [PubMed]
47. Ng, S.M. A qualitative study on relationships and perceptions between managers and clinicians and its effect on value-based healthcare within the national health service in the UK. *Health Serv. Manag. Res.* **2022**, *35*, 251–258. [CrossRef]
48. Steinmann, G.; Daniels, K.; Mieris, F.; Delnoij, D.; van de Bovenkamp, H.; van Der Nat, P. Redesigning value-based hospital structures: A qualitative study on value-based health care in the Netherlands. *BMC Health Serv. Res.* **2022**, *22*, e043367. [CrossRef] [PubMed]
49. Varela, R.C.; García., C.A.; Baselga, P.B.; Ruiz, L.P.M. Value-based healthcare project implementation in a hierarchical tertiary hospital: Lessons learned. *Front. Public Health* **2022**, *9*, 755166. [CrossRef] [PubMed]
50. Steinmann, G.; Delnoij, D.; Van De Bovenkamp, H.; Groote, R.; Ahaus, K. Expert consensus on moving towards a value-based healthcare system in the Netherlands: A Delphi study. *BMJ Open* **2021**, *11*, e043367. [CrossRef]
51. Krebs, F.; Engel, S.; Vennedey, V.; Alayli, A.; Simic, D.; Pfaff, H.; Stock, S.; on behalf of the Cologne Research and Development Network (CoRe-Net) Transforming. Health Care Delivery towards Value-Based Health Care in Germany: A Delphi Survey among Stakeholders. *Healthcare* **2023**, *11*, 1187. [CrossRef] [PubMed]
52. Porter, M.E. Value-based health care delivery. *Ann. Surg.* **2008**, *248*, 503–509. [CrossRef] [PubMed]
53. Steinmann, G.; Van De Bovenkamp, H.; De Bont, A.; Delnoij, D. Redefining value: A discourse analysis on value-based health care. *BMC Health Serv. Res.* **2020**, *20*, 862. [CrossRef]
54. Reeves, S.; Pelone, F.; Harrison, R.; Goldman, J.; Zwarenstein, M. Interprofessional collaboration to improve professional practice and healthcare outcomes. *Cochrane Database Syst. Rev.* **2017**, *6*, CD000072. [CrossRef]
55. Bosch, B.; Mansell, H. Interprofessional collaboration in health care: Lessons to be learned from competitive sports. *Can. Pharm. J.* **2015**, *148*, 176–179. [CrossRef]
56. Goodwin, N. Understanding Integrated Care. *Int. J. Integr. Care* **2016**, *16*, 6. [CrossRef]
57. van Staalduinen, D.J.; van den Bekerom, P.; Groeneveld, S.; Kidanemariam, M.; Stiggelbout, A.M.; van den Akker-van Marle, M.E. The implementation of value-based healthcare: A scoping review. *BMC Health Serv. Res.* **2022**, *22*, 270. [CrossRef]

International Journal of
Environmental Research and Public Health

Protocol

Implementation of a Comprehensive and Personalised Approach for Older People with Psychosocial Frailty in Valencia (Spain): Study Protocol for a Pre–Post Controlled Trial

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Abstract: With ageing, the risk of frailty increases, becoming a common condition that exposes older people to an increased risk of multiple adverse health outcomes. In Valencia (Spain), the ValueCare project develops and applies a value-based care approach that addresses the multidimensional nature of frailty by implementing integrated and personalized care to tackle psychosocial frailty. A pre–post controlled design with a baseline measurement at inclusion, at the end of implementation and a follow-up measurement after 6 months of intervention. In Valencia (Spain), 120 participants over 65 years of age are recruited from primary care centres to receive the ValueCare comprehensive and personalised care plan according to the results and are compared with 120 participants receiving "usual care". An assessment questionnaire is designed using validated instruments, and a personalised care plan is developed specifically for each participant based on the results obtained. The study protocol has been registered under the ISRCTN registration number ISRCTN25089186. Addressing frailty as a multidimensional and multifactorial risk condition requires the development and implementation of comprehensive assessments and care. In this context, this study will provide new insights into the feasibility and effectiveness of a value-based methodology for integrated care supported by ICT for older people experiencing frailty.

Keywords: integrated care; personalised care; psychosocial frailty; older people; pre–post controlled clinical trial

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Citation: Fernández-Salido, M.; Alhambra-Borrás, T.; Garcés-Ferrer, J. Implementation of a Comprehensive and Personalised Approach for Older People with Psychosocial Frailty in Valencia (Spain): Study Protocol for a Pre–Post Controlled Trial. *Int. J. Environ. Res. Public Health* **2024**, *21*, 715. https://doi.org/10.3390/ijerph21060715

Academic Editor: Paul B. Tchounwou

Received: 7 May 2024
Revised: 29 May 2024
Accepted: 30 May 2024
Published: 31 May 2024

1. Introduction

The ageing of the world's population is indeed a complex and multifaceted phenomenon with both positive and challenging aspects. An ageing population can have far-reaching socioeconomic consequences, for instance, on the care system due to increases in public spending on health and social care [1,2]. As people age, they are at increased risk for chronic diseases, functional impairments, and frailty [3–5]. Frailty is indeed considered one of the most problematic expressions of ageing, constituting a risk factor for falls, loss of mobility, cognitive impairment, disability, dementia, hospital admissions, cardiovascular diseases, loneliness, and even mortality [6–8]. Research examining the relationship between frailty and loneliness has found strong associations between these two factors, and it suggests a bidirectional relationship [9,10]. Recent studies have confirmed that frail, older people have smaller social networks and higher levels of loneliness [11,12]. Likewise, older people who experience high levels of loneliness have an increased risk of becoming physically frail or prefrail [13]. Similar to frailty, loneliness has also been observed to be closely associated with different negative health outcomes, such as cardiovascular disease, disability, cognitive impairments, depression, disability, and mortality [10,14,15].

In terms of prevalence, in Europe and, in particular, Spain, there is no consensus on the prevalence of frailty. Although studies have confirmed that frailty increases with age and is more frequent in women than in men [16–19], there are notable variations, depending on the assessment tools, in population variability in terms of geographical location, socioeconomic status, gender, and the presence of chronic diseases [19,20]. A recent study showed that >50% of the population over 50 years of age in Europe is pre-frail/frail, with the overall prevalence of pre-frailty being 42.9% and of frailty 7.7% [20]. In Spain, the most recent studies have shown a prevalence of frailty higher than 25% for the population aged 70 years and older, with significant differences according to geographical areas and being twice as high in women as in men [17,18].

Another issue when studying frailty is that the physical frailty phenotype has received significant attention in the literature, and it is often the most prominent aspect of frailty discussed [21]. However, it is important to note that frailty is a multidimensional concept, and there are other dimensions of frailty that are equally important but may not receive as much attention in the literature. These dimensions include the psychological and social aspects of frailty [22].

In recent years, there has been a growing interest in expanding the understanding of frailty to include these other dimensions and develop more comprehensive and a more holistic approach to managing and preventing frailty and its associated adverse health outcomes. Moreover, the bidirectional relationship between loneliness and frailty, coupled with the multidimensional nature of both constructs, underscores the need for comprehensive strategies to address these issues in older adults [23]. In this sense, the implementation of value-based healthcare principles in the context of frailty lies in addressing frailty from an integrative perspective, reorganising care around patients in an effective and efficient manner supported by digital health solutions [24]. Concretely, among the key principles of value-based care are individualized care plans, shared decision-making, holistic assessments including measurable outcomes, the provision of integrated services, and early interventions. All of these aspects of the value-based care model are essential to addressing the complex interplay of frailty, depression, and social support in older adults [25]. The adoption of value-based care in addressing these conditions among older adults leads to improved health indicators, such as reduced hospitalisations, better mental and physical health, enhanced quality of life, and lower healthcare costs. By focusing on patient-centred, comprehensive, and coordinated care, VBC transforms the healthcare experience for older adults and yields measurable health benefits [26,27].

The literature has shown that social participation is key when developing comprehensive strategies to address frailty, especially frailty understood as a holistic concept including social and psychological aspects [28]. Social participation has been proven to effectively address psychological and social frailty and loneliness [29]. In particular, when developing interventions, it is essential to address the individual dimension, taking into account the individuality of each person, favouring empowerment, and allowing them to manage their own loneliness [14]. In this sense, the literature suggests the need to educate the population about actively investing in their social supports (family and friends) and also emphasises the great importance of boosting the person's own motivation to actively change their situation [30].

In this regard, the motivational interview technique may be presented as a useful tool to support intervention strategies focused on improving intrinsic motivation and behavioural change among older adults experiencing frailty. Motivational interviewing is a counselling approach developed to help individuals find motivation within themselves to make positive behavioural change [31]. The core principle of motivational interviewing involves engaging in a collaborative conversation with individuals to explore and resolve their ambivalence toward change. Therefore, motivational interviewing may be used for supporting individuals in planning their personal objectives, boosting their motivation, and moving forward with behavioural change that may lead to improved frailty status and loneliness feelings.

This study is framed within the ValueCare project—*Value-based methodology for integrated care supported by ICT*—a research project funded by the European Commission under the Horizon 2020 programme. This project conforms a consortium of 17 partners from

8 European countries. The aim of the ValueCare project is to provide efficient and outcome-based integrated (health and social) care to the population aged ≥65 experiencing frailty, cognitive impairment, and/or multiple chronic conditions, with the objective of improving their quality of life by applying value-based methodologies supported by digital solutions. In this project, study sites in seven European countries are implementing and validating the ValueCare intervention: Valencia in Spain, Rijeka in Croatia, Athens in Greece, Cork/Kerry in Ireland, Coimbra in Portugal, and Rotterdam in the Netherlands. In each of these sites, the ValueCare intervention is aimed to address a specific health condition. In this particular study, the Spanish intervention focused on frailty is presented.

Objectives

The aim of this study is to evaluate the ValueCare approach implemented in the pilot of Valencia (Spain), whose intervention is based on motivational interviewing, supported by a digital tool, to encourage behavioural change towards greater social engagement and healthier living. This study, using a pre–post controlled design with a study sample of 240 older adults experiencing frailty (120 individuals in the intervention group and 120 in the comparison group), specifically addressed the benefits for older people experiencing psychosocial frailty to be able to evaluate implementation outcomes. We intend to accomplish this objective through the following specific objectives:

(a) To compare the benefits of the ValueCare intervention deployed in the Valencia pilot vs. usual care for older people in terms of frailty, loneliness, social support, health-related quality of life, and healthy lifestyle behaviour.
(b) To evaluate the benefits of the ValueCare approach deployed in the Valencia pilot centre in terms of reducing the use of outpatient and inpatient health and social care among older people.
(c) To evaluate the satisfaction of the target population with the ValueCare intervention deployed in the Valencia pilot centre.

2. Materials and Methods

2.1. Design

An experimental design involving both intervention and comparison groups will be employed in a controlled pre–post study, aiming to investigate the effects of the intervention by comparing outcomes between the two groups before and after the intervention period.

2.2. Study Participants: Inclusion and Exclusion Criteria

The study sample was composed of 240 older adults experiencing frailty (120 individuals in the intervention group and 120 in the comparison group). Participants were randomly assigned to each of the groups. Expecting a 20% loss to follow-up between T0 and T1 (e.g., due to mortality, rehousing, or study withdrawal), we expected to obtain complete data from 96 participants in the intervention group and 96 participants in the control group of each large-scale pilot site (in $n = 192$ study participants with complete data at follow up, equally divided over the intervention group and the control group). We assumed equal standard deviations in the intervention group and the control group, an alpha level of 0.05, and a power of 0.80. For this expected overall sample size and assumptions, with regard to the continuous outcome measures, a difference of 0.23 SD (standard deviation) between the intervention group and the control group can be detected at follow-up.

Participants in the intervention group engaged in a 12-month intervention phase tailored to their needs, receiving a personalised care plan agreed through a shared decision-making process, whereas those in the comparison group maintained their usual care. All participants were evaluated at baseline, after 12 months, and after 18 months.

The inclusion criteria encompassed individuals aged 65 or above, experiencing frailty, residing independently within the community, and affiliated with one of the seven healthcare centres under the Malvarrosa-Clinic Health Department within the Valencia study area. The exclusion criteria involved individuals with cognitive impairments, significant dependency, institutionalisation, inability to provide informed consent, or lack of proficiency in the Spanish language.

Patients who met the inclusion criteria were invited to participate in the ValueCare project, where a comprehensive explanation of their involvement in the project was provided. Patients interested in participating in this study were requested to sign the informed consent form, indicating their voluntary, informed, and explicit consent to participate in this study and permit the processing of their data.

2.3. Recruitment and Randomization

The recruitment of the study participants was carried out by social and healthcare professionals from seven participating healthcare centres: Alfahuir Health Centre, Salvador Pau Health Centre, Benimaclet Health Centre, Serrería I Health Centre, Salvador Pau Allende Health Centre, República Argentina Health Centre, and Chile Health Centre. All of these centres belong to the Malvarosa-Clinic Health Department in the city of Valencia.

The general practitioners, who are familiar with their patient's clinical record, contacted them to ensure that these individuals met the inclusion criteria mentioned above, ensuring their potential eligibility as participants. Once included, participants were requested to complete the baseline assessment. Following the completion of the baseline questionnaire, the allocation of study participants into either the intervention or control group occurred through a randomization procedure. To ensure the concealment of the randomisation sequence, the Oxford Minimization and Randomization (OxMaR) system was employed. This computer-based centralised method ensures proven security measures to prevent bias in the sequence [32]. For safeguarding personal information, every participant was assigned an identification code that corresponds to their group and the specific healthcare centre with which they are affiliated.

2.4. Data Collection Process

Data collection and measurement were conducted using an assessment questionnaire that included the International Consortium for Health Outcomes Measurement (ICHOMs) [33] dataset for the older population, as well as additional measurement questionnaires. Each instrument comprising the assessment questionnaire is described in the Section 2.7. Measurement instruments without validated translation into Spanish were translated using the back-translation method to ensure cross-cultural adaptation of the measures.

Researchers inputted the paper-based collected data into the Generic Medical Survey Tracker (GemsTracker) software, chosen for its security measures and capability to collect, submit, and make modifications to the data. Data were collected from participants in three phases: at baseline (T0), 12 months after the end of the intervention (T1), and 18 months (T2).

2.5. Description of the Intervention: Design and Implementation

An intervention protocol incorporating aspects like motivational interviewing, social prescription, the transtheoretical model, and person-centred care, was formulated based on an extensive literature review. This review aimed to identify evidence-based interventions addressing psychosocial frailty and establish the methodology to be employed in the intervention process. Moreover, this intervention protocol includes the phases and procedures to be followed to guarantee the effectiveness and sustainability of the intervention. Social and healthcare professionals, including psychologists and social workers, collaborated to design and implement the ValueCare intervention in the Valencia pilot, specifically tailored for individuals aged over 65 experiencing frailty.

All individuals (120) within the intervention group identified as experiencing frailty participated in the intervention phase. After completion of the baseline assessment questionnaire (T0) by the intervention participants, their results were extracted to validate the presence of psychosocial frailty according to the Tilburg Frailty Index [34] and the UCLA 3 Items Loneliness Scale [35].

Participants identified as frail commence the intervention phase by engaging in an initial meeting with social and healthcare professionals. This initial meeting serves a dual purpose: firstly, to present and elucidate the results derived from the baseline questionnaire to the participants, and secondly, to collaboratively design a personalised value-based care plan using a consensus-based co-design approach. This plan was crafted based on the results, preferences, and interests of the participants and will undergo periodic reviews as part of a shared decision-making process.

During the 12 months of the intervention, participants engaged in regular meetings (once a month) with the social and healthcare professionals responsible for their follow-up, during which motivational interviews were conducted. The motivational sessions aimed to achieve several objectives: identifying the psychosocial needs of the individual; assessing the person's stage of change according to the Transtheoretical Model by Prochaska and DiClemente [36]; fostering motivation to steer the individual towards a readiness for change by assisting in exploring and resolving ambivalences about unhealthy behaviours or habits; and ultimately, collaboratively establishing objectives through a professional–patient negotiation process to guide the transition toward desirable behaviours. The motivational interviews allow a space of trust where the professional's attitude is one of acceptance and empathy towards the patient's needs, preferences, and experiences in order to increase and strengthen personal motivation and commitment to change, helping the participant to explore and resolve the ambivalence that arises in people when they have to make decisions that involve behavioural change.

At the end of each monthly motivational session, specific psychosocial objectives focusing on enhanced social participation and the expansion of social networks are agreed with the participant. These objectives will be revisited by social and healthcare professionals in the subsequent meeting for review. The objectives are embedded in the framework of the term "social-prescribing", where the professional, during the motivational interview, presents to the participant the existing community resources that could potentially enhance their health and well-being [37,38]. These resources are tailored to match the participants' psychosocial needs, interests, and preferences. Among the community resources introduced may be activities promoted by third-sector entities (associations, foundations, community groups, NGOs. . .), as well as resources provided by municipally owned institutions such as libraries, art museums, sports centres, theatres, retirement centres, and even the use of a municipality's green spaces [39,40].

Apart from the motivational sessions with social and healthcare professionals, participants are able to engage in social workshops organized on a monthly basis in each of the health centres participating in the study. These workshops offer opportunities for interaction among participants within the intervention group. Additionally, communication will be facilitated through WhatsApp groups and the dedicated ValueCare APP, allowing further interaction and engagement among participants. In this way, face-to-face relationships are strengthened through information and communication technologies, doubly favouring the active participation of older people in the community, reducing social frailty and improving mental well-being [41].

Specifically, the ValueCare application (Vodafone Innovus, Athens, Greece) [42] is a mobile application with which the participants of the intervention group will be able to interact and through which the achievement of the prescribed goals will be encouraged and healthy lifestyles will be promoted. To ensure that the ValueCare digital solution is adapted to the local context as well as to the needs and interests of older people, informal caregivers, managers, policy-makers, ICT experts, and health and social practitioners, strategies based on collaborative approaches such as co-design are implemented. In this sense, co-design is paramount to providing integrated person-centred care, as it allows for the involvement of all stakeholders in the development of digital health solutions [43]. A total of 2 rounds of co-design were implemented before the ValueCare implementation phase with 212 participants. All co-design rounds included focus group sessions to explore the opinions, perceptions, preferences, and experiences of the target groups around the

ValueCare concept and ValueCare solution. A more generic first round aims to define the value-based model and the digital solution to build the concept and the digital solution according to the needs of all stakeholders, presenting and discussing the added value of the value-based concept in today's society. The second, more specific co-design round aims to define the technical features and properties of the ValueCare solution as well as its involvement and interaction during the implementation phase of the intervention.

The ValueCare application provides each participant with the personalised care plan that has been agreed upon during the professional-participant co-design process. Participants can visualise in the application which are the weekly objectives to be met. Healthcare professionals are in charge of sending these objectives and monitoring the progress of the participants through the Vida 24 web platform (Vidavo S.A., Thessaloniki, Greece. Vida 24 [44] consists of a connected care IT platform that has been operational in Europe for over 10 years and which allows data from multiple sources to be synchronised, personalised, and adapted to specific needs, allowing participants to view the information in the ValueCare Application and professionals to view real-time information on the participants in the Vida 24 platform. In addition, the platform will integrate a virtual coach tool developed by the Fondazione Bruno Kessler [45] that will act as a persuasive chat bot based on dialogue to motivate participants to achieve their objectives and reinforce positive behaviours. In addition, the ValueCare application has different sections where participants can view content in video or text format on existing resources at the community level to maintain an active and healthy lifestyle, tips to increase their social participation, and knowledge on physical frailty, social frailty, and loneliness, among others.

2.6. Control Group

During the 12-month intervention phase, the control group, comprising 120 individuals, continued to receive their usual care, visiting primary care centres or hospital care centres to receive attention when needed, as they did before their involvement in the project. Upon completion of the intervention phase, control group participants undergo follow-up evaluation and receive a comparative health outcomes report contrasting T0 and T1. Additionally, a comprehensive guide offering advice on physical, psychological, and social health promotion is delivered to these participants. This guide presents the assets/opportunities available in their local area, encouraging physical activity, healthy eating, and enhancing their active participation in society.

Figure 1 details the flow of participants from recruitment to the last follow-up contact for control and intervention subjects.

2.7. Outcomes

First, the screening process for participant eligibility involved the assessment of frailty, dependency levels, and cognitive impairments, according to the inclusion and exclusion criteria.

The FRAIL scale [46] was the tool selected to categorise the level of frailty among participants. It is a commonly used tool that presents a simple and quick assessment that helps identify the presence of frailty based on five key components: fatigue, endurance, ambulation, illness, and weight loss. If the older adult scores ≥ 1, a high likelihood of frailty is considered to exist [47], and then it meets the criteria for inclusion in the study.

The level of dependency was assessed with the Barthel Index [48]. The Barthel Index is an ordinal scale that measures a person's ability to perform 10 activities of daily living (ADLs) by providing a quantitative estimate of the subject's ability to carry out these activities. The ADLs included in the index are eating, personal grooming, toileting, bathing/showering, transferring between the chair and bed, transferring (walking on a smooth surface or in a wheelchair), going up/downstairs, dressing/dressing, stool control, and urine control. Participants were excluded from this study if they scored >60 points on this index.

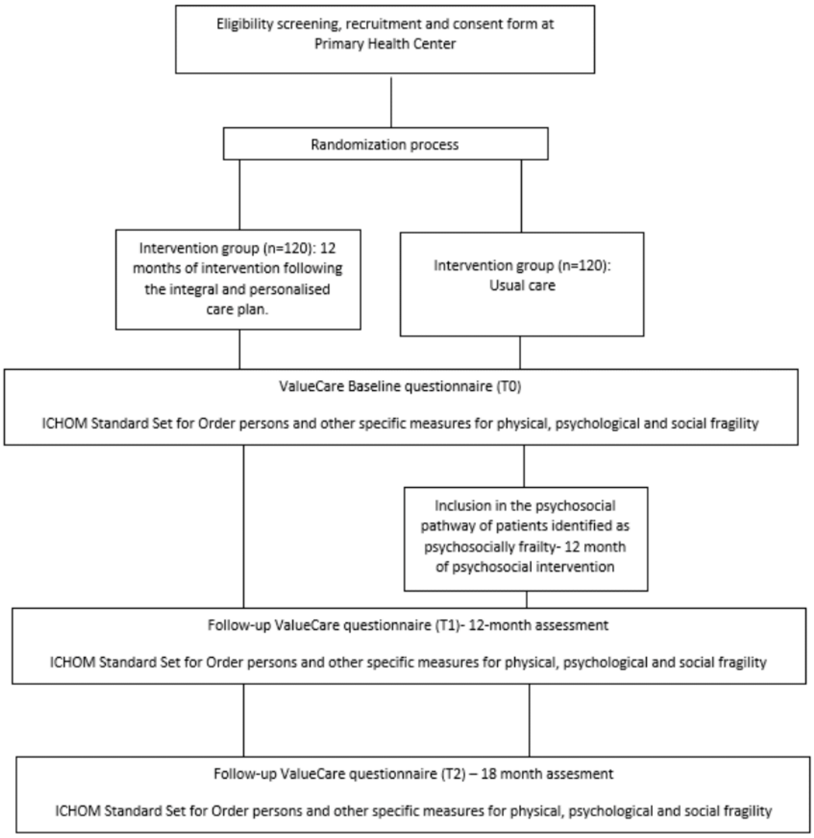

Figure 1. Flow diagram of the participants through the trial.

Finally, cognitive impairments were assessed using the SPMSQ [49], which is a short assessment questionnaire with 10 questions that allows the exploration of different cognitive areas, specifically assessing the functions of orientation, recall memory, concentration, and calculation. If the older adult obtains a score between 0 and 2 on this questionnaire, it is considered a highly suggestive result of cognitive impairment, and the participant is excluded from the study.

The initial assessment (T0) included a comprehensive evaluation of the physical and mental health of the total study sample based on the International Consortium for Outcome Measurement (ICHOM) as a standard set for older people. The main outcome was the health-related quality of life score measured through the Patient-Reported Outcomes Measurement Information System—Global Health (PROMIS-10), which is a 10-item survey that assesses physical health, mental health, satisfaction with social activities and relationships, and quality of life [50]. In particular, to evaluate psychosocial frailty, the Tilburg Frailty Indicator (TFI) was used, which is an instrument that includes the physical, psychological, and social dimensions of frailty [33]. Loneliness was assessed with the UCLA 3-item Loneliness Scale [35]. Health-related quality of life was assessed with the EQ-5D-5L [51], and lifestyle was evaluated in terms of the BMI, smoking, alcohol consumption, physical activity, and nutrition. Moreover, falls were assessed using the previous history of falls and the Visual Analogue Scale for Fear of Falling [52]. Medication adherence was assessed with the Medication Risk Questionnaire (MRQ-10) [53]. Healthcare utilization was assessed with the Modified SMRC Health Care Utilization Questionnaire 18 [54], and finally, sociodemographic data (age, sex, educational level, type of household income, net monthly household income, marital status, and household composition) were also collected.

Complementary to the baseline questionnaire, protein intake was assessed using the Proteiner Screen 55+ [55], and physical performance was evaluated in terms of balance, walking speed, and lower limb strength to get up from a chair using the Short Physical Performance Battery (SPPB) [56].

Table 1 describes the outcome measures used in the evaluation for older people.

Table 1. Effectiveness outcomes in older people.

Outcome	Outcome Measure (s)	Methods and Instruments
Health, well-being, and quality of life	Physical HR-QoL Mental HR-QoL	PROMIS-10 [45]
	Self-perceived health	EQ-5D-5L [46]
	Frailty	Tilburg Frailty Indicator [30]
	Comorbidities	ICHOM Older Person Set [29]
	Loneliness	UCLA 3-Item Loneliness Scale [31]
	Activities of daily living	Modified 10-item Barthel Index [43]
	Falls	Visual Analogue Scale for Fear of Falling [47]
Lifestyle behaviour	BMI	ICHOM Older Person Set [29]
	Smoking status	ICHOM Older Person Set [29]
	Alcohol consumption	ICHOM Older Person Set [29]
	Sitting time	One Internal Physical Activity Questionnaire (IPAQ)
	Physical activity	One item of the SHARE-Frailty [57]
	Nutrition and undernutrition	SNAQ + 65 [58]
Medication use	Medication intake	Medication Risk Questionnaire (MRQ-10) [48]
Care use	Care utilisation	Modified SMRC Health Care Utilization Questionnaire [49]

2.8. Ethics

This research was conducted without any commercial interest on the part of the investigators, the staff of the primary care health centres, or the older people involved in the study. This study received a statement of support based on a previous ethical evaluation by the Human Research Ethics Committee (CEIH) of the Experimental Research Ethics Committee of the University of Valencia (7 May 2020). The content of this study was communicated in a transparent and detailed manner during the recruitment phase, and participation in the study was engaged on a voluntary basis. Participation was consolidated by the individual completion of the informed consent form by each participant. Participants were encouraged throughout the study to contact the investigators if any concerns or questions arose. Informed consent was either collected on paper or electronically. Participants may suspend their participation at any time during this study without disclosing the reasons for their withdrawal. All activities, including data collection and processing throughout the project, comply with ethical principles and relevant national, EU, and international legislation, such as the Chapter of Fundamental Rights of the EU and the European Convention on Human Rights. Provisions of Directive 95/46/EC and the General Data Protection Regulation (proposed in (European Commission, 2012) have been shown to be highly relevant to the protection of research participants and service users. In addition, this study followed the ethical standards and data protection requirements of the GDPR 670/2016.

3. Registration and Dissemination

The study protocol has been registered in the International Standard Randomised Controlled Trial Number (ISRCTN25089186; registration date: 16 November 2021).

The investigators aim to disseminate the results of the project in peer-reviewed journals on a regular basis.

4. Discussion

This study aims to evaluate the implementation of the ValueCare approach compared to usual care, specifically in the pilot centre in Valencia (Spain), as part of the ValueCare project, focusing on older adults experiencing frailty. In particular, frailty is understood as a multicomponent condition that includes psychological and social aspects in addition to physical ones. The benefits of the intervention will be measured in a wide range of domains for older people: health-related quality of life (HRQoL), activities of daily living, falls, BMI, smoking, alcohol consumption, physical activity, frailty, comorbidities, loneliness nutrition and malnutrition, medication intake, and care utilisation. The outcomes of the implementation will be measured in terms of appropriateness, acceptability, feasibility, fidelity, and costs. A pre–post controlled design will be used to explore the effects of the ValueCare approach on a total of 240 participants belonging to the seven primary care centres that are part of Malvarrosa-Clinic Health as part of the Valencia (Spain) pilot site.

This study is not only highly significant given the high prevalence of pre-frailty and frailty in older people, but also because of the scarcity of comprehensive studies tackling frailty, encompassing its social and psychological dimensions. Indeed, the available literature suggests a scarcity of intervention studies targeting older adults categorised as frail using a comprehensive definition of frailty and who have received personalised treatments [59,60].

Furthermore, the study design within this protocol presents an evaluation of the ValueCare approach in comparison with 'usual care' practices in terms of the benefits for older adults experiencing frailty. The benefits of the intervention will be measured in multiple domains apart from frailty: loneliness, health-related quality of life, lifestyle (BMI, smoking, alcohol consumption, physical activity, and nutrition), falls, medication adherence, protein intake, physical performance, and care utilisation.

This study not only offers a comprehensive assessment of frailty but also aims to deliver insights into the effectiveness of a personalised and comprehensive intervention for mitigating and reversing psychosocial frailty by following a pre–post control trial design.

The effects of multidomain interventions related to psychosocial aspects have not been consistent due to the small number of studies examining these outcomes, the scarcity of studies with sufficient statistical power due to inadequate sample size calculation, or even because the beneficial effects on psychosocial health have not been included as primary outcomes [61]. Moreover, this study differs from previous ones as it relies on the value-based care model, with social support being one of the interventions provided within this paradigm. The existing literature on the benefits of social support to prevent or address frailty does not typically use the value-based care approach. The novelty of this approach lies in centring the preferences and needs of each participant, setting goals collaboratively, and supporting them throughout the care continuum.

In addition, to ensure that the design and implementation of the ValueCare approach and ValueCare solution responded to the needs, interests, and preferences of the target groups, the research team implemented collaborative, co-design-based approaches to support adherence to the ValueCare intervention and the use of the ValueCare digital solution by the target groups.

In this sense, this study will address a key gap in the current evidence on the existence of comprehensive interventions. The findings of this study will be disseminated in scientific journals and through scientific and professional conferences.

The proposed study has some limitations, and some challenges are expected to be encountered. Firstly, the recruitment process may be problematic due to the presence of multimorbidities, sensory deficits, transport problems, the influence of other people, fear that the study may harm health, etc. [62,63]. Furthermore, the recruitment process might impose an extra burden on physicians, as they carry the responsibility of enlisting participants from their pool of patients. Thus, research staff can assist in the process by conducting the baseline evaluation after the patient confirms their willingness to participate in the study. Since our target group consists of frail older adults, it is also expected that the participation rate may decrease during the intervention period due to physical or psychological deterioration. Finally, a randomised design is implemented to ensure equal opportunities for subjects to access either the control group or the intervention group. However, this approach might elevate the likelihood of dropout among participants in the control group. This heightened risk can stem from the fact that individuals in the control group solely receive feedback from researchers upon completing evaluation questionnaires (T0–T1).

5. Conclusions

Given the rapid growth of the older population worldwide, frailty will place increasing pressure on healthcare systems and will be a major public health care issue in the coming decades. While most studies have addressed frailty by focusing on the phenotypic model of physical frailty, the most current evidence supports the importance of identifying and addressing frailty through a multidimensional approach that takes into account the loss of harmonious relationships between different domains (physical, psychological, and social). New studies incorporating a comprehensive evaluation of frailty must be conducted to introduce innovative interventions that merge social and healthcare aspects. These interventions should aim to yield improved outcomes for older individuals. The literature confirms the fact that psychosocial factors modify the association of frailty with adverse outcomes, with a frail person's psychosocial resources acting as a protector against adverse outcomes. In this sense, primary care teams need to advance the utilisation of personalised strategies that consider an individual's social resources, interests, and preferences related to personal activities or social behaviours. These approaches should also incorporate an individual's ability to self-manage their resources and activities. By fostering the person's capability to establish and sustain social relationships, as well as encouraging the initiation of social engagement, these strategies aim to enhance social participation. Therapeutic approaches based on motivational interviewing are considered a good starting point in the treatment of psychosocial frailty due to their capacity to strengthen, through a collaborative environment and respect for the autonomy of the person, the intrinsic motivation of the person to enhance self-efficacy towards the initiation and maintenance of behaviour changes towards healthier lifestyles.

Author Contributions: M.F.-S. and T.A.-B. contributed to the planning and writing of the protocol, providing the description of the design, research methods, outcome measures, data management, and analysis plan. J.G.-F. was responsible for monitoring the writing process. All authors have read and agreed to the published version of the manuscript.

Funding: This study protocol preparation has received funding from the FPU (Formación de Profesorado Universitario) contract from the Spanish Ministry of Universities with the reference FPU19/04167 and from the H2020 programme of the European Commission (ref. 875215).

Institutional Review Board Statement: This study will be conducted in accordance with the European and national guidelines and received a statement of support based on a previous ethical evaluation by the Human Research Ethics Committee (CEIH) of the Experimental Research Ethics Committee of the University of Valencia (7 May 2020).

Informed Consent Statement: Digital or paper informed consent is obtained from all subjects participating in the study.

Data Availability Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Prince, M.J.; Wu, F.; Guo, Y.; Robledo, L.M.G.; O'Donnell, M.; Sullivan, R.; Yusuf, S. The burden of disease in older people and implications for health policy and practice. *Lancet* **2015**, *385*, 549–562. [CrossRef] [PubMed]
2. Rudnicka, E.; Napierała, P.; Podfigurna, A.; Męczekalski, B.; Smolarczyk, R.; Grymowicz, M. The World Health Organization (WHO) approach to healthy ageing. *Maturitas* **2020**, *139*, 6–11. [CrossRef] [PubMed]
3. Lette, M.; Stoop, A.; Gadsby, E.; Ambugo, E.A.; Mateu, N.C.; Reynolds, J.; Nijpels, G.; Baan, C.; De Bruin, S.R. Supporting older people to live safely at home–findings from thirteen case studies on integrated care across Europe. *Int. J. Integr. Care* **2020**, *20*, 1. [CrossRef]
4. Dogra, S.; Dunstan, D.W.; Sugiyama, T.; Stathi, A.; Gardiner, P.; Owen, N. Active aging and public health: Evidence, implications, and opportunities. *Annu. Rev. Public Health* **2022**, *43*, 439–459. [CrossRef] [PubMed]

5. Liberale, L.; Badimon, L.; Montecucco, F.; Lüscher, T.; Libby, P.; Camici, G. Inflammation, aging, and cardiovascular disease: JACC review topic of the week. *J. Am. Coll. Cardiol.* **2022**, *79*, 837–847. [CrossRef]
6. Pons Raventos, M.; Rebollo Rubio, A.; Jiménez Ternero, J. Fragilidad: ¿Cómo podemos detectarla? *Enfermería Nefrológica* **2016**, *19*, 170–173. [CrossRef]
7. Brivio, P.; Paladini, M.; Racagni, G.; Riva, M.; Calabrese, F.; Molteni, R. From healthy aging to frailty: In search of the underlying mechanisms. *Curr. Med. Chem.* **2019**, *26*, 3685–3701. [CrossRef]
8. Martin, F.; O'Halloran, A. Tools for assessing frailty in older people: General concepts. In *Frailty and Cardiovascular Diseases: Research into an Elderly Population*; Springer: Cham, Switzerland, 2020; pp. 9–19.
9. Zhao, L.; Wu, L. The association between social participation and loneliness of the Chinese older adults over time—The mediating effect of social support. *Int. J. Environ. Res. Public Health* **2022**, *19*, 815. [CrossRef]
10. Davies, K.; Maharani, A.; Chandola, T.; Todd, C.; Pendleton, N. The longitudinal relationship between loneliness, social isolation, and frailty in older adults in England: A prospective analysis. *Lancet Healthy Longev.* **2021**, *2*, e70–e77. [CrossRef]
11. Sancho, P.; Sentandreu-Mañó, T.; Fernández, I.; Tomás, J. El impacto de la soledad y la fragilidad en el bienestar de los mayores europeos. *Rev. Latinoam. Psicol.* **2022**, *54*, 86–93. [CrossRef]
12. Hoogendijk, E.; Suanet, B.; Dent, E.; Deeg, D.; Aartsen, M. Adverse effects of frailty on social functioning in older adults: Results from the Longitudinal Aging Study Amsterdam. *Maturitas* **2016**, *83*, 45–50. [CrossRef] [PubMed]
13. Gale, C.; Westbury, L.; Cooper, C. Social isolation and loneliness as risk factors for the progression of frailty: The English Longitudinal Study of Ageing. *Age Ageing* **2018**, *47*, 392–397. [CrossRef] [PubMed]
14. Park, C.; Majeed, A.; Gill, H.; Tamura, J.; Ho, R.C.; Mansur, R.B.; Nasri, F.; Lee, Y.; Rosenblat, J.D.; Wong, E.; et al. The effect of loneliness on distinct health outcomes: A comprehensive review and meta-analysis. *Psychiatry Res.* **2020**, *294*, 113514. [CrossRef] [PubMed]
15. Altintas, H.; Coban, S.; Cantekin, I. Relationship between frailty and loneliness among community-dwelling Turkish older people. *Psychogeriatrics* **2023**, *23*, 243–251. [CrossRef] [PubMed]
16. Gordon, E.H.; Hubbard, R.E. Differences in frailty in older men and women. *Med. J. Aust.* **2020**, *212*, 183–188. [CrossRef] [PubMed]
17. Rivas-Ruiz, F.; Machón, M.; Contreras-Fernández, E.; Vrotsou, K.; Padilla-Ruiz, M.; Diez Ruiz, A.I.; de Mesa Berenguer, Y.; Vergara, I.; Group GIFEA. Prevalence of frailty among community-dwelling elderly persons in Spain and factors associated with it. *Eur. J. Gen. Pract.* **2019**, *25*, 190–196. [CrossRef] [PubMed]
18. Menéndez-González, L.; Izaguirre-Riesgo, A.; Tranche-Iparraguirre, S.; Montero-Rodríguez, Á.; Orts-Cortés, M.I. Prevalencia y factores asociados de fragilidad en adultos mayores de 70 años en la comunidad. *Atención Primaria* **2021**, *53*, 102128. [CrossRef]
19. O'Caoimh, R.; Sezgin, D.; O'Donovan, M.; Molloy, D.; Clegg, A.; Rockwood, K.; Liew, A. Prevalence of frailty in 62 countries across the world: A systematic review and meta-analysis of population-level studies. *Age Ageing* **2021**, *50*, 96–104. [CrossRef]
20. Manfredi, G.; Midão, L.; Paúl, C.; Cena, C.; Duarte, M.; Costa, E. Prevalence of frailty status among the European elderly population: Findings from the Survey of Health, Aging and Retirement in Europe. *Geriatr. Gerontol. Int.* **2019**, *19*, 723–729. [CrossRef]
21. Vermeiren, S.; Vella-Azzopardi, R.; Beckwee, D.; Habbig, A.K.; Scafoglieri, A.; Jansen, B.; Bautmans, I.; Verté, D.; Beyer, I.; Petrovic, M.; et al. Frailty and the prediction of negative health outcomes: A meta-analysis. *J. Am. Med. Dir. Assoc.* **2016**, *17*, 1163-e1. [CrossRef]
22. Wleklik, M.; Uchmanowicz, I.; Jankowska, E.A.; Vitale, C.; Lisiak, M.; Drozd, M.; Pobrotyn, P.; Tkaczyszyn, M.; Lee, C. Multidimensional approach to frailty. *Front. Psychol.* **2020**, *11*, 564. [CrossRef] [PubMed]
23. Ge, L.; Yap, C.; Heng, B. Associations of social isolation, social participation, and loneliness with frailty in older adults in Singapore: A panel data analysis. *BMC Geriatr.* **2022**, *22*, 26. [CrossRef] [PubMed]
24. Fürstenau, D.; Haneke, H.; Spies, C.; Walz, T.; Schewina, K.; Höft, M.; Mörgeli, R.; Balzer, F. Tackling the frailty burden with an integrative value-based approach: Results from a mixed-methods study. *J. Public Health* **2022**, *30*, 99–110. [CrossRef]
25. Boreskie, K.F.; Hay, J.L.; Boreskie, P.E.; Arora, R.C.; Duhamel, T.A. Frailty-aware care: Giving value to frailty assessment across different healthcare settings. *BMC Geriatr.* **2022**, *22*, 13. [CrossRef]
26. Di Pollina, L.; Guessous, I.; Petoud, V.; Combescure, C.; Buchs, B.; Schaller, P.; Kossovsky, M.; Gaspoz, J.M. Integrated care at home reduces unnecessary hospitalizations of community-dwelling frail older adults: A prospective controlled trial. *BMC Geriatr.* **2017**, *17*, 53. [CrossRef]
27. Abbasi, M.; Khera, S.; Dabravolskaj, J.; Chevalier, B.; Parker, K. The seniors' community hub: An integrated model of care for the identification and management of frailty in primary care. *Geriatrics* **2021**, *6*, 18. [CrossRef] [PubMed]
28. Sun, J.; Kong, X.; Li, H.; Chen, J.; Yao, Q.; Li, H.; Zhou, F.; Hu, H. Does social participation decrease the risk of frailty? Impacts of diversity in frequency and types of social participation on frailty in middle-aged and older populations. *BMC Geriatr.* **2022**, *22*, 553. [CrossRef] [PubMed]
29. Paquet, C.; Whitehead, J.; Shah, R.; Adams, A.M.; Dooley, D.; Spreng, R.N.; Dubé, L. Social prescription interventions addressing social isolation and loneliness in older adults: Meta-review integrating on-the-ground resources. *J. Med. Internet Res.* **2023**, *25*, e40213. [CrossRef] [PubMed]
30. O'Rourke, H.M.; Collins, L.; Sidani, S. Interventions to address social connectedness and loneliness for older adults: A scoping review. *BMC Geriatr.* **2018**, *18*, 214. [CrossRef]

31. Miller, W.; Rollnick, S. Motivational interviewing: Preparing people for change. Book Review. *J. Stud. Alcohol.* **2002**, *63*, 776–777.
32. Guillaumes, S.; O'Callaghan, C. Versión en español del software gratuito OxMaR para minimización y aleatorización de estudios clínicos. *Gac. Sanit.* **2019**, *33*, 395–397. [CrossRef] [PubMed]
33. Akpan, A.; Roberts, C.; Bandeen-Roche, K.; Batty, B.; Bausewein, C.; Bell, D.; Bramley, D.; Bynum, J.; Cameron, I.D.; Chen, L.K.; et al. Standard set of health outcome measures for older persons. *BMC Geriatr.* **2018**, *18*, 36. [CrossRef] [PubMed]
34. Gobbens, R.J.; van Assen, M.A.; Luijkx, K.G.; Wijnen-Sponselee, M.T.; Schols, J.M. The Tilburg frailty indicator: Psychometric properties. *J. Am. Med. Dir. Assoc.* **2010**, *11*, 344–355. [CrossRef] [PubMed]
35. Hughes, M.; Waite, L.; Hawkley, L.; Cacioppo, J. A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Res. Aging* **2004**, *26*, 655–672. [CrossRef] [PubMed]
36. Prochaska, J.O.; DiClemente, C. Toward a comprehensive model of change. In *Treating Addictive Behaviors: Processes of Change*; Springer: Boston, MA, USA, 1986; pp. 3–27.
37. Rempel, E.; Wilson, E.; Durrant, H.; Barnett, J. Preparing the prescription: A review of the aim and measurement of social referral programmes. *BMJ Open* **2017**, *7*, e017734. [CrossRef] [PubMed]
38. Bickerdike, L.; Booth, A.; Wilson, P.; Farley, K.; Wright, K. Social prescribing: Less rhetoric and more reality. A systematic review of the evidence. *BMJ Open* **2017**, *7*, e013384. [CrossRef] [PubMed]
39. Vidovic, D.; Reinhardt, G.Y.; Hammerton, C. Can social prescribing foster individual and community well-being? A systematic review of the evidence. *Int. J. Environ. Res. Public Health* **2021**, *18*, 5276. [CrossRef] [PubMed]
40. Pescheny, J.; Randhawa, G.; Pappas, Y. The impact of social prescribing services on service users: A systematic review of the evidence. *Eur. J. Public Health* **2020**, *30*, 664–673. [CrossRef] [PubMed]
41. Gauthier, A.; Lagarde, C.; Mourey, F.; Manckoundia, P. Use of digital tools, social isolation, and lockdown in people 80 years and older living at home. *Int. J. Environ. Res. Public Health* **2022**, *19*, 2908. [CrossRef]
42. Vodafone Innovus. Available online: https://www.vodafoneinnovus.com/ (accessed on 16 November 2023).
43. Sanz, M.F.; Acha, B.V.; García, M.F. Co-design for people-centred care digital solutions: A literature review. *Int. J. Integr. Care* **2021**, *21*, 16. [CrossRef]
44. Vidavo, S.A. Available online: https://www.vidavo.eu/ (accessed on 16 November 2023).
45. Fondazione Bruno Kessler. Available online: https://www.fbk.eu/en/ (accessed on 16 November 2023).
46. Van Kan, G.; Rolland, Y.; Bergman, H.; Morley, J.; Kritchevsky, S.; Vellas, B. Geriatric Advisory Panel. The IANA Task Force on frailty assessment of older people in clinical practice. *J. Nutr. Health Aging* **2018**, *12*, 29–37. [CrossRef] [PubMed]
47. Gleason, L.; Benton, E.; Alvarez-Nebreda, M.; Weaver, M.; Harris, M.; Javedan, H. FRAIL questionnaire screening tool and short-term outcomes in geriatric fracture patients. *J. Am. Med. Dir. Assoc.* **2017**, *18*, 1082–1086. [CrossRef] [PubMed]
48. Collin, C.; Wade, D.T.; Davies, S.; Horne, V. The Barthel ADL Index: A reliability study. *Int. Disabil. Stud.* **1988**, *10*, 61–63. [CrossRef] [PubMed]
49. Pfeiffer, E. A short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients. *J. Am. Geriatr. Soc.* **1975**, *23*, 433–441. [CrossRef] [PubMed]
50. Katzan, I.; Lapin, B. PROMIS GH (patient-reported outcomes measurement information system global health) scale in stroke: A validation study. *Stroke* **2018**, *49*, 147–154. [CrossRef] [PubMed]
51. EuroQol Research F Research Foundation. EQ-5D-5L User Guide Version 3.0: Basic Information on How to Use the EQ-5D-5L Instrument. 2019. Available online: https://euroqol.org/publications/user-guides (accessed on 1 February 2024).
52. Scheffer, A.; Schuurmans, M.; van Dijk, N.; Van Der Hooft, T.; De Rooij, S. Reliability and validity of the visual analogue scale for fear of falling in older persons. *J. Am. Geriatr. Soc.* **2010**, *58*, 2228. [CrossRef] [PubMed]
53. Levy, H. Self-administered medication-risk questionnaire in an elderly population. *Ann. Pharmacother.* **2003**, *37*, 982–987. [CrossRef] [PubMed]
54. Zhang, S.; Meng, L.; Qiu, F.; Yang, J.; Sun, S. Medication-related risk factors associated with health-related quality of life among community-dwelling elderly in China. *Patient Prefer. Adherence* **2018**, *12*, 529–537. [CrossRef] [PubMed]
55. Wijnhoven, H.; Elstgeest, L.; de Vet, H.; Nicolaou, M.; Snijder, M.; Visser, M. Development and validation of a short food questionnaire to screen for low protein intake in community-dwelling older adults: The Protein Screener 55+(Pro55+). *PLoS ONE* **2018**, *13*, e0196406. [CrossRef]
56. Guralnik, J.M.; Simonsick, E.M.; Ferrucci, L.; Glynn, R.J.; Berkman, L.F.; Blazer, D.G.; Scherr, P.A.; Wallace, R.B. A short physical performance battery assessing lower extremity function: Association with self-reported disability and prediction of mortality and nursing home admission. *J. Gerontol.* **1994**, *49*, M85–M94. [CrossRef]
57. Romero-Ortuno, R. The Frailty Instrument of the Survey of Health, Ageing and Retirement in Europe (SHARE-FI) predicts mortality beyond age, comorbidities, disability, self-rated health, education and depression. *Eur. Geriatr. Med.* **2011**, *2*, 323–326. [CrossRef] [PubMed]
58. Wijnhoven, H.A.; Schilp, J.; de Vet, H.C.; Kruizenga, H.M.; Deeg, D.J.; Ferrucci, L.; Visser, M. Development and validation of criteria for determining undernutrition in community-dwelling older men and women: The Short Nutritional Assessment Questionnaire 65+. *Clin. Nutr.* **2012**, *31*, 351–358. [CrossRef] [PubMed]
59. Ng, T.P.; Feng, L.; Nyunt, M.S.Z.; Feng, L.; Niti, M.; Tan, B.Y.; Chan, G.; Khoo, S.A.; Chan, S.M.; Yap, P.; et al. Nutritional, physical, cognitive, and combination interventions and frailty reversal among older adults: A randomized controlled trial. *Am. J. Med.* **2015**, *128*, 1225–1236. [CrossRef] [PubMed]

60. Strandberg, T.; Pitkälä, K.; Tilvis, R. Frailty in older people. *Eur. Geriatr. Med.* **2011**, *2*, 344–355. [CrossRef]
61. Dedeyne, L.; Deschodt, M.; Verschueren, S.; Tournoy, J.; Gielen, E. Effects of multi-domain interventions in (pre) frail elderly on frailty, functional, and cognitive status: A systematic review. *Clin. Interv. Aging* **2017**, *12*, 873–896. [CrossRef] [PubMed]
62. Bloch, F.; Charasz, N. Attitudes of older adults to their participation in clinical trials: A pilot study. *Drugs Aging* **2014**, *31*, 373–377. [CrossRef]
63. Pitkala, H.; Strandberg, T. Clinical trials in older people. *Age Ageing* **2022**, *51*, afab282. [CrossRef]

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Efficacy of a Comprehensive and Personalised Approach for Frail Older People in Valencia (Spain): A Pre–Post Controlled Trial

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Abstract: Frailty is a common condition in older adults that negatively impacts health and quality of life. This study evaluated a comprehensive, personalised, and coordinated intervention under the value-based care approach to address frailty's multidimensional nature in older people in the primary care setting. It employed a pre–post randomised controlled design involving 242 frail individuals aged over 65 years living in the community in Valencia (Spain) between 2021 and 2023. Assessments were conducted at baseline, 12 months (immediately post-intervention), and 18 months. The intervention included a personalised care plan supported by technology, with monthly motivational follow-ups and plan updates by health professionals and participants. Outcomes were measured using an assessment questionnaire that included the International Consortium for Health Outcomes Measurement dataset for the older population: physical health, physical functioning, general mental health, satisfaction with social activities and relationships, ability to carry out usual social roles and activities, pain, general quality of life, loneliness, physical frailty, psychological frailty, and social frailty. The study found significant improvements in physical frailty, quality of life, reduced health resource use and hospitalisations and lower levels of pain and depression/anxiety compared to baseline. The findings suggest further research into value-based care approaches, emphasizing the development and activation of personalised, comprehensive programs for older individuals with frailty.

Keywords: older people; frailty; value-based healthcare; personalised care; integrated care; pre–post controlled trial

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Citation: Fernández-Salido, M.; Alhambra-Borrás, T.; Garcés-Ferrer, J. Efficacy of a Comprehensive and Personalised Approach for Frail Older People in Valencia (Spain): A Pre–Post Controlled Trial. *Healthcare* **2024**, *12*, 1754. https://doi.org/10.3390/healthcare12171754

Academic Editor: Daniele Giansanti

Received: 5 July 2024
Revised: 26 August 2024
Accepted: 30 August 2024
Published: 3 September 2024

1. Introduction

Population ageing continues to boom with an accelerating expansion of the older population worldwide [1,2]. According to United Nations projections, it is estimated that in 2025, worldwide, one in six people will be 65 years of age or older [3], which represents approximately 31% of the European population in 2100 [4]. This progressive and accelerated increase in population ageing brings with it multiple challenges for health systems and public health budgets, as it is associated with a sharp increase in care services [5]. Specifically, the increasing frailty, disability, and morbidity associated with ageing impose a growing burden on health systems that require reform to meet the growing need for medical and social resources [6,7]. Identifying effective and efficient interventions in terms of promoting the health-related quality of life of older people is a European policy priority, and clinicians, policymakers, healthcare managers, scientists, and researchers should consider the potential of comprehensive and coordinated approaches to care [5,8].

Among the different conditions faced by the older population, frailty is one of the most pressing, yet preventable and reversible. The determinants of frailty are driven by multiple interrelated risk factors that can be reversed and prevented, such as falls, depression, unhealthy diet, physical inactivity, and social isolation [9–11]. Frailty is a controversial term that encompasses multiple meanings depending on the context and is interpreted differently by clinical and non-clinical settings. While for the older population that suffers from frailty, frailty may be associated with negative connotations because of its association with physical deterioration, generating rejection in older people because of the stigma of bodily deterioration associated with old age, for those who label it, frailty also encompasses multiple conceptualisations despite the consensus that it is a clinical category that needs to be detected and addressed to reduce its negative impact on the health of the population [12,13]. Although frailty is common among older adults, epidemiological data and interventions aimed at preventing and reversing this condition have traditionally identified and managed it based on the phenotypic model, which emphasizes physical frailty [14]. Extensive literature highlights the necessity of identifying and addressing frailty through a multidimensional, integrated, and holistic approach to care. This is essential because frailty impacts multiple aspects of health, including physical, psychological, cognitive, social, and emotional domains [15,16]. In this way, the recent multidimensional conceptual model understands frailty as the lack of harmonious interaction between multiple dimensions leading to homeostatic instability [17]. From this holistic approach, frailty is therefore understood as a dynamic state resulting from deficits in any of the social, psychological, and physical domains that contribute to health, and therefore requires the identification, assessment, and care of the condition from a biopsychosocial approach [18,19].

Achieving better health outcomes for patients requires reorganising care for patients efficiently and effectively, and in this regard, health systems are advocating for innovative models of care that move away from a volume-based approach to care towards a value-based approach to care, supported by digital solutions [20]. The goal of this approach is the delivery of value to patients with the understanding that value is defined as improved health outcomes achieved from the entire care process [21]. In this context, the quality of care is multidimensional, just like the life of an older person experiencing frailty [22]. This necessitates assessment measures that cover all aspects of human functioning—physical, psychological, and social—related to frailty, highlighting the importance of a holistic approach. The evidence confirms that the Tilburg Frailty Instrument (TFI) is a key self-report instrument for assessing frailty in older people living in the community [23]. Furthermore, taking a holistic approach to addressing frailty in community-dwelling older adults can help manage other issues such as social isolation and loneliness. Evidence indicates that socially isolated older adults are much more likely to develop both physical and psychological frailty, as loneliness often leads to emotional depression [24].

Given the positive and significant relationship between loneliness and frailty, where each can impact the other, studies recommend not only a holistic assessment that addresses loneliness but also multidimensional and personalised interventions that focus on enhancing psychosocial resources [25]. In this regard, recent literature highlights the need to raise awareness among older adults about actively investing in their existing social ties, such as family and friends. It also highlights the necessity of enhancing their motivation to actively improve their situation [26]. Following this line, motivational interviewing (MI) can be an effective therapeutic technique for its ability to promote communication and commitment, encouraging changes toward healthy lifestyles. This approach is empathic and collaborative, with achievable goals set according to the needs and interests of the person being interviewed [27]. Given that evidence confirms a positive association between information and communication technology (ICT) use and social support, incorporating ICT into interventions to address psychosocial frailty can be beneficial for maintaining and extending social connections [28,29].

However, studies on value-based care programmes supported by technological solutions that address the multidimensional nature of frailty and evaluate their effects on older patients with frailty are currently scarce and have limitations, such as the lack of controlled trials [22]. In this study, the purpose is to analyse the effect of a comprehensive and personalised approach based on motivational interviewing, supported by a digital tool on the reduction of frailty, especially psychosocial frailty, in older adults.

This study is part of the ValueCare project—Value-based methodology for integrated care supported by ICT—an initiative funded by the European Commission under the Horizon 2020 programme. The project brings together a consortium of 17 partners from eight European countries. The aim of the ValueCare project is to provide efficient and outcome-based integrated care (both health and social) for people aged 65+ with frailty, cognitive impairment, and/or multiple chronic conditions. The ValueCare intervention has been implemented and validated in study sites located in seven European countries: Valencia in Spain, Rijeka in Croatia, Athens in Greece, Cork/Kerry in Ireland, Coimbra in Portugal, and Rotterdam in the Netherlands. In each of these sites, the ValueCare intervention focuses on addressing a specific health condition. Through value-based methodologies supported by digital solutions, the project aims to improve the quality of life of this population. In Spain (Valencia), the ValueCare approach supported by a digital tool and therapeutic tool based on motivational interviewing has been implemented for people over 65 diagnosed with frailty.

This study aims to increase knowledge about the potential effects of a comprehensive, personalised, and coordinated intervention, supported by digital solutions, in the context of frailty. The main objective of this study was to evaluate the effects of ValueCare intervention on frailty, including its social, psychological, and physical domains. Additionally, this study analysed the impact of the intervention on other health-related variables, namely, global health, loneliness, health-related quality of life, and the use of health resources, the hypothesis being that after intervention, participants would also show an improvement in these variables.

2. Materials and Methods

2.1. Study Design

This study was a randomised, parallel-controlled clinical trial with a control group and an intervention group and a pre- and post-evaluation design. It was conducted with the support of the Malvarrosa Clinic Health Department of the city of Valencia (Spain). Participants included in this study were assessed at baseline and at 12 months after completion of the intervention. All study participants gave written informed consent. The clinical trial protocol had previously been approved by the Human Research Ethics Committee (HREC) of the Experimental Research Ethics Committee of the University of Valencia (7 May 2020), and it has been registered in the International Standard Randomised Controlled Trial registry (ISRCTN25089186; registration date 16 November 2021). A full description of the methods, design, and procedure is available in the trial protocol [30].

2.2. Study Participants: Inclusion and Exclusion Criteria

Recruitment for this study was carried out in the city of Valencia (Spain) with the support of a total of seven primary care health centres belonging to the Malvarrosa Clinic Health Department. Citizens aged 65 years and over who lived in the community were telephoned by the socio-health professionals of each of the participating health centres for recruitment according to the clinical history and the established inclusion criteria. Persons eligible to participate in the current study were those who met the following eligibility criteria: (a) aged 65 years or older, (b) frailty, and (c) independent residence in the community and affiliation to one of the seven participating health centres belonging to the Malvarrosa Clinic Health Department. In addition, citizens were ineligible to participate in the study when they presented any of the following conditions: (a) cognitive impairment, (b) significant dependency, (c) institutionalisation, (d) inability to make an informed decision regarding participation in the study, and (e) lack of Spanish language proficiency. Participants were randomly assigned to intervention and control groups. Randomisation was performed using a computer-generated list of random numbers through the Oxford Minimisation and Randomisation (OxMaR) system to ensure concealment of the randomisation sequence. Of the 242 who were eligible for randomisation, 122 were assigned to the intervention group (to receive the 12-month ValueCare programme) and 120 to the control group (to receive no intervention/receive usual care). Adherence to the study was estimated to be 71.9% (individuals who completed the intervention against those lost in follow-up).

2.3. Measures

2.3.1. Primary Outcome Variables

Frailty was assessed through the Tilburg Frailty Index (TFI) [31]. The TFI is based on a holistic approach to frailty, including physical, psychological, and social domains. It is composed of three subscales: physical frailty, psychological frailty, and social frailty, as well as a total score on frailty. The TFI's total score ranges from 0 to 15, with a score ranging from 0 to 8 for physical frailty, 0 to 4 for psychological frailty, and 0 to 4 for social frailty. Higher scores refer to greater frailty, and scores greater than or equal to 5 indicate the presence of frailty. TFI has shown robust evidence of reliability and validity [22].

2.3.2. Secondary Outcome Variables

Global health was assessed using the PROMIS-10 Global Health survey which includes two subscales on physical health and mental health. Raw PROMIS-10 scores were converted to standardised *t*-score values [32]. A *t*-score of 50 represents the mean of the general population, and higher scores indicate better physical and mental health [32] according to the established *t*-score cut-offs for fair-to-poor health ratings (physical health < 42 and mental health < 40) [33].

Loneliness was assessed using the UCLA Three-Item Loneliness Scale [34]. This scale asks how often a person felt that they (1) lacked companionship; (2) were left out; and (3) were isolated from others on a 3-point Likert scale coded from 1 (hardly ever) to 3 (often). The scores for each individual question can be added together to give a possible range of scores from 3 to 9, with higher scores indicating greater loneliness. People who score 3–5 are identified as 'not lonely' and people scoring 6–9 as 'lonely'. The Spanish version of the scale has shown good psychometric properties [35].

Health-related quality of life was evaluated with the 5Q-5D-5L [36]. The EQ-5D instrument was developed by EuroQol (www.euroqol.org—accessed on 14 February 2020) and is one of the most reliable generic health-related quality of life measurement and widely used around the world. The EQ-5D-5L is divided into five dimensions—mobility, selfcare, usual activities, pain/discomfort, anxiety/depression—within five levels of problem severity in responses from 'no problems' to 'extreme problems'. The measure includes a visual analogue rating scale (VAS), which was not included in our current study.

Use of healthcare resources was evaluated by asking participants for their number of primary care visits and hospitalisation days over the past 12 months (at baseline and at post-intervention).

2.4. Intervention

The ValueCare intervention to improve psychosocial frailty and loneliness in older people by encouraging behavioural change towards healthy lifestyles and greater social engagement lasted 12 months and consisted of three elements: (i) periodic motivational social prescription sessions under the motivational interviewing approach (ii) support through the implementation of monthly social workshops in the participating primary care centres, and (iii) monitoring and support of the intervention through the ValueCare digital solution.

Motivational sessions developed using the approach of motivational interviewing were offered monthly during the 12 months of intervention, with a duration of 30 min–1.5 h. A protocol was established to guide the sessions, its development was supported by scientific evidence on the effectiveness of this methodology to promote behavioural change, commitment to change, and adherence to the intervention. The sessions focused on identifying the individual's psychosocial needs, assessing their readiness for change, and stimulating motivation to prepare them for change. They also helped participants explore and resolve ambivalences related to unhealthy behaviours or habits. Ultimately, the sessions involved jointly setting objectives within the framework of social prescription through a negotiation process between the professional and the patient to facilitate the transition toward healthy habits. The motivational sessions were conducted by social and health professionals such as social workers and psychologists with knowledge of the clinical condition of each participant. The objectives established in terms of social prescription allowed the professional to present to the participant the existing community resources that could favour their health and well-being, as well as the social workshops to be implemented within the framework of the intervention. During the development of the motivational sessions, an atmosphere of trust was established based on empathy through active and reflective listening in which participants were enabled to explore and resolve ambivalence in changing behaviour towards healthy lifestyles, promoting intrinsic motivation that encourages change.

Social participation in social workshops was used to support the achievement of the social prescription goals set in the motivational sessions in terms of reducing loneliness and improving the psychosocial frailty of older people. Socio-health professionals organised a monthly group social workshop in each primary care centre, where participants were invited to attend with the aim of increasing social connections and networks with other project participants. The workshops covered different themes: (a) healthy ageing workshop on the importance of physical activity and social prescription, (b) workshop on healthy nutrition based on the knowledge of the Harvard plate for a balanced diet, (c) workshop on the use and usefulness of new technologies in the framework of the ValueCare digital solution, (d) workshop on art and cognitive stimulation to exercise functions such as memory, (e) workshop on emotional management through plastic arts to work on the areas of expressiveness and emotional management, and (f) workshop on age discrimination and mistreatment of the elderly to work on tools to deal with ageism. Social workshops with a leisure character are beneficial in reducing loneliness and depression levels among their users, as well as favouring their life satisfaction and providing a sense of place, enjoyment, and support among older people that is rooted in a sense of relevance [37].

In addition, for older people, the use of digital technologies can be challenging, as they are generally later adopters of technological innovation [38]. In this sense, motivational interviewing together with social workshops were further employed as a way to ensure adherence and follow-up of the element. In this sense, participants were provided with a space where they were encouraged in each motivational session and each workshop to report any doubts or comments about the ValueCare digital application.

Both the goals to be achieved by older people agreed to in the motivational sessions and the description of and invitation to the social workshops were included in the ValueCare digital solution. This ValueCare app1 presented the personalised care plan for each of the participants in the intervention group, which was set up and monitored by the social and health professionals. In addition, the application had a messaging portal through which the professionals reminded the participants of the objectives to be achieved agreed to in the motivational sessions. In this way, the participants had access to their personalised care plan, in which they could also interact through the application thanks to the existence of a virtual coach who acted as a persuasive chatbot. This chatbot was based on dialogue, motivating the participants to achieve the prescribed objectives and reinforcing positive behaviours by confirming that the objective had been met or encouraging the participant to reach it. In addition, the ValueCare digital solution featured a section of content in audio-visual and text format on services available in the community to promote an active and healthy lifestyle, suggestions for increasing social interaction, and information about physical frailty, social frailty, and loneliness, among other relevant topics. A tablet was provided free of charge to each participant, and training sessions were developed on a voluntary basis to ensure the proper installation of the digital solution and teaching on the use and usefulness of the solution. It is worth mentioning that the ValueCare app and the tablets were available for use on a voluntary and unmonitored basis for up to six months after the end of the intervention. During these six months, researchers continued to voluntarily send personalised motivational messages to participants in the intervention group that included physical and nutritional recommendations, as well as information about health promotion activities available at their health centres. Participants were also encouraged to download the app on their mobile phones to continue accessing the audio-visual content portal available on the app. Finally, all participants were invited to a final event after the end of the intervention, where they received a paper guide with health recommendations and upcoming health promotion events available at their health centres. The aim of these non-intervention actions was to reduce the possible feeling of dropout at the end of the study by ensuring a staggered exit.

2.5. Data Analysis

Analysis of the effectiveness of the intervention was conducted through intragroup analyses to determine the evolution of outcome measures in the comparison and the intervention group, and intergroup analyses to compare the two groups in two different moments: pre-intervention and 12 months later.

The impact of the intervention on the outcome measures—frailty, global health, loneliness, health-related quality of life, and use of healthcare resources—was assessed using Student's *t* test. For variables of a categorical nature, chi-squares tests were performed for intergroup analyses, and intragroup differences were analysed using McNemar's test. A threshold of $p < 0.05$ for statistical significance was used. Additionally, effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8). Data were analysed using IBM SPSS Statistics version 28.

3. Results

Participants had an average age of 72.9, ranging from 65 to 90 years old, and included both females (73.6%) and males (25.6%). Intervention group participants were slightly younger than comparison group participants (mean age 72.8 vs. 73.1), and the percentage of women was also slightly higher in the intervention group (75.4% vs. 71.7%).

Participants in this study showed medium levels of frailty according to the TFI, for which scores greater than or equal to 5 indicate the presence of frailty. Regarding the effect of the intervention on frailty, as presented in Table 1, participants in the intervention group showed a slight reduction in the psychological and social domains of frailty and a slight increase in the physical domain and in overall frailty. The comparison group did not experience any changes in the social or psychological domains and showed a slight reduction in physical and overall frailty. However, none of these changes in frailty was found to be statistically significant for either of the groups.

Global health results, which were measured using the PROMIS-10 Global Health survey, showed that participants in both groups had fair global physical and mental health. As presented in Table 2, physical health was significantly improved among intervention group participants ($p = 0.029$) with a small effect size (0.22), while the comparison group showed no statistically significant improvement on this variable. Regarding mental health, improvement was found only for the intervention group, but this was not statistically significant ($p = 0.238$).

In terms of loneliness, no differences in the feeling of loneliness were found between the groups at baseline and at follow-up, as shown in Table 3. The intervention did not show any statistically significant improvement for either group, and participants remained identified as 'not lonely', according to the UCLA scoring.

Table 1. Intragroup and intergroup differences in frailty.

		Intervention Group	Comparison Group	Intergroup Differences
TFI total score	Pre, Mean ± SD	4.91 ± 3.15	5.42 ± 3.25	$t = 1.234$; $p = 0.109$
	Post, Mean ± SD	5.17 ± 3.35	4.89 ± 3.11	$t = -0.574$; $p = 0.283$
	Intragroup differences *	$t = -0.623$; $p = 0.267$	$t = -0.981$; $p = 0.164$	
	Effect size **	0.32	0.24	
TFI physical score	Pre, Mean ± SD	2.34 ± 1.78	2.86 ± 2.16	$t = 1.450$; $p = 0.074$
	Post, Mean ± SD	2.72 ± 2.15	2.42 ± 1.98	$t = -0.989$; $p = 0.162$
	Intragroup differences *	$t = -1.226$; $p = 0.112$	$t = 1.443$; $p = 0.076$	
	Effect size **	0.14	0.17	
TFI psychological score	Pre, Mean ± SD	1.41 ± 1.11	1.37 ± 1.12	$t = 0.602$; $p = 0.274$
	Post, Mean ± SD	1.39 ± 1.08	1.37 ± 1.12	$t = -0.289$; $p = 0.386$
	Intragroup differences *	$t = 0.072$; $p = 0.471$	$t = 0.129$; $p = 0.449$	
	Effect size **	0.01	0.01	
TFI social score	Pre, Mean ± SD	1.11 ± 0.99	1.13 ± 0.94	$t = 0.215$; $p = 0.415$
	Post, Mean ± SD	1.05 ± 0.92	1.13 ± 0.92	$t = 0.543$; $p = 0.294$
	Intragroup differences *	$t = 0.360$; $p = 0.360$	$t = 0.000$; $p = 0.500$	
	Effect size **	0.06	0	

* Intragroup and intergroup differences were analysed using Student's *t* test. ** Effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8).

Table 2. Intragroup and intergroup differences in global health.

		Intervention Group	Comparison Group	Intergroup Differences
PROMIS Physical Health	Pre, Mean ± SD	42.07 ± 8.07	42.69 ± 9.06	$t = 0.605$; $p = 0.273$
	Post, Mean ± SD	43.82 ± 9.52	43.68 ± 8.83	$t = -0.097$; $p = 0.462$
	Intragroup differences *	$t = -1.932$; $p = 0.029$	$t = -1.554$; $p = 0.062$	
	Effect size **	0.22	0.15	
PROMIS Mental Health	Pre, n (%)	44.87 ± 6.90	44.69 ± 7.29	$t = -0.255$; $p = 0.399$
	Post, n (%)	45.44 ± 7.93	44.59 ± 8.08	$t = -0.703$; $p = 0.242$
	Intragroup differences *	$t = -0.717$; $p = 0.238$	$t = 0.172$; $p = 0.432$	
	% of change	0.08	0.02	

* Intragroup differences were analysed using McNemar's test and intergroup analyses using chi-squared test.
** Effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8).

Table 3. Intragroup and intergroup differences in loneliness.

		Intervention Group	Comparison Group	Intergroup Differences
UCLA scores	Pre, Mean ± SD	3.59 ± 1.27	3.69 ± 1.28	$t = 0.306$; $p = 0.380$
	Post, Mean ± SD	3.63 ± 1.19	3.69 ± 1.42	$t = 0.729$; $p = 0.233$
	Intragroup differences *	$t = -0.196$; $p = 0.423$	$t = 0.000$; $p = 0.500$	
	Effect size **	0.02	0	

* Intragroup differences were analysed using Student's *t* test. ** Effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8).

As shown in Table 4, changes in health-related quality of life were found in both groups when comparing baseline with follow-up measurements on 5Q-5D-L5 general score. Both intervention and comparison group participants reported improvements in their quality of life after 12 months, and these changes were statistically significant. A medium effect size (0.61) was found for the intervention group, while for the comparison group, the effect size was smaller (0.45). Apart from the improvements found for the general score on quality of life, significant improvements were found for the pain and anxiety/depression subscales of the 5Q-5D-L5. Pain issues were reduced by 34.4% ($p = 0.000$) among the older adults who attended the intervention, and anxiety/depression issues were reduced by 27.1% ($p = 0.000$). On the other hand, in the same time period, comparison group participants also had reduced pain issues by 30.9% (p = 0.000) and anxiety/depression issues by 18.3% (p = 0.009).

Table 4. Intragroup and intergroup differences of health-related quality of life.

		Intervention Group	Comparison Group	Intergroup Differences
5Q-5D-L5 general score	Pre, Mean ± SD	0.75 ± 0.23	0.72 ± 0.29	$t = -1.791$; $p = 0.074$
	Post, Mean ± SD	0.88 ± 0.16	0.83 ± 0.24	$t = -1.434$; $p = 0.077$
	Intragroup differences *	$t = -5.215$; $p = 0.000$	$t = -4.695$; $p = 0.000$	
	Effect size **	0.61	0.45	
5Q-5D-L5 mobility issues	Pre, n (%)	31 (25.4%)	35 (29.2%)	$X^2 = 0.430$; $p = 0.512$
	Post, n (%)	17 (13.9%)	23 (19.2%)	$X^2 = 0.004$; $p = 0.949$
	Intragroup differences *	McNemar; $p = 1.000$	McNemar; $p = 0.152$	
	% of change	−11.5%	−10.0%	
5Q-5D-L5 self-care issues	Pre, n (%)	12 (9.8%)	18 (15.0%)	$X^2 = 1.485$; $p = 0.223$
	Post, n (%)	4 (3.3%)	15 (12.5%)	$X^2 = 4.161$; $p = 0.041$
	Intragroup differences *	McNemar; $p = 1.000$	McNemar; $p = 1.000$	
	% of change	−6.5%	−2.5%	
5Q-5D-L5 pain issues	Pre, n (%)	77 (63.1%)	80 (66.7%)	$X^2 = 0.335$; $p = 0.563$
	Post, n (%)	35 (28.7%)	43 (35.8%)	$X^2 = 0.213$; $p = 0.645$
	Intragroup differences *	McNemar; $p = 0.000$	McNemar; $p = 0.000$	
	% of change	−34.4%	−30.9%	
5Q-5D-L5 daily activities issues	Pre, n (%)	27 (22.1%)	29 (24.2%)	$X^2 = 1.41$; $p = 0.707$
	Post, n (%)	11 (9.0%)	18 (15.0%)	$X^2 = 0.355$; $p = 0.551$
	Intragroup differences *	McNemar; $p = 1.000$	McNemar; $p = 1.000$	
	% of change	−13.1%	−9.2%	
5Q-5D-L5 anxiety depression issues	Pre, n (%)	50 (41.0%)	56 (46.7%)	$X^2 = 0.794$; $p = 0.373$
	Post, n (%)	17 (13.9%)	34 (28.4%)	$X^2 = 2.697$; $p = 0.101$
	Intragroup differences *	McNemar; $p = 0.000$	McNemar; $p = 0.009$	
	% of change	−27.1%	−18.3%	

* Intragroup differences were analysed using McNemar's test and intergroup analyses using chi-squared test. ** Effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8).

Finally, the effects of the intervention on the use of healthcare resources are presented in Table 5. The average number of primary care visits was significantly reduced among intervention group participants (p = 0.036). Prior to being included in the intervention, this group visited the primary care doctor an average of 4.2 times per year, while after the intervention, this average was reduced to 3.4 visits per year. Hospitalisation was also reduced by 9% (p = 0.049) among intervention group participants. No effect was found in the use of healthcare resources among the comparison group on visits to primary care or hospitalisation.

Table 5. Intragroup and intergroup differences in use of healthcare resources *.

		Intervention Group	Comparison Group	Intergroup Differences
Visits to primary care	Pre, Mean ± SD	4.22 ± 3.25	4.48 ± 3.77	$t = 0.714$; $p = 0.238$
	Post, Mean ± SD	3.37 ± 2.12	4.17 ± 3.17	$t = 1.992$; $p = 0.024$
	Intragroup differences *	$t = 1.824$; $p = 0.036$	$t = 0.575$; $p = 0.283$	
	Effect size **	0.22	0.06	
Hospitalisations	Pre, n (%)	17 (13.9%)	13 (10.8%)	$X^2 = 0.572$; $p = 0.450$
	Post, n (%)	6 (4.9%)	11 (9.2%)	$X^2 = 0.448$; $p = 0.503$
	Intragroup differences *	McNemar; $p = 0.049$	McNemar; $p = 1.000$	
	% of change	−9.0%	−1.6%	

* Intragroup differences were analysed using Student's t test. ** Effect size was calculated using Cohen's d (small effect = 0.2, medium effect = 0.5, large effect = 0.8).

4. Discussion

The increasing frailty that accompanies the trend of population ageing is a major public health problem that represents a significant burden on the healthcare system, given the consequences of this condition on the overall health and health-related quality of life of older people [39,40]. Despite this, existing epidemiological data as well as interventions implemented over the years have focused on the physical frailty phenotype. Although in the last two decades, the scientific community has striven to reach a consensus definition of frailty assessment, there is currently no international standard definition of frailty [41,42]. Recently a large body of literature has suggested that the condition of frailty should be identified and addressed from a multidimensional approach, giving rise to a new conceptual model of frailty based on the loss of harmonious interaction between different domains, which gives importance to the social and psychological domains in addition to the physical domain [43]. Given the variability in the identification, assessment, and management of frailty, we are faced with the absence of an adequate evidence base on effective interventions to manage frailty [44].

To our knowledge, this is the first study to investigate the effectiveness of a value-based, holistic, and personalised approach combining motivational techniques and social prescription supported by digital solutions in frail older adults.

In fact, the main objective of this study was to evaluate the effects of the ValueCare intervention on frailty, including its social, psychological, and physical domains. The results of the statistical analyses on frailty showed that for the participants in the intervention group, there was a slight reduction in the social and psychological domains of frailty, while physical frailty was slightly increased; however, these reductions were not statistically significant. Although the absence of previous studies similar to this one hinders a comprehensive comparison of our results, other randomised clinical trials have confirmed the efficacy of multifactorial interventions. These interventions included social supports like home telecare to prevent or delay the progression of frailty [45] and participation in psychosocial programs featuring practical and group activities, which significantly reduced frailty and improved functional health [46].

Additionally, this study analysed the impact of the intervention on other health-related variables, namely, global health, loneliness, health-related quality of life, and the use of health resources, the hypothesis being that after intervention, participants would also show an improvement in these variables. The results indicated that regarding global health, participants in the intervention group experienced significant improvements in physical health, while no statistically significant changes were observed for mental health. Previous studies support the effectiveness of multifactorial interventions in enhancing functional status [47]. In terms of loneliness, the intervention did not result in statistically significant improvement for either group according to the UCLA score. Regarding health-related quality of life, the analysis found that the ValueCare intervention led to statistically significant improvements in the overall 5Q-5D-5L quality-of-life score after 12 months of implementation for both the comparison and control groups. Previous studies with programmes that included physical and nutritional interventions have shown significant improvements for physical frailty compared to social programmes [48], suggesting that multicomponent intervention may be the key to improving overall frailty.

In this context, despite the limited results, it is noteworthy that study protocols have been developed for multifactorial interventions similar to the present study. These protocols include the assessment of psychosocial frailty and the incorporation of motivational interviewing and social prescription to reduce frailty [49]. Significant improvements were also observed after the intervention period compared to baseline for the pain and anxiety/depression subscales, with a reduction in both pain and anxiety among participants in the intervention group. Other multifactorial studies have reported similar findings, showing that addressing anxiety and depression as elements related to frailty leads to improvements in these conditions following the implementation of a multicomponent intervention [50].

Finally, concerning the use of healthcare resources and hospitalisations, the intervention led to statistically significant improvements for the comparison group, showing a reduction in both the number of visits and hospitalisations. As reflected in other studies, this could indicate that a multidimensional value-based intervention offers good value for money in terms of improving the frailty status of older people and reducing the costs of usual care [51]. However, this study was unable to find evidence against the hypothesis that a value-based intervention based on motivational interviewing and supported by digital solutions is effective in addressing frailty status with the current sample size. More data will be needed.

Among the strengths of this study, to date, no study has explored and addressed frailty from a holistic, personalised, and integrated value-based approach supported by digital solutions and motivational methodologies using a longitudinal design in older Spanish people living in the community. However, our findings must be interpreted within the limitations of this study, given that the paucity of previous similar studies with a sizeable sample makes it difficult to compare the present results with existing ones. While it is true that the present study showed no negative impact for participants, no statistically significant broad improvements have been observed, suggesting the need for further value-based multidimensional research in larger samples demonstrating efficacy in the specific management of frailty. Furthermore, despite the positive and significant relationship between frailty and loneliness, the present study did not reflect statistically significant improvements for loneliness, suggesting the need for future alternative screening and intervention programmes to prevent frailty and loneliness in people aged 65 years and older.

5. Conclusions

Given that frailty is a common condition in older people presenting multiple risks to their health and quality of life, it is important to note that the present study shows promising effects of implementing personalised and comprehensive value-based interventions supported by digital solutions, which may be a viable strategy to reverse this condition and improve patient outcomes. In conclusion, the results of the implementation of the ValueCare approach highlight the need to assess and address frailty from a multidimensional, comprehensive, and personalised value-based approach to reverse and curb this syndrome, considering that it is one of the most prevalent conditions with the greatest impact on the health of older people. To date, the identification, treatment, and prevention of frailty represents a challenge for health and social systems, due to its multidimensionality and the need to implement effective responses from a biopsychosocial approach and not only a unidimensional one based on attention to physical condition. From a practical point of view, this innovative value-based programme supported by digital solutions can be used as an effective alternative to other programmes (classical multicomponent exercise programmes and unidimensional programmes based on Fried's physical phenotype) to optimise improvements in frailty syndrome, well-being, and quality of life in the older population. Finally, improving patient health outcomes in relation to the cost of care is a concern expressed by all stakeholders in the healthcare system, including providers, patients, researchers, and governmental organisations; therefore, more studies are needed that advocate the implementation of value-based care approaches with a large sample and that also consider follow-up beyond the end of the intervention period and thus can confirm and extend the findings of this study.

Author Contributions: T.A.-B., J.G.-F. and M.F.-S. contributed to the conception and design of the project; M.F.-S. contributed to the data acquisition; T.A.-B. and M.F.-S. contributed to the analysis and interpretation of the data; M.F.-S. and T.A.-B. drafted the article. All authors have read and agreed to the published version of the manuscript.

Funding: This article's preparation received funding from an FPU (Formación de Profesorado Universitario) contract from the Spanish Ministry of Universities with the reference FPU19/04167 and from the H2020 programme of the European Commission (875215).

Institutional Review Board Statement: This study was approved on 7 May 2020 by the Institutional Review Board (IRB) at the University of Valencia.

Informed Consent Statement: Informed consent was obtained in digital or paper format from all subjects who participated in the study.

Data Availability Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

Acknowledgments: We would like to thank all participating older persons and all organisations and professionals involved in this study.

Conflicts of Interest: The authors have no conflicts of interest to declare. All co-authors have seen and agree with the contents of the manuscript. We certify that the submission is original work and is not under review with any other publisher.

References

1. Grundy, E.M.; Murphy, M. Population ageing in Europe. In *Oxford Textbook of Geriatric Medicine*; Oxford University Press: Oxford, UK, 2017; pp. 11–18.
2. Ofori-Asenso, R.; Zomer, E.; Curtis, A.J.; Zoungas, S.; Gambhir, M. Measures of Population Ageing in Australia from 1950 to 2050. *J. Popul. Ageing* **2017**, *11*, 367–385. [CrossRef]
3. United Nations. *World Population Prospects 2022*; Department of Economic and Social Affairs, Population Division, The United Nations: New York, NY, USA, 2022.
4. EUROSTAT. Population Structure and Ageing. 2019. Available online: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_structure_and_ageing/pt (accessed on 3 April 2024).
5. Franse, C.B.; van Grieken, A.; Alhambra-Borras, T.; Valia-Cotanda, E.; van Staveren, R.; Rentoumis, T.; Markaki, A.; Bilajac, L.; Marchesi, V.V.; Rukavina, T.; et al. The effectiveness of a coordinated preventive care approach for healthy ageing (UHCE) among older persons in five European cities: A pre-post controlled trial. *Int. J. Nurs. Stud.* **2018**, *88*, 153–162. [CrossRef]
6. Cristea, M.; Noja, G.G.; Stefea, P.; Sala, A. El impacto del envejecimiento de la población y el apoyo a la salud pública en los mercados laborales de la UE. *Int. J. Environ. Res. Public Health* **2020**, *17*, 1439. [CrossRef] [PubMed]
7. Officer, A.; Thiyagarajan, J.A.; Schneiders, M.L.; Nash, P.; de la Fuente-Núñez, V. Ageism, Healthy Life Expectancy and Population Ageing: How Are They Related? *Int. J. Environ. Res. Public Health* **2020**, *17*, 3159. [CrossRef]
8. Knežević, B.; Marinković, V. Quality improvement in healthcare: Towards to integrated care models in EU. *Tehnika* **2019**, *74*, 147–151. [CrossRef]
9. Beswick, A.D.; Gooberman-Hill, R.; Smith, A.; Wylde, V.; Ebrahim, S. Maintaining independence in older people. *Rev. Clin. Gerontol.* **2010**, *20*, 128–153. [CrossRef]
10. Hoogendijk, E.O.; Afilalo, J.; Ensrud, K.E.; Kowal, P.; Onder, G.; Fried, L.P. Frailty: Implications for clinical practice and public health. *Lancet* **2019**, *394*, 1365–1375. [CrossRef] [PubMed]
11. Pérez-Ros, P.; Vila-Candel, R.; López-Hernández, L.; Martínez-Arnau, F.M. Nutritional status and risk factors for frailty in community-dwelling older people: A cross-sectional study. *Nutrients* **2020**, *12*, 1041. [CrossRef]
12. Cluley, V.; Martin, G.; Radnor, Z.; Banerjee, J. Talking about frailty: The relationship between precarity and the fourth age in older peoples' constructions of frailty. *J. Aging Stud.* **2021**, *58*, 100951. [CrossRef]
13. Cluley, V.; Martin, G.; Radnor, Z.; Banerjee, J. Talking about frailty: Health professional perspectives and an ideological dilemma. *Ageing Soc.* **2021**, *42*, 204–222. [CrossRef]
14. Fried, L.; Tangen, C.; Walston, J.; Newman, A.B.; Hirsch, C.; Gottdiener, J.; Seeman, T.; Tracy, R.; Kop, W.J.; Burke, G. Fragilidad en adultos mayores: Evidencia de un fenotipo. *J. Gerontol. Ser. A Biol. Med. Sci.* **2001**, *56*, M146–M157. [CrossRef]
15. Kim, D. Measuring frailty in health care databases for clinical care and research. *Ann. Geriatr. Med. Res.* **2020**, *24*, 62–74. [CrossRef]
16. Adja, K.Y.C.; Lenzi, J.; Sezgin, D.; O'Caoimh, R.; Morini, M.; Damiani, G.; Buja, A.; Fantini, M.P. The Importance of Taking a Patient-Centered, Community-Based Approach to Preventing and Managing Frailty: A Public Health Perspective. *Front. Public Health* **2020**, *8*, 599170. [CrossRef] [PubMed]
17. Cella, A.; Veronese, N.; Pomata, M.; Quispe Guerrero, K.L.; Musacchio, C.; Senesi, B.; Prete, C.; Tavella, E.; Zigoura, E.; Siri, G.; et al. Multidimensional Frailty Predicts Mortality Better than Physical Frailty in Community-Dwelling Older People: A Five-Year Longitudinal Cohort Study. *Int. J. Environ. Res. Public Health* **2021**, *18*, 12435. [CrossRef]
18. Sutton, J.L.; Gould, R.L.; Daley, S.; Coulson, M.C.; Ward, E.V.; Butler, A.M.; Nunn, S.P.; Howard, R.J. Psychometric properties of multicomponent tools designed to assess frailty in older adults: A systematic review. *BMC Geriatr.* **2016**, *16*, 55. [CrossRef] [PubMed]

19. Wleklik, M.; Uchmanowicz, I.; Jankowska, E.A.; Vitale, C.; Lisiak, M.; Drozd, M.; Pobrotyn, P.; Tkaczyszyn, M.; Lee, C. Multidimensional approach to frailty. *Front. Psychol.* **2020**, *11*, 564. [CrossRef] [PubMed]
20. Valencia-Mayer, C. Atención en salud basada en el valor: Retos y oportunidades. *Rev. Salud Bosque* **2019**, *9*, 35–46. [CrossRef]
21. van Staalduinen, D.J.; van den Bekerom, P.; García-García, A.; Arias, A.; Aguilar, A.; van den Akker-van Marle, M.E. La implementación de la atención médica basada en el valor: Una revisión del alcance. *Serv. Salud BMC Res.* **2022**, *22*, 270.
22. Fürstenau, D.; Haneke, H.; Spies, C.; Walz, T.; Schewina, K.; Höft, M.; Mörgeli, R.; Balzer, F. Abordar la carga de la fragilidad con un enfoque integrador basado en valores: Resultados de un estudio de métodos mixtos. *J. Public Health* **2022**, *30*, 99–110. [CrossRef]
23. Gobbens, R.J.; Uchmanowicz, I. Evaluación de la fragilidad con el Indicador de fragilidad de Tilburg (TFI): Una revisión de la confiabilidad y la validez. *Clin. Interv. Aging* **2021**, *16*, 863–875. [CrossRef]
24. Kojima, G.; Aoyama, R.; Tanabe, M. Associations between social isolation and physical frailty in older adults: A systematic review and meta-analysis. *J. Am. Med. Dir. Assoc.* **2022**, *23*, e3–e6. [CrossRef]
25. Gardiner, C.; Geldenhuys, G.; Gott, M. Interventions to Reduce Social Isolation and Loneliness among Older People: An Integrative Review. *Health Soc. Care Community* **2018**, *26*, 147–157. [CrossRef]
26. De Jong Gierveld, J.; Fokkema, T. Strategies to prevent loneliness. In *Addressing Loneliness*; Taylor and Francis: London, UK, 2015; pp. 218–230.
27. Bischof, G.; Bischof, A.; Rumpf, H.J. Motivational Interviewing: An Evidence-Based Approach for Use in Medical Practice. *Dtsch. Arztebl. Int.* **2021**, *118*, 109–115. [CrossRef] [PubMed]
28. Chen, Y.-R.R.; Schulz, P.J. The effect of information communication technology interventions on reducing social isolation in the elderly: A systematic review. *J. Med. Internet Res.* **2016**, *18*, e18. [CrossRef] [PubMed]
29. Chen, A.T.; Ge, S.; Cho, S.; Teng, A.K.; Chu, F.; Demiris, G.; Zaslavsky, O. Reactions to COVID-19, Information and Technology Use, and Social Connectedness among Older Adults with Pre-Frailty and Frailty. *Geriatr. Nurs.* **2021**, *42*, 188–195. [CrossRef]
30. Fernández-Salido, M.; Alhambra-Borrás, T.; Garcés-Ferrer, J. Implementation of a Comprehensive and Personalised Approach for Older People with Psychosocial Frailty in Valencia (Spain): Study Protocol for a Pre–Post Controlled Trial. *Int. J. Environ. Res. Public Health* **2024**, *21*, 715. [CrossRef] [PubMed]
31. Gobbens, R.J.; van Assen, M.A.; Luijkx, K.G.; Wijnen-Sponselee, M.T.; Schols, J.M. The Tilburg Frailty Indicator: Psychometric properties. *J. Am. Med. Dir. Assoc.* **2010**, *11*, 344–355. [CrossRef]
32. Katzan, I.; Lapin, B. Escala PROMIS GH (sistema de información de medición de resultados informados por el paciente en salud global) en accidentes cerebrovasculares: Un estudio de validación. *Stroke* **2018**, *49*, 147–154. [CrossRef]
33. Hays, R.D.; Spritzer, K.L.; Thompson, W.W.; Cella, D. US general population estimate for "excellent" to "poor" self-rated health item. *J. Gen. Intern. Med.* **2015**, *30*, 1511–1516. [CrossRef]
34. Hughes, M.; Waite, L.; Hawkley, L.; Cacioppo, J. A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Res. Aging* **2004**, *26*, 655–672. [CrossRef]
35. Trucharte, A.; Calderón, L.; Cerezo, E.; Contreras, A.; Peinado, V.; Valiente, C. Three-item loneliness scale: Psychometric properties and normative data of the Spanish version. *Curr. Psychol.* **2023**, *42*, 7466–7474. [CrossRef]
36. Herdman, M.; Gudex, C.; Lloyd, A.; Janssen, M.F.; Kind, P.; Parkin, D.; Bonsel, G.; Badia, X. Development and preliminary testing of the new five-level version of EQ-5D (EQ-5D-5L). *Qual. Life Res.* **2011**, *20*, 1727–1736. [CrossRef] [PubMed]
37. Mthembu, T.; Abdurahman, I.; Ferus, L.; Langenhoven, A.; Sablay, S.; Sonday, R. Older adults' perceptions and experiences regarding leisure participation and leisure. *Afr. J. Phys. Health Educ. Recreat. Danc.* **2015**, *21*, 215–235.
38. Yáñez-Yáñez, R.; Draguicevic, N.M.A. Older people and their incorporation into new technologies, shows their resilience and defeat of old-fashioned stereotypes. *Rev. Medica Chile* **2021**, *149*, 1097–1109. [CrossRef] [PubMed]
39. Moreno-Aguilar, M.; Garcia-Lara, J.M.A.; Aguilar-Navarro, S.; Navarrete-Reyes, A.P.; Amieva, H.; Avila-Funes, J.A. The phenotype of frailty and health-related quality of life. *J. Frailty Aging* **2013**, *2*, 2–7. [CrossRef]
40. Wang, X.; Hu, J.; Wu, D. Risk factors for frailty in older adults. *Medicine* **2022**, *101*, e30169. [CrossRef] [PubMed]
41. Kojima, G.; Liljas, A.; Iliffe, S. Frailty syndrome: Implications and challenges for health care policy. *Risk Manag. Healthc. Policy* **2019**, *12*, 23–30. [CrossRef]
42. Pilotto, A.; Custodero, C.; Maggi, S.; Polidori, M.C.; Veronese, N.; Ferrucci, L. A multidimensional approach to frailty in older people. *Ageing Res. Rev.* **2020**, *60*, 101047. [CrossRef]
43. Veronese, N.; Custodero, C.; Cella, A.; Demurtas, J.; Zora, S.; Maggi, S.; Barbagallo, M.; Sabbà, C.; Ferrucci, L.; Pilotto, A. Prevalence of multidimensional frailty and pre-frailty in older people in different settings: A systematic review and meta-analysis. *Ageing Res. Rev.* **2021**, *72*, 101498. [CrossRef]
44. Dent, E.; Martin, F.C.; Bergman, H.; Woo, J.; Romero-Ortuno, R.; Walston, J.D. Management of frailty: Opportunities, challenges, and future directions. *Lancet* **2019**, *394*, 1376–1386. [CrossRef]
45. Huguet, L.G.; González, M.N.; Kostov, B.; Carmona, M.O.; Francia, C.C.; Nieto, M.C.; Docón, A.H.; Sauquet, R.V.; Prado, R.G.; Sisó-Almirall, A. Pre frail 80: Multifactorial intervention to prevent progression of pre-frailty to frailty in the elderly. *J. Nutr. Health Aging* **2018**, *22*, 1266–1274. [CrossRef]

46. Seino, S.; Nishi, M.; Murayama, H.; Narita, M.; Yokoyama, Y.; Nofuji, Y.; Taniguchi, Y.; Amano, H.; Kitamura, A.; Shinkai, S. Effects of a multifactorial intervention comprising resistance exercise, nutritional and psychosocial programs on frailty and functional health in community-dwelling older adults: A randomized, controlled, cross-over trial. *Geriatr. Gerontol. Int.* **2017**, *17*, 2034–2045. [CrossRef] [PubMed]
47. Romera-Liebana, L.; Orfila, F.; Segura, J.M.; Real, J.; Fabra, M.L.; Möller, M.; Lancho, S.; Ramirez, A.; Marti, N.; Cullell, M.; et al. Effects of a primary care-based multifactorial intervention on physical and cognitive function in frail, elderly individuals: A randomized controlled trial. *J. Gerontol. Ser. A* **2018**, *73*, 1668–1674. [CrossRef]
48. Kapan, A.; Winzer, E.; Haider, S.; Titze, S.; Schindler, K.; Lackinger, C.; Dorner, T.E. Impact of a lay-led home-based intervention programme on quality of life in community-dwelling pre-frail and frail older adults: A randomized controlled trial. *BMC Geriatr.* **2017**, *17*, 154. [CrossRef]
49. Werner, C.; Wolf-Belala, N.; Nerz, C.; Abel, B.; Braun, T.; Grüneberg, C.; Thiel, C.; Büchele, G.; Muche, R.; Hendlmeier, I.; et al. A multifactorial interdisciplinary intervention to prevent functional and mobility decline for more participation in (pre-) frail community-dwelling older adults (PromeTheus): Study protocol for a multicenter randomized controlled trial. *BMC Geriatr.* **2022**, *22*, 124. [CrossRef] [PubMed]
50. Theou, O.; Park, G.H.; Garm, A.; Song, X.; Clarke, B.; Rockwood, K. Reversing frailty levels in primary care using the CARES model. *Can. Geriatr. J.* **2017**, *20*, 105–111. [CrossRef]
51. Fairhall, N.; Sherrington, C.; Kurrle, S.E.; Lord, S.R.; Lockwood, K.; Howard, K.; Hayes, A.; Monaghan, N.; Langron, C.; Aggar, C.; et al. Economic evaluation of a multifactorial, interdisciplinary intervention versus usual care to reduce frailty in frail older people. *J. Am. Med. Dir. Assoc.* **2015**, *16*, 41–48. [CrossRef] [PubMed]

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TESIS DOCTORAL | OCTUBRE 2024

ATENCIÓN BASADA EN EL VALOR: UNA APROXIMACIÓN A LA INTEGRACIÓN DE LA ASISTENCIA SOCIAL Y SANITARIA EN EL DIAGNÓSTICO Y ABORDAJE DE LA FRAGILIDAD EN LA POBLACIÓN MAYOR

Programa de Doctorado en Diseño, Gestión y Evaluación de Políticas Públicas de Bienestar Social (R.D. 99/2011)