VNiVERSiDAD D SALAMANCA

DPTO. DE ENFERMERÍA Y FISIOTERAPIA

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TESIS DOCTORAL

TERAPIA OCVPACiONAL Y CALiDAD DE ViDA EN ADVLTOS MAYORES iNSTiTVCiONALiZADOS

CRiSTiAN VCEDA PORTiLLO

MAYO DE 2024

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COMPENDIO DE LA TESIS DOCTORAL

De acuerdo con el RD 99/2011, de 28 de enero, por el que se regulan las enseñanzas oficiales de doctorado, la Comisión de Doctorado y Posgrado de la Universidad de Salamanca establece como posible formato de presentación de tesis doctoral la modalidad de Tesis por Compendio de Artículos/Publicaciones, publicados o aceptados en revistas especializadas. Así, la presente tesis doctoral se presenta bajo esta modalidad.

Publicaciones incluidas en este compendio:

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Dr. D. Pedro Moruno Miralles, Titular de la Facultad de Ciencias de la Salud de la Universidad de Castilla-La Mancha, CERTIFICA:

Que la tesis titulada “Terapia ocupacional y calidad de vida en adultos mayores institucionalizados”, realizado por D. Cristian Uceda Portillo para optar al Grado de Doctor por esta Universidad, cumple todos los requisitos necesarios para su presentación y defensa ante el tribunal calificador.

Para que conste y en cumplimiento de las disposiciones vigentes, extiendo el presente certificado con fecha 13 de mayo de 2024.

MORUNO MIRALLES PEDRO - 02219710A

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Fdo. Pedro Moruno Miralles

“Nunca consideres el estudio como una obligación,

sino como una oportunidad para penetrar

en el bello y maravilloso mundo del saber.”

Albert Einstein

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ÍNDICE DE CONTENIDOS

PRESENTACIÓN Y DISEÑO DE LA TESIS

La presente tesis doctoral constituye un compendio de tres artículos científicos que giran en torno al análisis, identificación y descripción de los tipos, las características y la efectividad de las intervenciones de terapia ocupacional en la mejora de la calidad de vida de los adultos mayores institucionalizados, con el propósito de diseñar un programa de terapia ocupacional de rediseño del estilo de vida denominado "Elección de Estilo de Vida", basado en el programa desarrollado por la Universidad de California del Sur Lifestyle Redesign®, ajustado a las características socioculturales de la población mayor de 65 años española que vive en un entorno residencial. Los pasos necesarios para conseguir este objetivo vienen recogidos en los próximos apartados.

La tesis doctoral se organiza de acuerdo con las indicaciones reunidas en el *Procedimiento del 15 de febrero de 2013 para la presentación de la Tesis Doctoral en la Universidad de Salamanca en el formato de compendio de artículos/publicaciones*. Su estructura se organiza en siete apartados.

El primero de ellos proporciona el marco general de la investigación, justificando la necesidad de abordar el objeto de estudio en el momento actual y en el contexto español.

En el segundo apartado se presentan el objetivo general y los objetivos específicos de esta tesis doctoral. Todos estos objetivos son propósito de estudio de las tres publicaciones científicas anexas.

El tercer epígrafe recoge la metodología empleada en cada artículo científico para lograr el cumplimiento de los objetivos propuestos.

El cuarto incluye el abstract o resumen en castellano de los artículos que integran la tesis doctoral, en el que se especifica el objetivo de la investigación, el método utilizado, los resultados alcanzados y las conclusiones de cada artículo científico.

En el quinto apartado se recogen las tres publicaciones científicas que constituyen el eje central de este trabajo. La investigación referente al desarrollo de los diferentes proyectos de investigación de la presente tesis doctoral ha sido aprobada por el Comité de Ética de la Investigación con Medicamentos (CEIm) de la Gerencia de Atención Integrada de Talavera de la Reina (Número de Referencia: 34/2022).

En el sexto epígrafe se exponen las principales limitaciones de las investigaciones desarrolladas y se sugieren futuras líneas de investigación basadas en los resultados de los estudios realizados.

Finalmente, en el último apartado se incluyen las conclusiones más relevantes en relación con los principales hallazgos encontrados durante el desarrollo de la tesis doctoral. Estos hallazgos dan respuesta a los diferentes objetivos específicos del estudio planteados y a la propuesta del objetivo general.

1. INTRODUCCIÓN Y JUSTIFICACIÓN DEL TRABAJO

1.1. ENVEJECIMIENTO DE LA POBLACIÓN A NIVEL MUNDIAL

El envejecimiento de la población es un hecho constatado. Tanto la proporción como el número absoluto de adultos mayores están aumentando de forma notable en las poblaciones de todo el mundo. De acuerdo con el Departamento de Asuntos Económicos y Sociales de las Naciones Unidas (2022), en 2022 había en el mundo 771 millones de adultos mayores de 65 años o más (que representaba el 9,7% de la población total). Las proyecciones demográficas más recientes indican que la población de adultos mayores alcance los 994 millones en 2030 (representando el 11,7% de la población total) y los 1.600 millones en 2050 (representando el 16,4% de la población total).

Europa y América del Norte tenían la mayor proporción de población de edad avanzada en 2022, con el 18,7% de adultos mayores de 65 años o más, seguidas de Australia y Nueva Zelanda (16,6%). Las proyecciones indican que en 2050 la proporción de adultos mayores de Europa y Norteamérica de 65 años o más se incremente al 26,9% y de Australia y Nueva Zelanda al 23,7%.

También se prevé que la población de otras regiones envejezca significativamente en las próximas décadas. En América Latina y el Caribe, la proporción de población de 65 años o más podría aumentar del 9,1% en 2022 al 18,8% en 2050. Del mismo modo, se espera que la proporción de personas de 65 años o más en Asia Oriental y Sudoriental se duplique, pasando del 12,7% en 2022 al 25,7% en 2050. Las proyecciones también indican que la población de edad avanzada crezca a tasas superiores al 3% anual en África Septentrional y Asia Occidental, África Subsahariana, Oceanía (excluyendo Australia y

Nueva Zelanda) y Asia Central y Meridional. A pesar de este rápido crecimiento, se prevé que estas regiones tengan proporciones relativamente pequeñas de adultos mayores en 2050: el 13% en África Septentrional, Asia Occidental, Asia Central y Meridional y el 5% y el 8% en África Subsahariana y Oceanía (excluyendo Australia y Nueva Zelanda), respectivamente (Figura 1).

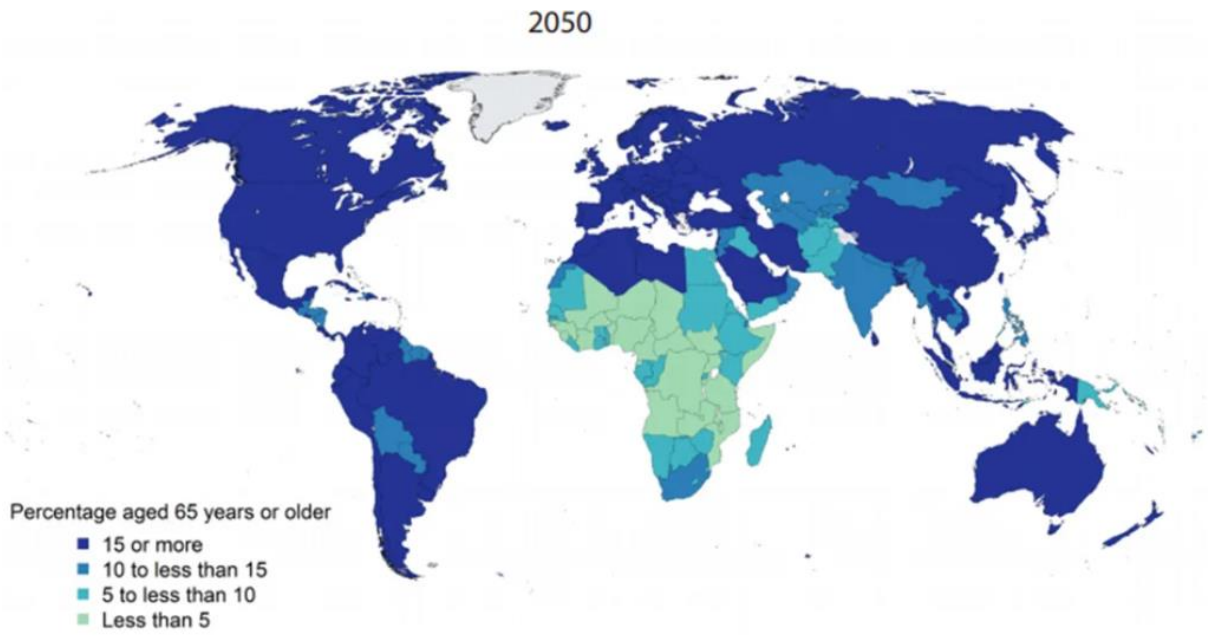

Figura 1. Proporción de población mundial de 65 años o más, proyecciones para 2050. Fuente: Departamento de Asuntos Económicos y Sociales de las Naciones Unidas, 2022.

A nivel mundial, las mujeres superan en número a los hombres a edades más avanzadas. En 2022, las mujeres representaban el 55,7% de los adultos mayores de 65 años o más. Entre las regiones, la proporción de mujeres de 65 años o más fue la más baja en Oceanía (excluyendo Australia y Nueva Zelanda) (50,6%) y la más alta en Europa y América del Norte (57,5%). Con los continuos avances en materia de salud y supervivencia, que permiten que más hombres lleguen a edades más avanzadas, las proyecciones indican que en 2050 la proporción de mujeres de 65 años o más a nivel

mundial disminuya hasta el 54,5%. Entre las regiones, se prevé que la proporción de mujeres de 65 años o más, oscile entre el 52% en África Septentrional y Asia Occidental y el 57% en Oceanía (excluyendo Australia y Nueva Zelanda) (Departamento de Asuntos Económicos y Sociales de las Naciones Unidas, 2022).

1.2. ENVEJECIMIENTO DE LA POBLACIÓN EN ESPAÑA

En España, según los datos estadísticos del Padrón Continuo (Instituto Nacional de Estadística [INE], 2022a) la población española mayor de 65 años era, a 1 de enero de 2022, de 9.475.866 adultos mayores, representando un 20% sobre el total de la población española (47.435.597). Se estima que para el año 2050 esta población supere los 14 millones, alcanzando un 30,4%. Además, sigue creciendo en mayor medida la proporción de adultos mayores de 80 años, representando un 6,08% del total de la población en 2022; las proyecciones indican que seguirán aumentando en un proceso de sobreenvejecimiento de la población mayor, alcanzando un 11% en 2050 (INE, 2022b). Estos datos avalan el progresivo incremento tanto del número absoluto como de la proporción de adultos mayores en nuestro país.

Analizando el envejecimiento de la población española por comunidades autónomas, Extremadura, Castilla y León, Aragón, Asturias, Galicia, País Vasco, Cantabria y La Rioja son las comunidades autónomas más envejecidas, con proporciones de adultos mayores que superan el 21%. Por otra parte, Baleares y Murcia son las comunidades que presentan las proporciones de adultos mayores más bajas, con un 16%. En relación con el volumen total de población, Madrid, Cataluña y Andalucía son las comunidades que cuentan con un mayor número de adultos mayores, superando el millón de adultos mayores cada una (Pérez et al., 2022) (Figura 2).

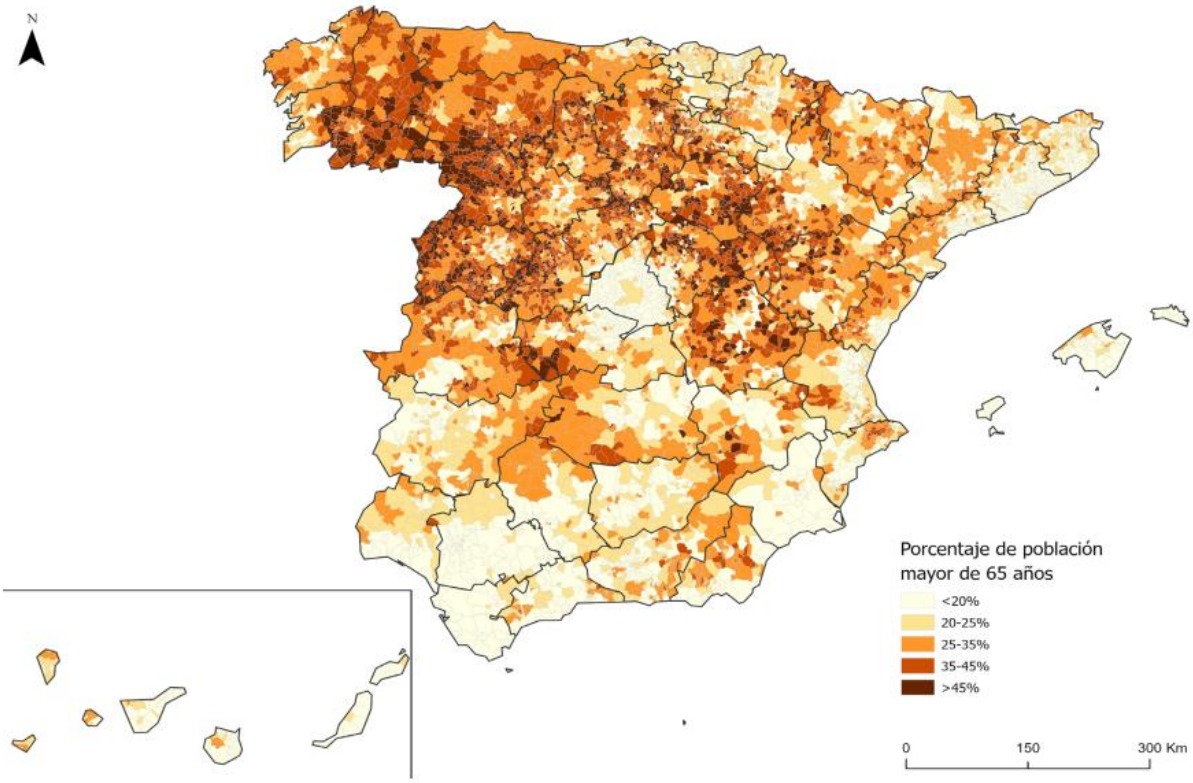

Figura 2. Porcentaje de población mayor de 65 años, por comunidades autónomas, 2022. Fuente: INE, 2022a.

En el contexto del envejecimiento, resulta fundamental tener en cuenta la esperanza de vida, entendida como "número medio de años que esperaría seguir viviendo una persona de una determinada edad en caso de mantenerse el patrón de mortalidad actualmente observado" (INE, 2022a), ya que es uno de los indicadores que mejor reflejan las condiciones sanitarias, sociales y económicas de un país (Pérez et al., 2022).

Tal y como se puede observar en la Figura 3, la esperanza de vida se ha incrementado progresivamente en los últimos años y la tendencia es la continuación de ese proceso, como consecuencia de los avances sanitarios, sociales, económicos y la mejora de los estilos de vida, asociados al descenso de la mortalidad infantil. En concreto,

en el año 2021, las mujeres tenían en España una esperanza de vida al nacer de 85,83 años y los hombres de 80,27 años (83,07 años para ambos sexos) (INE, 2022a).

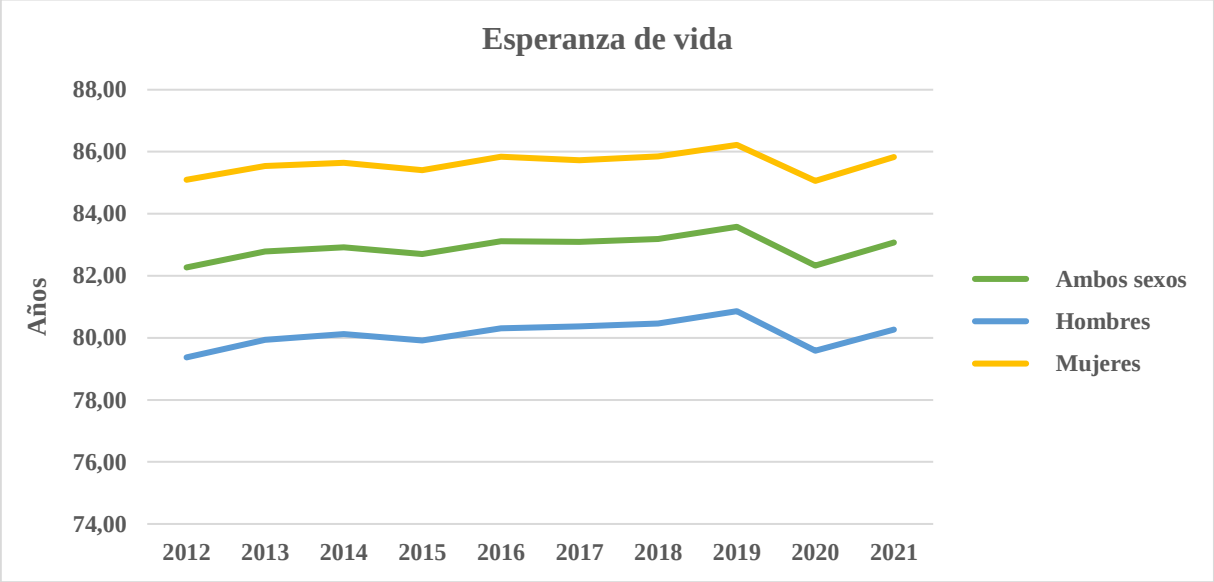

Figura 3. Esperanza de vida al nacer en España según sexo, desde 2012 hasta 2021.

Fuente: Elaboración propia, a partir de datos del INE, 2022a.

Se estima que, en 2071 la esperanza de vida al nacer alcance los 86 años en los hombres y los 90 años en las mujeres, con un incremento de 5,7 y de 4,2 años, respectivamente, respecto a los valores actuales (INE, 2022b).

Asimismo, un indicador que mide tanto la cantidad como la calidad de vida (que por tanto debemos valorar), es la esperanza de vida en buena salud, entendida como "el promedio de número de años esperados que vive una persona disfrutando de buena salud (en ausencia de limitaciones funcionales o de discapacidad) a partir de los 65 años". Éste es un indicador compuesto que combina datos de mortalidad con información del estado de salud, conocido como el método Sullivan (INE, 2022a).

Observando la Figura 4, podemos comprobar el notable incremento de la esperanza de vida en buena salud de los adultos mayores de 65 años (para ambos sexos)

en los últimos años, ya que, en el año 2020 el número de años de esperanza de vida en buena salud era de 11,5 años para las mujeres y de 11,6 años para los hombres. Según estos datos, a los 65 años, los hombres viven el 63,2% de sus años de horizonte de vida en buena salud frente al 51,5% de las mujeres (INE, 2022a).

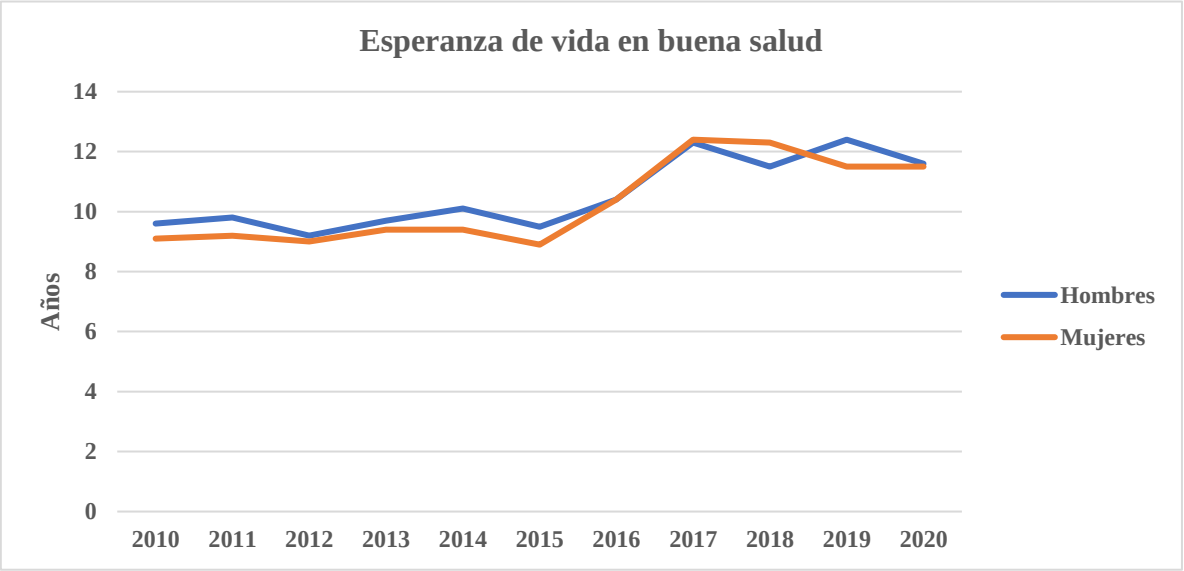

Figura 4. Esperanza de vida en buena salud de población mayor de 65 años en España según sexo, desde 2010 hasta 2020.

Fuente: Elaboración propia, a partir de datos del INE, 2022a.

Otro indicador específico que se utiliza para determinar la tasa de envejecimiento de la población española y que, por tanto, debemos considerar en este contexto es la tasa (bruta) de natalidad, entendida como "total de nacimientos de madre perteneciente a un determinado ámbito en un año concreto por cada 1.000 habitantes" (INE, 2022a).

Tal y como puede observarse en la Figura 5, desde el año 2014, el número de nacimientos en España ha sufrido un decrecimiento progresivo. En concreto, en el año 2022 se produjeron un total de 329.850 nacimientos, siendo la tasa de natalidad más baja de los últimos diez años.

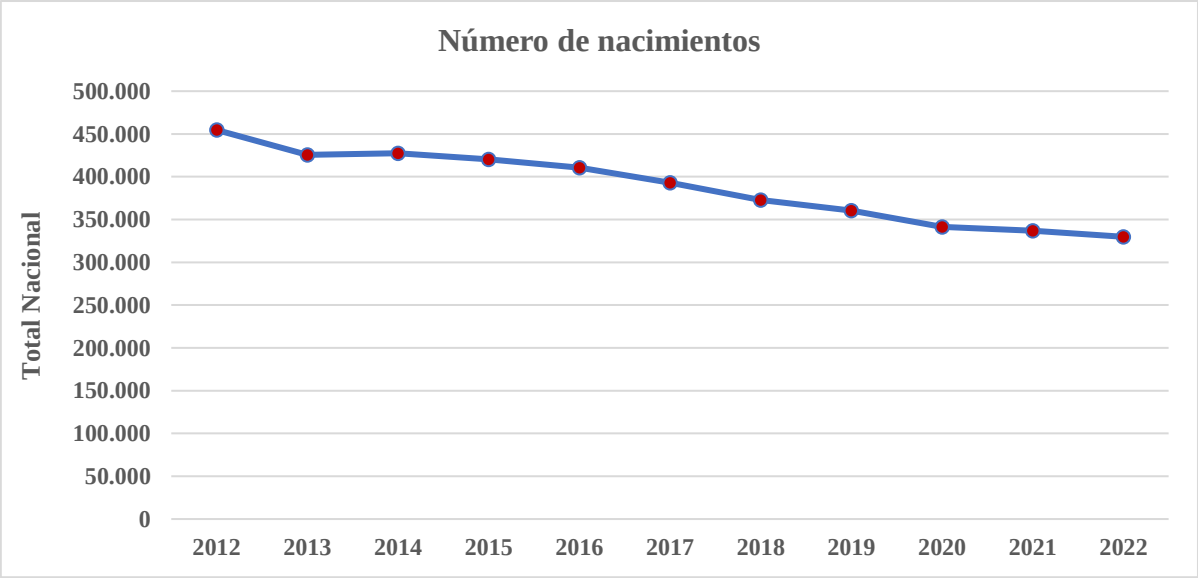

Figura 5. Número total de nacimientos en España desde 2012 hasta 2022.

Fuente: Elaboración propia, a partir de datos del INE, 2022a.

Según las proyecciones de población, el número de nacimientos seguiría reduciéndose hasta 2027, continuando con la tendencia iniciada en 2014. Sin embargo, a partir de 2028 los nacimientos podrían comenzar a aumentar debido a la llegada de generaciones más numerosas a las edades de mayor fecundidad. Pese a ello, los nacimientos siempre estarían por debajo de las defunciones (INE, 2022b).

Para hacer un análisis exhaustivo del envejecimiento de la población española, y al tratarse de un indicador utilizado específicamente para determinar el índice de envejecimiento poblacional, también debemos tomar en consideración la tasa (bruta) de mortalidad, entendida como "total de defunciones a lo largo de un año concreto de personas pertenecientes a un determinado ámbito por cada 1.000 habitantes de ese ámbito" (INE, 2022a).

De acuerdo con la Figura 6, desde el año 2016, el número de defunciones en España ha sufrido un crecimiento progresivo. En concreto, en el año 2022 se produjeron un total de 462.573 defunciones, siendo segunda la tasa de mortalidad más alta de los

últimos diez años (la tasa de mortalidad más alta corresponde al año 2020, con 493.776 defunciones).

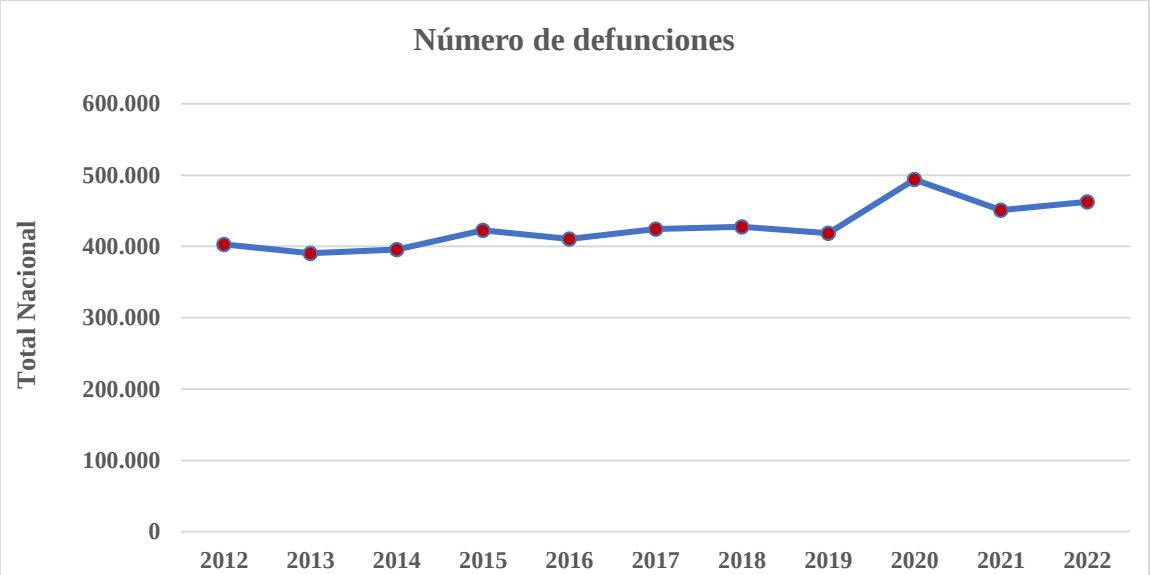

Figura 6. Número total de defunciones en España desde 2012 hasta 2022.

Fuente: Elaboración propia, a partir de datos del INE, 2022a.

Las proyecciones más actuales indican que, a pesar de la mayor esperanza de vida y de la esperanza de vida en buena salud de los adultos mayores, el número de defunciones continuaría creciendo hasta alcanzar un máximo en 2064 (INE, 2022b).

Todos estos indicadores han dado lugar a que España sea, cada año, un país más envejecido. Si se mantienen las proyecciones acerca de los supuestos de natalidad, mortalidad y esperanza de vida, la pirámide poblacional cambiará de la actual forma regresiva o de bulbo hacia una forma invertida (Figura 7).

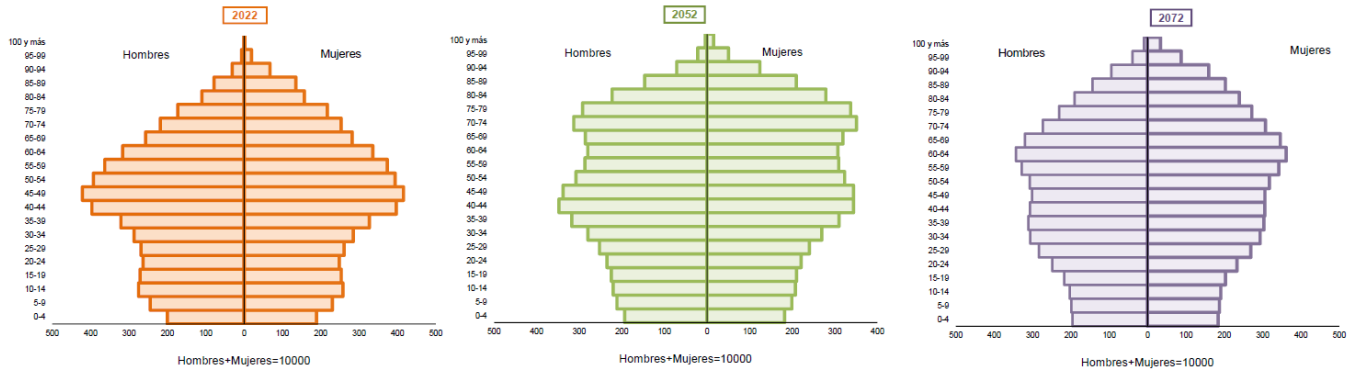

Figura 7. Pirámides de población de España (años 2022, 2052 y 2072), proyecciones de población 2022-2072.

Fuente: INE, 2022b.

En el contexto de envejecimiento de la población española que acabamos de describir, introducimos con mayor detalle el objeto de estudio de nuestra investigación, a saber: la calidad de vida en adultos mayores institucionalizados.

1.3. CALIDAD DE VIDA EN ADULTOS MAYORES INSTITUCIONALIZADOS

En la actualidad, este aumento de la proporción de la población mayor de 65 años, tanto en España como a nivel mundial, acompañado del incremento de la esperanza de vida y de la esperanza de vida en buena salud, así como el descenso de las tasas de natalidad influye directamente en la asistencia sociosanitaria proporcionada a los adultos mayores, condicionando una asistencia geriátrica que incluye desde la prevención de las incapacidades y los procesos de enfermedad típicos de esta edad, hasta la asistencia al final de la vida (Organización Mundial de la Salud [OMS], 2015). Estas diversas necesidades de atención han provocado una proliferación de los estudios y la investigación, especialmente acerca de la mejora del bienestar y calidad de vida de este grupo poblacional en entornos residenciales (Hearle et al., 2012).

Los entornos residenciales se definen como instituciones destinadas al alojamiento temporal o permanente, con servicios y programas de intervención adecuados a las necesidades de los adultos mayores atendidos, dirigidos a promover su autonomía personal y a lograr una mejor calidad de vida (Imserso, 2011). De esta forma, la consecución de la máxima calidad de vida en estos entornos se encumbra como un objetivo central. Revisemos pues qué se entiende por el constructo de calidad de vida.

Aunque el término calidad de vida se ha popularizado en el ámbito de las ciencias de la salud a partir de la década de los 70 del siglo pasado, se trata de un concepto multidimensional que ha ido evolucionando a lo largo de la historia y que actualmente presenta múltiples visiones. Esto hace que sea difícil encontrar una definición única (Boggatz, 2016).

El grupo de calidad de vida de la OMS [The WHOQOL Group] (1995), la define como "la percepción de un individuo de su situación de vida, puesto en su contexto, su cultura y sistema de valores, en relación con sus objetivos, expectativas, estándares y preocupaciones". Éste es un concepto amplio que abarca la salud física, el estado psicológico, el nivel de independencia, las relaciones sociales, las creencias y el entorno.

Por su parte, Cummins et al. (1998) proponen una conceptualización más amplia señalando que la calidad de vida es "un constructo universal definido tanto objetiva como subjetivamente, donde los dominios objetivos incluirían medidas culturalmente relevantes de bienestar objetivo, y los dominios subjetivos comprenderían la satisfacción con las diferentes dimensiones ponderadas por su importancia para el individuo". Esta definición destaca el carácter multidimensional de la calidad de vida, al considerar el doble enfoque objetivo-subjetivo para valorar este constructo, permitiendo una

aproximación desde diferentes disciplinas, perspectivas y dominios de la vida de la población.

En esta misma línea, Ardila (2003) plantea que calidad de vida es un estado de satisfacción general, derivado de la realización de las potencialidades de la persona. Posee aspectos subjetivos (la intimidad, la expresión emocional, la seguridad percibida, la productividad personal y la salud objetiva) y aspectos objetivos (el bienestar material, las relaciones armónicas con el ambiente físico y social y con la comunidad, y la salud objetivamente percibida). Es una sensación subjetiva de bienestar físico, psicológico y social.

Walker (2005) resume estas definiciones afirmando que la calidad de vida es “un concepto bastante amorfo, de múltiples capas y complejo, con una serie de componentes (objetivos, subjetivos, macrosociales, microindividuales, positivos y negativos) que interactúan entre sí".

Posteriormente, García-Viniegras (2008) la define como “el resultado de la compleja interacción entre factores objetivos y subjetivos: los primeros constituyen las condiciones externas: económicas, sociopolíticas, culturales, personales y ambientales que facilitan o entorpecen el pleno desarrollo del hombre, de su personalidad. Los segundos están determinados por la valoración que el sujeto hace de su propia vida”.

No obstante, a pesar de no existir un consenso en su definición, sí existe acuerdo en considerar que la calidad de vida es un concepto multidimensional que integra tanto condiciones objetivas como subjetivas y que puede considerarse en diferentes niveles de análisis, desde las poblaciones hasta los individuos.

Una definición integradora del concepto calidad de vida ha sido propuesta por Fernández-Ballesteros (2011). En ella, plantea dos ejes de análisis para evaluar el constructo: uno en el que se separan los factores socioambientales (apoyo social, condiciones económicas, servicios de salud y sociales, calidad ambiental y factores culturales) y los factores personales (relaciones sociales, satisfacción vital, actividades de ocio, salud y habilidades funcionales) y otro que distingue entre elementos objetivos (entorno físico, disponibilidad de los servicios sociosanitarios, salud objetiva, redes sociales y factores culturales) y subjetivos (salud, satisfacción social, necesidades culturales, evaluación del contexto y habilidades funcionales). Teniendo en cuenta todos estos factores, el concepto de calidad de vida evalúa distintas dimensiones del individuo y, por tanto, se erige como una aproximación compleja y completa.

Además, como veremos en el siguiente epígrafe, debemos tener en consideración que en los entornos residenciales encontramos una prevalencia de la demencia que oscila entre el 16,1% y el 85,2%, una de la más alta entre las distintas condiciones de salud de la población mayor (Kao et al., 2022). Esta circunstancia implica la necesidad de un abordaje específico de las necesidades relacionadas con la calidad de vida de las personas con demencia que viven en entornos residenciales (OMS, 2017).

Revisemos a continuación los resultados de la investigación actual al respecto de estas necesidades y su abordaje.

1.3.1 CALIDAD DE VIDA EN ADULTOS MAYORES CON DEMENCIA INSTITUCIONALIZADOS

La demencia es un trastorno neurocognitivo mayor en el que existe evidencia de un declive cognitivo significativo comparado con el nivel previo de rendimiento en uno

o más dominios cognitivos (atención compleja, función ejecutiva, aprendizaje y memoria, lenguaje, habilidad perceptual motora o cognición social), que interfiere con la autonomía del individuo en las actividades cotidianas (American Psychiatric Association, DSM-5 Task Force [APA, DSM-5], 2013).

Actualmente, más de 55 millones de adultos mayores de 65 años (8,1% de las mujeres y 5,4% de los hombres) tienen demencia en todo el mundo. Se prevé que esta cifra aumente a 78 millones en 2030 y a 139 millones en 2050 (OMS, 2023). Además, la prevalencia de la demencia entre los adultos mayores que viven en un entorno residencial es muy variable, oscilando entre el 16,1% y el 85,2%, dependiendo de factores como el país, el momento y el método utilizados para realizar la investigación y el grado de envejecimiento (Kao et al., 2022).

Consecuentemente, el abordaje de las demencias se ha convertido en una prioridad de salud pública y un problema sociosanitario de primer orden, ya que su alcance, dimensionamiento e impacto socioeconómico plantea a la sociedad el reto de impulsar el estudio y la investigación acerca de la mejora del bienestar y calidad de vida de este grupo poblacional (OMS, 2017).

En definitiva, debido a los motivos que acabamos de describir, tanto en la población residencial sana como en aquella con demencia, abordar medidas que optimicen la calidad de vida debe convertirse en una línea prioritaria de intervención por parte de todos/as los/las profesionales que trabajan en entornos residenciales (Borau et al., 2022).

En los entornos residenciales, los/las diferentes profesionales sociosanitarios/as que forman parte del equipo interdisciplinar (profesionales de psicología, trabajo social,

fisioterapia, enfermería, medicina y auxiliar de enfermería), se encargan de diferentes aspectos de la calidad de vida de los adultos mayores institucionalizados. Entre ellos/as se encuentran los/las terapeutas ocupacionales que se ocupan específicamente de aspectos como la autonomía personal, la prevención en materia de salud, la funcionalidad física, cognitiva y sensorial y la evaluación del entorno (Chu et al., 2020, Kim, 2020, Froggatt et al., 2020).

En particular, centran su atención en todo lo relativo a ocupaciones específicas: actividades de la vida diaria, actividades instrumentales de la vida diaria, de gestión de la salud, educativas, ocio y tiempo libre y participación social (AOTA, 2020).

Desde esta perspectiva, los/las profesionales de terapia ocupacional pueden promover la participación de los adultos mayores en actividades físicas, cognitivas, sociales, de promoción de la salud y basadas en ocupaciones significativas, ajustándolas a las condiciones de salud, necesidades, intereses y habilidades de los adultos mayores que viven en residencias, con el fin de mejorar su bienestar y calidad de vida (Ojagbemi & Owolabi, 2017).

Seguidamente, procederemos a describir brevemente las características de la investigación desarrollada hasta la actualidad sobre los programas de intervención de terapia ocupacional centrados en la calidad de vida.

1.4. INTERVENCIONES DE TERAPIA OCUPACIONAL SOBRE LA CALIDAD DE VIDA EN ENTORNOS RESIDENCIALES

Tanto en el caso de los adultos mayores sanos, entendidos como adultos mayores de 65 años con ausencia de enfermedad objetivable, sin deterioro físico, cognitivo o problema social derivado de su estado de salud y con independencia funcional (Imserso,

2011), como en el de los adultos mayores con demencia (APA, DSM-5, 2013) que viven en un entorno residencial, los factores relacionados con su calidad de vida pueden impulsarse a través del desarrollo de intervenciones desde la perspectiva de la terapia ocupacional. Esto es así, en la medida en que "los profesionales de terapia ocupacional desarrollan e implementan enfoques de salud poblacional basados en la ocupación para mejorar el desempeño y la participación ocupacional, la calidad de vida y la justicia ocupacional" (AOTA, 2020). Por añadidura, al ser una disciplina sociosanitaria que afronta la prevención de condiciones de discapacidad y dependencia utilizando la ocupación como método de intervención o tratamiento, se convierte en una herramienta vehicular para la promoción y el mantenimiento de la calidad de vida y salud de los adultos mayores (Sprange et al., 2013; Zingmark et al., 2016).

Las intervenciones y programas específicos desarrollados por los/las terapeutas ocupacionales en entornos residenciales se basan en el abordaje de distintas variables asociadas a la calidad de vida. Específicamente, la funcionalidad física, el estado mental, la prevención en materia de salud, las características del entorno residencial, el género, las características del entorno social, el medioambiente, las tecnologías de la información y comunicación y las ocupaciones (v.g. actividades de la vida diaria, actividades instrumentales de la vida diaria, gestión de la salud, educación, ocio y participación social). Todos estos aspectos pueden contribuir a la prevención de la dependencia y discapacidad, así como a la *promoción y mantenimiento de la calidad de vida y la salud de los adultos mayores, a través del desarrollo de actividades significativas* libremente elegidas en las que participen activamente (Arbesman & Lieberman, 2012; Zingmark et al., 2016).

Entre los principales programas de intervención que se han descrito en la literatura, se encuentran los programas basados en áreas específicas de ocupación, en la medida en que ésta puede contribuir a la mejora de la calidad de vida. Específicamente, en las áreas de las actividades de la vida diaria, utilizando actividades asociadas a la independencia funcional (Schlemmer et al., 2018): bañarse/ducharse, cuidado de intestino y la vejiga, vestirse, comer, higiene y arreglo personal y movilidad funcional. Actividades de gestión de la salud para la mejora de la funcionalidad física (Clemson & Laver, 2014), del estado mental (Fernández & Sánchez, 2014), prevención de caídas (Leland & Elliott, 2012), promoción de la salud (Cichocki et al., 2015) y actividades de participación social (Mondaca et al., 2019).

Asimismo, también se han identificado programas de intervención específicos estructurados en torno a aspectos volitivos de la elección de actividades, el desempeño, la participación ocupacional y la promoción de la salud a través de la realización de actividades significativas: ayuda en la toma de decisiones en la elección de la ocupación (Nagayama et al., 2016), volición, habituación y capacidad de desempeño (Kawamata et al., 2012), promoción de la actividad dentro de las residencias (Koskela et al., 2017), estilos de vida (Sprange et al., 2013), comunicación, seguridad y organización de actividades (Husebo et al., 2013) y prácticas corporales (Toldrà et al,, 2014).

Entre todos estos diferentes programas de intervención destaca, por su expansión internacional y la consolidación de líneas de investigación en torno a él, el programa de intervención de terapia ocupacional preventivo Lifestyle Redesign® (Clark et al., 1997, 2012; Jackson et al., 1998), el cual ha mostrado ser eficaz para mantener y mejorar la salud y la calidad de vida de los adultos mayores.

En el siguiente epígrafe, procederemos a describir con mayor detalle dicho programa de intervención.

1.4.1 PROGRAMA DE INTERVENCIÓN DE TERAPIA OCUPACIONAL PREVENTIVO: LIFESTYLE REDESIGN®

Como señalábamos en el epígrafe anterior, uno de los programas de intervención de terapia ocupacional preventivos que ha demostrado ser capaz de aportar la evidencia suficiente sobre la eficacia de las intervenciones de terapia ocupacional sobre la salud física y mental, el funcionamiento ocupacional y la calidad de vida de los adultos mayores es el Lifestyle Redesign® (Clark et al., 1997, 2012; Jackson et al., 1998).

Sus autores, Clark et al. (1997, 2012) y Jackson et al. (1998) parten de la premisa de que los programas de intervención estructurados alrededor de un desempeño ocupacional equilibrado de actividades personal y culturalmente significativas determinan un envejecimiento activo y una mayor calidad de vida entre los adultos mayores, disminuyendo enfermedades y condiciones de discapacidad y dependencia.

Desarrollado por la Universidad de California del Sur, Lifestyle Redesign® comenzó en 1997 y finalizó en 2012, está basado en los presupuestos de la ciencia ocupacional y se encuentra guiado por dos investigaciones anteriores relativas a las ocupaciones y su relación con el bienestar entre los adultos mayores (Jackson, 1996; Clark et al.,1996).

Inicialmente, Jackson (1996) lleva a cabo una descripción cualitativa de las estrategias de adaptación utilizadas por un grupo de adultos mayores con discapacidad

residentes en la comunidad. Los resultados revelan que la participación en ocupaciones simbólicamente significativas es esencial para el bienestar de este grupo.

Posteriormente, Clark et al. (1996) utilizan una metodología cualitativa, para documentar la percepción subjetiva de los adultos mayores con respecto a los dominios vitales (áreas de actividad de importancia personal), así como obtener datos sobre las estrategias de adaptación ocupacionalmente relevantes dentro de cada dominio. Identifican diez dominios vitales: actividades de la vida diaria, adaptación a un entorno multicultural, uso del tiempo libre, enfermedad grave y muerte-espiritualidad, mantenimiento de la salud, mantenimiento de la movilidad, finanzas personales, seguridad personal, bienestar psicológico y felicidad, y relaciones con los demás. Esta tipología de dominios vitales ha desempeñado un papel relevante a la hora de definir las áreas de contenido temático dentro del programa Lifestyle Redesign® (Clark et al., 1996).

El objetivo del programa Lifestyle Redesign® ha sido evaluar la eficacia de las intervenciones te terapia ocupacional preventiva, entre los adultos mayores que viven en zonas urbanas y multiétnicas. Para ello, 361 adultos mayores, hombres (35%) y mujeres (65%), de diferentes culturas, con una edad media de 74,4 años y procedentes de los entornos residenciales del “Angelus Plaza” y “Pilgrim Tower” (California) participaron en el programa (Clark et al., 1996).

El programa Lifestyle Redesign®, estructurado en sesiones individuales mensuales de una hora y sesiones grupales de terapia ocupacional semanales de dos horas, durante nueve meses, ha obtenido un efecto positivo, fiable y rentable de la intervención en una amplia gama de resultados, como la satisfacción vital, el funcionamiento de los roles y la salud física y emocional autoevaluada de los adultos mayores (Clark et al., 1997,

2012, 2015). Los bloques generales de intervención y su ordenación temporal a lo largo del programa quedan representados gráficamente en la Figura 8.

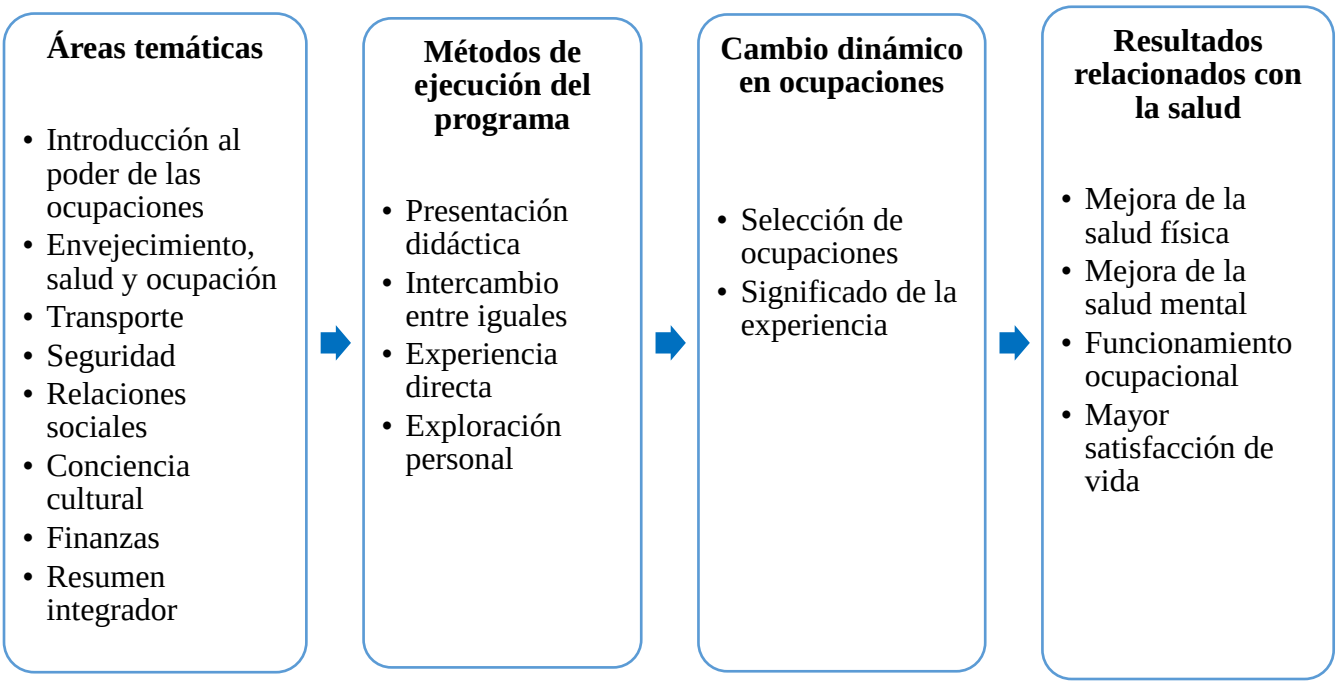

Figura 8. Modelo de programa de intervención de terapia ocupacional preventivo Lifestyle Redesign®.

Fuente: adaptado de Clark et al., 1997.

Dados estos efectos positivos, el programa se ha implantado ampliamente adaptándose a otros entornos culturales específicos, incluyendo a los/las residentes en Reino Unido (Mountain & Craig, 2011; Chatters et al., 2017; Mountain et al., 2020), a los migrantes en los Países Bajos (Abma & Heijsman, 2015), a los suecos (Johansson & Bjorklund, 2016), a los latinos en California (Schepens Niemiec et al., 2018, 2019, 2021), a los francocanadienses (Levasseur et al., 2019, 2022) y a los israelíes (Maeir et al., 2021).

Sin embargo, a pesar de su eficacia para mantener y mejorar la salud y la calidad de vida de los adultos mayores, el programa no ha sido adaptado culturalmente a la población española.

De acuerdo con Muñoz (2007), el desarrollo de programas de terapia ocupacional sensibles culturalmente hace ineludible su adaptación a las particularidades de la población a la que van dirigidos, como en el caso que nos ocupa del programa Lifestyle Redesign®.

En este caso, dado que las actividades y dominios vitales que integran el programa no son universales, ya que están condicionados por la cultura, el estado de salud y por el entorno donde viven los adultos mayores, resulta necesario adaptarlo culturalmente a la población española, solo de esta forma podremos asegurarnos de que aportamos una atención sensible a las singularidades culturales de la población (Hammell, 2009).

1.5. JVSTiFiCACiÓN DEL ESTVDiO

Tanto el número absoluto como la proporción de adultos mayores están aumentando en las poblaciones de todo el mundo. Este progresivo envejecimiento de la población, tanto a nivel mundial como en España, plantea numerosos retos para la sociedad, especialmente aquellos vinculados a la atención sociosanitaria proporcionada a los adultos mayores que viven en entornos residenciales, la cual debe abarcar desde la prevención de las condiciones de discapacidad y dependencia hasta la promoción de la salud y la calidad de vida de este grupo poblacional (Pérez et al., 2022).

Por ello, parece urgente llevar a cabo estudios, investigaciones, así como programas de intervención centrados en la mejora de la calidad de vida de los adultos mayores institucionalizados bajo la perspectiva de la terapia ocupacional. La terapia ocupacional al ser una profesión sociosanitaria que se enfoca en individuos, grupos o comunidades de personas, examinando los múltiples factores que influyen en su salud y bienestar, aborda la prevención de la discapacidad y la dependencia utilizando actividades personal y culturalmente significativas como método de intervención. De esta forma, la ocupación se convierte en una herramienta vehicular para la promoción y mantenimiento de la salud y calidad de vida de este grupo poblacional (Sprange et al., 2013).

Sin embargo, no existe un número significativo de revisiones sistemáticas en la literatura científica que sinteticen la evidencia científica sobre la eficacia de las intervenciones basadas en la ocupación, dentro de este contexto. Además, las revisiones sistemáticas previas de la literatura que sintetizan la evidencia científica sobre la eficacia de las intervenciones basadas en la ocupación, con esta población y en este ámbito de práctica, son antiguas; la última realizada data del año 2012 (Arbesman & Lieberman, 2012).

En consecuencia, en primer lugar, resulta necesario llevar a cabo una aproximación sistemática, rigurosa y exhaustiva de este objeto de estudio. Por este motivo se ha desarrollado una investigación centrada en una revisión exhaustiva y sistemática de la literatura existente con el fin de *buscar, evaluar y sintetizar la evidencia científica sobre las intervenciones de terapia ocupacional para mejorar la calidad de vida de los adultos mayores de 65 años sanos que viven en entornos residenciales*.

Igualmente, una revisión previa de la literatura no permite identificar la existencia de revisiones sistemáticas actuales que sinteticen la evidencia científica sobre la eficacia

de las intervenciones de terapia ocupacional con los adultos mayores con demencia que viven en un entorno residencial. En las revisiones sistemáticas actuales identificadas, la población objeto de estudio son adultos mayores en los que la demencia no es el diagnóstico principal (Tokolahi et al, 2015; Kirsh et al., 2019), o no tiene lugar en un entorno residencial (Bennett et al., 2019; Birken et al., 2022).

Por este motivo, en segundo lugar, se ha llevado a cabo una investigación centrada en una revisión exhaustiva y sistemática de la literatura existente con el fin de *buscar, evaluar y sintetizar sistemáticamente la evidencia científica sobre las intervenciones de terapia ocupacional para mejorar la calidad de vida de los adultos mayores de 65 años con demencia que viven en residencias de personas mayores*.

Finalmente, en conjunto, las dos propuestas previas han permitido identificar el programa de intervención de terapia ocupacional preventivo Lifestyle Redesign®, capaz de aportar la evidencia científica suficiente sobre la eficacia de las intervenciones de terapia ocupacional sobre la salud física y mental, el funcionamiento ocupacional y la calidad de vida de los adultos mayores que viven en un entorno residencial.

Sin embargo, a pesar de su eficacia para mantener y mejorar la salud y la calidad de vida de los adultos mayores y de haberse implantado a otros entornos culturales específicos (Reino Unido, Países Bajos, Suecia, Estados Unidos, Canadá e Israel), *aún no se ha adaptado culturalmente un programa similar a la población española*.

Por ello, en tercer lugar, con el fin de abordar esta laguna de investigación, se ha desarrollado un estudio observacional descriptivo transversal, con el objetivo de *identificar y describir los dominios vitales de los adultos mayores españoles que viven en una residencia de mayores* y, en consecuencia, desarrollar las áreas de contenido temático que formarán parte del programa de terapia ocupacional de rediseño del estilo de vida

denominado “Elección de Estilo de Vida”, informado por el programa original Lifestyle Redesign®, ajustado a las características socioculturales de la población mayor de 65 años española que vive en un entorno residencial.

Considerando de manera global los argumentos planteados en la justificación de esta tesis, en el siguiente epígrafe planteamos los objetivos de la investigación.

2. OBJETIVOS

2.1. OBJETIVO GENERAL

- Identificar y describir los tipos, las características y la efectividad de las intervenciones de terapia ocupacional en la mejora de la calidad de vida de los adultos mayores sanos y con demencia institucionalizados, con el propósito de diseñar un programa de terapia ocupacional de rediseño del estilo de vida denominado "Elección de Estilo de Vida", ajustado a las características socioculturales de la población mayor de 65 años española que vive en residencias de personas mayores.

2.2. OBJETIVOS ESPECÍFICOS

- Buscar, evaluar y sintetizar la evidencia científica sobre las intervenciones de terapia ocupacional para mejorar la calidad de vida de los adultos mayores de 65 años sanos institucionalizados.
- Buscar, evaluar y sintetizar la evidencia científica sobre las intervenciones de terapia ocupacional para mejorar la calidad de vida de los adultos mayores de 65 años con demencia que viven en residencias de personas mayores.
- Identificar y describir los dominios vitales de los adultos mayores españoles que viven en una residencia de mayores y, en consecuencia, desarrollar las áreas de contenido temático que formarán parte del programa de terapia ocupacional de rediseño del estilo de vida denominado "Elección de Estilo de Vida", informado por el programa original Lifestyle Redesign®, ajustado a las características

socioculturales de la población mayor de 65 años española que vive en un entorno residencial.

- Determinar los aspectos sociodemográficos de los/las residentes que puedan influir en la identificación de los dominios vitales.

3. METODOLOGÍA

3.1. ARTÍCULO 1: REVISIÓN SISTEMÁTICA

Con el fin de buscar, evaluar y sintetizar la evidencia científica sobre las intervenciones de terapia ocupacional para mejorar la calidad de vida de los adultos mayores de 65 años sanos que viven en un entorno residencial, se realizó una revisión sistemática, siguiendo la metodología de la Colaboración Cochrane (Higgins et al., 2019) y se informó de acuerdo con las directrices Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) (Page et al., 2021).

Inicialmente, se realizó una búsqueda formal de literatura en las bases de datos seleccionadas: PubMed, Web of Science, Dialnet, Scopus, Cochrane, Cinahl y SciELO, empleando los términos MeSH y palabras clave: Occupational Therapy, quality of life, aged y Homes for the Aged, utilizando como filtro para la búsqueda un límite temporal (2012-2022), así como estudios en cualquier idioma y de cualquier país de procedencia. De esta forma, se recopiló la información más reciente de la forma más exhaustiva posible.

Seguidamente, se procedió a identificar y seleccionar los estudios relevantes. Para ello, se establecieron los siguientes criterios de inclusión: (a) estudios que impliquen intervenciones de terapia ocupacional en entorno residencial; (b) estudios cuya población sea adultos mayores de 65 años sanos; (c) estudios con un nivel de evidencia 1a-1b hasta 3a-3b (Oxford Centre for Evidence-Based Medicine, 2009); y (d) estudios que contengan los descriptores MeSH en la lista de palabras clave. Los criterios de exclusión fueron: (a) estudios cuyo foco primario de intervención no sea de terapia ocupacional y en entorno no residencial; (b) estudios en los que el objetivo principal esté relacionado con

condiciones de salud incapacitantes; y (c) estudios que no contengan ninguna de las palabras clave.

Para cada estudio incluido en la revisión se extrajo la información clave y se introdujo en un formulario de extracción de datos basado en las recomendaciones Cochrane (Higgins et al., 2019), utilizando el programa informático Microsoft Excel v.16.16.21. Los datos se extrajeron de cada uno de los estudios seleccionados utilizando las siguientes variables: autor/año, nivel de evidencia, diseño del estudio, riesgo de sesgo, participantes, criterios de inclusión, entorno del estudio, intervención y grupo de control, medidas de resultados y resultados.

Finalmente, se evaluó el riesgo de sesgo de cada estudio, de acuerdo con las directrices Cochrane de evaluación de riesgo de sesgo (Higgins et al., 2016); el riesgo de sesgo de la revisión sistemática se evaluó de acuerdo con las directrices AMSTAR 2 (Shea et al., 2017). Asimismo, la fuerza de la evidencia se evaluó sobre la base de las directrices desarrolladas por el U.S. Preventive Services Task (2018).

3.2. ARTÍCULO 2: REVISIÓN SISTEMÁTICA

Con el propósito de buscar, evaluar y sintetizar la evidencia científica sobre las intervenciones de terapia ocupacional para mejorar la calidad de vida de los adultos mayores de 65 años con demencia que viven en residencias de personas mayores, se realizó una revisión sistemática, siguiendo la metodología de la Colaboración Cochrane (Higgins et al., 2019) y se informó de acuerdo con las directrices Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) (Page et al., 2021).

Inicialmente, se realizó una búsqueda formal de literatura en las bases de datos seleccionadas: PubMed, Web of Science, OTSeeker, clinicaltrials.gov, Dialnet, Scopus, Cochrane y SciELO, empleando los términos MeSH y palabras clave: dementia, occupational therapy, quality of life, aged y nursing home, utilizando como filtro para la búsqueda un límite temporal (2013-2023), así como estudios en cualquier idioma y de cualquier país de procedencia. De esta forma, hemos intentado recopilar la información más reciente de la forma más exhaustiva posible. Nuestro objetivo era evitar cualquier sesgo que pudiera mermar la información obtenida.

Seguidamente, se procedió a identificar y seleccionar los estudios relevantes. Para ello, se establecieron los siguientes criterios de inclusión: (a) estudios que impliquen intervenciones de terapia ocupacional en residencias de personas mayores; (b) estudios cuya población sea adultos mayores de 65 años de ambos sexos con diagnóstico de demencia (APA, DSM-5, 2013), independientemente del tipo y estadio de la demencia; (c) estudios con un nivel de evidencia 1a-1b hasta 2a-2b (Oxford Centre for Evidence-Based Medicine, 2009); y (d) estudios que contengan los descriptores MeSH en la lista de palabras clave. Los criterios de exclusión fueron: (a) estudios cuyo foco primario de intervención no sea de terapia ocupacional ni en residencias de personas mayores. Adultos

mayores que residan en casa o con su familia, en la comunidad, en hospitales o centros de cuidados paliativos; (b) estudios cuya población sea adultos mayores sanos o en los que la demencia no sea el diagnóstico principal; y (c) estudios que no contengan ninguna de las palabras clave.

Para cada estudio incluido en la revisión se extrajo la información clave y se introdujo en un formulario de extracción de datos basado en las recomendaciones Cochrane (Higgins et al., 2019), utilizando el programa informático Microsoft Excel v.16.16.21. Los datos se extrajeron de cada uno de los estudios seleccionados utilizando las siguientes variables: autor/año, nivel de evidencia, diseño del estudio, riesgo de sesgo, participantes, criterios de inclusión, entorno del estudio, intervención y grupo de control, medidas de resultados y resultados.

Finalmente, se evaluó el riesgo de sesgo de cada estudio, de acuerdo con las directrices Cochrane de evaluación de riesgo de sesgo (Higgins et al., 2016); el riesgo de sesgo de las revisiones sistemáticas se evaluó de acuerdo con las directrices AMSTAR 2 (Shea et al., 2017). Asimismo, la fuerza de la evidencia se evaluó sobre la base de las directrices desarrolladas por el U.S. Preventive Services Task (2018).

3.3. ARTÍCULO 3: ESTUDIO OBSERVACIONAL DESCRIPTIVO TRANSVERSAL

Con el objetivo de identificar y describir los dominios vitales de los adultos mayores españoles que viven en una residencia de mayores y, en consecuencia, desarrollar las áreas de contenido temático que formarán parte del programa de terapia ocupacional de rediseño del estilo de vida denominado "Elección de Estilo de Vida", basado en el programa original Lifestyle Redesign®, ajustado a las características socioculturales de la población mayor de 65 años española que vive en un entorno residencial, se llevó a cabo un estudio observacional descriptivo de carácter transversal y metodología cuantitativa (Hernández-Sampieri & Mendoza, 2018).

El Comité de Ética de la Investigación con Medicamentos (CEIm) de la Gerencia de Atención Integrada de Talavera de la Reina aprobó el estudio (Número de Referencia: 34/2022).

La muestra del estudio se seleccionó siguiendo los siguientes criterios de inclusión: tener 65 años o más, vivir en la residencia de personas mayores "Virgen del Prado" de Talavera de la Reina, tener un funcionamiento cognitivo normal (puntuación ≥ 24 en Mini-examen cognoscitivo [Lobo et al; 1979]), presentar independencia funcional (puntuación ≥ 80 en Índice de Barthel [Mahoney & Barthel; 1965]) y hablar español. Se excluyeron de la muestra aquellos adultos mayores que no autorizaron su participación en el estudio, presentaran condiciones de salud incapacitantes (enfermedades crónicas, deterioro físico, cognitivo o problema social que provoque dependencia) o no tuvieran nacionalidad española (para facilitar la interacción con los participantes). Tras aplicar los criterios de elegibilidad, la muestra del estudio, con un nivel de confianza de 95%, estuvo formada por 30 adultos mayores.

Para llevar a cabo el reclutamiento de los participantes, inicialmente se contactó con el director de la residencia de personas mayores “Virgen del Prado” de Talavera de la Reina para solicitar su autorización para poder desarrollar el estudio. Posteriormente, se realizó una reunión con las terapeutas ocupacionales de dicha residencia, para identificar y recabar los datos de los participantes que cumplieran los criterios de elegibilidad, a partir de su historia ocupacional. Los participantes que se ofrecieron como voluntarios para el estudio, asistieron a una breve presentación sobre los fines y métodos de la investigación y firmaron la declaración de consentimiento informado.

Para recopilar los datos necesarios para el estudio, se utilizaron dos instrumentos: (1) un cuestionario en el que se registraron los aspectos sociodemográficos de los participantes: edad, sexo, estado civil, nivel de formación, años de permanencia en la residencia de mayores, pensión y estado de salud autocalificado. Estos datos se utilizaron para describir la muestra y para determinar las características de los/las residentes que podrían influir en la identificación de los dominios vitales. (2) una encuesta tipo Likert, elaborada *ad hoc*, de actividades significativas diseñada a partir de la adaptación de las ocupaciones descritas en el Marco de Trabajo para la Práctica de Terapia Ocupacional (AOTA, 2020). El fin último de esta encuesta fue identificar aquellas áreas de actividad más significativas y con mayor relevancia personal para los participantes. Estaba formada por 25 ítems, divididos en seis áreas ocupacionales: actividades de la vida diaria, actividades instrumentales de la vida diaria, gestión de la salud, sueño y descanso, ocio y participación social. Cada ítem tenía una puntuación que iba de 1 (nada importante para mí) a 5 (muy importante para mí).

La aplicación del cuestionario y de la encuesta se realizó de forma individualizada y anonimizada a los participantes seleccionados, en un lugar acondicionado a tal propósito, con el fin de preservar la confidencialidad.

Posteriormente, los datos se registraron en una hoja de codificación de datos, a través del programa informático Microsoft Excel®, versión 16.16.21.

Finalmente, se analizaron los aspectos sociodemográficos y los resultados de los participantes en la encuesta de actividades significativas mediante estadísticas descriptivas: media, porcentajes y desviación estándar, así como índices de asociación para las variables (cualitativas y ordinales: prueba de suma de rangos de Wilcoxon. Cuantitativas y ordinales: coeficiente de correlación de Pearson), estableciendo un nivel de significación estadística $p < 0,05$. El tratamiento y análisis estadístico de los datos fue realizado a través del paquete estadístico de IBM SPSS-Statistics®, versión 26.0 para Windows en su versión en castellano.

4. ABSTRACTS

4.1. OCCVPATiONAL THERAPY iNTERVENTiONS FOR THE iMPROVEMENT OF THE QVALiTY OF LiFE OF HEALTHY OLDER ADVLTS LiViNG iN NVRSiNG HOMES: A SYSTEMATiC REViEW.

Introducción/Objetivo:

Los factores relacionados con la calidad de vida de los adultos mayores sanos que viven en residencias de personas mayores pueden impulsarse a través del desarrollo de programas de intervención de terapia ocupacional. El objetivo de esta investigación es evaluar la evidencia científica sobre la eficacia de las intervenciones de terapia ocupacional para mejorar la calidad de vida de los adultos mayores de 65 años sanos que viven en residencias de personas mayores.

Método:

La revisión sistemática se realizó siguiendo la metodología de la Colaboración Cochrane y se informó de acuerdo con las directrices PRISMA 2020. Las bases de datos utilizadas fueron PubMed, Web of Science, Dialnet, Scopus, Cochrane, Cinahl y SciELO.

Resultados:

Seis artículos cumplieron los criterios de inclusión y fueron categorizados en "promoción del envejecimiento activo" y "actividades significativas y calidad de vida". En general, la fuerza de la evidencia fue moderada y el riesgo de sesgo fue bajo.

Conclusiones:

Los programas de intervención de terapia ocupacional estructurados en torno a la oportunidad de elección de actividades significativas pueden mejorar la percepción de

calidad de vida de los adultos mayores sanos que viven en residencias de personas mayores.

4.2. OCCVPATiONAL THERAPY iNTERVENTiONS TO iMPROVE THE QVALiTY OF LiFE OF OLDER ADVLTS WiTH DEMENTiA LiViNG iN NVRSiNG HOMES: A SYSTEMATiC REViEW.

Introducción/Objetivo:

El incremento de adultos mayores con demencia presenta desafíos en la promoción de la investigación para mejorar la calidad de vida de esta población. El objetivo de este estudio es evaluar la evidencia científica sobre la eficacia de las intervenciones de terapia ocupacional para mejorar la calidad de vida de los adultos mayores de 65 años con demencia que viven en residencias de personas mayores.

Método:

Las bases de datos utilizadas fueron PubMed, Web of Science, OTSeeker, clinicaltrials.gov, Dialnet, Scopus, Cochrane y SciELO entre 2013 y 2023. Los estudios fueron seleccionados y evaluados según la guía Cochrane. La revisión se realizó siguiendo la Declaración PRISMA 2020.

Resultados:

16 artículos cumplieron los criterios de inclusión y se categorizaron en cuatro grupos según el enfoque principal de la intervención: “actividades/ocupaciones significativas”, “funcionalidad física, cognitiva y sensorial”, “áreas de desempeño”, y “entorno físico, social y formación del personal”. La fuerza de la evidencia fue moderada y el riesgo de sesgo fue bajo.

Conclusiones:

Los resultados revelaron que las intervenciones de terapia ocupacional basados en la participación en actividades recreativas y lúdicas, actividades de reminiscencia, actividades basadas en el entorno físico, social y formación especializada del personal,

pueden mejorar la percepción de calidad de vida de los adultos mayores con demencia que viven en residencias de personas mayores.

4.3. LIFE DOMAINS AND LIFESTYLE OF OLDER ADULTS LIVING IN A NURSING HOME: A PILOT STUDY.

Introducción/Objetivo:

Aunque el programa de intervención preventiva de terapia ocupacional Lifestyle Redesign® ha demostrado ser eficaz para mantener y mejorar la salud y la calidad de vida de los adultos mayores, aún no se ha adaptado culturalmente un programa similar a la población española. Como paso preliminar en el desarrollo de una intervención de estilo de vida adaptada a adultos mayores españoles que viven en una residencia de mayores (Lifestyle Choice; originalmente en castellano "Elección de Estilo de Vida"), nos propusimos identificar y describir los dominios vitales de esta población y determinar el solapamiento con las áreas de contenido abordadas en el programa Lifestyle Redesign®.

Método:

Se llevó a cabo un estudio observacional descriptivo de carácter transversal y metodología cuantitativa con 30 adultos mayores que viven en la residencia de personas mayores “Virgen del Prado” de Talavera de la Reina (Toledo), basado en la elaboración de un cuestionario y una encuesta.

Resultados:

Se identificaron seis dominios vitales: autocuidado, sueño y descanso, movilidad, seguridad personal, mantenimiento de la salud, espiritualidad y tiempo libre.

Conclusiones:

Los resultados de este estudio revelan importantes solapamientos con las áreas de contenido de Lifestyle Redesign®, lo que sugiere que puede ser factible desarrollar una intervención de estilo de vida ("Elección de Estilo de Vida") adaptada a las características

socioculturales de la población española mayor de 65 años que vive en residencias de personas mayores.

5. PVBLiCACiONES

5.1. OCCVPATiONAL THERAPY iNTERVENTiONS FOR THE iMPROVEMENT OF THE QVALiTY OF LiFE OF HEALTHY OLDER ADVLTS LiViNG iN NVRSiNG HOMES: A SYSTEMATiC REViEW.

Literature Review

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Occupational Therapy Interventions for the Improvement of the Quality of Life of Healthy Older Adults Living in Nursing Homes: A Systematic Review

Cristian Uceda Portillo[1], José Ignacio Calvo Arenillas[2], and Pedro Moruno Miralles[3]

Abstract

Objective: To evaluate current scientific evidence on the effectiveness of occupational therapy interventions for the improvement of the quality of life of healthy adults over 65 years old living in nursing homes.

Data source: PubMed, Web of Science, Dialnet, Scopus, Cochrane, Cinahl and SciELO databases searched between 2012 and 2022.

Study Inclusion and Exclusion Criteria: a) Studies involving occupational therapy interventions in residential settings (nursing homes or community residential settings), b) Studies conducted on a population of healthy adults over 65 years old, c) Studies with a level of evidence 1a-1b to 3a-3b, d) Studies containing the MeSH descriptors in the keyword list.

Data Extraction: For each study included in the review, key information was collected and entered into a data extraction form based on Cochrane recommendations, using Microsoft Excel v.16.16.21 software.

Data Synthesis: Descriptive summary of study characteristics and summarized methodological quality of the studies.

Results: Six of the articles met the inclusion criteria and were categorised into "promotion of active ageing" and "meaningful activities and quality of life". Overall, the strength of evidence was moderate, and the risk of bias was low.

Conclusion: Occupational therapy intervention programmes structured around the opportunity to choose meaningful activities can improve the perceived quality of life of healthy older adults living in nursing homes.

Keywords

occupational therapy, quality of life, homes for the aged, older adults, nursing homes

Indexing Keywords

aging, interventions, systematic review

Objective

According to the World Health Organization,[1] both the number and proportion of older adults are increasing significantly in populations around the world. At present, Japan is the only country where the percentage of older adults is over 30%. However, by 2050, countries in Europe and North America, Chile, China, the Russian Federation, the Republic of Korea, the Islamic Republic of Iran, Thailand and Vietnam are expected to have a similar proportion.

Today, this global ageing of the population has a direct impact on the health and social care provided to older adults, conditioning geriatric care ranging from the disability prevention and typical age-related disease processes to end-of-life care.[1] This need for care has led to a proliferation of

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studies and research on improving the well-being and quality of life of this population group, especially in residential settings; understood as institutions intended for temporary or permanent accommodation, with services and intervention programmes appropriate to the needs of the older people being cared for, aimed at achieving a better quality of life and promoting their personal autonomy.[2]

Quality of life is a multidimensional concept that has evolved throughout history and currently has multiple interpretations. Thus, it is difficult to find a single definition.[3]

An integrative definition of the concept of quality of life is "quality of life is the result of the complex interaction between objective and subjective factors; the former are shaped by the external conditions, i.e. the economic, socio-political, cultural, personal and environmental factors, that facilitate or hinder the full development of individuals and their personalities; meanwhile, the latter are determined by the subject's assessment of his or her own life".[4]

In the case of healthy older adults living in nursing homes, these factors related to their quality of life can be improved by developing interventions from an Occupational Therapy (OT) perspective, as this field is focused on groups or communities and the multiple factors that influence their health and well-being: "OT practitioners develop and implement occupation-based health approaches to enhance occupational performance and participation, quality of life, and occupational justice for populations".[5] Likewise, as a social and health care field that addresses the prevention of disability and dependence using occupation based approach, OT becomes a vehicle for the improvement and maintenance of the quality of life and health of older adults.[6,7]

However, previous systematic reviews of the literature which synthesise the scientific evidence on the effectiveness of occupation-based interventions among this population and in this area of practice are outdated, with the last one dating back to 2012.[8]

Therefore, the main purpose of this systematic review is to assist practitioners in making evidence-based decisions regarding such interventions. This study aimed to search for, evaluate and synthesise the scientific evidence on OT interventions to improve the quality of life of healthy older adults aged 65 years and over living in nursing homes. The research question guiding the review was: What is the quality of the scientific evidence on the effectiveness of OT interventions in improving the quality of life of healthy older adults aged 65 and over living in nursing homes?

Methods

This systematic review was conducted following the Cochrane Collaboration methodology[9] and was reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA 2020).[10]

Data Sources

The initial search process was conducted by a medical librarian who had experience in conducting systematic reviews in collaboration with the review authors. In each stage of the review, the authors independently assessed the search terms and all studies before comparing the results.

A formal literature search was conducted (19/02/22 and 20/02/22) in the following selected databases: PubMed, Web of Science (WOS), Dialnet, Scopus, Cochrane, Cinahl and SciELO, using MeSH terms and keywords: Occupational Therapy, quality of life, aged and Homes for the Aged. A time limit (2012-2022) was also used as a filter for our search, given that the previous review had been conducted in 2012; no language or country of origin filters were used. In doing so, we tried to gather the latest information as comprehensively as possible. Our aim was to avoid any bias that might affect the information obtained.

The search string used in the databases was:

(1) PubMed: ((occupational therapy [MeSH Terms]) AND (quality of life [MeSH Terms])) AND (aged [MeSH Terms]) AND (Homes for the Aged [MeSH Terms]) Filters: from 2012-2022 → 19 results obtained.
(2) WOS: ((((ALL=(occupational therapy)) AND ALL=(aged)) AND ALL=(Homes for the Aged))) Filters: from 2012- 2022 → 566 results obtained.
(3) Dialnet: (Occupational therapy, quality of life, aged). Filter: 2012-2022 → 6 results obtained.
(4) Scopus: (Occupational therapy AND quality of life AND aged AND Homes for the Aged). Filters: from 2012-2022 → 207 results obtained.
(5) Cochrane: (Occupational therapy AND quality of life AND aged AND Homes for the Aged). Filters: from 2012-2022 → 187 results obtained.
(6) Cinahl: (Occupational therapy AND quality of life AND aged AND Homes for the Aged). Filters: from 2012-2022, aged: 65+ years → 140 results obtained.
(7) SciELO: (Occupational therapy AND quality of life AND aged AND Homes for the Aged). Filters: from 2012-2022 → 2 results obtained.

In addition to the aforementioned databases, a search was also carried out in Google Scholar (https://scholar.google.es/) to identify more studies that could potentially be included, as well as to avoid any bias that could lead to a decrease in the information obtained.

Inclusion and Exclusion Criteria

The following eligibility criteria were established.

→ Inclusion criteria:

(1) Studies involving OT interventions in residential settings (nursing homes or community residential settings).
(2) Studies conducted on a population of healthy adults over 65 years old. Functionally independent adults over 65 years old without any objective illness, physical or cognitive impairment or social problem derived from their health condition.
(3) Studies with a level of evidence 1a-1b to 3a-3b.
(4) Studies containing the MeSH descriptors in the keyword list.

→ Exclusion criteria:

(1) Studies whose primary focus of intervention was not OT related and in a non-residential setting. Older adults living at home or with their relatives, in hospitals and palliative care facilities.
(2) Studies in which the main purpose was related to disabling health conditions (chronic diseases, physical or cognitive impairment or social problems leading to dependency).
(3) Studies that did not contain any of the keywords.

We included studies with an evidence level 1a (systematic review of homogenous randomised controlled trials (RCT) -e.g. similar population or intervention-with or without meta-analysis), 1b (well-designed individual RCT - not a pilot or feasibility study with a small sample size), 2a (systematic review of cohort studies), 2b (individual prospective cohort study, RCT of low quality - e.g. <80% follow-up or a low number of participants, pilot or feasibility study, ecological study, non-randomised two-group study), 3a (systematic review of case-control studies) and 3b (individual retrospective case-control study, non-randomised one-group pretest-posttest study, cohort study). Level 4 (case series - or low-quality cohort or case-control study) and level 5 (expert opinion without explicit critical appraisal: protocols, dissertations and theses, and editorials) studies were excluded.[11]

We included intervention studies within the scope of OT practice with significant outcomes related to the occupation-based population health approach for the improvement of occupational performance and participation, quality of life and occupational justice. Outcome measures could include life satisfaction (perception of progress toward goal identification), self-concept (beliefs and feelings about self), health and functioning (e.g., health status, self-care capabilities), and socioeconomic factors.[5]

Data Extraction

For each study included in the review, the key information was collected and entered into a data extraction form based on Cochrane recommendations,[9] using Microsoft Excel v.16.16.21 software. The data extraction process was carried out by the researchers C.U. and P.M. independently. Finally, the whole extraction process was monitored by a third independent reviewer (J.C.A.). Data were extracted from each of the selected studies using the following variables: author/year, level of evidence, study design, risk of bias, participants, inclusion criteria, study setting, intervention and control group, outcome measures and results (see Table S1).

Data Synthesis

We conducted a descriptive summary of study characteristics and evaluated and summarized the methodological quality of the included studies (see Table S1).

The risk of bias in each study (low, moderate or high) was assessed according to the Cochrane risk of bias assessment guidelines.[12] The risk of bias in the systematic review was assessed according to the AMSTAR 2 guidelines.[13] The results were then compared collaboratively to reach a consensus. Table S2 and Table S3 contain the risk of bias assessment of the included studies.

The strength of evidence was assessed based on guidelines developed by the U.S. Preventive Services Task.[14] The levels are broadly described as follows: high strength of evidence consists of two or more well-designed RCTs whose results are unlikely to be challenged by future studies; moderate strength of evidence is defined as at least one high-quality RCT or multiple studies of moderate quality; low strength of evidence consists of a limited number of incomplete and low-quality studies.

Results

A full-text review was performed on 37 of the 1127 identified studies. Six of those studies met the eligibility criteria and were, therefore, included in the analysis (see Figure 1).

Six studies described OT interventions to improve the quality of life of healthy older adults living in nursing homes: four studies were level 1b,[15-18] one was level 2a[8] and another one was level 2b.[19] Four studies showed a low risk of bias and two studies met the criteria for a moderate risk of bias (see Table S1, Table S2 and Table S3).

The six studies were divided into two topics, according to the main objective of the intervention programme: a) "promotion of active ageing" and b) "meaningful activities and quality of life". Each topic was organised according to the primary focus of the intervention: "promotion of active ageing", with n= 3 (50%): (a1) physical activity,[8,16,19] and (a2) cognitive, leisure and social participation and health promotion activities[8,19]; and "meaningful activities and quality of life", with n= 3 (50%): (b1) communication, volition, habituation and performance capacity activities,[15] and (b2) meaningful occupations.[17,18] Two studies[8,19] were included in the two sub-themes, as they addressed both

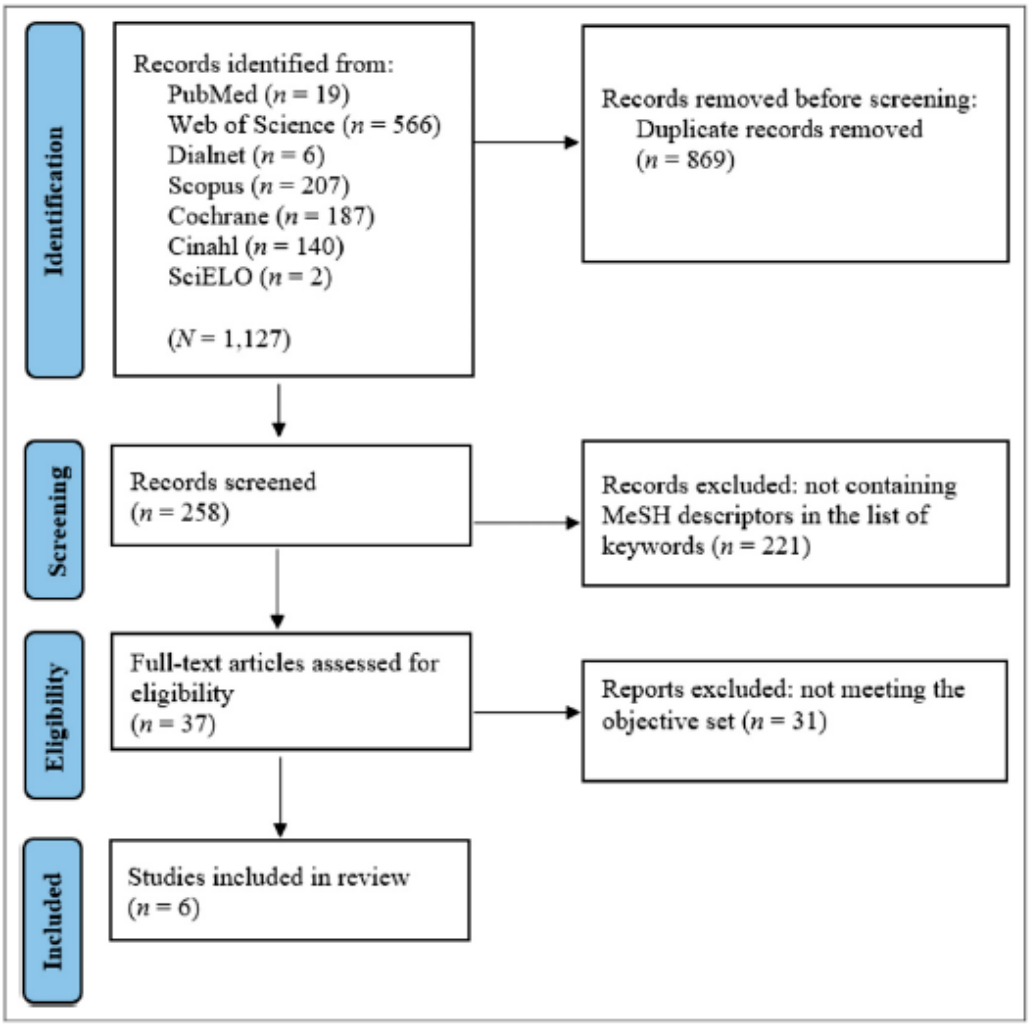

Figure 1. PRISMA flow diagram of literature search and screen process.

aspects. The characteristics of each study have been listed in Table S1.

Promoting Active Ageing

Physical activity. In three of the studies, physical activity was the primary intervention.[8,16,19]

Cichocki et al[16] (level 1b) conducted a study to assess the effects that an intervention based on multifaceted low-threshold physical activity had on health-related quality of life (HRQOL), physical functioning and activities of daily living (ADLs) of older adults living in nursing homes. The intervention consisted of 20 weekly exercise units (fall risks, walking and mobility aids, dance, bowling and ball games, balance and gait training, postural gymnastics, physical and cardiovascular training through ADL, functional strengthening, perceptual and proprioceptive training, balance, obstacle course, dual-task training, relaxation and breathing exercises, Yoga, Qi Gong and Tai Chi). At the one-year follow-up assessment, subjective health-related quality of life (EuroQol-5D, hereafter EQ-5D) improved significantly in the intervention group.

Johansson and Björklund[19] (level 2b) conducted an active ageing promotion programme that included a physical activity-based intervention (mobility, time and energy). The results showed a positive change in physical functioning, bodily pain and vitality (Short Form Health Survey-36, hereafter SF-36) in the intervention group.

Arbesman and Lieberman[8] (level 2a) conducted a systematic review to test the impact of active ageing programmes,

including physical activity interventions (balance and gait training, lower limb strengthening, Tai Chi and general sitting and standing exercise) on the performance of older adults. Results from multiple longitudinal studies indicated that increased participation in physical activity resulted in reduced mortality, increased functioning and reduced levels of dependency in ADL and instrumental activities of daily living (IADL), which in turn influenced participants' perception of quality of life.

Cognitive, leisure and social participation and health promotion activities. Cognitive, leisure and social participation and health promotion activities were the primary interventions in two studies.[8,19]

Johansson and Björklund[19] (level 2b) conducted a study with a quasi-experimental design to test whether a health promotion programme (nutrition, health and ageing, mental well-being, social relationships and technical devices) with a mixed format (individual and group) could maintain/improve the general health and well-being of older adults. At the four-month follow-up, the intervention group showed statistically significant improvements in their general health and psychological well-being (SF-36).

Results from the systematic review by Arbesman and Lieberman[8] (level 2a) indicated that increasing the participation in cognitive and leisure activities (reading, writing, playing word games or puzzles and attending talks) was associated with a lower risk of developing dementia and increased social participation, as well as the presence of a strong social network, which led to lower levels of physical and cognitive impairment and a better perception of quality of life.

Meaningful Activities and Quality of Life

Communication, volition, habituation and performance capacity activities. Activities related to communication, volition, habituation and performance capacity were the primary intervention in one of the studies.[15]

Kawamata et al[15] (level 1b) conducted a study to evaluate the effectiveness of an OT programme based on the Model of Human Occupation (MOHO). The programme is based on talks and seminars that explore the role of personal causality, values, interests, roles, and habits, as well as motor, processing, communication and interaction skills and the environment in the performance of occupations that contribute to the improvement of quality of life and health promotion among healthy older adults. The results showed that said programme met the needs of healthy older adults in coping with the physiological changes of ageing and had a significant effect on physical pain (SF-36) and the environment (World Health Organization Quality of Life-26).

Meaningful occupations. Meaningful occupations were the primary intervention in two studies.[17,18]

Nagayama et al[17] (level 1b) evaluated a meaningful activity-based intervention using an iPad app called "Aid for Decision Making in Occupation Choice (ADOC)". The intervention consisted of identifying meaningful occupations from 95 illustrations depicting everyday activities (eg using cutlery for eating, cooking, knitting), setting goals and prioritising occupations. The aim was to test if this approach could improve older adults' quality of life more effectively than an impairment-based approach. After four months of follow-up, the intervention group showed significant improvements in the performance of ADL (Barthel index).

Yoshida et al[18] (level 1b) conducted an OT intervention whose primary focus was the adjustment of the challenge-skill balance of activities. The intervention was based on the individual performance of meaningful activities to determine the factors that hindered occupational performance (challenge components; e.g. environment, time of performance, size of the space for performing the activity) and those that enhanced it (skill components), and then readjust the activities until the challenge and skill components were in balance. The results indicated statistically significant improvements in HRQOL (EQ-5D) in the intervention group.

Limitations

This review is limited by the heterogeneity and the small number of studies that specifically address, both in terms of intervention and outcomes, the improvement of the quality of life of older adults living in nursing homes.

Conclusions

The purpose of this systematic review was to evaluate the scientific evidence on the effectiveness of OT interventions in improving the quality of life of healthy older adults aged 65 years and over living in nursing homes.

This systematic review has identified two main groups of intervention programmes focusing on: a) "promotion of active ageing" and b) "meaningful activities and quality of life".

First, it is worth noting that those intervention programmes that focus primarily on the meaningfulness of activities, either by adjusting the level of challenge according to the individual's abilities[18] or by prioritising older people's decision making,[17] show a high strength of evidence. Similarly, there was an improvement in ADL performance and a decrease in pain in those intervention programmes aimed at increasing personal causality, values, and interests associated with performing meaningful occupations, meeting the coping needs and influencing the environment of older adults living in nursing homes. Overall, this increased their subjective perception of quality of life and HRQOL.[15]

These findings are supported by previous research, "The Well Elderly Study"[20] and "The USC Well Elderly Study 2",[21]

which build on the notion that intervention programmes structured around a balanced occupational performance of personally and culturally meaningful activities lead to active ageing and a higher quality of life among older adults, decreasing illness, disability and dependency conditions.

Ultimately, those OT intervention programmes articulated around choosing meaningful activities, adjusting the challenge to the skills of older people, and meeting the needs of coping and influence in the residential setting, seem to show an increase in the perception of quality of life of the older residents.

Second, although the strength of evidence is moderate, results suggest that physical activity interventions can improve subjective health-related quality of life,[16] physical functioning, bodily pain and vitality.[19] They also appear to be associated with reduced mortality, increased functioning and reduced levels of ADL and IADL dependency.[8]

Likewise, the results suggest that, with moderate strength of evidence, those interventions whose primary focus is cognitive activity, developed in a framework that favours social interaction to promote health, can improve general health and psychological well-being,[19] and are linked to lower physical and cognitive impairment and with an improved perception of quality of life in healthy older adults living in nursing homes.[8]

These results are consistent with previous studies conducted in the context of older adults in residential settings, which have shown improvements in the physical functionality and mental state of residents, which are also associated with greater personal autonomy of older adults living in nursing homes.[22,23]

In our view, this finding supports the role of OT in promoting and maintaining active ageing in healthy older adults living in nursing homes. Occupational therapists develop programmes and activities with the aim of incorporating physical and health-promoting activities into the daily routine of residents, which is a key aspect of health management, promotion and maintenance.[24]

This systematic review shows that physical activity, cognitive activities, leisure and social participation can help to support this process. In addition, health promotion activities carried out using a mixed format (individual and group) can lead to a better subjective perception of quality of life among residents.[19]

Finally, the strongest evidence indicates that active ageing promotion programmes based on a multidisciplinary approach are effective across a wide range of issues. In multidisciplinary interventions, occupational therapists work together with other fields to provide a wide range of interventions that may include modifications to the residential setting, education and training, preventive health care (e. g risk reduction and health education) and health promotion (e. g exercise and medication review), all of which are key elements of active ageing.[7]

In conclusion, OT intervention programmes structured around the opportunity to choose meaningful activities can improve the perceived quality of life of healthy older adults living in nursing homes. These activities are tailored to the older person's skills and they seek to meet the needs for coping and influence in residential setting.

So What?

What is already known on this topic?

Factors affecting the quality of life of older adults can be improved through the interventions grounded in an OT perspective.

What does this article add?

This review highlights the need for intervention programmes to improve the quality of life of healthy older adults living in nursing homes, taking a multidisciplinary approach and a client-centred, occupation-based perspective.

What are the implications for health promotion practice or research?

This review finds that interventions focusing on cognitive activity, leisure and social participation and health promotion can potentially lead to less physical and cognitive decline and improved quality of life of healthy older adults living in nursing homes. Health promotion practitioners can incorporate such activities into the daily routine of residents to promote their health, improve their well-being and quality of life.

Authors' Contribution

Cristian Uceda Portillo: Conceptualized the design of the systematic review, led the analysis and interpretation of the data, drafted the manuscript, and approved the submitted manuscript for review.

José Ignacio Calvo Arenillas: Contributed to the design of the systematic review approach, revised each manuscript draft crucially, and approved the submitted manuscript for review.

Pedro Moruno Miralles: Contributed to the concept of the study, the data extraction process, revised each manuscript draft crucially, and approved the submitted manuscript for review.

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Supplemental Material

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References

1. World Health Organization. *World Report on Ageing and Health*; 2015. http://apps.who.int/iris/bitstream/handle/10665/186463/9789240694811_eng.pdf
2. Imserso. *Libro blanco del envejecimiento activo*. Instituto de Mayores y Servicios Sociales; 2011.
3. Boggatz T. Quality of life in old age - a concept analysis. *Int J Older People Nurs*. 2016;11(1):55-69. DOI: 10.1111/opn.12089
4. García-Viniegras CRV. *Calidad de Vida. Aspectos Teóricos Y Metodológicos*. Paidós; 2008.
5. American Occupational Therapy Association. Occupational therapy practice framework: domain and process-fourth edition. *Am J Occup Ther*. 2020;74(suppl 2):1-87. DOI: 10.5014/ajot.2020.74S2001
6. Sprange K, Mountain GA, Brazier J, et al. Lifestyle Matters for maintenance of health and wellbeing in people aged 65 years and over: study protocol for a randomised controlled trial. *Trials*. 2013;14:302. DOI: 10.1186/1745-6215-14-302
7. Zingmark M, Nilsson I, Fisher AG, Lindholm L. Occupation-focused health promotion for well older people—A cost-effectiveness analysis. *Br J Occup Ther*. 2016;79(3):153-162. DOI: 10.1177/0308022615609623
8. Arbesman M, Lieberman D. Methodology for the systematic reviews on occupation- and activity-based intervention related to productive aging. *Am J Occup Ther*. 2012;66(3):271-276. DOI: 10.5014/ajot.2012.003699
9. Higgins J, Thomas J, Chandler J, et al. *Cochrane Handbook for Systematic Reviews of Interventions*. 2nd ed. Wiley; 2019.
10. Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372:n71. DOI: 10.1136/bmj.n71
11. Oxford Centre for Evidence-Based Medicine. Levels of evidence; 2009. https://www.cebm.ox.ac.uk/resources/levels-of-evidence/oxfordcentre-for-evidence-based-medicine-levels-of-evidence-march-2009
12. Higgins JPT, Sterne JAC, Savović J, et al. A revised tool for assessing risk of bias in randomized trials. In: Chandler J, McKenzie J, Boutron I, Welch V, eds. *Cochrane Methods*. Cochrane Database of Systematic Reviews. 2016;10(suppl 1):9-25. DOI: 10.1002/14651858.CD201601
13. Shea BJ, Reeves BC, Wells G, et al. AMSTAR 2: A critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ*, 2017;358:j4008. DOI: 10.1136/bmj.j4008
14. U.S. Preventive Services Task Force. *U.S. Preventive Services Task Force Ratings*; 2018. https://www.uspreventiveservicestaskforce.org/Page/Name/uspreventive-services-task-force-ratings
15. Kawamata H, Yamada T, Kobayashi N. Effectiveness of an occupational therapy program for health promotion among healthy elderly. A randomized controlled trial. *Nihon Koshu Eisei Zasshi*. 2012;59(2):73-81. DOI: 10.11236/jph.59.2_73
16. Cichocki M, Quehenberger V, Zeiler M, et al. Effectiveness of a low-threshold physical activity intervention in residential aged care–results of a randomized controlled trial. *Clin Interv Aging*. 2015;10:885-895. DOI: 10.2147/CIA.S79360
17. Nagayama H, Tomori K, Ohno K, et al. Effectiveness and cost-effectiveness of occupation-based occupational therapy using the aid for decision making in occupation choice (ADOC) for older residents: Pilot cluster randomized controlled trial. *PLoS One*. 2016;11(3):e0150374. DOI: 10.1371/journal.pone.0150374
18. Yoshida I, Hirao K, Nonaka T. Adjusting challenge-skill balance to improve quality of life in older adults: a randomized controlled trial. *Am J Occup Ther*. 2018;72(1):1-8. DOI: 10.5014/ajot.2018.020982
19. Johansson A, Björklund A. The impact of occupational therapy and lifestyle interventions on older persons' health, well-being, and occupational adaptation. *Scand J Occup Ther*. 2016;23(3):207-219. DOI: 10.3109/11038128.2015.1093544
20. Jackson J, Carlson M, Mandel D, Zemke R, Clark F. Occupation in lifestyle redesign: The well elderly study occupational therapy program. *Am J Occup Ther*. 1998;52(5):326-336.
21. Clark F, Jackson J, Carlson M, et al. Effectiveness of a lifestyle intervention in promoting the well-being of independently living older people: Results of the Well Elderly 2 Randomised Controlled Trial. *J Epidemiol Community Health*. 2012;66(9):782-790. DOI: 10.1136/jech.2009.099754
22. Leland NE, Elliott SJ. Special issue on productive aging: Evidence and opportunities for occupational therapy practitioners. *Am J Occup Ther*. 2012;66(3):263-265. DOI: 10.5014/ajot.2010.005165
23. Schlemmer GBV, dos Santos Machado A, dos Santos TD, et al. Correlação entre qualidade de vida e independência funcional de idosos institucionalizados. *Gerontologia*. 2018;21(1):411-426. DOI: 10.23925/2176-901X.2018v21i1p411-426
24. Levasseur M, Filiatrault J, Larivière N, et al. Influence of Lifestyle Redesign® on Health, Social Participation, Leisure, and Mobility of Older French-Canadians. *Am J Occup Ther*. 2019;73(5):1-18. DOI: 10.5014/ajot.2019.031732

Supplemental Material

Table S1.

Evidence table for the systematic review of occupational therapy interventions for the improvement of the quality of life of older adults living in nursing homes.

Author/Year	Level of Evidence Study Design Risk of Bias	Participants Inclusion Criteria Study Setting	Intervention and Control Groups	Outcome Measures	Results
			Intervention programme "promoting active ageing"		
Cichocki et al. (2015)	Level 1B RCT *Risk of Bias* Low	*Participants* *N*= 222 (*M* age, 84 years; 88% women). *Inclusion Criteria* Healthy adults over 65 years of age. *Intervention Settings* Residential (Austria)	*Intervention: Low threshold physical activity* (*n* = 104) weekly 60 min group session for 20 weeks, consisting of coordination, balance, strength, endurance, sensorimotor perception, breathing, functional skills and abilities, and interpersonal skills. *Control Group: Social leisure activity* (*n* = 118) 3 group social leisure sessions without a specific focus on low-threshold physical activity.	*HRQOL* EQ-5D *Cognitive* MMSE *Physical activity* • TUAG • CSAR • BS • Lower Back Scratch and Neck Reach test. *Pain* VAS *Occupational performance* COPM	*Significant Findings* Subjective health status (EQ-5D dimensions: *P*=0.001, *d*=0.36) improved significantly in the intervention group, and there were also positive trends in occupational performance (COPM). *Nonsignificant Findings* No conclusive effects were found for the functional and cognitive measures applied.

Johansson & Björklund (2015)	Level 2B Quasi-experimental *Risk of Bias* Moderate	*Participants* *N*= 40 (*M* age, 81.5 years; 95% women). *Inclusion Criteria* Healthy adults over 65 years of age. *Intervention Settings* Residential (Sweden)	*Intervention: Individual and group health promotion* (*n* = 20) 2 weekly group sessions of 60 min and 4 weekly individual sessions of 60 min for 16 weeks, based on occupation, health and ageing, time, vitality, mobility, safety, nutrition, physical activity, mental well-being, social relations, economy and technical devices. *Control Group: Personal health promotion* (*n* = 20) occasional sessions of individual health promotion interventions over 16 weeks.	*HRQOL* SF-36 *Life satisfaction* LSI-Z *Participation in activities* semi-structured interview	*Significant Findings* Five of the eight subscales of the SF-36 (physical functioning, bodily pain, general health, vitality and mental health) showed a positive change in the intervention group. Vitality (P= 0.01) and mental health (P=0.03) showed a significant change. *Nonsignificant Findings* The role-physical, social functioning and role-emotional subscales showed a positive, although not significant, change in the control group.
Arbesman & Lieberman (2012)	Level 2A Systematic Review *Risk of Bias* Moderate	*Participants* X *Inclusion Criteria* Healthy adults over 65 years of age. *Intervention Settings*	*Intervention: Promotion of active ageing* Physical activity, social and religious participation, personal care, sleep, leisure and cognitive activity. *Control Group* No control	Formal literature search in databases	*Significant Findings* None *Nonsignificant Findings* Older adults who were more physically active and engaged in more productive roles had a higher level of functioning and reduced levels of dependence on

		Residential			ADL and IADL.
		Intervention programme "meaningful activities and quality of life"			
Kawamata et al. (2012)	Level 1B RCT *Risk of Bias* Low	*Participants* *N*= 220 (*M* age, 72 years; 91% women). *Inclusion Criteria* Healthy adults over 65 years of age. *Intervention Settings* Residential (Japan)	*Intervention: MOHO programme* (*n* = 111) 1 session every 2 weeks 120 min group session for 30 weeks, consisting of talks and seminars on communication, volition, habituation, performance capacity and environment. *Control Group: Crafts programme* (*n* = 109) 1 session every 2 weeks 120 min group session for 30 weeks.	*HRQOL* • SF-36 • WHO-QOL26 *Life satisfaction* LSI-Z	*Significant Findings* The mean change in the following items for the experimental group was significantly greater than that of the control group: physical function of the SF-36 (P = 0.05); and the WHO-QOL26 environmental domain (P = 0.02). *Nonsignificant Findings* None
Nagayama et al. (2016)	Level 1B RCT *Risk of Bias* Low	*Participants* *N*= 44 (*M* age, 82.1 years; 85.2% women). *Inclusion Criteria* Healthy adults over 65 years of age. *Intervention Settings*	*Intervention: ADOC programme* (*n* = 23) 2 weekly sessions of 20 min for 16 weeks, based on the identification of meaningful occupations from 95 illustrations of daily occupations. *Control Group: Interventions focused on restoring skills* (*n* =	*HRQOL* SF-36 *ADLs* Barthel Index	*Significant Findings* The ADOC group had a significantly greater change in the Barthel index score, showing improved scores (P = 0.027, 95% CI): 0.41 to 6.87, intra-cluster correlation coefficient = 0.14). *Nonsignificant Findings* No other results were

		Residential (Japan)	21) 2 weekly sessions of 20 min for 16 weeks, based on muscle strength exercises and cognitive training.		significantly different.
Yoshida et al. (2018)	Level 1B RCT *Risk of Bias* Low	*Participants* *N*= 56 (*M* age, 80.9 years; 51% women). *Inclusion Criteria* Healthy adults over 65 years of age. *Intervention Settings* Residential (Japan)	*Intervention: Occupational therapy with challenge-skill balance adjustment* (*n* = 28) 1 session per week of 20 min for 10 weeks, focusing on individual performance of meaningful occupational activities, identifying factors hindering and improving occupational performance. *Control Group: Occupational therapy without challenge-skill balance adjustment* (*n* = 28) 1 session per week of 20 min for 10 weeks, performing conventional occupational therapy.	*HRQOL* • EQ-5D • SF-8 *Flow experience* Flow State Scale for Occupational Tasks *Occupational performance* COPM	*Significant Findings* Significant differences were observed in HRQOL according to the EQ-5D score (p= .022, d= 0.76), SF-8 (p= .001, d= 0.99), as well as in the flow experience, for which the Flow State Scale for Occupational Tasks was used (p= .008, d= 0.82). *Nonsignificant Findings* Although COPM satisfaction and performance scores showed a trend towards improvement within the experimental group, this difference was not significant.

Note. ADLs= Activities of daily living; ADOC= Aid for Decision-making in Occupation Choice; BS= Back Scratch Test; COPM= Canadian Occupational Performance Measure; CSAR= Chair Sit and Reach Test; EQ-5D= EuroQol-5D; EQ-5D-5L= EuroQol-5D-5L; HRQOL= Health-related quality of life; IADLs= Instrumental activities of daily living; LSI-Z= Life Satisfaction Index-Z; MMSE= Mini-Mental State Examination; RCT= randomized controlled trial; SF-8= Short Form Health Survey-8; SF-36= Short Form Health Survey-36; TUAG= Timed Up and Go Test; VAS= Visual Analogue Scale for pain; WHO-QOL26= World Health Organization Quality of Life-26.

Table S2.

Risk-of-Bias Table for Systematic Reviews (AMSTAR 2)

Citation	1	2	3	4	5	6	7	8	9	10	11	12	13
Arbesman & Lieberman (2012)	+	+	+	+	+	-	+	-	-	-	+	-	M

Note. Key = Yes (+), No (–), Not sure (?), Not applicable (NA). Scoring for overall risk-of-bias assessment is as follows: 0–3 minuses, low risk of bias (L); 4–6 minuses, moderate risk of bias (M); 7–9 minuses, high risk of bias (H).

1: All components of PICO addressed; 2: "a priori design" included?; 3: Explanation of the selection of the study designs for inclusion in the review?; 4: Comprehensive literature search performed?; 5: Authors perform study selection and data extraction in duplicate?; 6: List of excluded studies provided?; 7: Authors describe the included studies in adequate detail?; 8: Quality of studies (risk of bias) assessed and documented?; 9: Authors report on the sources of funding for the studies included in the review?; 10: Authors account for risk of bias in primary studies when interpreting/ discussing the results of the review?; 11: Satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?; 12: Authors report any potential sources of conflict of interest, including any funding they received for conducting the review?; 13: Overall risk of bias assessment (low, moderate, high risk).

Citation. Table format adapted from Shea, B. J., Reeves, B. C., Wells, G., Thuku, M., Hamel, C. Moran, J., . . . Henry, D. A. (2017). AMSTAR 2: A critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ, 358*, j4008. https://doi.org/10.1136/bmj.j4008

Table S3.

Risk-of-Bias Table for Randomized Controlled Trial (RCT) and Non-RCT

	Selection Bias (risk of bias arising from randomization process)			Performance Bias (effect of assignment to intervention)		Detection Bias		Attrition Bias	Reporting Bias	
Citation	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Kawamata et al. (2012)	+	?	+	+	-	+	?	+	+	L
Cichoki et al. (2015)	+	+	+	+	+	+	+	+	+	L
Nagayama et al. (2016)	+	+	+	+	+	?	?	+	+	L
Yoshida et al. (2018)	+	+	+	+	-	+	?	+	+	L
Johansson & Björklund (2015)	-	-	-	-	-	?	?	+	+	M

Note. Categories for risk of bias are as follows: Low risk of bias (+), unclear risk of bias (?), high risk of bias (–). Scoring for overall risk of bias assessment is as follows: 0–3 minuses, low risk of bias (L); 4–6 minuses, moderate risk of bias (M); 7–9 minuses, high risk of bias (H).

1: Random Sequence Generation; 2: Allocation Concealment (until participants enrolled and assigned); 3: Baseline differences between intervention groups (suggest problem with randomization?); 4: Blinding of Participants During the Trial; 5: Blinding of Study Personnel During the Trial; 6: Blinding of Outcome Assessment: Self-reported outcomes; 7: Blinding of Outcome Assessment: Objective Outcomes (assessors aware of intervention received?); 8: Incomplete Outcome Data (data for all or nearly all participants); 9: Selective Reporting (results being reported selected on the basis of the results?); 10: Overall risk of bias assessment (low, moderate, high risk).

Citation. Table format adapted from Higgins, J. P. T., Sterne, J. A. C., Savović, J., Page, M. J., Hróbjartsson, A., Boutron, I., . . . Eldridge, S. (2016). A revised tool for assessing risk of bias in randomized trials. *Cochrane Database of Systematic Reviews 2016*, Issue 10 (Suppl. 1), 29–31. https://doi.org//10.1002/14651858.CD201601

5.2. OCCVPATiONAL THERAPY iNTERVENTiONS TO iMPROVE THE QVALiTY OF LiFE OF OLDER ADVLTS WiTH DEMENTiA LiViNG iN NVRSiNG HOMES: A SYSTEMATiC REViEW.

healthcare

MDPI

Systematic Review

Occupational Therapy Interventions to Improve the Quality of Life of Older Adults with Dementia Living in Nursing Homes: A Systematic Review

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Abstract: The increase in older adults with dementia presents challenges in promoting research to improve the quality of life of this population. The objective of this study was to assess the scientific evidence on the effectiveness of occupational therapy interventions in improving the quality of life of older adults over 65 years old with dementia living in nursing homes. The databases used were PubMed, Web of Science, OTSeeker, clinicaltrials.gov, Dialnet, Scopus, Cochrane, and SciELO between 2013 and 2023. The studies were selected and evaluated according to the Cochrane guidelines. The review was carried out following the PRISMA 2020 Statement. Sixteen articles met the inclusion criteria and were categorized into four groups according to the focus of the intervention: "meaningful activities/occupations", "physical, cognitive and sensory functioning", "performance areas", and "physical and social environment and staff training". The strength of evidence was moderate, and the risk of bias was low. The findings revealed that occupational therapy interventions based on participation in recreational activities, reminiscence, performance-based activities and the physical and social environment, and specialized staff training, could improve the perceived quality of life of older adults with dementia living in nursing homes.

Keywords: occupational therapy; quality of life; older adults; dementia; nursing homes

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1. Introduction

Dementia is a major neurocognitive disorder characterized by significant cognitive decline compared to the previous level of performance in one or more cognitive domains (complex attention, executive function, learning and memory, language, perceptual motor function, or social cognition) which interferes with the individual's autonomy in daily activities [1].

Currently, more than 55 million older adults over 65 years old (8.1% of women and 5.4% of men) have dementia worldwide. This is expected to rise to 78 million by 2030 and 139 million by 2050 [2]. In addition, the prevalence of dementia among older adults living in nursing homes is highly variable, ranging from 16.1% to 85.2%, depending on factors such as the country, the method and timing used to conduct the research, and the degree of aging [3]. Therefore, addressing dementia has become a public health priority and a major socio-health problem, as its scope, size, and socio-economic impact present society with the challenge of promoting study and research to improve the well-being and quality of life (QoL) of this population group [4].

QoL is a multidimensional concept that has evolved throughout history and currently has multiple interpretations. Thus, it is difficult to find a single definition [5].

An integrative definition of the concept of QoL has been proposed by Fernández-Ballesteros [6], in which she proposes two classifications: the first one separates the socio-environmental factors (social support, financial conditions, health and social services, environmental quality, and cultural factors) and the personal factors (social relations, life satisfaction, participation in meaningful activities, health, and functional skills); and the second distinguishes between objective elements (physical environment, availability of social health services, objective health, social networks, and cultural factors) and subjective elements (health, social satisfaction, cultural needs, context evaluation, and functional skills). Taking all these factors into account, the concept of QoL assesses different dimensions of the person's life, through a comprehensive and complex approach.

Interventions from an occupational therapy (OT) perspective could be offered to older adults with dementia living in nursing homes, where they are provided with temporary or permanent accommodation and appropriate programs to improve their QoL and personal autonomy [7]. These interventions focus on and consider variables such as mental state, physical functioning, characteristics of the residential environment, health promotion, activities of daily living (ADLs), instrumental activities of daily living (IADLs), health management, education, leisure, and social participation [8]. From this perspective, OT interventions represent a vehicle for the promotion and maintenance of autonomy, health, and QoL of older adults with dementia [9].

However, previous literature reviews could not identify the existence of current systematic reviews summarizing the scientific evidence on the effectiveness of OT interventions in this particular population and setting. In the most recent systematic reviews on this topic, the population consisted of either healthy older adults [10] or patients with dementia but not as the primary diagnosis [11,12], or the study setting was not a nursing home [13,14].

Therefore, this study aims to systematically identify, evaluate, and summarize the scientific evidence on OT interventions to improve the QoL of older adults aged 65 and over with dementia living in nursing homes. The research question that guided the review was: What is the quality of the scientific evidence on the effectiveness of OT interventions to improve the QoL of older adults over 65 years old with dementia living in nursing homes?

2. Method

This systematic review was conducted following the Cochrane Collaboration methodology [15] and was reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA 2020) [16].

2.1. Search and Screening Strategy

The initial search process was carried out by the authors of this work in collaboration with a medical librarian experienced in conducting systematic reviews.

A formal literature search was conducted (10 July 2023 and 20 July 2023) in the following selected databases: PubMed, Web of Science (WOS), OTSeeker, clinicaltrials.gov, Dialnet, Scopus, Cochrane, and SciELO, using MeSH terms and keywords: "dementia", "occupational therapy", "quality of life", "aged", and "nursing home". Studies conducted from 2013 to 2023 in any language and country were included. The latest information has therefore been compiled as comprehensively as possible. We aimed to avoid any bias that might affect the information collected.

The search string used in the databases was:

- PubMed: (((dementia) AND (quality of life)) AND (aged)) AND (occupational therapy) AND (nursing home) → 60 results obtained.
- WOS: ((((ALL=(dementia)) AND ALL=(quality of life)) AND ALL=(aged))) AND ALL=(occupational therapy) → 264 results obtained.

- OTSeeker: [Any Field] like 'dementia' AND [Any Field] like 'quality of life' AND [Any Field] like 'occupational therapy' → 86 results obtained.
- clinicaltrials.gov: (dementia AND occupational therapy) → 51 results obtained.
- Dialnet: (occupational therapy, quality of life, dementia) → 67 results obtained.
- Scopus: (dementia AND quality AND of AND life AND occupational AND therapy AND nursing AND home) → 194 results obtained.
- Cochrane: (dementia AND quality of life AND occupational therapy AND nursing home) → 223 results obtained.
- SciELO: (dementia AND quality of life AND occupational therapy) → 22 results obtained.

2.2. Inclusion and Exclusion Criteria

The following eligibility criteria were established.

→ Inclusion criteria:

- Studies involving OT interventions in nursing homes.
- Studies in older adults over 65 years old of both genders with a formal diagnosis of dementia of any type and stage [1].
- Studies with a level of evidence 1a–1b to 2a–2b.
- Studies that include the MeSH terms in the keyword list.

→ Exclusion criteria:

- Studies with a primary focus on intervention other than OT and nursing homes. Older adults living at home or with their family, in the community, in hospitals, and in palliative care facilities.
- Studies that include healthy older adults or older adults with dementia but not as the primary diagnosis.
- Studies that do not contain any of the keywords.

Level 1a (systematic reviews of homogeneous randomized controlled trials [RCTs] with or without meta-analysis), level 1b (properly designed individual RCTs), level 2a (systematic review of cohort studies), and level 2b (individual prospective cohort studies, low-quality RCTs, ecological studies, two-group non-randomized studies) studies were included. Level 3a (systematic review of case-control studies), level 3b (individual retrospective case-control studies, non-randomized one-group pretest-post-test studies, and cohort studies), level 4 (case-series and poor-quality cohort and case-control studies), and level 5 (expert opinion without explicit critical appraisal: protocols, dissertations and theses, and editorials) studies were excluded [17].

2.3. Data Extraction and Analysis

Relevant information was collected from each included study and entered into a data collection form based on Cochrane recommendations [15], using Microsoft Excel®, version 16.16.21 software. Data collection was carried out independently by the researchers C.U. and S.A. Subsequently, the results of each investigator were compared until a consensus was reached. In addition, the entire data collection process was independently supervised by a third researcher (P.M.). Information on the following variables was collected: author/year, level of evidence, study design, risk of bias, participants, inclusion criteria, study setting, intervention and control group, outcome measures, and results. Finally, with the purpose of improving the comprehension, readability, and organization of the information presented on the OT intervention programs analyzed, the researchers C.U. and S.A. consensually grouped the studies according to the main objective or focus of intervention. In addition, a third researcher (P.M.) independently supervised the entire categorization process. Finally, the studies were categorized into four groups: (a) "meaningful activities/occupations", (b) "physical, cognitive and sensory functioning", (c) "performance areas", and (d) "physical and social environment and staff training" (see Tables 1–4).

Table 1. Characteristics of studies based on "Meaningful activities/occupations" intervention programs.

Author (Year)	Level of Evidence Study Design Risk of Bias	Participants Inclusion Criteria Study Setting	Intervention and Control Groups	Outcome Measures	Results
Travers et al. (2016) [18]	Level 1A Systematic review *Risk of bias* Low	*Participants* *N* = 3203 (*M* age, NR; % female, NR). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes	*Intervention: Promotion of meaningful activities* Recreational activities, music therapy, reminiscence therapy, sensory stimulation, animal-assisted therapy, and social participation. *Control group* Not applicable	Formal literature search in databases	*Significant findings* The promotion of meaningful activities successfully reduced agitation, passivity, and depression; increased pleasure and interest; and improved the QoL of older adults with dementia. *Not significant findings* None
Mansbach et al. (2017) [19]	Level 1B RCT *Risk of bias* Low	*Participants* *N* = 94 (*M* age, 82.9 years; 73.4% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes (USA)	*Intervention: "MemPics" program* (*n* = 48) Two weekly 30 min group sessions for 2 weeks consisting of verbal and cognitive stimulation activities. *Control group: Recreational activities* (*n* = 46) Two weekly 30 min group sessions for 2 weeks consisting of recreational activities (trivia questions, historical and current events, word games).	*QoL* MemPics Facility Staff Survey *Meaningful activities* EMAS *Cognitive functioning* BCAT-SF	*Significant findings* Significant differences were observed between groups with regard to participation in meaningful activities (EMAS) ($F(1.92) = 4.72$, $p < 0.05$). *Not significant findings* None
Livingston et al. (2019) [20]	Level 1B RCT *Risk of bias* Low	*Participants* *N* = 404 (*M* age, 86 years; 71.5% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes (UK)	*Intervention: "MARQUE" program* (*n* = 189) Three weekly 60 min group sessions for 2 weeks based on agitation management and improvement of QoL. *Control group: Usual care* (*n* = 215) Three weekly 60 min group sessions for 2 weeks based on usual care.	*QoL* - DEMQOL - EQ-5D-5L *Behavior* CMAI	*Significant findings* No significant differences were found between groups for agitation (difference −0.40, 95% CI: −3.89 to 3.09; $p = 0.82$) and QoL (difference = 0.09, 95% CI: −3.87 to 4.05; $p = 0.96$). *Not significant findings* None
Sultan Ibrahim et al. (2021) [21]	Level 1B RCT	*Participants*	*Intervention: "Occupation-based intervention" program* (*n* = 16)	*QoL* WHOQOL-BREF	*Significant findings*

	Risk of bias Low	*N* = 32 (*M* age, 75.9 years; 25% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes (Malaysia)	Two weekly 60 min group sessions for 7 weeks consisting of meaningful occupational and cognitive activities. *Control group: Usual care* (*n* = 16) Two weekly 60 min group sessions for 7 weeks of conventional OT.	*Cognitive functioning* LOTCA-G *Social relations* FS	The intervention group showed statistically significant improvements in QoL, cognitive function, and social relations ($p = 0.02$). *Not significant findings* None

Note. BCAT-SF = Brief Cognitive Assessment Tool-Short Form; CMAI = Cohen-Mansfield Agitation Inventory; DEMQOL = Dementia Quality of Life; EMAS = Engagement in Meaningful Activities Survey; EQ-5D-5L = EuroQol-5D-5L; FS = Friendship Scale; LOTCA-G = Lowenstein Occupational Therapy Cognitive Assessment-Geriatric; NR = Not Reported; WHOQOL-BREF = Brief Version of World Health Organization.

Table 2. Characteristics of studies based on "Physical, cognitive and sensory functioning" intervention programs.

Author (Year)	Level of Evidence Study Design Risk of Bias	Participants Inclusion Criteria Study Setting	Intervention and Control Groups	Outcome Measures	Results
Galik et al. (2014) [22]	Level 1B RCT *Risk of bias* Low	*Participants* *N* = 103 (*M* age, 83.7 years; 77% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes (USA)	*Intervention: Function-focused care intervention for older adults with dementia (FFC-CI)* (*n* = 51) Five weekly 45 min group sessions for 24 weeks consisting of an assessment of the physical environment, education program for nursing home staff, development of function-focused care goals, and mentoring and motivation. *Control group: Function-focused care based on education (FFC-ED)* (*n* = 52) Five weekly 30 min group sessions for 24 weeks consisting exclusively of a training program for nursing home residents and staff.	*Physical function* - Tinetti Scale - BI *Physical activity* ActiGraph *Behavior* CMAI *Depression* CSDD *Apathy* Apathy Evaluation Scale	*Significant findings* The intervention group showed statistically significant improvements in physical function (from 45.56 to 55.20, $p = 0.01$), and in the amount and intensity of physical activity (from 115.96 min to 126.05 min, $p = 0.01$, and from 20,309 to 86,288, $p = 0.01$), and had fewer falls (28% vs. 50% in the control group). *Not significant findings* No significant differences were found between groups with regard to psychosocial outcomes, agitation, depression, or apathy.
Chu et al. (2020) [23]	Level 2B Quasi-experimental *Risk of bias*	*Participants* *N* = 26 (*M* age, 86.8 years; 80.8% female).	*Intervention: "Multifaceted Walking Intervention" (MWI) program* (*n* = 15)	*QoL* ADRQOL *Physical function*	*Significant findings* The intervention group showed significant improvements in QoL ($p =$

	Moderate	*Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes (Canada)	Four weekly individual sessions for 16 weeks consisting of low-intensity physical activity and an individualized care plan. *Control group: Usual care* (n = 11) Four weekly individual sessions for 8 weeks consisting of usual care.	- TUG - 2MWT - Gait Speed *ADLs* FIM	0.057), functional mobility (measured with the TUG; improvement of 32.14%, p = 0.000; assessed with the 2MWT, improvement from 53.60 to 81.07, p = 0.000), gait speed (evaluated with the Gait Speed test; improvement of 55.11%, p = 0.000), and ADLs (assessed with the FIM scale; improvement of 25%, p = 0.000). *Not significant findings* None
Maseda et al. (2014) [24]	Level 1B RCT *Risk of bias* Low	*Participants* N = 30 (M age, 87.3 years; 90% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes (Spain)	*Intervention 1: Multisensory stimulation environment (MSSE)* (n = 10) Two weekly 30 min individual sessions for 16 weeks held in a "Snoezelen" room with elements to stimulate the senses. *Intervention 2: Individual activities* (n = 10) Two weekly 30 min individual sessions for 16 weeks in which intellectual and/or physical demands were placed on the individual through cognitive and recreational activities. *Control group: Usual care* (n = 10) Two weekly 30 min group sessions for 16 weeks of conventional OT (e.g., cognitive stimulation, training in ADLs).	*Behavior* - CMAI - NPINH *Cognitive functioning* - MMSE - CSDD *Depression* GDS *ADLs* BI	*Significant findings* The intervention group showed significant improvements in behavior (F (2.36) = 4.513, p = 0.18), cognitive level (F (1.12) = 5.457, p = 0.038), and ADLs (from 33 to 47 points). *Not significant findings* No improvement in mood was observed.
Raglio et al. (2015) [25]	Level 1B RCT *Risk of bias* Low	*Participants* N = 120 (M age, 81.7 years; 78.3% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting*	*Intervention 1: Standard care (SC) + music therapy (MT)* (n = 40) Two weekly 30 min individual sessions for 10 weeks consisting of physical, educational, and occupational activities + music therapy. *Intervention 2: Standard care (SC) + individualized listening to music (LtM)* (n = 40)	*QoL* CBS-QoL *Depression* CSDD *Behavior* NPI	*Significant findings* All groups had statistically significant improvements in depression (measured with the CSDD; p = 0.001), behavior (assessed with the NPI; p = ≤0.001), and QoL (assessed with the CBS-QoL; p = 0.01).

		Nursing homes (Italy)	Two weekly 30 min individual sessions for 10 weeks consisting of physical, educational, and occupational activities + individualized listening to music. *Control group: Standard care (SC)* (n = 40) Two weekly 30 min individual sessions for 10 weeks consisting exclusively of physical, educational, and occupational activities (no musical exposure).		*Not significant findings* None
Lök et al. (2019) [26]	Level 1B RCT *Risk of bias* Low	*Participants* N = 60 (M age, NR; 56.7% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes (Turkey)	*Intervention: Reminiscence therapy* (n = 30) One weekly 60 min group session for 8 weeks, consisting of recalling memories of relevant experiences, positive experiences, and achievements from the past. *Control group: No intervention* (n = 30) No intervention was provided.	*QoL* QOL-AD *Depression* CSDD *Cognitive functioning* SMMSE	*Significant findings* The intervention group showed statistically significant improvements in QoL, depression, and mental state ($p < 0.05$). *Not significant findings* None
Kim (2020) [27]	Level 1B RCT *Risk of bias* Low	*Participants* N = 35 (M age, 79.2 years; 74.3% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes (South Korea)	*Intervention: OT program based on recall* (n = 18) Five weekly 60 min sessions for 5 weeks. Nine programs were carried out for each activity (physical activity, music, art, horticulture, and IADLs). *Control group: Usual care* (n = 17) Five weekly 60 min sessions for 5 weeks consisting of physical activity, recreational, educational and occupational activities, and music therapy.	*QoL* GQOL-D *ADLs* FIM *Cognitive functioning* - K-MMSE - SMCQ *Depression* SGDS-K	*Significant findings* The intervention group showed statistically significant improvements in subjective memory impairment (from 5.83 to 4.16, $p < 0.05$), cognitive function (from 18.70 to 19.56, $p < 0.05$), depression (from 6.55 to 4.1, $p < 0.05$), and QoL (from 30.11 to 33.5, $p < 0.05$). *Not significant findings* None

Note. ADRQOL = Alzheimer's Disease-Related Quality of Life Scale; BI = Barthel Index; CBS-QoL = Cornell-Brown Scale for Quality of Life in Dementia; CMAI = Cohen-Mansfield Agitation Inventory; CSDD = Cornell Scale for Depression in Dementia; FIM = Functional Independent Measure; GDS = Geriatric Depression Scale; GQOL-D = Geriatric Quality of Life-Dementia; K-MMSE = Korean-Mini-Mental State Examination; MMSE = Mini-Mental State Examination; 2MWT = 2-Minute Walk Test; NPI = Neuropsychiatric Inventory; NPI-NH = Neuropsychiatric Inventory–Nursing Home; QOL-AD = Quality of Life in Alzheimer's Disease-Patient and Caregiver Report; SGDS-K = Short-Form Geriatric Depression Scale-K; SMCQ = Subjective Memory Complaints Questionnaire; SMMSE = Standardized Mini-Mental State Examination; TUG = Timed Up and Go Test.

Table 3. Characteristics of studies based on "Performance areas" intervention programs.

Author (Year)	Level of Evidence Study Design Risk of Bias	Participants Inclusion Criteria Study Setting	Intervention and Control Groups	Outcome Measures	Results
Kumar et al. (2014) [28]	Level 1B RCT *Risk of bias* Low	*Participants* *N* = 77 (*M* age, 69.4 years; 19.5% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes (India)	*Intervention: OT intervention + standard medical treatment* (*n* = 36) Two weekly 70 min individual sessions for 5 weeks consisting of relaxation exercises, physical activity, cognitive and recreational activities, ADLs and IADLs + pharmacological treatment. *Control group: Standard medical treatment* (*n* = 41) Individual pharmacological treatment for 5 weeks.	*QoL* WHOQOL-BREF Standard OT assessment	*Significant findings* The intervention group had significant improvements in the overall QoL domain (from 66.78 to 71.36, $p < 0.001$), physical domain (from 37.30 to 45.43, $p < 0.001$), environmental domain (from 37.76 to 38.62, $p = 0.006$), and psychological domain (from 45.13 to 51.50, $p < 0.001$). *Not significant findings* The intervention group showed no significant improvements in the social relations domain.
Murai & Yamaguchi (2017) [29]	Level 1B RCT *Risk of bias* Low	*Participants* *N* = 36 (*M* age, 85.4 years; 80.6% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes (Japan)	*Intervention: Cooking program* (*n* = 16) One weekly 90 min group session for 12 weeks consisting of cooking a Japanese-style menu. *Control group: Recreational activities* (*n* = 16) One weekly 90 min group session for 12 weeks consisting of recreational activities (volleyball, radio, gymnastics, choir).	*QoL* PGC *Behavior* DBD *ADLs* BI *Depression* GDS *Executive function* YKSST	*Significant findings* Significant differences were found between groups for executive function (measured with the YKSST) ($F(1.27) = 4.305$, $p = 0.048$) and behavior (assessed with the DBD scale) ($F(1.29) = 13.298$, $p = 0.001$). *Not significant findings* No significant differences were observed between groups regarding QoL, depression, and ADLs.
Möhler et al. (2018) [30]	Level 1A Systematic review *Risk of bias* Low	*Participants* *N* = 957 (*M* age, 83 years; % female, NR). *Inclusion criteria* Older adults over 65 years with dementia.	*Intervention: Promotion of personally tailored activities* IADLs, and recreational, artistic, and work-related activities. *Control group* Not applicable	Formal literature search in databases	*Significant findings* Offering personalized activities could improve the challenging behavior of older adults with dementia (standardized mean difference = −0.21, 95% CI: −0.49 to 0.08; I^2 = 50%).

		Study setting Nursing homes			*Not significant findings* None

Note. BI = Barthel Index; DBD = Dementia Behavior Disturbance; GDS = Geriatric Depression Scale; PGC = Philadelphia Geriatric Center Morale Scale; WHOQOL-BREF = Brief Version of World Health Organization; YKSST = Yamaguchi Kanji-Symbol Substitution Test.

Table 4. Characteristics of studies based on "Physical and social environment and staff training" intervention programs.

Author (Year)	Level of Evidence Study Design Risk of Bias	Participants Inclusion Criteria Study Setting	Intervention and Control Groups	Outcome Measures	Results
Wenborn et al. (2013) [31]	Level 1B RCT *Risk of bias* Low	*Participants* *N* = 159 (*M* age, 84.2 years; 67.2% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes (UK)	*Intervention: OT program* (*n* = 79) One 120 min group session every 3 weeks for 16 weeks consisting of an assessment of the physical environment of the nursing home, a training program for the nursing home staff, and the implementation of new personally meaningful activities. *Control group: Usual care* (*n* = 80) One 120 min group session every 3 weeks for 16 weeks, with no specific focus on training or new activities.	*QoL* - QOL-AD Patient - QOL-AD Caregiver *Dependence* CAPE-BRS *Challenging behavior* CBS *Depression* CSDD *Anxiety* RAID	*Significant findings* The staff-rated QoL (measured with the QOL-AD Caregiver) was slightly lower in the intervention group (mean difference of staff ratings = −1.91, 95% CI: −3.39 to −0.43, $p = 0.01$). *Not significant findings* No significant differences were found between groups for self-rated QoL (assessed with the QOL-AD Patient), dependence, challenging behavior, depression, and anxiety.
Ojagbemi & Owolabi, (2017) [9]	Level 1A Systematic review *Risk of bias* Low	*Participants* *N* = 1002 (*M* age, 78.6 years; 53% female). *Inclusion criteria* Older adults over 65 years with dementia. *Study setting* Nursing homes	*Intervention: OT intervention* Free time, sensorimotor and compensatory activities, IADLs, cognitive and relaxation exercises, staff training, and environmental modification. *Control group* Not applicable	Formal literature search in databases	*Significant findings* The exclusive use of OT interventions resulted in a slight overall improvement in the QoL of older adults with dementia. *Not significant findings* None
Froggatt et al. (2020) [32]	Level 1B RCT *Risk of bias* Low	*Participants* *N* = 32 (*M* age, 81.5 years; 47% female). *Inclusion criteria*	*Intervention: "Namaste Care" program* (*n* = 18) Seven weekly 120 min group sessions for 24 weeks, consisting of creative activities,	*QoL* - QUALID - CAD-EOLD	*Significant findings* The intervention group showed significant improvements in comfort

		Older adults over 65 years with dementia. *Study setting* Nursing homes (UK)	multisensory stimulation, social participation, and a training program for the nursing home staff. *Control group: Usual care* (n = 14) Seven weekly 120 min group sessions for 24 weeks consisting of usual care.	(measured with the CAD-EOLD scale) (from 34.8% to 37.6%). *Not significant findings* No significant differences were found between groups for QoL (assessed with the QUALID scale).

Note. CAD-EOLD = Comfort Assessment in Dying-End of Life Care in Dementia; CAPE-BRS = Clifton Assessment Procedures for the Elderly-Behavior Rating Scale; CBS = Challenging Behavior Scale; CSDD = Cornell Scale for Depression in Dementia; QOL-AD = Quality of Life in Alzheimer's Disease-Patient and Caregiver Report; QUALID = Quality of Life in Late Stage Dementia; RAID = Rating Anxiety in Dementia.

2.4. Risk of Bias

The risk of bias (low, moderate, or high) in each study included in the systematic review was assessed according to the Cochrane risk of bias assessment guidelines [33]. The guidelines for carrying out a Cochrane risk of bias assessment cover five domains of bias: selection bias, performance bias, detection bias, attrition bias, and information bias. Within each domain, the assessment is performed for one or more items, which may cover different aspects of the domain. To determine the overall risk of bias, a risk of bias category must first be assigned for each item. The categories for risk of bias are as follows: low risk of bias (+), unclear risk of bias (?), and high risk of bias (−). The total number of minuses (−) is then summed. Finally, the overall risk of bias in each study is classified as low (L) (0–3 minuses), moderate (M) (4–6 minuses), or high (H) (7–9 minuses). The risk of bias in the systematic reviews included was assessed using the AMSTAR 2 guidelines [34]. The AMSTAR 2 guidelines consist of 12 assessment items, each of which relates to specific aspects of the method used to conduct the systematic review. To determine the overall risk of bias, each item must first be assessed by determining whether the systematic review meets that criterion by assigning a yes (+), no (−), not sure (?), or not applicable (NA). The total number of minuses (−) is then summed. Finally, the overall risk of bias in each study is classified as low (L) (0–3 minuses), moderate (M) (4–6 minuses), or high (H) (7–9 minuses). Two researchers (C.U. and S.A.) independently assessed the risk of bias. The results were then compared collaboratively to reach a consensus. Next, the results were independently reviewed by a third researcher (P.M.). Tables 5 and 6 show the risk of bias assessment of the included studies.

Table 5. Risk-of-Bias Table for Systematic Reviews (AMSTAR 2).

Citation	1	2	3	4	5	6	7	8	9	10	11	12	13
Travers et al. [18]	+	+	+	+	+	+	+	+	+	+	+	+	L
Ojagbemi & Owolabi (2017) [9]	+	+	+	+	+	+	+	+	+	+	+	+	L
Möhler et al. [30]	+	+	+	+	+	+	+	+	+	+	+	+	L

Note. 1: All components of PICO addressed; 2: "a priori design" included? 3: Explanation of the selection of the study designs for inclusion in the review? 4: Comprehensive literature search performed? 5: Authors perform study selection and data extraction in duplicate? 6: List of excluded studies provided? 7: Authors describe the included studies in adequate detail? 8: Quality of studies (risk of bias) assessed and documented? 9: Authors report on the sources of funding for the studies included in the review? 10: Authors account for risk of bias in primary studies when interpreting/discussing the results of the review? 11: Satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 12: Authors report any potential sources of conflict of interest, including any funding they received for conducting the review? 13: Overall risk of bias assessment (low, moderate, high risk). *Citation.* Table format adapted from Shea et al. [34].

Table 6. Risk-of-Bias Table for Randomized Controlled Trial (RCT) and Non-RCT.

	Selection Bias (Risk of Bias Arising from Randomization Process)			Performance Bias (Effect of Assignment to Intervention)		Detection Bias		Attrition Bias	Reporting Bias	Overall Risk of Bias Assessment
Citation	1	2	3	4	5	6	7	8	9	10
Wenborn et al. [31]	+	+	+	?	?	+	+	+	+	L
Galik et al. [22]	+	+	+	?	?	+	+	+	+	L
Kumar et al. [28]	+	+	+	+	+	+	-	+	+	L
Maseda et al. [24]	+	+	+	+	+	+	+	+	+	L
Raglio et al. [25]	+	+	+	+	?	+	+	+	+	L
Murai & Yamaguchi [29]	+	+	+	+	?	+	+	+	+	L
Mansbach et al. [19]	+	+	+	+	+	+	+	+	+	L

Lök et al. [26]	+	+	+	?	-	+	+	+	+	L
Livingston et al. [20]	+	+	+	+	-	+	+	+	+	L
Chu et al. [23]	-	-	+	-	-	-	+	+	+	M
Froggatt et al. [32]	+	+	+	-	-	+	-	+	+	L
Kim et al. [27]	+	+	+	+	?	+	+	+	+	L
Sultan Ibrahim et al. [21]	+	+	+	+	+	+	+	+	+	L

Note. 1: Random sequence generation; 2: Allocation concealment (until participants enrolled and assigned); 3: Baseline differences between intervention groups (suggest problem with randomization?); 4: Blinding of participants during the trial; 5: Blinding of study personnel during the trial; 6: Blinding of outcome assessment: self-reported outcomes; 7: Blinding of outcome assessment: objective outcomes (assessors aware of intervention received?); 8: Incomplete outcome data (data for all or nearly all participants); 9: Selective reporting (results being reported selected on the basis of the results?); 10: Overall risk of bias assessment (low, moderate, high risk). *Citation.* Table format adapted from Higgins et al. [33].

2.5. Overall Strength of Evidence

The strength of the evidence was assessed based on the guidelines developed by the U.S. Preventive Services Task Force [35]. In short, for each topic, the levels of strength of evidence are high strength of evidence, which consists of two or more well-designed RCTs whose conclusions are unlikely to be affected by the results of future studies; moderate strength of evidence, which consists of at least one high-quality RCT or multiple moderate quality studies; and the low strength of evidence, which involves a limited number of incomplete and low-quality studies.

3. Results

The literature search identified 967 studies, of which 48 were subjected to a full-text review. Sixteen studies met the eligibility criteria and were included in the analysis (see Figure 1).

Sixteen studies involved OT interventions to improve the QoL of older adults with dementia living in nursing homes. Three level 1a studies were identified [9,18,30]. Twelve level 1b studies were identified [19–22,24–29,31,32]. A single level 2b study was identified [23]. Fifteen studies showed a low risk of bias, and one study met the criteria for a moderate risk of bias (see Tables 1–6).

The sixteen studies were categorized into four groups according to the primary objective or focus of intervention: (a) "meaningful activities/occupations", (b) "physical, cognitive and sensory functioning", (c) "performance areas", and (d) "physical and social environment and staff training". For group (a) "meaningful activities/occupations", four studies (25.0%) were identified [18–21]. For group (b) "physical, cognitive and sensory functioning", six studies (37.5%) were identified, which were divided into two subgroups: (b1) physical activity [22,23], and (b2) cognitive and sensory functioning [24–27]. Regarding group (c) "performance areas", three studies (18.7%) were included [28–30]. Regarding group (d) "physical and social environment and staff training", three studies (18.7%) were identified [9,31,32]. The characteristics of each study and their outcome measures are described in Tables 1–4.

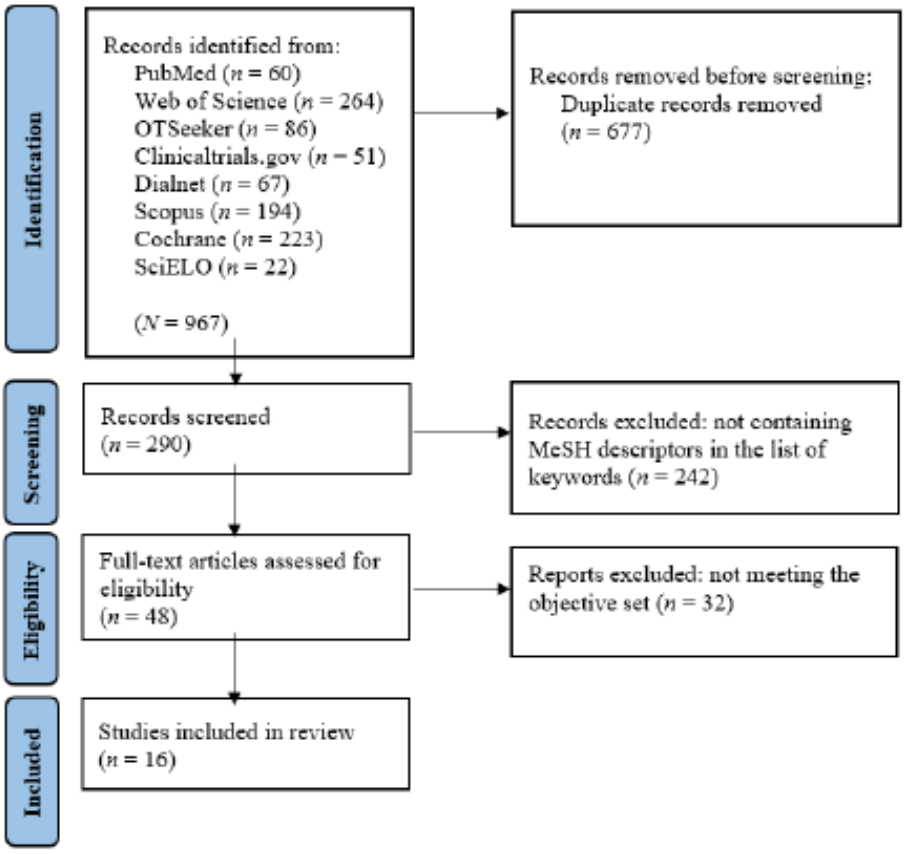

Figure 1. PRISMA flow diagram. *Note.* Figure format adapted from Moher et al. [36].

(a) Meaningful activities/occupations

Meaningful activities/occupations were the primary intervention in four of the included studies [18–21].

Mansbach et al. [19] (level 1b evidence) conducted an intervention program called "MemPics", designed to promote meaningful activities and improve QoL for older adults with dementia by engaging them in verbal activities (e.g., fun and stimulating conversations, prompting questions for further conversation) and cognitive stimulation (e.g., reminiscence therapy). The results showed increased engagement in meaningful activities (Engagement in Meaningful Activities Survey [EMAS]) and improved the QoL of the intervention group (assessed with the MemPics Facility Staff Survey).

Livingston et al. [20] (level 1b evidence) developed an intervention program called "MARQUE", designed to promote agitation management and improve QoL in older adults with dementia through their participation in six sessions (psycho-education on dementia, staff experiences in agitation management, stress reduction techniques, communication, a "Call to Mind" board game to discover participants' interests, and incorporation of meaningful activities into the daily care of older adults). After the 8-month follow-up, no significant differences were observed between the groups for the level of agitation and QoL (assessed with the Dementia Quality of Life [DEMQOL] and the EuroQol-5D-5L [EQ-5D-5L]).

Sultan Ibrahim et al. [21] (level 1b evidence) conducted a program called "Occupation-based intervention", consisting of cognitive activities (e.g., image recognition and categorization, memory, sensory recognition) as well as meaningful occupational activities (e.g.,

personal hygiene, cooking, money management, shopping, leisure, and recreational activities). The results showed a significant improvement in cognitive function (evaluated with the Lowenstein Occupational Therapy Cognitive Assessment-Geriatric [LOTCA-G]), social relations (measured with the Friendship Scale [FS]), and QoL (assessed with the Brief Version of World Health Organization-Quality of Life [WHOQOL-BREF]) of the participants.

The results of the above studies are consistent with those of the systematic review with meta-analysis conducted by Travers et al. [18] (level 1a evidence) to determine the effectiveness of the use of meaningful activities (individualized recreational activities, reminiscence therapy, music therapy, multi-sensory stimulation, staff training to provide individual care, animal-assisted therapy, and social interaction) in addressing behavioral and psychological symptoms (agitation, aggression, depression, wandering, and apathy), and improving the QoL of older adults with dementia. The results revealed beneficial effects as a result of the promotion of individualized recreational activities, reminiscence therapy, and music therapy on the reduction of agitation, depression, and anxiety, as well as an improvement in cognitive functioning and QoL of the residents.

(b) Physical, cognitive, and sensory functioning

This section presents the studies grouped into sub-themes, according to the main findings of each study.

(b1) Physical activity

Physical activity was the primary intervention in two studies [22,23].

Galik et al. [22] (level 1b evidence) conducted a function-focused care intervention program for older adults with dementia (FFC-CI). The intervention included four components: (I) assessment of the physical environment of the nursing home in order to identify architectural barriers when implementing the intervention; (II) training program on FFC-CI for the nursing home staff; (III) development of function-focused care goals (active participation of residents in self-care, household, mobility, physical activity, and dance); and (IV) continuous training and motivation of staff to involve residents in activities that promote their activity and functioning. The results showed significant improvements in the amount and intensity of physical activity (measured with ActiGraph) and physical function (assessed with the Tinetti Scale and Barthel Index [BI]) of older adults, as well as a decrease in the number of falls in the intervention group, resulting in an improvement in their QoL.

Chu et al. [23] (level 2b evidence) carried out a quasi-experimental study consisting of the implementation of a program called "Multifaceted Walking Intervention", which included low-intensity physical activity (walking session) and an individualized care plan (communication, social interaction, behavior, personality, values, and preferences of the resident). After a four-month intervention, the results showed significant improvements in the functional mobility (Timed Up and Go Test [TUG] and 2-Minute Walk Test [2MWT]), ADLs (Functional Independence Measure [FIM]), and QoL (Alzheimer's Disease-Related Quality of Life [ADRQOL] Scale) of the participants.

(b2) Cognitive and sensory activities

The primary intervention focused on cognitive and sensory functioning in four studies [24–27].

Maseda et al. [24] (level 1b evidence) assessed the effect of multisensory stimulation on the behavior, mood, and cognitive and functional levels of residents with dementia. To this end, a "Snoezelen" room with different elements for the stimulation of the senses (e.g., fiber optic cables, water columns, a vibrating waterbed, screen projectors, different music and sounds, aromatherapy, and different textures) and individualized activities (e.g., playing cards, taking questionnaires, and looking at photographs) were used. The results showed significant improvements in the behavior (measured with the Cohen-Mansfield Agitation Inventory [CMAI]), cognitive level (evaluated with the Mini-Mental State Examination [MMSE]), and ADLs (assessed with the BI) of the intervention group.

Raglio et al. [25] (level 1b evidence) conducted a study to explore the effects of an intervention based on music therapy and individualized listening to music on QoL, behavior, and mood in older adults with dementia. Participants were randomly assigned to one of the following three interventions: (I) standard care, which consists of physical (e.g., motor rehabilitation), educational, and occupational activities (e.g., self-care, reading the newspaper, playing cards), with no musical exposure; (II) music therapy and standard care, based on the use of instruments, singing, rhythm, and music production; and (III) individualized listening to music and standard care, focused on listening to personalized music on a one-to-one basis. The findings revealed significant improvements in QoL (measured with the Cornell-Brown Scale for Quality of Life in Dementia [CBS-QoL]), behavior (assessed with the Neuropsychiatric Inventory [NPI]), and mood (measured with the Cornell Scale for Depression in Dementia [CSDD]) for all groups, regardless of the intervention received.

Lök et al. [26] (level 1b evidence) explored the effect of reminiscence therapy on the QoL, cognitive function, and mood of participants. The sessions included recalling memories of childhood experiences, festivals, memorable places visited, favorite foods and music, major historical events, and achievements, using different materials such as photographs, household items, objects from the past, old music, and food. The results indicated a significant improvement in the cognitive function (measured with the MMSE), depressive symptoms (evaluated with the CSDD), and QoL (assessed with the QOL-AD) of older adults with dementia.

Kim [27] (level 1b evidence) explored the effectiveness of a reminiscence-based program on cognitive function, mood, and QoL of residents with dementia. The sessions included physical, musical, artistic, and horticultural activities, and IADLs. Each activity was divided by content according to childhood, adulthood, and late adulthood memories. The results showed a significant improvement in the cognitive function (measured with the Korean-Mini-Mental State Examination [K-MMSE]), depression (assessed with the Short-Form Geriatric Depression Scale-K [SGDS-K]), and QoL (measured with the QOL-AD Scale) of participants.

(c) Performance areas

In three studies, performance-based activities were the primary intervention [28–30].

Kumar et al. [28] (level 1b evidence) explored the effects of an OT program to improve the QoL of older adults with dementia, through their participation in ADLs (care of hair, skin, nails and teeth, general cleanliness, dressing), IADLs (bed making, money counting), physical activity (exercises aimed at maintaining strength, mobility, and circulation), cognitive activities (reading aloud, dual-task activity, solving puzzles), recreational activities (watching TV, board games, quizzes, storytelling, singing), relaxation exercises, and pharmacological treatment. The results showed an improvement in the QoL (measured with the WHOQOL-BREF) of the participants.

Murai and Yamaguchi [29] (level 1b evidence) assessed the effects of a cooking program based on the principles of brain-activating rehabilitation on the QoL, executive function, behavior, mood, and ADLs of the participants. The program consisted of cooking 12 homemade Japanese-style dishes (e.g., miso soup with tofu and seaweed, *udon* noodles), in which different activities, such as knife cutting, boiling, grilling, and seasoning, were carried out. The results showed significant improvements in the executive function (measured with the Yamaguchi Kanji-Symbol Substitution Test [YKSST]) and behavior (assessed with the Dementia Behavior Disturbance [DBD] Scale) of the participants.

The results of the above studies are consistent with those of the systematic review with a meta-analysis conducted by Möhler et al. [30] (level 1a evidence) to assess the effects of personally tailored activities (IADLs, such as household chores and meal preparation; artistic activities, such as painting and singing; work-related activities, such as gardening; and recreational activities, such as games) on the improvement of the psychosocial outcomes and QoL of older adults with dementia. This study concluded that

offering personally tailored activities to people with dementia in long-term care could slightly improve challenging behavior.

(d) Physical and social environment and staff training

Activities based on the physical environment, social environment, and staff training were the primary interventions in three studies [9,31,32].

Wenborn et al. [31] (level 1b evidence) developed an OT program that included an assessment of the physical environment of the nursing home, with recommendations on how to adapt and improve it to enable residents to be active. In addition, a training program for nursing home staff, consisting of group discussions, didactic teaching, and practical exercises was designed. This training program aimed, on the one hand, to improve the knowledge, attitudes, and skills of the staff to provide personally meaningful activities, and, on the other hand, to identify the interests and abilities of the residents to carry them out, in order to redesign and subsequently conduct new meaningful activities (self-care, domestic activities, music therapy, sensory stimulation, and physical exercise activities) adapted to each participant. At the quarterly follow-up, staff-rated QoL (measured with the Quality of Life in Alzheimer's Disease—Patient and Caregiver Report [QOL-AD] Scale) was slightly lower in the intervention group.

Froggatt et al. [32] (level 1b evidence) conducted an intervention program called "Namaste Care", focused on improving the physical environment, comfort, and sensory engagement of residents with dementia, in which personalized and structured care (creative activities, multisensory stimulation, social participation, and a training program for nursing home staff) was provided in a specific space (cozy and homely, with natural light, relaxing music, and aromatherapy). After a six-month intervention, the results revealed a significant improvement in the comfort (assessed with the Comfort Assessment in Dying-End of Life Care in Dementia [CAD-EOLD] Scale) of the participants.

The results of the above studies are consistent with those of the systematic review with meta-analysis conducted by Ojagbemi and Owolabi [9] (level 1a evidence), which aimed to explore the effects of OT interventions (compensatory and environmental modification activities; training for nursing home staff; relaxation exercises; sensorimotor activities, e.g., video viewing; recreational activities, e.g., playing musical instruments; cognitive activities, e.g., word games; and IADLs, e.g., caring for farm animals) on the QoL of older adults with dementia. This study concluded that OT interventions resulted in small improvements in the overall QoL of this population.

4. Discussion

This systematic review aimed to assess the scientific evidence on the effectiveness of OT interventions on improving the QoL of older adults over 65 years old with dementia living in nursing homes.

First, the intervention programs focused on meaningful activities and occupations and structured according to individual changes in activities based on the preferences and wishes of each participant, the type and stage of dementia, and the functional ability of the older adult with dementia to perform them [18–20], or specific programs of activities and occupations [21], show therapeutic effects on the behavioral and psychological symptoms of dementia, which in turn positively influence the perception of the QoL.

Individualized recreational activities/occupations such as music or painting show a high strength of evidence for the improvement of agitation, depression, anxiety, and mood. Also, reminiscence activities have positive effects on the cognitive functioning and QoL of residents [18].

Verbal and communication-enhancing activities [19] and meaningful occupational activities [21] show a moderate strength of evidence for the improvement of social relationships, cognitive function, and QoL. However, no improvement in agitation in older adults with dementia is observed with psycho-education and stress reduction activities [20].

Overall, these results are consistent with those of Testad et al. [37], which support the value of personalized enjoyable activities, with and without social interaction, for the treatment of dementia symptoms such as depression, anxiety, and challenging behavior. These interventions require the design of tailored activities to meet the individual characteristics of each participant. Therefore, OT professionals play a key role in selecting activities that are adapted to the needs, interests, and degree of impairment of people with dementia in nursing homes [38].

However, the findings show that the level of activity in nursing homes for people with dementia remains low [31]. Therefore, it is essential to offer meaningful activities and to increase the level of activity, for which professionals need knowledge, skills, and tools [39].

In summary, the design and delivery of individualized activities and occupations seem to be beneficial for older adults with dementia, as they facilitate the improvement of behavioral symptoms, anxiety and depression, cognitive functioning, social relationships, and QoL [21].

Second, intervention programs focusing on physical [22,23], cognitive, and sensory activities [24–27] have therapeutic effects on the physical function, mood, cognitive level, and QoL of residents.

Person-centered physical activity programs that provide physical activities tailored to each individual show moderate strength of evidence in improving the physical function, functional mobility, reduction of falls, ADLs, and QoL in older adults with dementia. In addition, they increase treatment adherence [22,23].

It should also be noted that multisensory stimulation activities complemented with individualized cognitive activities [24], and those based on reminiscence or recall [26,27], show moderate strength of evidence in improving the cognitive function, behavior, mood (depressive symptoms), and QoL of residents. However, music therapy and individualized listening to music show no significant effects on the behavioral and psychological symptoms of dementia [25].

These findings are supported by previous research which identified improvements in mental state and physical functioning associated with increased personal autonomy in older adults with dementia living in nursing homes [40,41].

In short, the design of physical, cognitive, and sensory activity programs seems to be effective in promoting the improved physical, cognitive, and emotional functioning and QoL of older adults with dementia living in nursing homes [22,27].

Third, intervention programs based on performance areas such as ADLs, IADLs, health management activities, work-related activities, and recreational and leisure activities [28–30] show therapeutic effects on the physical functioning, and behavioral and psychological symptoms of dementia and the QoL of the residents.

Personally tailored activities programs based on the performance of IADLs, work-related activities, and recreational and leisure activities show a high strength of evidence for the improvement of challenging behavior (restlessness, agitation, and aggression) of older adults with dementia [30].

In addition, programs for the improvement of ADLs performance and health management [28], as well as cooking activities in a group format [29], indicate moderate strength of evidence in improving the physical performance, behavior, executive function, and QoL of the residents.

These results are in line with those of Korczak et al. [42], which support the value of performance area-based activities, taking into account the individual's functional ability to perform the activity and the degree of dementia, for the improvement of the behavior, functional independence, and QoL.

In short, the design and delivery of performance area-based activities seem to be beneficial for older adults with dementia, as they facilitate the improvement of the behavioral symptoms, physical function, functional independence, and QoL [28].

Finally, intervention programs aimed at modifying the physical and social environment and staff training [9,31,32] positively affect the comfort of the residents and thus their QoL.

The specialized training of staff and environmental modification programs show a high strength of evidence for the overall improvement of the QoL in older adults with dementia by improving functional independence and increasing the individual's control over their immediate environment [9].

Moreover, the findings indicate with moderate strength of evidence [31,32] that such programs can significantly improve resident comfort.

In short, strategies aimed at improving the QoL in people over 65 years old with dementia should follow a two-fold approach. On the one hand, personalized programs that include ADLs, IADLs, recreational and leisure activities, and reminiscence activities, all of which with a strong social component, are required. On the other hand, adapting the residential environment is essential, with particular attention to the specialized training of the nursing home staff [9,32,43].

4.1. Implications for Practice, Policy, and Future Research

- The ability to choose meaningful activities and occupations in which the level of challenge is tailored to the type and stage of dementia and the functional capacity of the older adult with dementia to perform them are key elements in the design of intervention programs for the improvement of the QoL.
- It is essential to increase the level of activity of the residents. Therefore, modifications to residential environments are necessary, including a wider range and variety of activities, organizational changes that favor greater choice for older adults, and the provision of specialized training for healthcare professionals working in nursing homes.
- OT professionals could encourage older adults with dementia to participate in physical, cognitive, sensory, social, and performance area-based activities tailored to their needs, interests, and degree of impairment in order to enhance their well-being and QoL.
- Interventions focused on ADLs, IADLs, reminiscence activities, and recreational and leisure activities from a person-centered approach could improve the physical and cognitive functioning, behavioral and psychological symptoms of dementia, and QoL of residents.
- Future research should focus on such interventions, as well as on the formulation of new policies that consider such an approach.

4.2. Limitations

First, this review was limited by the heterogeneity of studies focused on improving the QoL of older adults with dementia living in nursing homes, in terms of the type, frequency, and duration of OT interventions; QoL measurements; and outcomes. Therefore, the impact of OT interventions on the QoL of this population cannot be fully ascertained. Second, articles indexed in other literature databases were excluded, which might have left out a significant number of related studies. Finally, only articles published in serialized journals were included, so unpublished articles or searches in the gray literature were not taken into account, which may be a valuable source for materials dealing with the specific review question.

5. Conclusions

OT intervention programs based on participation in recreational and free-time activities, reminiscence activities, performance-based activities and the physical and social environment, and specialized staff training, on a frequent and regular basis, and which take into account the interests and abilities of the residents could improve physical and cognitive functioning, behavioral and psychological symptoms of dementia, and the perceived QoL of older adults with dementia living in nursing homes. Therefore, we consider that

the current findings can be used as a basis for the design of future intervention programs for the improvement of the QoL of older adults with dementia, as well as to inform care practices and service provision in nursing homes. However, due to the aforementioned limitations of this systematic review, the results should be viewed with caution, and improved studies are required. For future research, it would be necessary to unify the intervention programs in terms of frequency, duration, methodology, and the instruments used to measure QoL.

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References

1. American Psychiatric Association. DSM-5 Task Force. In *Diagnostic and Statistical Manual of Mental Disorders: DSM-5™*, 5th ed.; American Psychiatric Publishing, Inc.: Arlington, VA, USA, 2013. https://doi.org/10.1176/appi.books.9780890425596.
2. World Health Organization. *Dementia;* WHO: Geneva, Switzerland, 2023. Available online: https://www.who.int/news-room/fact-sheets/detail/dementia (accessed on 11 July 2023).
3. Kao, Y.H.; Hsu, C.C.; Yang, Y.H. A Nationwide Survey of Dementia Prevalence in Long-Term Care Facilities in Taiwan. *J. Clin. Med.* **2022**, *11*, 1554. https://doi.org/10.3390/jcm11061554.
4. World Health Organization. *Global Action Plan on the Public Health Response to Dementia 2017–2025;* WHO: Geneva, Switzerland, 2017. Available online: https://apps.who.int/iris/bitstream/handle/10665/259615/9789241513487-eng.pdf?sequence=1 (accessed on 12 July 2023).
5. Boggatz, T. Quality of life in old age—A concept analysis. *Int. J. Older People Nurs.* **2016**, *11*, 55–69. https://doi.org/10.1111/opn.12089.
6. Fernández-Ballesteros, R. Quality of Life in old life. Some problematic issues. *Appl. Res. Qual. Life* **2011**, *11*, 21–40. https://doi.org/10.1007/s11482-010-9110-x.
7. Imserso. *Los Centros Residenciales*. 16 December 2022. Available online: imserso.es/centros/centros-personas-mayores/centros-residenciales (accessed on 12 July 2023).
8. American Occupational Therapy Association. Occupational therapy practice framework: Domain and process (4th ed.). *Am. J. Occup. Ther.* **2020**, *74* (Suppl. 2), 7412410010. https://doi.org/10.5014/ajot.2020.74S2001.
9. Ojagbemi, A.; Owolabi, M. Do occupational therapy interventions improve quality of life in persons with dementia? A meta-analysis with implications for future directions. *Psychogeriatr. Off. J. Jpn. Psychogeriatr. Soc.* **2017**, *17*, 133–141. https://doi.org/10.1111/psyg.12201.
10. Portillo, C.U.; Calvo Arenillas, J.I.; Miralles, P.M. Occupational Therapy Interventions for the Improvement of the Quality of Life of Healthy Older Adults Living in Nursing Homes: A Systematic Review. *Am. J. Health Promot.* **2023**, *37*, 698–704. https://doi.org/10.1177/08901171221145159.
11. Tokolahi, E.; Hocking, C.; Kersten, P.; Vandal, A.C. Quality and Reporting of Cluster Randomized Controlled Trials Evaluating Occupational Therapy Interventions: A Systematic Review. *OTJR Occup. Particip. Health* **2016**, *36*, 14–24. https://doi.org/10.1177/1539449215618625.
12. Kirsh, B.; Martin, L.; Hultqvist, J.; Eklund, M. Occupational Therapy Interventions in Mental Health: A literature review in search of evidence. *Occup. Ther. Ment. Health* **2019**, *35*, 109–156. https://doi.org/10.1080/0164212X.2019.1588832.
13. Bennett, S.; Laver, K.; Voigt-Radloff, S.; Letts, L.; Clemson, L.; Graff, M.; Wiseman, J.; Gitlin, L. Occupational therapy for people with dementia and their family carers provided at home: A systematic review and meta-analysis. *BMJ Open* **2019**, *9*, e026308. https://doi.org/10.1136/bmjopen-2018-026308.
14. Birken, M.; Wenborn, J.; Connell, C. Randomised controlled trials of occupational therapy interventions for adults with a mental health condition or dementia: A systematic review of study methods and outcome measurement. *Br. J. Occup. Ther.* **2022**, *85*, 761–778. https://doi.org/10.1177/03080226221086206.
15. Higgins JP, T.; Thomas, J.; Chandler, J.; Cumpston, M.; Li, T.; Page, M.J.; Welch, V.A. (Eds.). *Cochrane Handbook for Systematic Reviews of Interventions*, 2nd ed.; Wiley: Hoboken, NJ, USA, 2019. https://doi.org/10.1002/9781119536604.

16. Page, M.J.; McKenzie, J.E.; Bossuyt, P.M.; Boutron, I.; Hoffmann, T.C.; Mulrow, C.D.; Shamseer, L.; Tetzlaff, J.M.; Akl, E.A.; Brennan, S.E.; et al. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ* **2021**, *372*, 71. https://doi.org/10.1136/bmj.n71.
17. Oxford Centre for Evidence-Based Medicine. *Oxford Centre for Evidence-Based Medicine: Levels of Evidence (March 2009)*; Oxford Centre for Evidence-Based Medicine: Oxford, UK, 2009. Available online: https://www.cebm.ox.ac.uk/resources/levels-of-evidence/oxford-centre-for-evidence-based-medicine-levels-of-evidence-march-2009 (accessed on 13 July 2023).
18. Travers, C.; Brooks, D.; Hines, S.; O'Reilly, M.; McMaster, M.; He, W.; MacAndrew, M.; Fielding, E.; Karlsson, L.; Beattie, E. Effectiveness of meaningful occupation interventions for people living with dementia in residential aged care: A systematic review: A systematic review. *JBI Database Syst. Rev. Implement. Rep.* **2016**, *14*, 163–225. https://doi.org/10.11124/JBISRIR-2016-003230.
19. Mansbach, W.E.; Mace, R.A.; Clark, K.M.; Firth, I.M. Meaningful Activity for Long-Term Care Residents with Dementia: A Comparison of Activities and Raters. *Gerontologist* **2017**, *57*, 461–468. https://doi.org/10.1093/geront/gnv694.
20. Livingston, G.; Barber, J.; Marston, L.; Stringer, A.; Panca, M.; Hunter, R.; Cooper, C.; Laybourne, A.; La Frenais, F.; Reeves, S.; et al. Clinical and cost-effectiveness of the Managing Agitation and Raising Quality of Life (MARQUE) intervention for agitation in people with dementia in care homes: A single-blind, cluster-randomised controlled trial. *Lancet Psychiatry* **2019**, *6*, 293–304. https://doi.org/10.1016/S2215-0366(19)30045-8.
21. Sultan Ibrahim, S.A.; Dahlan, A.; Che Daud, A.Z. Effects of Occupation-Based Intervention for Older People with Mild Dementia in the Institution. *Environ. Behav. Proc. J.* **2021**, *6*, 119–125. https://doi.org/10.21834/ebpj.v6i16.2727.
22. Galik, E.; Resnick, B.; Hammersla, M.; Brightwater, J. Optimizing function and physical activity among nursing home residents with dementia: Testing the impact of function-focused care. *Gerontologist* **2014**, *54*, 930–943. https://doi.org/10.1093/geront/gnt108.
23. Chu, C.H.; Puts, M.; Brooks, D.; Parry, M.; McGilton, K.S. A Feasibility Study of a Multifaceted Walking Intervention to Maintain the Functional Mobility, Activities of Daily Living, and Quality of Life of Nursing Home Residents with Dementia. *Rehabil. Nurs. Off. J. Assoc. Rehabil. Nurses* **2020**, *45*, 204–217. https://doi.org/10.1097/rnj.0000000000000186.
24. Maseda, A.; Sánchez, A.; Marante, M.P.; González-Abraldes, I.; Buján, A.; Millán-Calenti, J.C. Effects of Multisensory Stimulation on a Sample of Institutionalized Elderly People with Dementia Diagnosis: A Controlled Longitudinal Trial. *Am. J. Alzheimer's Dis. Other Dement.* **2014**, *29*, 463–473. https://doi.org/10.1177/1533317514522540.
25. Raglio, A.; Bellandi, D.; Baiardi, P.; Gianotti, M.; Ubezio, M.C.; Zanacchi, E.; Granieri, E.; Imbriani, M.; Stramba-Badiale, M. Effect of Active Music Therapy and Individualized Listening to Music on Dementia: A Multicenter Randomized Controlled Trial. *J. Am. Geriatr. Soc.* **2015**, *63*, 1534–1539. https://doi.org/10.1111/jgs.13558.
26. Lök, N.; Bademli, K.; Selçuk-Tosun, A. The effect of reminiscence therapy on cognitive functions, depression, and quality of life in Alzheimer patients: Randomized controlled trial. *Int. J. Geriatr. Psychiatry* **2019**, *34*, 47–53. https://doi.org/10.1002/gps.4980.
27. Kim, D. The Effects of a Recollection-Based Occupational Therapy Program of Alzheimer's Disease: A Randomized Controlled Trial. *Occup. Ther. Int.* **2020**, *2020*, 6305727. https://doi.org/10.1155/2020/6305727.
28. Kumar, P.; Tiwari, S.C.; Goel, A.; Sreenivas, V.; Kumar, N.; Tripathi, R.K.; Gupta, V.; Dey, A.B. Novel occupational therapy interventions may improve quality of life in older adults with dementia. *Int. Arch. Med.* **2014**, *7*, 26. https://doi.org/10.1186/1755-7682-7-26.
29. Murai, T.; Yamaguchi, H. Effects of a Cooking Program Based on Brain-activating Rehabilitation for Elderly Residents with Dementia in a Roken Facility: A Randomized Controlled Trial. *Prog. Rehabil. Med.* **2017**, *2*, 20170004. https://doi.org/10.2490/prm.20170004.
30. Möhler, R.; Renom, A.; Renom, H.; Meyer, G. Personally tailored activities for improving psychosocial outcomes for people with dementia in long-term care. *Cochrane Database Syst. Rev.* **2018**, *2*, CD009812. https://doi.org/10.1002/14651858.CD009812.pub2.
31. Wenborn, J.; Challis, D.; Head, J.; Miranda-Castillo, C.; Popham, C.; Thakur, R.; Illes, J.; Orrell, M. Providing activity for people with dementia in care homes: A cluster randomised controlled trial. *Int. J. Geriatr. Psychiatry* **2013**, *28*, 1296–1304. https://doi.org/10.1002/gps.3960.
32. Froggatt, K.; Best, A.; Bunn, F.; Burnside, G.; Coast, J.; Dunleavy, L.; Goodman, C.; Hardwick, B.; Jackson, C.; Kinley, J.; et al. A group intervention to improve quality of life for people with advanced dementia living in care homes: The Namaste feasibility cluster RCT. *Health Technol. Assess.* **2020**, *24*, 1–140. https://doi.org/10.3310/hta24060.
33. Higgins, J.; Sterne, J.; Savović, J.; Page, M.; Hróbjartsson, A.; Boutron, I.; Reeves, B.; Eldridge, S. A revised tool for assessing risk of bias in randomized trials. *Cochrane Database Syst. Rev.* **2016**, *10* (Suppl. 1), 29–31. https://doi.org/10.1002/14651858.CD201601.
34. Shea, B.J.; Reeves, B.C.; Wells, G.; Thuku, M.; Hamel, C.; Moran, J.; Moher, D.; Tugwell, P.; Welch, V.; Kristjansson, E.; et al. AMSTAR 2: A critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ* **2017**, *358*, j4008. https://doi.org/10.1136/bmj.j4008.
35. U.S. Preventive Services Task Force. *U.S. Preventive Services Task Force Ratings*; U.S. Preventive Services Task Force: Rockville, MD, USA, 2018. Available online: https://www.uspreventiveservicestaskforce.org/uspstf/us-preventive-services-task-force-ratings (accessed on 14 July 2023).
36. Moher, D.; Shamseer, L.; Clarke, M.; Ghersi, D.; Liberati, A.; Petticrew, M.; Shekelle, P.; Stewart, L.A.; PRISMA-P Group. Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) 2015 statement. *Syst. Rev.* **2015**, *4*, 1. https://doi.org/10.1186/2046-4053-4-1.

37. Testad, I.; Corbett, A.; Aarsland, D.; Lexow, K.O.; Fossey, J.; Woods, B.; Ballard, C. The value of personalized psychosocial interventions to address behavioral and psychological symptoms in people with dementia living in care home settings: A systematic review. *Int. Psychogeriatr.* **2014**, *26*, 1083–1098. https://doi.org/10.1017/S1041610214000131.
38. Schuhmacher, T.P.; Andresen, M.; Fallahpour, M. Clinical reasoning of occupational therapists in selecting activities together with older adults with dementia to postpone further development of cognitive decline. *Scand. J. Occup. Ther.* **2023**, *30*, 98–108. https://doi.org/10.1080/11038128.2022.2112282.
39. Smit, D.; de Lange, J.; Willemse, B.; Pot, A.M. Predictors of activity involvement in dementia care homes: A cross-sectional study. *BMC Geriatr.* **2017**, *17*, 175. https://doi.org/10.1186/s12877-017-0564-7.
40. Littbrand, H.; Stenvall, M.; Rosendahl, E. Applicability and effects of physical exercise on physical and cognitive functions and activities of daily living among people with dementia: A systematic review. *Am. J. Phys. Med. Rehabil.* **2011**, *90*, 495–518. https://doi.org/10.1097/PHM.0b013e318214de26.
41. Telenius, E.W.; Engedal, K.; Bergland, A. Physical performance and quality of life of nursing-home residents with mild and moderate dementia. *Int. J. Environ. Res. Public Health* **2013**, *10*, 6672–6686. https://doi.org/10.3390/ijerph10126672.
42. Korczak, D.; Habermann, C.; Braz, S. The effectiveness of occupational therapy for persons with moderate and severe dementia. *GMS Health Technol. Assess.* **2013**, *9*, Doc09. https://doi.org/10.3205/hta000115.
43. Borau, P.; López, A.; Blasco, M.; Pardo Sanz, M.P. La ocupación como medio terapéutico, una mirada a través de la historia. *Rev. Sanit. De Investig.* **2022**, *3*, 1–5. Available online: https://revistasanitariadeinvestigacion.com/la-ocupacion-como-medio-terapeutico-una-mirada-a-traves-de-la-historia/ (accessed on 14 July 2023).

5.3. Life domains and lifestyle of older adults living in a nursing home: a pilot study.

Pilot Study

Life Domains and Lifestyle of Older Adults Living in a Nursing Home: A Pilot Study

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Abstract

Although the preventive occupational therapy intervention program Lifestyle Redesign® has proven to be effective in maintaining and improving the health and quality of life of older adults, a similar program has not yet been culturally adapted to the Spanish population. As a preliminary step in developing a lifestyle intervention tailored to healthy Spanish older adults living in a nursing home (Lifestyle Choice; originally in Spanish "Elección de Estilo de Vida"), we aimed to identify and describe the life domains of this population and determine overlap with content areas addressed in the Lifestyle Redesign® program. An observational cross-sectional study was carried out using quantitative methods, including 30 healthy older adult residents in the "Virgen del Prado" nursing home in Talavera de la Reina (Toledo), based on the development of a questionnaire and a survey. Six life domains were identified: self-care, sleep and rest, mobility, personal safety, health maintenance, spirituality, and free time usage. The results of this study reveal important overlaps with content areas of Lifestyle Redesign®, suggesting that it may be feasible to develop a lifestyle intervention ("Elección de Estilo de Vida") tailored to the sociocultural features of the healthy Spanish population over 65 years old living in nursing homes.

Keywords

lifestyle, aged, nursing homes, surveys and questionnaires, life domains

What do we already know about this topic?
The Lifestyle Redesign® program has proven to be effective in maintaining and improving the health and quality of life of older adults. However, a similar program has not yet been culturally adapted to the Spanish population.

How does your research contribute to the field?
The research reveals that it may be feasible to develop a lifestyle intervention ("Elección de Estilo de Vida") tailored to the sociocultural features of the healthy Spanish population over 65 years old living in nursing homes.

What are your research's implications towards theory, practice, or policy?
This research shows that life domains are not universal, but are conditioned by culture, health status, and the environment in which older adults live. This knowledge can be used by health professionals when implementing interventions that promote the health and quality of life of older adults.

Introduction

The number of older adults is significantly increasing worldwide.[1] This trend is also observed in Spain, where the percentage of the population over 65 years of age, which represented 20.0% of the total population in 2022, would reach a peak of 30.4% by 2050.[2]

This demographic change is a major challenge to society, as the increase in the older population is likely to be associated with a decline in physical health, psychological well-being, and functional capacity.[1] Therefore, effective

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interventions are needed to preserve and improve the health and quality of life of older adults.[3]

Such interventions can be enhanced with an occupational therapy perspective, since "occupational therapy practitioners develop and implement occupation-based health approaches to enhance occupational performance and participation, quality of life, and occupational justice for populations."[4] Moreover, as a social and health care field that addresses the prevention of disability and dependency conditions using occupation-based interventions, it becomes a vehicle for the improvement and maintenance of the health and quality of life of older adults.[5,6]

In line with the above, one of the preventive occupational therapy intervention programs that has demonstrated sufficient evidence of the effectiveness of occupational therapy intervention on the physical and mental health, occupational functioning, and quality of life of community-dwelling older adults is Lifestyle Redesign®.[7-9]

Developed by the University of Southern California, Lifestyle Redesign® is based on the assumptions of occupational science and is informed by 2 previous research studies on occupations and their association with well-being in older adults.[10,11] Initially, Jackson[10] conducted a qualitative description of the adaptive strategies used by a group of community-dwelling older adults with disabilities. The results reveal that engaging in symbolically meaningful occupations is essential to well-being among this group.

Subsequently, Clark et al[11] used a qualitative method to study the subjective perception of life domains (areas of activity of personal importance) in older adults, as well as to collect data on occupationally relevant adaptive strategies within each domain. Ten life domains have been identified: activities of daily living, adaptation to a multicultural environment, free time usage, grave illness and death-spirituality, health maintenance, mobility maintenance, personal finances, personal safety, psychological well-being and happiness, and relationships with others. This categorization of life domains played a relevant role in defining the thematic content areas within the Lifestyle Redesign® program.[11]

The Lifestyle Redesign® program, structured through monthly 1-hour individual sessions and weekly 2-h group sessions over 9 months, demonstrated a reliable and cost-effective positive intervention effect on a wide range of outcomes, such as life satisfaction, role functioning, and self-rated physical and emotional health of community-dwelling older adults.[7,8,12]

Given these positive effects, the program has been widely implemented and adapted to other culturally specific settings, including UK residents,[13-15] migrants in the Netherlands,[16] Swedish population,[17] Latinos in California,[18-20] French-Canadians,[21,22] and Israeli population.[23]

However, despite its effectiveness in maintaining and improving the health and quality of life of older adults, the literature review did not identify any studies in which a similar program was culturally adapted to the Spanish population. To address this literature gap, based on the original paper of Clark et al[11] and the cultural adaptations of the Lifestyle Redesign® program found in a literature review, we consider it essential to know what healthy Spanish older adults living in nursing homes perceive as the most relevant and meaningful areas of activity (life domains). The absence of such programs aimed at Spanish older adults is significant for several reasons. Spanish older adults, like individuals of any cultural group, have unique needs, interests, and values that must be respected and incorporated into their care to have a positive impact on their health. In the absence of a culturally adapted program, there is a risk of neglecting or overlooking these specific cultural aspects. In summary, the cultural relevance and sensitivity of programs developed in nursing homes are essential to improve the quality of care, the effectiveness of health outcomes, and psychological well-being.

Hence, the main objective of this study is to (1) identify and describe the life domains of healthy Spanish older adults (over 65 years old) living in nursing homes and, consequently, to develop the thematic content areas that will comprise a culturally specific lifestyle intervention (Lifestyle Choice; originally in Spanish "Elección de Estilo de Vida") informed by the original Lifestyle Redesign® program for older adults in the United States. This study is based on the hypothesis that life domains will be different in the Spanish and U.S. older adult population, and therefore it is necessary to examine them in depth.

Methods

Study Design

Following a quantitative methodology, a cross-sectional descriptive observational study[24] based on the development of a questionnaire and a survey was conducted from October 1 to 31, 2022. The study participants were 30 healthy Spanish older adults (over 65 years old) living in the "Virgen del Prado" nursing home in Talavera de la Reina.

The Research Ethics Committee (CEIm) of the Integrated Healthcare Management of Talavera de la Reina approved the study (Research Ethics Committee reference number: 34/2022; approved on September 30, 2022).

Setting

Recruitment of participants was carried out from October 1 to 15, 2022, in the "Virgen del Prado" nursing home in Talavera de la Reina (Toledo).

This nursing home is a public institution owned by the Regional Government of Castilla-La Mancha and managed by the Department of Health and Social Affairs. The nursing home offers the following services: accommodation (both permanent and temporary), personal care and food and nutrition program, cleaning and disinfection services, ironing, and laundry, Also, the facility offers geriatric medical

care and nursing care, physiotherapy, occupational therapy, basic podiatry services, hairdressing, cafeteria, library, and chapel, as well as activities of entertainment, integration, participation, communication with families, volunteering, and social relations.

In addition, data collection was performed from October 16 to October 31, 2022, in an office specifically equipped for this purpose to preserve confidentiality at the "Virgen del Prado" nursing home in Talavera de la Reina.

Participants

The study sample was selected according to the following inclusion criteria: aged 65 years or older, living in the "Virgen del Prado" nursing home in Talavera de la Reina, normal cognitive function (score ≥ 24 on Cognitive Mini-Test),[25] functionally independent (score ≥ 80 on the Barthel Index)[26] and Spanish-speaking. It should be noted that the inclusion criteria related to cognitive functioning and functional independence of the participants were the same as those established by the Lifestyle Redesign® program. Those older adults who did not authorize their participation in the study, those with disabling health conditions (chronic diseases, physical or cognitive impairment, or social problems causing dependence), and those who were not Spanish nationals (to facilitate interaction with the participants) were excluded.

For the recruitment of participants, the director of the "Virgen del Prado" nursing home in Talavera de la Reina was first contacted. After the director's approval to carry out this study, a meeting with the occupational therapists of the nursing home was held to identify and collect data from participants who met the eligibility criteria, using their occupational history. Subsequently, 42 residents who met the eligibility criteria were invited to participate in the study. They were verbally provided with information about the study and the implications of their participation. They were also informed that their refusal to participate would have no consequences, and it was emphasized that they could discontinue their participation in the study at any time. Finally, 30 residents volunteered for the study, signed the written informed consent, and attended a brief presentation on the objectives and methods of the study by the investigator C.U. The remaining 12 residents did not participate, as 2 of them were hospitalized and the other 10 refused to sign the written informed consent.

Data Sources/Measurement

Two instruments were used to collect the data for the study. First, a background questionnaire was used to record the socio-demographic aspects of the participants: age, gender, marital status, educational level, number of years residing in the nursing home, pension, and self-reported health status (see Appendix S1). This questionnaire has been designed based on the analysis of the most relevant sociodemographic data on the health of the population over 65 years old.[1] These data were used to describe the sample and to determine the characteristics of the residents that might influence the identification of life domains.

The second instrument was a Likert-type meaningful activities survey designed ad hoc by culturally adapting the occupations described in the Occupational Therapy Practice Framework.[4] This survey aimed to identify the most meaningful areas of activity and those of most personal relevance to the participants. It consists of 25 items, structured into 6 occupational areas: activities of daily living (ADLs), instrumental activities of daily living (IADLs), health management, sleep and rest, leisure, and social participation. Each item scores from 1 (not important) to 5 (very important) (see Appendix S2).

The questionnaire and the survey were individually and anonymously administered to each of the participants by the researcher C.U., in a place conditioned for this purpose to preserve confidentiality. This study was carried out with special attention to the confidentiality of the study participants. All information generated and collected during this study complies with the Organic Law 3/2018, of December 5, on the Protection of Personal Data. The documents containing the sociodemographic data of each participant and their responses to the survey were coded with a letter and a number. In addition, documents containing personal information were always kept under lock and key, accessible only to the researchers of this study.

The data were collected from October 16 to 31, 2022, in the "Virgen del Prado" nursing home and registered in a data coding sheet by the researcher P.M., using Microsoft Excel®, version 16.16.21 software.

The response rate for both the questionnaire and the survey was 100.0%.

Bias

To avoid potential selection bias, the occupational therapists at the nursing home were responsible for identifying and collecting data from participants who met the eligibility criteria, based on their occupational history. In addition, to address potential confirmation bias, data were collected from a representative sample.

Also, the questionnaire and survey were administered individually and anonymously to each participant by the researcher C.U., who received appropriate training for this purpose, to avoid participant nonresponse bias and interviewer bias, respectively.

Study Size

The sample size was calculated using the OpenEpi, version 3 software (https://www.OpenEpi.com)

$$n = \left[\mathrm{DEFF}^{*}\mathrm{N}_{p}\left(1-p\right)\right] / \left[\left(d^{2} / Z^{2}_{1-\alpha/2}\right)^{*}\left(\mathrm{N}-1\right) + p^{*}(1-p)\right]$$

N is population size (for finite population correction factor or fpc)=42; p is the hypothesized (%) frequency of outcome factor in the population (50% ±10; confidence limits as % of 100) (absolute ±%); (d)=10%; DEFF (design effect=1); Z is a constant=1.96 for 95% confidence interval. Based on the above parameters the minimum required sample size (n) was 30 participants.

Statistical Methods

The completed questionnaires and surveys were manually coded and checked for completeness and consistency. The data were then, cleaned and recorded on a data coding sheet, using Microsoft Excel®, version 16.16.21; in which, to ensure data privacy and confidentiality, no clinical or identification data of the participants were included.

The socio-demographic characteristics and the results of the meaningful activities survey were analyzed using descriptive statistics: mean (M), percentages, and standard deviation (SD). Also, association indices were used for the qualitative and ordinal variables (Wilcoxon rank-sum tests), and the quantitative and ordinal ones (Pearson's correlation coefficient). The level of statistical significance was set at P-value $< .05$.

To control for confounding factors, a restriction strategy was used, that is, restrictive inclusion and exclusion criteria were specified with the aim of making the included participants as homogeneous as possible in terms of factors that could distort the association.

Data processing and analysis were performed using the Spanish version of the IBM SPSS-Statistics®, version 26.0 for Windows software.

All data were analyzed and supervised by a specialized statistician who was responsible for data input and management, as well as statistical analyses.

Results

Study participants were aged between 65 and 97 years ($M \pm SD = 80.6 \pm 10.4$). Most of the subjects were male (56.7%), widowed (50.0%), with a primary level of education (compulsory education) (86.7%) and received a contributory pension (76.7%). One-third of them rated their health status as good (33.3%), and the mean of years residing in the nursing home was 4.3 ± 3.6 ($M \pm SD$) (see Table 1).

Table 1. Socio-demographic Characteristics of the Participants (N=30).

Characteristic	$M \pm SD$ or n (%)
Age (years)	80.6 ± 10.4
Gender	
Male	17 (56.7)
Female	13 (43.3)
Marital status	
Single	10 (33.3)
Married	5 (16.7)
Widowed	15 (50.0)
Educational level	
No school completed	1 (3.3)
Compulsory education	26 (86.7)
Upper secondary education	2 (6.7)
Higher education	1 (3.3)
Pension	
None	2 (6.7)
Contributory	23 (76.7)
Non-contributory	5 (16.7)
Self-reported health status	
Very good	5 (16.7)
Good	10 (33.3)
Average	4 (13.3)
Poor	6 (20.0)
Very poor	5 (16.7%)
Years of residence in the nursing home	4.3 ± 3.6

The results showed that most of the participants considered performing the following activities very meaningful or relevant: going to the toilet and toilet hygiene; washing and drying their face and hands; caring for their skin, eyes, nose, and ears; combing their hair; brushing their teeth; caring for their nails; shaving; removing their body hair; applying and removing creams or cosmetics (100.0%), dressing (100.0%), bathing or showering (93.3%), moving around their room or from one place to another in the nursing home (90.0%), and eating and drinking (70.0%). Sexual activity with oneself or others showed a greater variability of responses; whereas a large proportion of participants considered it quite important (40.0%) or very important (20.0%), some considered it as not important (23.3%).

Activities related to maintaining personal safety (100.0%), caring for others (70.0%), engaging in religious and spiritual (63.3%) activities, sending, and receiving information (56.7%), shopping (56.7%), and moving around within the community (53.3%) obtained high scores in the analysis of the results. Performing financial management activities showed a highly polarized response: half of the participants considered it not important (50.0%), and another large proportion considered it very important (43.3%). This division of responses is also observed in the activities of care, maintenance, and repair of the home, furniture, appliances, yard, garden, and vehicles; with half of the subjects considering it as very important (50.0%) and another large percentage considering it as not important (43.3%).

In addition, communication with the healthcare system (83.3%), use, cleaning, and maintenance of personal care devices (83.3%), coping with illness and death (83.3%), and engaging in physical activity (80.0%) were identified as very important activities by the majority of participants.

Additionally, high percentages of subjects rated as very important the activities related to preparing their room, undressing, reading, turning on the radio, and listening to music to induce or help them fall asleep (96.7%), the activity of sleeping well (80.0%) and rest, and taking short naps throughout the day (56.7%).

Activities related to the identification of interests and hobbies and engaging in leisure and free time activities were rated as very important by almost all participants (86.7%).

Furthermore, half of the individuals reported engaging in activities with family and friends as very important (53.3%). In contrast, engaging in activities at the community level and with other residents showed a great polarization of responses; whereas approximately half of the participants found them as not important (46.7% and 40.0%, respectively), another large proportion rated them as very important (36.7% and 33.3%, respectively) (see Table 2).

After an initial analysis of the data, 9 domains were initially identified, comprising those activities rated as very important by at least 50% of the participants. These were activities related to (a) self-care, sleep, and rest; (b) mobility; (c) instrumental activities of daily living; (d) personal safety; (e) personal finances; (f) health maintenance; (g) spirituality; (h) free time usage, and (i) relationships with others.

Subsequently, in order to obtain a more refined, accurate, and consistent typology of life domains, the researchers selected activities that were rated as very important by at least 80% of the participants and that also showed greater homogeneity of response. As a result of this process, 6 life domains were identified, which are presented under the following subheadings.

Self-Care, Sleep, and Rest

The activities included in this life domains were going to the toilet and toilet hygiene; washing and drying your face and hands; caring for your skin, eyes, nose, and ears; combing your hair; brushing your teeth; caring for your nails; shaving; removing your body hair; applying and removing creams or cosmetics; dressing; bathing and showering; and those related to preparing to sleep or rest: preparing your room, undressing, reading, turning on the radio or listening to music or any other activity that helps you fall asleep before going to bed; and the activity of sleeping well.

Mobility

The activities identified in this life domains were mobility within the immediate environment where the older adult resides, moving around one's room or from one place to another in the nursing home.

Personal Safety

This life domain was constituted of those activities related to the maintenance of personal safety, such as recognizing potentially hazardous or harmful situations, avoiding unsafe neighborhoods, going out accompanied, and calling emergency services.

Health Maintenance

The activities included in this life domains were those involving the development, management, and maintenance of health and wellness routines, including communication with the healthcare system, using, cleaning, and maintaining personal care devices, and engaging in physical activity, among others.

Spirituality

This life domain was composed of those activities involving religious beliefs, such as attending religious ceremonies or celebrations; in particular, those related to coping with grave illness and death, for example, visits to convalescents, care, and assistance to patients, and attending wakes and funerals.

Free Time Usage

The activities identified in this life domains were those related to the use and enjoyment of free time, such as identifying interests, and hobbies and participating in leisure, recreational, and free time activities.

Finally, the association of all the socio-demographic variables shown in Table 1 with the life domains was analyzed. Regarding qualitative and ordinal variables (gender, marital status, educational level, etc.), a significant association was found exclusively between gender and physical activity (Wilcoxon rank-sum tests, $P \leq .001$). Regarding the degree of association between quantitative and ordinal variables (age, self-reported health status, financial management, etc.), significant associations were found exclusively among age and interests, hobbies and engaging in leisure and free time activities variables ($r = -.367$, $P = .046$); and between self-reported health status and financial management variables ($r = -.482$, $P = .007$). Also, in particular, a moderate negative association was found for both variables, that is, as the age of the participants increased, the importance of interests, hobbies and leisure activities decreased, or vice versa. Moreover, as the participants' self-reported health status decreased, the importance of financial management increased, or vice versa.

Discussion

In brief, the key findings of this study have allowed us to identify 6 life domains particularly relevant to Spanish older adults: self-care, sleep and rest, mobility, personal safety, health maintenance, spirituality, and free time usage. Therefore, the main objective of this research, which was to identify and describe meaningful life domains of healthy Spanish older adults living in nursing homes, has been achieved.

This finding demonstrates its similarity to most of the life domains identified by the Lifestyle Redesign® program.[11] Similar life domains, containing comparable activities, such

Table 2. Results of the Meaningful Activities Survey ($N = 30$).

Meaningful activities	Item scores	n (%)
Bathing or showering	4	2 (6.7)
	5	28 (93.3)
Going to the toilet, toilet hygiene and personal hygiene	5	30 (100.0)
Dressing	5	30 (100.0)
Eating and drinking	1	1 (3.3)
	2	2 (6.7)
	3	1 (3.3)
	4	5 (16.7)
	5	21 (70.0)
Functional mobility	1	1 (3.3)
	3	2 (6.7)
	5	27 (90.0)
Sexual activity	1	7 (23.3)
	2	1 (3.3)
	3	4 (13.3)
	4	12 (40.0)
	5	6 (20.0)
Caring for others	1	4 (13.3)
	2	2 (6.7)
	4	3 (10.0)
	5	21 (70.0)
Sending and receiving information	1	6 (20.0)
	2	1 (3.3)
	3	2 (6.7)
	4	4 (13.3)
	5	17 (56.7)
Moving around within the community	1	9 (30.0)
	2	1 (3.3)
	4	4 (13.3)
	5	16 (53.3)
Financial management	1	15 (50.0)
	4	2 (6.7)
	5	13 (43.3)
Caring, maintaining, and repairing the home	1	12 (40.0)
	2	1 (3.3)
	3	1 (3.3)
	4	1 (3.3)
	5	15 (50.0)
Engaging in religious and spiritual activities	1	6 (20.0)
	2	1 (3.3)
	3	2 (6.7)
	4	2 (6.7)
	5	19 (63.3)
Maintenance of personal safety	5	30 (100.0)
Shopping	1	10 (33.3)
	4	3 (10.0)
	5	17 (56.7)
Communication with the healthcare system	1	3 (10.0)
	4	2 (6.7)
	5	25 (83.3)
Physical activity	1	3 (10.0)
	4	3 (10.0)
	5	24 (80.0)
Using, cleaning, and maintaining personal care devices	1	2 (6.7)
	3	1 (3.3)
	4	2 (6.7)
	5	25 (83.3)
Coping with illness and death	1	3 (10.0)
	3	1 (3.3)
	4	1 (3.3)
	5	25 (83.3)
Resting or taking short naps throughout the day	1	5 (16.7)
	2	3 (10.0)
	4	5 (16.7)
	5	17 (56.7)
Preparing your room, undressing, and any other activity that helps you fall asleep before going to bed.	2	1 (3.3)
	5	29 (96.7)
Sleeping well	2	2 (6.7)
	3	2 (6.7)
	4	2 (6.7)
	5	24 (80.0)
Identifying interests and hobbies and participating in leisure and free time activities	1	2 (6.7)
	3	1 (3.3)
	4	1 (3.3)
	5	26 (86.7)
Engaging in activities at the community level	1	14 (46.7)
	2	1 (3.3)
	4	4 (13.3)
	5	11 (36.7)
Engaging in activities with family and friends	1	7 (23.3)
	3	1 (3.3)
	4	6 (20.0)
	5	16 (53.3)
Engaging in activities with other residents	1	12 (40.0)
	3	2 (6.7)
	4	6 (20.0)
	5	10 (33.3)

Note. 1 = not important, 2 = slightly important, 3 = somewhat important, 4 = quite important, 5 = very important.

as self-care, mobility, and personal safety, have been found in both studies. We consider these domains to be particularly significant for Spanish older adults since they are closely related to the performance of the most basic activities of individuals and are the domains that are most closely linked to the survival and functional independence of older adults. This is due to the fact that if an older adult has difficulties in self-care, has mobility problems, or their safety is compromised, their autonomy, well-being, and quality of life are likely to

decrease, as they will be dependent on others to perform activities of daily living. Therefore, we consider that it is feasible to develop a lifestyle intervention ("Elección de Estilo de Vida") informed by the original program, attending to the social and cultural peculiarities of the Spanish population.

Some differences in the activities that are integrated with each life domain and their meaning for older adults were also observed. According to Muñoz,[27] the development of culturally responsive occupational therapy programs implies that they must be adapted to the particularities of the target population, as in the case of the Lifestyle Redesign® program.

Firstly, activities related to sleep and rest, in particular, taking short naps throughout the day, are not included in the thematic contents of the Lifestyle Redesign®, whereas it is part of the life domain identified in our research. This discrepancy is likely a reflection of the characteristics of the Spanish physical and cultural environment. Taking a nap is a deeply rooted custom in Spanish culture and, possibly, an adaptive mechanism, given that temperature in the summer months often exceeds 35°C in the central hours of the day.[19] This difference may also be due to the time lag between the original Lifestyle Redesign® program and this research. It is quite possible that US culture has changed substantially since the initial development of the original program and now places greater importance on activities related to sleep and rest.

Secondly, activities related to health maintenance, specifically those of communicating with the healthcare system, are not included in the Lifestyle Redesign®, whereas they are included in our study. This is probably related to the importance that older people attribute to this type of activities nowadays, which leads us to reflect on their necessary incorporation into health and quality of life programs for the older population.[28,29] Certainly, activities that have undergone the most changes in recent years are those linked to communication with the healthcare system. The progressive implementation of Information and Communication Technologies (ICTs) as a priority means of communication with the healthcare system, to the detriment of direct interaction with healthcare professionals, has been a difficulty and a challenge for people over 65 years of age.[30,31]

Another major difference concerns activities to identify interests in leisure and hobbies. The Lifestyle Redesign® focuses exclusively on the participation of older adults in leisure and free time activities, but not in those related to identifying interests and hobbies. In our view, promoting those activities among older adults is essential to improve their health and quality of life. This is supported by previous research,[32-34] which assume that identifying interests in leisure, and hobbies and prioritizing older adults' ability for choice associated with the performance of personally and culturally meaningful activities, satisfies their needs for coping and influence in the nursing home environment, improves the performance of ADLs, reduces pain, and increases their perception of quality of life.

Furthermore, the life domain called spirituality in our study differs from the one called "grave illness and death-spirituality" in the Lifestyle Redesign®. Although there are similarities between them, as they refer to activities related to religious practices and beliefs, and especially those related to coping with grave illness or death, there are also significant cultural differences. The activities included in this life domain would possibly reveal some particularities of Mediterranean society and culture, giving substantial symbolic weight and meaning to those activities related to religious practices and beliefs. For example, in Spain a 24-h vigil is kept after the death of a person, several Catholic masses are dedicated to the deceased, and mourning can last for several years.[35]

The results in the area of personal finances and activities related to relationships with others are probably the most remarkable difference between the results of this study and Lifestyle Redesign®.[7-9] The activities associated with these life domains of Lifestyle Redesign® have not been identified as particularly relevant in our study.

On one side, personal finance activities may not be relevant possibly due to the increase of digital banking services, to the detriment of direct and personalized customer service, which makes it difficult to carry them out, and leading older adults to delegate them to family members.[36] It may also be conditioned by the health status of older adults, as a significant negative association was found between self-reported health status and the importance of financial activities. This may indicate that older adults feel capable of performing them and therefore do not consider them particularly meaningful or important. In conclusion, while the increasing use of digital banking services for older adults may offer benefits in terms of convenience and accessibility, it also presents challenges related to technology adoption, security, and potential isolation. On the other side, the fact that activities related to relationships with others were not significant may be due to the unique characteristics of the environment. The "Virgen del Prado" nursing home is located in the center of a small town (less than 70 000 citizens) where there are accessibility difficulties due to the presence of architectural, urban, transport, and communication barriers. This may be related to a phenomenon called urban social iatrogenesis, which is characterized by the progressive isolation of older adults in their own homes or the center in which they reside, the loss of social ties, and the disengagement from full citizenship due to urban design.[37] Moreover, it should also be noted that these activities are closely linked to those in other domains with which they may overlap, such as spirituality (eg, attending mass with the church group), which are particularly relevant in the social and cultural life of the Spanish older adult population and often serve as a vehicle for social relations.[35] It may also be a sign of a process of medicalization of the older adult residents. This process is characterized, among other things, by the predominance in the programs of institutions for older adults of activities related to physical

functionality and mental state, to the detriment of other types of leisure, educational, and social participation activities.[38]

Finally, the "adaptation to a multicultural environment" life domain included in the Lifestyle Redesign® was not identified in this study. This may be due to the fact that in the age range ($M = 80.6$ years) of the participants the phenomenon of multiculturalism does not exist, given that in the society of this group of the population there was no immigration to Spain but emigration.[39]

As we will point out below, the most relevant practical implications refer to the design and development of specialized care plans, particularly culturally relevant and sensitive occupational therapy programs. Considering the differences between the life domains identified and those of the Lifestyle Redesign® program, it would be necessary to design programs that give greater importance to activities related to sleep and rest, as well as those related to communication with the healthcare system. Moreover, activities to identify interests in leisure and hobbies should occupy a priority place in the programs developed for the Spanish population, given the significant differences found. In addition, activities linked to spirituality should occupy a prominent place, insofar as these activities are a vehicle for social relations among Spanish older adults.

To conclude, we would like to highlight the strength and relevance of the identified life domains for healthy Spanish older adults living in nursing homes. Practically, no sociodemographic variable has been found to be determinant in their definition. That is, for healthy older adults of all age groups, marital status, and educational and income levels, the activities included in the domains are key.

However, it cannot be concluded that these life domains are universal, as they are conditioned by culture, health status, and the environment in which older adults live. The potential impact of this study is based on the recognition of the need to develop culturally adapted programs for Spanish older adults living in nursing homes. The most relevant practical implications refer to the design and development of specialized care plans, in particular culturally relevant and sensitive occupational therapy programs, the specific training of staff in cultural competence, as well as the creation of welcoming and inclusive residential environments. In this way, it will be possible to improve the quality of care received, the health outcomes, and the well-being of Spanish older adults living in nursing homes. For this reason, the development of studies such as the present one is essential for the analysis of occupation-based interventions. That is the only approach that ensures sensitive attention to the cultural uniqueness of the population.[40,41]

Limitations

The setting of the nursing home where the study was carried out is located in a small town, which may have influenced the characteristics of the participants. Therefore, we must consider possible sources of selection and information bias. Although this study meets the criteria for a representative sample, the number of subjects included was relatively small, so extrapolation of the results obtained to other contexts or population profiles must be done with caution. Furthermore, this type of design is not sensitive to changes over time, so we cannot identify trends in individuals' life domains.

Conclusion

In this study, 6 culturally sensitive life domains have been identified in the healthy Spanish older adult population living in nursing homes. These are self-care, sleep and rest, mobility, personal safety, health maintenance, spirituality, and free time usage. The similarities of the activities contained in these life domains with those addressed in the Lifestyle Redesign® approach for well older adults in the United States suggest that it may be feasible to develop a lifestyle intervention ("Elección de Estilo de Vida") tailored to the sociocultural peculiarities of the healthy older Spanish population living in nursing homes.

In conclusion, the contributions of this study are significant for the development of culturally adapted interventions, since the cultural relevance and sensitivity of the programs developed in nursing homes are essential for improving the quality of care, the effectiveness of health outcomes and the psychological well-being of older adults.

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Data Availability Statement

The data used to support the results of this study are available from the corresponding author upon request.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Declaration of Ethics

The study was conducted in accordance with the Declaration of Helsinki and approved by the Research Ethics Committee (CEIm) of the Integrated Healthcare Management of Talavera de la Reina (Research Ethics Committee reference number: 34/2022; approved on September 30, 2022).

Declaration of Informed Consent

Written informed consent was obtained from all subjects involved in the study.

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Supplemental Material

Supplemental material for this article is available online.

References

1. World Health Organization. World report on ageing and health. 2022. Accessed November 20, 2022. http://apps.who.int/iris/bitstream/10665/186463/1/9789240694811_eng.pdf?ua1
2. Instituto Nacional de Estadística. Proyecciones de la población en España a largo plazo, 2022-2072. 2022. Accessed August 30, 2023. https://www.ine.es/prensa/pp_2022_2072.pdf
3. Stav WB, Hallenen T, Lane J, Arbesman M. Systematic review of occupational engagement and health outcomes among community-dwelling older adults. *Am J Occup Ther*. 2012;66:301-310.
4. American Occupational Therapy Association. Occupational therapy practice framework: domain and process-Fourth edition. *Am J Occup Ther*. 2020;74:74124100101.
5. Sprange K, Mountain GA, Brazier J, et al. Lifestyle matters for maintenance of health and wellbeing in people aged 65 years and over: study protocol for a randomised controlled trial. *Trials*. 2013;14:302.
6. Zingmark M, Nilsson I, Fisher AG, Lindholm L. Occupation-focused health promotion for well older people — a cost-effectiveness analysis. *Br J Occup Ther*. 2016;79:153-162.
7. Clark F, Azen SP, Zemke R, et al. Occupational therapy for independent-living older adults: a randomized controlled trial. *JAMA*. 1997;278:1321-1326.
8. Clark F, Jackson J, Carlson M, et al. Effectiveness of a lifestyle intervention in promoting the well-being of independently living older people: results of the well elderly 2 randomised controlled trial. *J Epidemiol Community Health*. 2012;66:782-790.
9. Jackson J, Carlson M, Mandel D, Zemke R, Clark F. Occupation in lifestyle redesign: the well elderly study occupational therapy program. *Am J Occup Ther*. 1998;52:326-336.
10. Jackson J. Living a meaningful existence in old age. In: Zemke R and Clark F (eds) *Occupational Science: The Evolving Discipline*. F.A. Davis; 1996:339-361.
11. Clark F, Carlson M, Zemke R, et al. Life domains and adaptive strategies of a group of low-income, well older adults. *Am J Occup Ther*. 1996;50:99-108.
12. Clark F, Blanchard J, Sleight A, et al. (eds.). *Lifestyle Redesign®: The Intervention Tested in the USC Well Elderly Studies*, 2nd ed. AOTA Press; 2015.
13. Mountain GA, Craig CL. The lived experience of redesigning lifestyle post-retirement in the UK. *Occup Ther Int*. 2011;18:48-58.
14. Chatters R, Roberts J, Mountain G, et al. The long-term (24-month) effect on health and well-being of the lifestyle matters community-based intervention in people aged 65 years and over: a qualitative study. *BMJ Open*. 2017;7:e016711.
15. Mountain G, Sprange K, Chatters R. Lifestyle matters randomized controlled trial of a preventive health intervention for older people: qualitative sub study with participants and intervention facilitators. *Clin Interv Aging*. 2020;15:239-253.
16. Abma TA, Heijsman A. Crossing cultures: health promotion for senior migrants in the Netherlands. *Health Promot Int*. 2015;30:460-472.
17. Johansson A, Björklund A. The impact of occupational therapy and lifestyle interventions on older persons' health, well-being, and occupational adaptation. *Scand J Occup Ther*. 2016;23:207-219.
18. Schepens Niemiec SL, Blanchard J, Vigen CLP, et al. Evaluation of ¡Vivir mi vida! To improve health and wellness of rural-dwelling, late middle-aged Latino adults: results of a feasibility and pilot study of a lifestyle intervention. *Prim Health Care Res Dev*. 2018;19:448-463.
19. Schepens Niemiec SL, Blanchard J, Vigen CLP, et al. A pilot study of the ¡Vivir mi vida! lifestyle intervention for rural-dwelling, late-midlife Latinos: study design and protocol. *OTJR*. 2019;39:5-13.
20. Schepens Niemiec SL, Vigen CL, Martínez J, Blanchard J, Carlson M. Long-term follow-up of a lifestyle intervention for late-midlife, rural-dwelling Latinos in primary care. *Am J Occup Ther*. 2021;75:1-11.
21. Levasseur M, Filiatrault J, Larivière N, et al. Influence of lifestyle redesign® on health, social participation, leisure, and mobility of older French-Canadians. *AJOT*. 2019;73:7305205030.
22. Levasseur M, Lévesque M, Lacasse-Bédard J, et al. Feasibility of lifestyle redesign® for community-dwelling older adults with and without disabilities: results from an exploratory descriptive qualitative clinical research design. *Aust Occup Ther J*. 2022;69:514-535.
23. Maeir T, Beit-Yosef A, Wechsler T, et al. The feasibility and efficacy of an Israeli lifestyle redesign®-based program for well older adults: a pilot study. *OTJR*. 2021;41:47-55.
24. Hernández-Sampieri R, Mendoza C. *Metodología de La Investigación: Las Rutas Cuantitativa, Cualitativa y Mixta*. McGraw Hill; 2018.
25. Lobo A, Ezquerra J, Gómez Burgada F, et al. El miniexamen, cognoscitivo (un "test" sencillo, práctico, para detectar alteraciones intelectuales en pacientes médicos) [Cognocitive mini-test (a simple practical test to detect intellectual changes in medical patients)]. *Actas Luso Esp Neurol Psiquiatr Cienc Afines*. 1979;7:189-202.
26. Mahoney F, Barthel D. Functional evaluation: the Barthel index. *MedChi*. 1965;14:61-65.
27. Muñoz JP. Culturally responsive caring in occupational therapy. *Occup Ther Int*. 2007;14:256-280.
28. Fernández E, Sánchez C. Estudio de la capacidad funcional y la calidad de vida relacionada con la salud en el adulto mayor institucionalizado. *Revista electrónica de terapia ocupacional Galicia*. 2014;11:1-14.
29. Cichocki M, Quehenberger V, Zeiler M, et al. Effectiveness of a low-threshold physical activity intervention in residential aged care–results of a randomized controlled trial. *Clin Interv Aging*. 2015;10:885-895.
30. Pino M, Soto J, Rodríguez B. Las personas mayores y las tic: un compromiso para reducir la brecha digital. *Rev Interuniv*. 2015;26:337-359.

31. Hall Dykgraaf S, Desborough J, Sturgiss E, et al. Older people, the digital divide and use of telehealth during the COVID-19 pandemic. *Aust J Gen Pr*. 2022;51:721-724.
32. Kawamata H, Yamada T, Kobayashi N. [Effectiveness of an occupational therapy program for health promotion among healthy elderly. A randomized controlled trial]. *Nihon Koshu Eisei Zasshi*. 2012;59:73-81.
33. Nagayama H, Tomori K, Ohno K, et al. Effectiveness and cost-effectiveness of occupation-based occupational therapy using the aid for decision making in occupation choice (ADOC) for older residents: pilot cluster randomized controlled trial. *PLoS One*. 2016;11:e0150374.
34. González Villalobos D. *Influencia de La Ocupación Significativa En La Calidad de Vida: Efectos de Un Programa de Terapia Ocupacional En Personas Mayores Sanas*. USAL; 2020.
35. Imserso. *Libro Blanco Del Envejecimiento Activo*. Imserso; 2011.
36. Andújar I. Educación financiera y personas mayores: evidencias y experiencias para el caso español. *Panor Soc*. 2022;35:119-135.
37. Di Véroli D, Schmunis E. *Arquitectura y Envejecimiento: Hacia Un Hábitat Inclusivo*. Nobuko; 2008.
38. Clarke N, Smith R, Wood J, et al. A qualitative interview study comparing and contrasting resident and staff perspectives of engaging in meaningful activity in a UK care home. *Arch Gerontol Geriatr*. 2019;83:257-262.
39. Valero J, Mediavilla J, Valero I, Coca J. El pasado vuelve a marcar el presente: la emigración española. *Pap de Poblac*. 2015;21:41-74.
40. Awaad J. Culture, cultural competency and occupational therapy: a review of the literature. *Br J Occup Ther*. 2003;66:356-362.
41. Hammell KW. Self-care, productivity, and leisure, or dimensions of occupational experience? Rethinking occupational "categories". *Can J Occup Ther*. 2009;76:107-114.

Supplemental Material

Appendix S1.

Socio-demographic questionnaire.

This questionnaire aims to determine the socio-demographic profile of the study participants: "Life Domains and Lifestyle of Older Adults Living in a Nursing Home: A Pilot Study".

The information provided will be completely confidential and for the exclusive use of the researchers.

Please, answer all the questions honestly.

Thank you very much for your collaboration.

1.- How old are you? ____

2.- What is your gender?

1. Male __ 2. Female __

3.- What is your marital status?

1. Single __ 2. Married __ 3. Separated __ 4. Divorced __ 5. Widowed __

4.- What is the highest level of school you have completed?

1. No formal education __ 2. Compulsory education__ 3. Upper secondary education __

4. Professional training __ 5. Higher education __

5.- How many years have you been living in the nursing home? ____

6.- What type of pension do you receive?

1. None __ 2. Contributory __ 3. Non-contributory __

7.- How would you consider your health condition?

1. Very good __ 2. Good __ 3. Average __ 4. Poor __ 5. Very poor __

Source: Own elaboration.

Appendix S2.

Survey of meaningful activities.

Instructions:

This survey aims to identify the most meaningful areas of activity and those of most personal relevance to the participants.

Please, rate from 1 to 5 (1: not important, 2: slightly important, 3: somewhat important, 4: quite important, 5: very important) how important it is for you to independently (without the need of assistance) undertake the following occupations and/or activities in your daily life during your stay in the nursing home.

Activities of daily living	Not important	Slightly important	Somewhat important	Quite important	Very important
1. Bathing or showering	1	2	3	4	5
2. Going to the toilet and toilet hygiene; washing and drying your face and hands; caring for your skin, eyes, nose, and ears; combing your hair; brushing your teeth; caring for your nails; shaving; removing your body hair; applying and removing creams or cosmetics	1	2	3	4	5
3. Dressing	1	2	3	4	5
4. Eating and drinking	1	2	3	4	5
5. Moving around your bedroom or from place to place in the nursing home	1	2	3	4	5
6. Sexual activity with oneself or others (e.g., kissing, masturbation, intercourse)	1	2	3	4	5

Instrumental activities of daily living	Not important	Slightly important	Somewhat important	Quite important	Very important
7. Caring for others (family or friends)	1	2	3	4	5
8. Sending and receiving information (e.g., using mobile phones, computers, tablets, and social media)	1	2	3	4	5
9. Moving around within the community (driving, walking, bicycling, and using public or private transportation, such as riding in buses and taxi cabs, respectively).	1	2	3	4	5
10. Financial management (e.g., opening and closing a bank account, paying taxes, using a credit card, and digital banking)	1	2	3	4	5
11. Caring, maintaining, and repairing the home, furniture, appliances, yard, garden, and vehicles	1	2	3	4	5
12. Engaging in religious and spiritual activities (e.g., attending a church or a temple, praying)	1	2	3	4	5
13. Maintenance of personal safety (e.g., recognising hazardous situations, avoiding unsafe neighbourhoods, going out accompanied, calling the emergency services)	1	2	3	4	5
14. Shopping	1	2	3	4	5

Health management	Not important	Slightly important	Somewhat important	Quite important	Very important
15. Communication with the healthcare system (seeking medical care, complying with their recommendations, taking medication)	1	2	3	4	5
16. Physical activity	1	2	3	4	5
17. Using, cleaning, and maintaining personal care devices (e.g., hearing aids, glasses, prosthetics)	1	2	3	4	5
18. Coping with illness and death (e.g., adopting an appropriate attitude towards illness or death, talking to others about illness or death)	1	2	3	4	5
Sleep and rest	**Not important**	**Slightly important**	**Somewhat important**	**Quite important**	**Very important**
19. Resting or taking short naps throughout the day	1	2	3	4	5
20. Preparing your room, undressing, reading, turning on the radio or listening to music, and any other activity that helps you fall asleep before going to bed	1	2	3	4	5
21. Sleeping well	1	2	3	4	5
Leisure	**Not important**	**Slightly important**	**Somewhat important**	**Quite important**	**Very important**
22. Identifying interests and hobbies and participating in leisure and free time activities	1	2	3	4	5
Social participation	**Not important**	**Slightly important**	**Somewhat important**	**Quite important**	**Very important**
23. Engaging in activities at the community level (e.g., neighbourhood, senior citizen centre, religious group)	1	2	3	4	5
24. Engaging in activities with family and friends	1	2	3	4	5
25. Engaging in activities with other residents	1	2	3	4	5

Source: adapted from the occupations described in the Occupational Therapy Practice Framework (AOTA, 2020).

6. LIMITACIONES Y LÍNEAS DE INVESTIGACIÓN FUTURAS

Los resultados que se presentan en la tesis se muestran como satisfactorios y fructíferos, en la medida en que permiten la apertura de nuevas líneas de investigación y de aplicación a la práctica. Actualmente se están planteando nuevos estudios y programas de intervención desde la perspectiva de la terapia ocupacional, para promover la mejora de la calidad de vida de las personas mayores de 65 años institucionalizadas.

Con respecto a la revisión sistemática sobre las intervenciones de terapia ocupacional para mejorar la calidad de vida de los adultos mayores sanos que viven en un entorno residencial, se encontró limitada por la heterogeneidad y el reducido número de estudios que abordaron específicamente, tanto en lo que respecta a la intervención como a los resultados.

En relación con la revisión sistemática sobre las intervenciones de terapia ocupacional para mejorar la calidad de vida de los adultos mayores con demencia que viven en residencias de personas mayores, en primer lugar, se vio limitada por la heterogeneidad de los estudios centrados en la mejora de la calidad de vida de los adultos mayores con demencia que viven en residencias de personas mayores, en cuanto al tipo, la frecuencia y la duración de las intervenciones de terapia ocupacional, las medidas de la calidad de vida y los resultados. Por lo tanto, los resultados deben considerarse con cautela. En segundo lugar, se excluyeron los artículos indexados en otras bases de datos bibliográficas, lo que podría haber dejado fuera un número significativo de estudios relacionados. Por último, sólo se incluyeron artículos publicados en revistas indexadas, por lo que no se tuvieron en cuenta artículos no publicados o búsquedas en la literatura

gris, que puede ser una fuente valiosa de materiales que aborden la pregunta específica de la revisión.

En cuanto al estudio sobre dominios vitales y estilo de vida de los adultos mayores que viven en una residencia de personas mayores; por una parte, el entorno donde se encontraba la residencia de personas mayores en la que se llevó a cabo el estudio, estaba ubicado en una ciudad pequeña, lo que pudo condicionar el perfil de los participantes. Por otra parte, aunque este estudio cumplió los criterios para que la muestra fuera representativa, el número de participantes incluidos en el mismo fue relativamente pequeño, por lo que la extrapolación de los resultados obtenidos a otros contextos o perfiles de población debe hacerse con cautela.

Finalmente, los hallazgos encontrados en las revisiones sistemáticas y el estudio observacional descriptivo transversal han revelado necesidades que podrían ser consideradas en líneas de investigación futuras.

En primer lugar, las intervenciones de terapia ocupacional en países con ingresos medios y bajos (en particular, países de África, Sudamérica, el sudeste y el sur de Asia) no se han estudiado lo suficiente, lo que probablemente limitará el progreso de la práctica de los/las terapeutas ocupacionales en estos países. Por lo tanto, se debería tratar de ampliar la investigación en dichos países para diversificar la muestra y los hallazgos de la investigación.

También es preciso subrayar el reducido volumen de investigaciones cuantitativas de carácter experimental correspondientes a ensayos clínicos aleatorizados (ECAS), que tratan de explicar y determinar la eficacia de intervenciones para promover la calidad de vida de los adultos mayores. La escasez de estos diseños indica la necesidad de desarrollar una investigación más profunda, que permita consolidar la evidencia científica.

Por último, consideramos pertinente el desarrollo de líneas de investigación más amplias ligadas a la prevención y promoción de la salud, a las áreas de ocupación (actividades de la vida diaria, actividades instrumentales de la vida diaria, educación, ocio y participación social), al análisis y modificación de las características del entorno residencial, a las tecnologías de la información y comunicación y a las variables sociales y psicosociales que puedan influir en la percepción de la calidad de vida de los adultos mayores.

7. CONCLUSIONES

Las principales conclusiones que pueden obtenerse de la presente tesis *Terapia ocupacional y calidad de vida en adultos mayores institucionalizados* son:

1. Los programas de intervención estructurados alrededor de un desempeño ocupacional equilibrado de actividades personal y culturalmente significativas determinan un envejecimiento activo y una mayor calidad de vida entre los adultos mayores sanos institucionalizados, disminuyendo enfermedades y condiciones de discapacidad y dependencia.
2. Las intervenciones focalizadas en la actividad física, cognitiva, ocio, participación social y de promoción de la salud, pueden dan lugar a un menor deterioro físico y cognitivo y a una mejor calidad de vida de los/las residentes.
3. Las intervenciones basadas en un enfoque multidisciplinar y desarrolladas en un marco grupal, son eficaces para mejorar la calidad de vida de los adultos mayores sanos que viven en residencias de personas mayores.
4. La capacidad de elección de actividades y ocupaciones significativas, en las que el nivel de desafío se ajuste al tipo y estadio de la demencia y a la capacidad funcional del adulto mayor con demencia para realizarlas, son elementos clave en el diseño de programas de intervención para la mejora de la calidad de vida.
5. Es importante aumentar los niveles de actividad de los/las residentes. Por ello, es esencial llevar a cabo modificaciones de los entornos residenciales, en los que se incluya una mayor oferta y variedad de actividades, se realicen cambios organizativos, que promuevan una mayor capacidad de elección a los adultos mayores, y se fomente una formación especializada a los/las profesionales de la salud que trabajan en residencias.

6. Los/las terapeutas ocupacionales pueden promover la participación de los adultos mayores con demencia en actividades físicas, cognitivas, sensoriales, sociales y basadas en áreas de desempeño, ajustándolas a las necesidades, intereses y grado de afectación de los/las residentes, con el fin de mejorar su bienestar y calidad de vida.
7. Las intervenciones focalizadas en actividades de la vida diaria, actividades instrumentales de la vida diaria, actividades de reminiscencia, actividades recreativas y lúdicas, desde un enfoque centrado en la persona, pueden dan lugar a una mejora respecto al funcionamiento físico, cognitivo, a los síntomas conductuales y psicológicos de la demencia y a la calidad de vida de los/las residentes.
8. Se han identificado seis dominios vitales sensibles culturalmente a la población de los adultos mayores españoles que viven en una residencia de mayores: autocuidado, sueño y descanso, movilidad, seguridad personal, mantenimiento de la salud, espiritualidad y tiempo libre.
9. Resulta factible desarrollar un programa de terapia ocupacional de rediseño del estilo de vida denominado “Elección de Estilo de Vida”, adaptado a las características socioculturales de la población española mayor de 65 años que vive en residencias de personas mayores.
10. Los dominios vitales no son universales, ya que su identificación está condicionada por la cultura, el estado de salud y por el entorno donde viven los adultos mayores.

8. BIBLIOGRAFÍA

Abma, T. A., & Heijsman, A. (2015). Crossing cultures: Health promotion for senior migrants in the Netherlands. *Health Promotion International*, *30*(3), 460–472. https://doi.org/10.1093/heapro/dat061

American Occupational Therapy Association. (2020). Occupational therapy practice framework: Domain and process (4th ed.). *American Journal of Occupational Therapy*, *74*(Suppl. 2), 7412410010. https://doi.org/10.5014/ajot.2020.74S2001

American Psychiatric Association, DSM-5 Task Force. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5™* (5th ed.). American Psychiatric Publishing, Inc. https://doi.org/10.1176/appi.books.9780890425596

Andújar, I. (2022). Educación financiera y personas mayores: evidencias y experiencias para el caso español. *Panorama social*, *35*, 119-135. https://www.funcas.es/articulos/educacion-financiera-y-personas-mayores-evidencias-y-experiencias-para-el-caso-espanol/

Ardila, R. (2003). Calidad de vida: Una definición integradora. *Revista latinoamericana de psicología*, *35*(2), 161-164. https://www.redalyc.org/pdf/805/80535203.pdf

Awaad, T. (2003). Culture, Cultural Competency and Occupational Therapy: A Review of the Literature. *British Journal of Occupational Therapy*, *66*(8), 356-362. https://doi.org/10.1177/030802260306600804

Arbesman, M., & Lieberman, D. (2012). Methodology for the systematic reviews on occupation- and activity-based intervention related to productive aging. *American Journal of Occupational Therapy, 66*, 271–276. http://dx.doi.org/10.5014/ajot.2012.003699

Bennett, S., Laver, K., Voigt-Radloff, S., Letts, L., Clemson, L., Graff, M., Wiseman, J., & Gitlin, L. (2019). Occupational therapy for people with dementia and their family carers provided at home: a systematic review and meta-analysis. *BMJ open*, *9*(11), e026308. https://doi.org/10.1136/bmjopen-2018-026308

Birken, M., Wenborn, J., & Connell, C. (2022). Randomised controlled trials of occupational therapy interventions for adults with a mental health condition or dementia: A systematic review of study methods and outcome measurement. *British Journal of Occupational Therapy*, *85*(10), 761-778. https://doi.org/10.1177/03080226221086206

Boggatz, T. (2016). Quality of life in old age - a concept analysis. *International journal of older people nursing*, *11*(1), 55–69. https://doi.org/10.1111/opn.12089

Borau, P., López, A., Blasco, M., & Pardo Sanz, M. P. (2022). La ocupación como medio terapéutico, una mirada a través de la historia. *Revista Sanitaria de Investigación*, *3*(2).https://revistasanitariadeinvestigacion.com/la-ocupacion-como-medio-terapeutico-una-mirada-a-traves-de-la-historia/

Chatters, R., Roberts, J., Mountain, G., Cook, S., Windle, G., Craig, C., & Sprange, K. (2017). The long-term (24-month) effect on health and well-being of the lifestyle matters community-based intervention in people aged 65 years and over: A qualitative study. *BMJ Open*, *7*(9), e016711. https://doi.org/10.1136/bmjopen-2017-016711

Chu, C. H., Puts, M., Brooks, D., Parry, M., & McGilton, K. S. (2020). A Feasibility Study of a Multifaceted Walking Intervention to Maintain the Functional Mobility, Activities of Daily Living, and Quality of Life of Nursing Home Residents with Dementia. Rehabilitation nursing: the official journal of the Association of

Rehabilitation Nurses, 45(4), 204–217. https://doi.org/10.1097/rnj.0000000000000186

Cichocki M, Quehenberger V, Zeiler M, Adamcik T, Manousek M, Stamm T, Krajic K. (2015). Effectiveness of a low-threshold physical activity intervention in residential aged care – results of a randomized controlled trial. *Clinical Intervention Aging, 10*, 885-895 https://doi.org/10.2147/CIA.S79360

Clark, F., Azen, S. P., Zemke, R., Jackson, J. M., Carlson, M. E., Mandel, D., Hay, J., Josephson, K., Cherry, B., Hessel, C., Palmer, J., & Lipson, L. (1997). Occupational therapy for independent-living older adults: A randomized controlled trial. *Journal of the American Medical Association, 278*, 1321–1326. https://doi.org/10.1001/jama.1997.03550160041036

Clark, F., Carlson, M., Zemke, R., Frank, G., Patterson, K., Ennevor, B. L., Rankin-Martinez, A., Hobson, L., Crandall, J., Mandel, D., & Lipson, L. (1996). Life domains and adaptive strategies of a group of low-income, well older adults. *American Journal of Occupational Therapy, 50*, 99-108. https://doi.org/10.5014/ajot.50.2.99

Clark, F., Jackson, J., Carlson, M., Chou, C.-P., Cherry, B. J., Jordan-Marsh, M., Knight, B. G., Mandel, D., Blanchard, J., Granger, D. A., Wilcox, R. R., Lai, M. Y., White, B., Hay, J., Lam, C., Marterella, A., & Azen, S. P. (2012). Effectiveness of a lifestyle intervention in promoting the well-being of independently living older people: Results of the Well Elderly 2 Randomised Controlled Trial. *Journal of Epidemiology & Community Health, 66*(9), 782-790. https://doi.org/10.1136/jech.2009.099754

Clark, F., Blanchard, J., Sleight, A., Cogan, A., Florindez, L., Gleason, S., & Vigen, C. (2015). *Lifestyle Redesign®: The intervention tested in the USC well elderly studies* (2nd ed.). American Occupational Therapy Association Press.

Clemson, L.M., & Laver, K.E. (2014). Active ageing and occupational therapy align. *Australian Occupational Therapy Journal, 61*(3), 204-207. https://doi.org/10.1111/1440-1630.12125

Cummins, R.A., Andelman, R., Board, R., Carman, L.L., Ferriss, A., Friedman, P., Michalos, A., Samli, J., Shapiro, S., Sirgy, J., Vitterso, J., & Veenhoven, R. (1998). *Quality of Life Definition and Terminology: A discussion document from the international Society for Quality-of-Life Studies*. The International Society for Quality-of-Life Studies.

http://isqols.dreamhosters.com/wp-content/uploads/2017/02/aaw-QOL-definition-and-terminology.pdf

Departamento de Asuntos Económicos y Sociales de las Naciones Unidas, División de la población (2022). *Perspectivas de la Población Mundial 2022: Resumen de resultados.* Naciones Unidas.

https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf

Di Véroli, D. & Schmunis, E. (2008). *Arquitectura y envejecimiento: hacia un hábitat inclusivo.* Nobuko.

Fernández-Ballesteros, R. (2011). Quality of Life in old life. Some problematic issues. *Applied Research in Quality of Life, 11*, 21-40.

Fernández, E, & Sánchez, C. (2014). Estudio de la capacidad funcional y la calidad de vida relacionada con la salud en el adulto mayor institucionalizado. *TOG (A Coruña), 11*(20), 1-14. http://www.revistatog.com/num20/pdfs/original2.pdf

Froggatt, K., Best, A., Bunn, F., Burnside, G., Coast, J., Dunleavy, L., Goodman, C., Hardwick, B., Jackson, C., Kinley, J., Davidson Lund, A., Lynch, J., Mitchell, P., Myring, G., Patel, S., Algorta, G. P., Preston, N., Scott, D., Silvera, K., & Walshe, C. (2020). A group intervention to improve quality of life for people with advanced dementia living in care homes: the Namaste feasibility cluster RCT. *Health technology assessment, 24*(6), 1–140. https://doi.org/10.3310/hta24060

Galik, E., Resnick, B., Hammersla, M., & Brightwater, J. (2014). Optimizing function and physical activity among nursing home residents with dementia: testing the impact of function-focused care. *The Gerontologist, 54*(6), 930–943. https://doi.org/10.1093/geront/gnt108

García-Viniegras, C. R. V. (2008). *Calidad de Vida. Aspectos teóricos y metodológicos.* Paidós.

González Villalobos, D. (2020). *Influencia de la ocupación significativa en la calidad de vida: efectos de un programa de terapia ocupacional en personas mayores sanas.* Universidad de Salamanca. http://hdl.handle.net/10366/144527

Hall Dykgraaf, S., Desborough, J., Sturgiss, E., Parkinson, A., Dut, G. M., & Kidd, M. (2022). Older people, the digital divide and use of telehealth during the COVID-19 pandemic. *Australian journal of general practice, 51*(9), 721–724. https://doi.org/10.31128/AJGP-03-22-6358

Hammell K. W. (2009). Self-care, productivity, and leisure, or dimensions of occupational experience? Rethinking occupational "categories". *Canadian*

journal of occupational therapy. Revue canadienne d'ergotherapie, *76*(2), 107–114. https://doi.org/10.1177/000841740907600208

Hearle, D., Rees, V., & Prince, J. (2012). Balance of occupation in older adults: experiences in a residential care home. *Quality in Ageing and Older Adults, 13*(2): 125-134. https://doi.org/10.1108/14717791211231201

Hernández-Sampieri, R. & Mendoza, C. (2018). *Metodología de la investigación: Las rutas cuantitativa, cualitativa y mixta.* McGraw Hill.

Higgins, J., Sterne, J., Savović, J., Page, M., Hróbjartsson, A., Boutron, I., . . . Eldridge, S. (2016). A revised tool for assessing risk of bias in randomized trials. In J. Chandler, J. McKenzie, I. Boutron, & V. Welch (Eds.), Cochrane methods 2016 (pp. 29–31). *Cochrane Database of Systematic Reviews, 10*(Suppl. 1). https://doi.org/10.1002/14651858.CD201601

Higgins, J. P. T., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M. J., & Welch, V. A. (Eds.). (2019). *Cochrane handbook for systematic reviews of interventions* (2nd ed.). Wiley. https://doi.org/10.1002/9781119536604

Husebo, B.S., Flo, E., Aarsland, D., Selbaek, G., Testad, I., Gulla, C., Aasmul, I., & Ballard, C. (2015). COSMOS--improving the quality of life in nursing home patients: protocol for an effectiveness-implementation cluster randomized clinical hybrid trial. *Implementation science, 10*, 131. https://doi.org/10.1186/s13012-015-0310-5

Imserso (2011). *Libro blanco del envejecimiento activo*. Imserso. https://www.imserso.es/InterPresent2/groups/imserso/documents/binario/8088_8089libroblancoenv.pdf

Imserso (16 de diciembre de 2022). *Los centros residenciales*. Imserso. https://imserso.es/centros/centros-personas-mayores/centros-residenciales

Instituto Nacional de Estadística. (2022a). *Avance de la estadística del Padrón Continuo a 1 de enero de 2022*. INE. https://www.ine.es/prensa/pad_2022_p.pdf

Instituto Nacional de Estadística. (2022b). *Proyecciones de la población en España a largo plazo, 2022-2072*. INE. https://www.ine.es/prensa/pp_2022_2072.pdf

Jackson, J. (1996). Living a meaningful existence in old age. In R. Zemke & F. Clark (Eds.), *Occupational science: The evolving discipline* (pp. 339-361). F.A. Davis.

Jackson, J., Carlson, M., Mandel, D., Zemke, R., & Clark, F. (1998). Occupation in lifestyle redesign: The well elderly study occupational therapy program. *American Journal of Occupational Therapy, 52*(5), 326–336. https://doi.org/10.5014/ajot.52.5.326

Johansson, A., & Björklund, A. (2015). The impact of occupational therapy and lifestyle interventions on older persons' health, wellbeing, and occupational adaptation: A mixed-design study. *Scandinavian Journal of Occupational Therapy, 23*(3), 207-219. http://dx.doi.org/10.3109/11038128.2015.1093544

Kao, Y. H., Hsu, C. C., & Yang, Y. H. (2022). A Nationwide Survey of Dementia Prevalence in Long-Term Care Facilities in Taiwan. *Journal of clinical medicine, 11*(6), 1554. https://doi.org/10.3390/jcm11061554

Kawamata, H., Yamada, T., & Kobayashi, N. (2012). Effectiveness of an occupational therapy program for health promotion among healthy elderly. A randomized controlled trial. *Nihon Koshu Eisei Zasshi, 59*(2), 73-81. https://doi.org/10.11236/jph.59.2_73

Kim, D. (2020). The Effects of a Recollection-Based Occupational Therapy Program of Alzheimer's Disease: A Randomized Controlled Trial. *Occupational therapy international, 2020*, 6305727. https://doi.org/10.1155/2020/6305727

Kirsh, B., Martin, L., Hultqvist, J. et al. (2019). Occupational Therapy Interventions in Mental Health: a literature review in search of evidence. *Occupational Therapy in Mental Health*, *35*(2), 109–156. https://doi.org/10.1080/0164212X.2019.1588832

Korczak, D., Habermann, C., & Braz, S. (2013). The effectiveness of occupational therapy for persons with moderate and severe dementia. *GMS health technology assessment, 9*, Doc09. https://doi.org/10.3205/hta000115

Koskela, S.A., Jones, F., Clarke, N., Anderson, L., Kennedy, B., Grant, R., Gage, H., & Hurley, M.V. (2017). Active Residents in Care Homes (ARCH): study protocol to investigate the implementation and outcomes of a whole-systems activity programme in residential care homes for older people. *Physiotherapy, 103*(1): 113-120. https://doi.org/10.1016/j.physio.2015.12.001

Kumar, P., Tiwari, S. C., Goel, A., Sreenivas, V., Kumar, N., Tripathi, R. K., Gupta, V., & Dey, A. B. (2014). Novel occupational therapy interventions may improve quality of life in older adults with dementia. *International archives of medicine, 7*, 26. https://doi.org/10.1186/1755-7682-7-26

Leland, N.E., & Elliott, S.J. (2012). Special issue on productive aging: evidence and opportunities for occupational therapy practitioners. *American Journal of Occupational Therapy*, *66*(3), 263-5. https://doi.org/10.5014/ajot.2010.005165

Levasseur, M., Filiatrault, J., Larivière, N., Trépanier, J., Lévesque, M.-H., Beaudry, M., Parisien, M., Provencher, V., Couturier, Y., Champoux, N., Corriveau, H., Carbonneau, H., & Sirois, F. (2019). Influence of Lifestyle Redesign® on Health,

Social Participation, Leisure, and Mobility of Older French-Canadians. *American Journal of Occupational Therapy*, *73*(5), 7305205030p1. https://doi.org/10.5014/ajot.2019.031732

Levasseur, M., Lévesque, M.-H., Lacasse-Bédard, J., Larivière, N., Filiatrault, J., Provencher, V., & Corriveau, H. (2022). Feasibility of Lifestyle Redesign® for community-dwelling older adults with and without disabilities: Results from an exploratory descriptive qualitative clinical research design. *Australian Occupational Therapy Journal*, 1–22. https://doi.org/10.1111/1440-1630.12807

Littbrand, H., Stenvall, M., & Rosendahl, E. (2011). Applicability and effects of physical exercise on physical and cognitive functions and activities of daily living among people with dementia: a systematic review. *American journal of physical medicine & rehabilitation*, *90*(6), 495–518. https://doi.org/10.1097/PHM.0b013e318214de26

Livingston, G., Barber, J., Marston, L., Stringer, A., Panca, M., Hunter, R., Cooper, C., Laybourne, A., La Frenais, F., Reeves, S., Manela, M., Lambe, K., Banerjee, S., & Rapaport, P. (2019). Clinical and cost-effectiveness of the Managing Agitation and Raising Quality of Life (MARQUE) intervention for agitation in people with dementia in care homes: a single-blind, cluster-randomised controlled trial. *The lancet. Psychiatry*, *6*(4), 293–304. https://doi.org/10.1016/S2215-0366(19)30045-8

Lobo, A., Ezquerra, J., Gómez Burgada, F., Sala, J. M., & Seva Díaz, A. (1979). El miniexamen, cognoscitivo (un "test" sencillo, práctico, para detectar alteraciones intelectuales en pacientes médicos) [Cognocitive mini-test (a simple practical test to detect intellectual changes in medical patients)]. *Actas luso-españolas de neurología, psiquiatría y ciencias afines*, *7*(3), 189–202.

Lök, N., Bademli, K., & Selçuk-Tosun, A. (2019). The effect of reminiscence therapy on cognitive functions, depression, and quality of life in Alzheimer patients: Randomized controlled trial. *International journal of geriatric psychiatry, 34*(1), 47–53. https://doi.org/10.1002/gps.4980

Maeir, T., Beit-Yosef, A., Wechsler, T., Safra, Y., Zilbershlag, Y., Katz, N., & Gilboa, Y. (2021). The feasibility and efficacy of an Israeli Lifestyle Redesign®–based program for well older adults: A pilot study. *OTJR: Occupation, Participation and Health, 41*(1), 47–55. https://doi.org/10.1177/1539449220928141

Mahoney, F.I., & Barthel, D.W. (1965). Functional evaluation: the Barthel Index. *Maryland state medical journal, 14*, 61–65.

Mansbach, W. E., Mace, R. A., Clark, K. M., & Firth, I. M. (2017). Meaningful Activity for Long-Term Care Residents with Dementia: A Comparison of Activities and Raters. *The Gerontologist, 57*(3), 461–468. https://doi.org/10.1093/geront/gnv694

Maseda, A., Sánchez, A., Marante, M. P., González-Abraldes, I., Buján, A., & Millán-Calenti, J. C. (2014). Effects of Multisensory Stimulation on a Sample of Institutionalized Elderly People with Dementia Diagnosis: A Controlled Longitudinal Trial. *American journal of Alzheimer's disease and other dementias, 29*(5), 463–473. https://doi.org/10.1177/1533317514522540

Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., . . . Stewart, L. A.; PRISMA-P Group. (2015). Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) 2015 statement. *Systematic Reviews, 4*, 1. https://doi.org/10.1186/2046-4053-4-1

Möhler, R., Renom, A., Renom, H., & Meyer, G. (2018). Personally tailored activities for improving psychosocial outcomes for people with dementia in long-term care. *The*

Cochrane database of systematic reviews, 2(2), CD009812. https://doi.org/10.1002/14651858.CD009812.pub2

Mondaca, M., Josephsson, S., Borell, L., Katz, A., & Rosenberg, L. (2019). Altering the boundaries of everyday life in a nursing home context. *Scandinavian Journal of Occupational Therapy*, *26*(6), 441-451. https://doi.org/10.1080/11038128.2018.1483426

Mountain, G., & Craig, C. L. (2011). The lived experience of redesigning lifestyle post-retirement in the UK. *Occupational Therapy International*, *18*(1), 48–58. https://doi.org/10.1002/oti.309

Mountain, G., Sprange, K., & Chatters, R. (2020). Lifestyle matters randomized controlled trial of a preventive health intervention for older people: Qualitative sub study with participants and intervention facilitators. *Clinical Interventions in Aging*, *15*, 239–253. https://doi.org/10.2147/CIA.S232108

Muñoz, J. P. (2007). Culturally responsive caring in occupational therapy. *Occupational therapy international*, *14*(4), 256–280. https://doi.org/10.1002/oti.238

Murai, T., & Yamaguchi, H. (2017). Effects of a Cooking Program Based on Brain-activating Rehabilitation for Elderly Residents with Dementia in a Roken Facility: A Randomized Controlled Trial. *Progress in rehabilitation medicine, 2*, 20170004. https://doi.org/10.2490/prm.20170004

Nagayama, H., Tomori, K., Ohno, K., Takahashi, K., Ogahara, K., Sawada, T., Uezu, S., Nagatani, R., & Yamauchi, K. (2016). Effectiveness and Cost-Effectiveness of Occupation-Based Occupational Therapy Using the Aid for Decision Making in Occupation Choice (ADOC) for Older Residents: Pilot Cluster Randomized Controlled Trial. *PLoS ONE, 11*(3), e0150374. https://doi.org/10.1371/journal.pone.0150374

Ojagbemi, A., & Owolabi, M. (2017). Do occupational therapy interventions improve quality of life in persons with dementia? A meta-analysis with implications for future directions. *Psychogeriatrics: the official journal of the Japanese Psychogeriatric Society, 17*(2), 133–141. https://doi.org/10.1111/psyg.12201

Organización Mundial de la Salud. (2015). *World report on ageing and health*. OMS. http://apps.who.int/iris/bitstream/handle/10665/186463/9789240694811_eng.pdf

Organización Mundial de la Salud. (2017). *Global action plan on the public health response to dementia 2017 – 2025*. OMS. https://apps.who.int/iris/bitstream/handle/10665/259615/9789241513487-eng.pdf?sequence=1

Organización Mundial de la Salud. (2023). *Dementia.* OMS. https://www.who.int/news-room/fact-sheets/detail/dementia

Oxford Centre for Evidence-Based Medicine. (2009). *Oxford Centre for Evidence-Based Medicine: Levels of evidence (March 2009).* https://www.cebm.ox.ac.uk/resources/levels-of-evidence/oxfordcentre-for-evidence-based-medicine-levels-of-evidence-march-2009

Page, M. J., McKenzie, J. E., Bossuyt, P M, Boutron, I, Hoffmann, T. C., Mulrow, C. D. et al. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ, 372*, 71. https://doi.org/10.1136/bmj.n71

Pérez, J., Ramiro, D., Aceituno, P., Muñoz, C., Bueno, C., Ruiz-Santacruz, J. S. et al. (2022). Un perfil de las personas mayores en España, 2022. Indicadores estadísticos. *Envejecimiento en red, 29*. 1-40.

http://envejecimiento.csic.es/documentos/documentos/enredindicadoresbasicos2022.pdf

Pino, M., Soto, J., & Rodríguez, B. (2015). Las personas mayores y las Tic: Un compromiso para reducir la brecha digital. *Revista interuniversitaria*, *26*, 337-359. https://www.redalyc.org/pdf/1350/135043653003.pdf

Raglio, A., Bellandi, D., Baiardi, P., Gianotti, M., Ubezio, M. C., Zanacchi, E., Granieri, E., Imbriani, M., & Stramba-Badiale, M. (2015). Effect of Active Music Therapy and Individualized Listening to Music on Dementia: A Multicenter Randomized Controlled Trial. Journal of the American Geriatrics Society, 63(8), 1534–1539. https://doi.org/10.1111/jgs.13558

Schepens Niemiec, S. L., Blanchard, J., Vigen, C. L. P., Martínez, J., Guzmán, L., Concha, A., Fluke, M., & Carlson, M. (2018). Evaluation of ¡Vivir mi Vida! To improve health and wellness of rural-dwelling, late middle-aged Latino adults: Results of a feasibility and pilot study of a lifestyle intervention. *Primary Health Care Research & Development, 19*(5), 448–463. https://doi.org/10.1017/S1463423617000901

Schepens Niemiec, S. L., Blanchard, J., Vigen, C. L., Martínez, J., Guzmán, L., Fluke, M., & Carlson, M. (2019). A pilot study of the ¡Vivir Mi Vida! lifestyle intervention for rural-dwelling, late-midlife Latinos: Study design and protocol. *OTJR: occupation, participation and health, 39*(1), 5-13. https://doi.org/10.1177/1539449218762728

Schepens Niemiec, S. L., Vigen, C. L., Martínez, J., Blanchard, J., & Carlson, M. (2021). Long-term follow-up of a lifestyle intervention for late-midlife, rural-dwelling Latinos in primary care. *The American Journal of Occupational Therapy, 75*(2). 1-11. https://doi.org/10.5014/ajot.2021.042861

Schlemmer, G. B. V., dos Santos Machado, A., dos Santos, T. D., Tavares, D. I., Müller, M., Pereira, M. B., & Braz, M. M. (2018). Correlação entre qualidade de vida e independência funcional de idosos institucionalizados. *Gerontologia, 21*(1): 411-426. https://doi.org/10.23925/2176-901X.2018v21i1p411-426

Schuhmacher, T. P., Andresen, M., & Fallahpour, M. (2023). Clinical reasoning of occupational therapists in selecting activities together with older adults with dementia to postpone further development of cognitive decline. *Scandinavian journal of occupational therapy, 30*(1), 98-108. https://doi.org/10.1080/11038128.2022.2112282

Shea, B. J., Reeves, B. C., Wells, G., Thuku, M., Hamel, C. Moran, J., . . . Henry, D. A. (2017). AMSTAR 2: A critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ, 358*, j4008. https://doi.org/10.1136/bmj.j4008

Smit, D., de Lange, J., Willemse, B., & Pot, A. M. (2017). Predictors of activity involvement in dementia care homes: a cross-sectional study. *BMC geriatrics, 17*(1), 175. https://doi.org/10.1186/s12877-017-0564-7

Sprange, K., Mountain, G.A., Brazier, J., Cook, S.P., Craig, C., Hind, D., Walters, S.J., Windle, G., Woods, R., Keetharuth, A.D., Chater, T., & Horner, K. (2013). Lifestyle Matters for maintenance of health and wellbeing in people aged 65 years and over: study protocol for a randomised controlled trial. *Trials, 21*(14), 302. https://doi.org/10.1186/1745-6215-14-302

Stav, W. B., Hallenen, T., Lane, J., & Arbesman, M. (2012). Systematic review of occupational engagement and health outcomes among community-dwelling older

adults. *American Journal of Occupational Therapy*, *66*(3), 301–310. https://doi.org/10.5014/ajot.2012.003707

Sultan Ibrahim, S. A., Dahlan, A., & Che Daud, A. Z. (2021). Effects of Occupation-Based Intervention for Older People with Mild Dementia in the Institution. *Environment Behaviour Proceedings Journal*, *6*(16), 119–125. https://doi.org/10.21834/ebpj.v6i16.2727

Telenius, E. W., Engedal, K., & Bergland, A. (2013). Physical performance and quality of life of nursing-home residents with mild and moderate dementia. *International journal of environmental research and public health*, *10*(12), 6672–6686. https://doi.org/10.3390/ijerph10126672

Testad, I., Corbett, A., Aarsland, D., Lexow, K. O., Fossey, J., Woods, B., & Ballard, C. (2014). The value of personalized psychosocial interventions to address behavioral and psychological symptoms in people with dementia living in care home settings: a systematic review. *International psychogeriatrics*, *26*(7), 1083–1098. https://doi.org/10.1017/S1041610214000131

The World Health Organization Quality of Life assessment (The WHOQOL Group). (1995). Position paper from the world health organization. *Social Science & Medicine*, *41*(10): 1403-1409.

Tokolahi, E., Hocking, C., Kersten, P., & Vandal, A. C. (2016). Quality and Reporting of Cluster Randomized Controlled Trials Evaluating Occupational Therapy Interventions: A Systematic Review. *OTJR: occupation, participation and health*, *36*(1), 14–24. https://doi.org/10.1177/1539449215618625

Toldrà, R.C., Cordone, R.G., Arruda, B.D.A., & Souto, A.C.F. (2014). Health and quality of life promotion for old people using bodily practices. *Mundo da Saude, 38*(2), 159-168. https://doi.org10.1007/978-3-030-29990-3_4

Travers, C., Brooks, D., Hines, S., O'Reilly, M., McMaster, M., He, W., MacAndrew, M., Fielding, E., Karlsson, L., & Beattie, E. (2016). Effectiveness of meaningful occupation interventions for people living with dementia in residential aged care: a systematic review: A systematic review. *JBI Database of Systematic Reviews and Implementation Reports, 14*(12), 163–225. https://doi.org/10.11124/JBISRIR-2016-003230

Uceda, C., Calvo, J. I., & Moruno, P. (2023). Occupational Therapy Interventions for the Improvement of the Quality of Life of Healthy Older Adults Living in Nursing Homes: A Systematic Review. *American journal of health promotion*, *37*(5), 698-704. https://doi.org/10.1177/08901171221145159

Uceda, C., Calvo, J. I., & Moruno, P. (2023). Life Domains and Lifestyle of Older Adults Living in a Nursing Home: A Pilot Study. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing, 60*, 1-10. https://doi.org/10.1177/00469580231220217

Uceda, C., Aranda, S., & Moruno, P. (2024). Occupational Therapy Interventions to Improve the Quality of Life of Older Adults with Dementia Living in Nursing Homes: A Systematic Review. *Healthcare, 12*(9), 896. https://doi.org/10.3390/healthcare12090896

U.S. Preventive Services Task Force. (2018). *U.S. Preventive Services Task Force ratings.*https://www.uspreventiveservicestaskforce.org/Page/Name/uspreventive-services-task-force-ratings

Valero, J.A., Mediavilla, J.J., Valero, I., & Coca, J.R. (2015). El pasado vuelve a marcar el presente: la emigración española. *Papeles de población, 21*(83), 41-74. http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1405-74252015000100003&lng=es&tlng=es.

Walker, A. (2005). A European Perspective on quality of life in old age. *European J. Aging, 2*(1), 2-13. https://doi.org/10.1007/s10433-005-0500-0

Wenborn, J., Challis, D., Head, J., Miranda-Castillo, C., Popham, C., Thakur, R., Illes, J., & Orrell, M. (2013). Providing activity for people with dementia in care homes: a cluster randomised controlled trial. *International journal of geriatric psychiatry, 28*(12), 1296–1304. https://doi.org/10.1002/gps.3960

Yoshida, I., Hirao, K., & Nonaka, T. (2018). Adjusting challenge–skill balance to improve quality of life in older adults: A randomized controlled trial. *American Journal of Occupational Therapy, 72,* 7201205030. https://doi.org/10.5014/ajot.2018.020982

Zingmark, M., Nilsson, I., Fisher, A. G., & Lindholm, L. (2016). Occupation-focused health promotion for well older people—A cost-effectiveness analysis. *British Journal of Occupational Therapy, 79*(3), 153-162. https://doi.org/10.1177/0308022615609623