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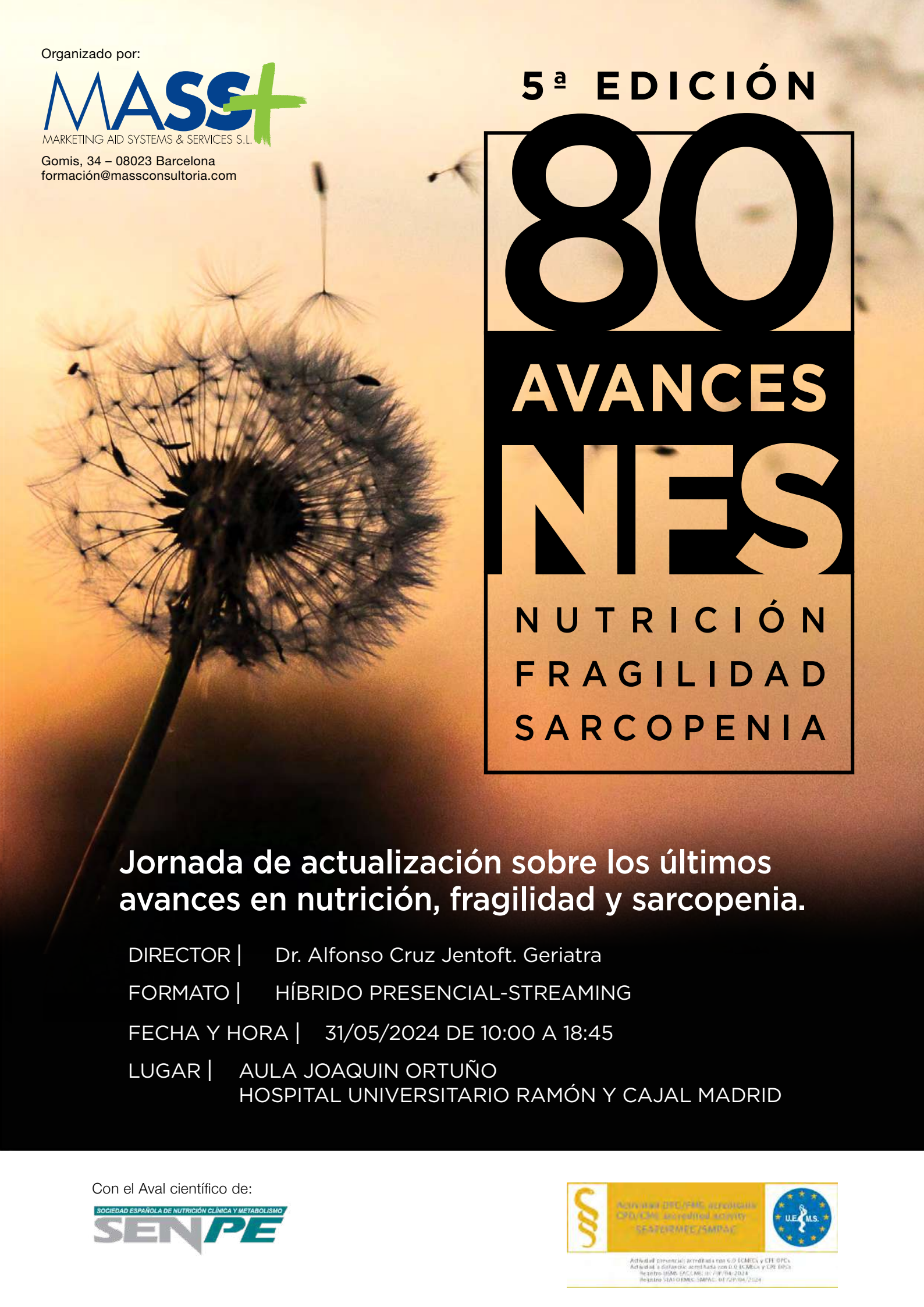

5ª EDICIÓN

80 AVANCES NES

NUTRICIÓN
FRAGILIDAD
SARCOPENIA

Jornada de actualización sobre los últimos avances en nutrición, fragilidad y sarcopenia.

DIRECTOR | Dr. Alfonso Cruz Jentoft. Geriatra

FORMATO | HÍBRIDO PRESENCIAL-STREAMING

FECHA Y HORA | 31/05/2024 DE 10:00 A 18:45

LUGAR | AULA JOAQUIN ORTUÑO
HOSPITAL UNIVERSITARIO RAMÓN Y CAJAL MADRID

Con el Aval científico de:

SOCIEDAD ESPAÑOLA DE NUTRICIÓN CLÍNICA Y METABOLISMO
SENPE

Actividad DPC/FMC acreditada
CPD/CME accredited activity
SEAT/ORMEC/SMPAC

U.E.M.S.

PRESENTACIÓN

Un año más presentamos la jornada de puesta al día de los avances producidos en el último año en 8 áreas relevantes de la nutrición del mayor, incluyendo la fragilidad, la sarcopenia y el ejercicio físico. Expertos reconocidos en cada área y con amplia experiencia docente e investigadora seleccionarán cada año los 10 artículos que juzguen de mayor relevancia de entre los publicados en revistas de alto impacto o presentadas en congreso internacionales. Y los presentarán de forma clara, explicando tanto su relevancia como su potencial de cambiar la práctica clínica o de orientar líneas de investigación.

OBJETIVOS

General del curso

El objetivo general de este curso es revisar toda la investigación disponible en el último año de tres áreas muy relacionadas entre sí (nutrición, sarcopenia y fragilidad) centradas especialmente en los pacientes mayores.

Específicos o de aprendizaje del curso

Al finalizar el curso, los asistentes estarán en disposición de:

- Usar los métodos más adecuados para diagnosticar y tratar los problemas nutricionales en pacientes mayores.
- Adoptar el enfoque clínico más apropiado en los pacientes con sarcopenia.
- Integrar mejor los modernos conceptos de fragilidad en su práctica asistencial.
- Mejorar el manejo de los pacientes con disfagia.
- Integrar la nutrición y el ejercicio como tratamiento de los problemas geriátricos.

A QUIEN VA DIRIGIDO

Aunque resulta de interés inmediato para los especialistas en Geriatría y Nutrición, es evidente que también resulta atractivo para Especialistas en Medicina Interna, Familiar y Comunitaria, Rehabilitación, Enfermeras. Dietistas y Nutricionistas. Unidades de disfagia o plantas de hospitalización.

JUSTIFICACIÓN

La nutrición es una ciencia médica transversal que está relacionada con un buen número de especialidades. No obstante, los especialistas tienen problemas para acceder a la información más actualizada relacionada con nutrición en personas mayores. Hay tres síndromes geriátricos con enorme crecimiento en su investigación (disfagia, fragilidad y sarcopenia), íntimamente ligados con la nutrición, en los que es difícil mantenerse al día.

Las sociedades europeas de nutrición (ESPEN) y geriatría (EuGMS) han dedicado grupos de trabajo a todos estos aspectos insistiendo en la necesidad de formación de los profesionales que atienden a pacientes mayores y publicado documentos al respecto. Todo ello justifica el beneficio de ofrecer un curso anual de actualización sobre los últimos artículos publicados en diversos campos de la nutrición geriátrica, puestos en contexto por expertos reconocidos en estas áreas procedentes tanto del campo de la geriatría como de la nutrición clínica. Entendemos que esta formación puede tener un impacto inmediato en la mejora de la atención a los pacientes aumentando la prevalencia y calidad de la intervención nutricional.

Actividad de 7 horas lectivas

PROGRAMA CIENTÍFICO |

PRESENCIAL/STREAMING 31/05/2024

10:00	**Bienvenida**	*Alfonso Cruz Jentoft. Geriatra*
10:05	**Sarcopenia**	*Alfonso Cruz Jentoft. Geriatra*
10:55	**Disfagia**	*Elisabet Sánchez García. Geriatra*
11:45	**CAFÉ**	
12:15	**Suplementos nutricionales**	*Alejandro Sanz París Endocrinología y Nutrición*
13:05	**Cribado y diagnóstico de la malnutrición**	*Dolores Sánchez. Geriatra*
13:55	**Fragilidad**	*Olga Vázquez. Geriatra*
14:45	**ALMUERZO**	
16:00	**Nutrición y ejercicio físico**	*José Antonio Serra Rexach. Geriatra*
16:50	**Obesidad en personas mayores**	*Federico Cuesta Triana.Geriatra*
17:40	**Intervención nutricional**	*Julia Álvarez Hernández. Endocrinología y Nutrición*
18:30	**Conclusiones**	*Alfonso Cruz Jentoft. Geriatra*
18:45	**Fin de la reunión**	

ÍNDICE |

1| SARCOPENIA

ALFONSO J. CRUZ JENTOFT
JEFE DEL SERVICIO DE GERIATRÍA DEL HOSPITAL UNIVERSITARIO
RAMÓN Y CAJAL DE MADRID
PROFESOR DE GERIATRÍA DE LA UNIVERSIDAD EUROPEA DE MADRID.

RESUMEN

En la revisión de artículos, que en este caso es sólo de los últimos seis meses, sigue destacando el gran número de revisiones sistemáticas con un número relativamente muy bajo de investigaciones originales. El número total de publicaciones parece estar llegando a una meseta. La selección de diez artículos de este año se apoya sobre lo presentado en años anteriores, buscando aquellos que aporten información nueva o vías de investigación.

El primer artículo, que es noticia destacada, es la publicación de la definición conceptual de sarcopenia elaborada por la iniciativa GLIS (Global Leadership Initiative in Sarcopenia), que llevará en un futuro próximo a una definición operativa de sarcopenia que pueda usarse en todo el mundo. Llama la atención que – si existiera la técnica ideal para medirlas – la masa y la fuerza muscular son los elementos fundamentales que definen la sarcopenia, junto con la novedosa incorporación de la fuerza ajustada a la masa (fuerza específica). Además, el rendimiento físico, que es una función de todo el cuerpo, deja de formar parte de la definición para convertirse en una primera consecuencia adversa de la sarcopenia.

El segundo artículo es una amplia y completa revisión de todos los instrumentos que se han propuesto para el cribado de la sarcopenia, entre los que destaca el instrumento SARC-F. Sin embargo, este artículo contiene un error de concepto, ya que incluye como elementos de cribado algunas medidas que en realidad forman parte de la definición. En muchos de ellos, el instrumento es más complejo o exige más tiempo que la medida sencilla de la fuerza de prensión.

A continuación, presento un artículo que valida un nuevo dinamómetro digital frente al tradicional hidráulico (modelo Jamar). Cada vez se buscan más alternativas a este último, pero con el problema de que el resultado de la medida de la fuerza no es idéntico. Este dinamómetro, cuyo precio es más del doble del Jamar, exige unos puntos de corte diferentes a los publicados en los consensos internacionales. El mensaje: antes de usar un dinamómetro alternativo, este debe validarse, idealmente en varias poblaciones diferentes.

El siguiente artículo es un meta-análisis con datos individuales de pacientes (el mejor tipo de meta-análisis posible) del instrumento SARQoL para medir la calidad de vida relacionada con la enfermedad en personas con sarcopenia. Este instrumento está validado en un gran número de idiomas y este artículo viene a confirmar su valor para detectar la pérdida de calidad de vida que produce la sarcopenia. Sin embargo, lo que más llama la atención es su heterogeneidad según el nivel asistencial o los criterios diagnósticos, y muy especialmente entre regiones, teniendo precisamente la validez menor en países del sur de Europa. Habrá que averiguar por qué sucede esto.

A continuación, hay dos artículos sobre nutrición. El primero, una revisión sistemática, encuentra algunas diferencias en estudios transversales en la ingesta de nutrientes en pacientes con y sin sarcopenia, especialmente una menor ingesta de energía y de varios micronutrientes. Llama la atención de que la ingesta de proteínas no es diferente (en contraste con los estudios longitudinales). El segundo es una larga revisión narrativa sobre el papel de la alimentación en la prevención de la sarcopenia en pacientes de mediana edad o en su primera vejez, que muestra que los patrones de dieta sana podrían tener también un papel en la prevención de la sarcopenia, algo que no está tan demostrado para nutrientes específicos, especialmente en personas de mediana edad.

El principal avance de este año, a mi juicio, es el que se ha producido en el área de la obesidad sarcopénica. Presento por ello primero un interesante estudio aleatorizado japonés hecho en diabéticos mayores, en los que buscan averiguar si la pérdida de peso que se asocia a la empagliflozina (un SGLT2) puede empeorar la masa muscular. El resultado es esperanzador, porque al cabo de un año la pérdida de peso, más de 3 kg, parece atribuirse solamente a pérdida de grasa, no de músculo. Las medidas funcionales secundarias no muestran nada alarmante. El siguiente artículo, relacionado, es un extraordinario comentario de obligada lectura de tres expertos en obesidad en mayores, que alerta sobre los riesgos potenciales de los medicamentos actuales y en desarrollo para la pérdida de peso. Hasta ahora, se estima que un 25 % del peso perdido en una persona obesa en tratamiento es masa muscular, por lo que los medicamentos – en cuyos estudios no hay personas mayores – deberán usarse con extremo cuidado hasta que se demuestre qué consecuencias funcionales tiene su impacto en el músculo.

Para terminar, pero en la misma línea, dos revisiones. Una de ellas es una revisión sistemática que confirma que la obesidad sarcopénica incrementa la mortalidad respecto a la obesidad no sarcopénica en personas mayores. La segunda es una revisión narrativa, elaborada por un grupo internacional muy experto, sobre todos los aspectos de la obesidad sarcopénica. Me parece una puesta al día extraordinaria de todo lo que sabemos sobre esta enfermedad.

RESÚMENES

1 *Kirk B, Cawthon PM, Arai H, Ávila-Funes JA, Barazzoni R, Bhasin S, Binder EF, Bruyere O, Cederholm T, Chen LK, Cooper C, Duque G, Fielding RA, Guralnik J, Kiel DP, Landi F, Reginster JY, Sayer AA, Visser M, von Haehling S, Woo J, Cruz-Jentoft AJ;* **Global Leadership Initiative in Sarcopenia (GLIS) group. The Conceptual Definition of Sarcopenia: Delphi Consensus from the Global Leadership Initiative in Sarcopenia (GLIS).** Age Ageing. 2024 Mar 1;53(3):afae052. doi: 10.1093/ageing/afae052. PMID: 38520141; PMCID: PMC10960072.

RESUMEN

IMPORTANCE: Sarcopenia, the age-related loss of muscle mass and strength/function, is an important clinical condition. However, no international consensus on the definition exists.

Objective: The Global Leadership Initiative in Sarcopenia (GLIS) aimed to address this by establishing the global conceptual definition of sarcopenia.
DESIGN: The GLIS steering committee was formed in 2019-21 with representatives from all relevant scientific societies worldwide. During this time, the steering committee developed a set of statements on the topic and invited members from these societies to participate in a two-phase International Delphi Study. Between 2022 and 2023, participants ranked their agreement with a set of statements using an online survey tool (SurveyMonkey). Statements were categorised based on predefined thresholds: strong agreement (>80%), moderate agreement (70-80%) and low agreement (<70%). Statements with strong agreement were accepted, statements with low agreement were rejected and those with moderate agreement were reintroduced until consensus was reached.
RESULTS: 107 participants (mean age: 54 ± 12 years [1 missing age], 64% men) from 29 countries across 7 continents/regions completed the Delphi survey. Twenty statements were found to have a strong agreement. These included; 6 statements on 'general aspects of sarcopenia' (strongest agreement: the prevalence of sarcopenia increases with age (98.3%)), 3 statements on 'components of sarcopenia' (muscle mass (89.4%), muscle strength (93.1%) and muscle-specific strength (80.8%) should all be a part of the conceptual definition of sarcopenia)) and 11 statements on 'outcomes of sarcopenia' (strongest agreement: sarcopenia increases the risk of impaired physical performance (97.9%)). A key finding of the Delphi survey was that muscle mass, muscle strength and muscle-specific strength were all accepted as 'components of sarcopenia', whereas impaired physical performance was accepted as an 'outcome' rather than a 'component' of sarcopenia.
CONCLUSION AND RELEVANCE: The GLIS has created the first global conceptual definition of sarcopenia, which will now serve to develop an operational definition for clinical and research settings.

2 *Lian R, Jiang G, Liu Q, Shi Q, Luo S, Lu J, Yang M.* **Validated Tools for Screening Sarcopenia: A Scoping Review.** J Am Med Dir Assoc. 2023 Nov;24(11):1645-1654. doi: 10.1016/j.jamda.2023.06.036. Epub 2023 Aug 8. PMID: 37567245.

RESUMEN
OBJECTIVE: Choosing the optimal sarcopenia screening tool for a specific clinical scenario is challenging. We aimed to summarize all validated sarcopenia screening tools with diagnostic accuracy tested in one or more study populations.
DESIGN: Scoping review.
SETTING AND PARTICIPANTS: Hospitals, nursing homes, communities, or health checkups.
METHODS: We systematically searched 3 databases in April 2022: MEDLINE, EMBASE, and CENTRAL. Two review authors independently performed the study selection and data extraction. The included tools' contents, characteristics, and number of citations were summarized and visualized.
RESULTS: We summarized 102 diagnostic accuracy studies involving 53 screening tools, classified into 7 groups: questionnaires (n = 13); serum biomarkers (n = 10); formulas, algorithms, and models (n = 9); physical ability tests (n = 9); integration tools (n = 7); anthropometric indices

(n = 3); and ultrasound or bioimpedance analysis (n = 2). The most commonly used questionnaire was SARC-F (770 citations), followed by SARC-CalF (254 citations) and MSRA-7 (61 citations). Handgrip strength and Ishii score were the most widely used physical performance tests (331 citations) and formulas (294 citations), respectively. Sarcopenia index (based on serum cystatin C and creatinine) and calf circumference were the most commonly used serum biomarkers (123 citations) and anthropometric indexes (127 citations), respectively. Ultrasound was the most commonly used imaging tool for screening sarcopenia (57 citations). The included tools varied significantly in content. Various tools assessed some or all components of sarcopenia with different methods, and others assessed different domains, such as age, body mass index, falls, diet, and even mental health. We also summarized the screening tools that were validated in different clinical settings (hospitals, communities, nursing homes, and health checkups).
CONCLUSIONS AND IMPLICATIONS: More than 50 validated tools are currently available for screening sarcopenia in different clinical settings. The results of this review may help clinicians and researchers in selecting optimal tools for sarcopenia in different clinical scenarios and in developing future tools.

3 *Villain C, Lebaube S, Kremer C, Chavoix C, Fournel F, Briant AR, Beauplet B.* **Gripwise Versus Jamar: The Challenge of a New Dynamometer Assessing Handgrip Strength.** J Gerontol A Biol Sci Med Sci. 2023 Dec 1;78(12):2458-2465. doi: 10.1093/gerona/glad198. PMID: 37578949; PMCID: PMC10692423.

RESUMEN
BACKGROUND: Sarcopenia diagnosis is partly based on handgrip strength (HGS) assessment. The gold-standard dynamometer for this measurement is the Jamar. The electronic Gripwise is a smaller and lighter one, and its measurements are correlated with the Jamar's in laboratory tests. Our study aimed to confirm this correlation in aged patients.
METHODS: This monocenter cross-sectional study was performed in patients of 65 years and older admitted at the University Hospital. Participants were assessed either in a seated or bedridden position, randomly allocated to begin the measurements with the Jamar or the Gripwise.
RESULTS: Among 649 aged inpatients assessed for eligibility, 348 were included (mean age: 79 ± 9; 52% females). The intraclass correlation coefficient was 0.93 (95% confidence interval [CI] 0.92-0.94, p < .001) for the maximum value measured with both devices and 0.94 (95% CI 0.93-0.95, p < .001) for the mean values. However, there was a significant difference in detecting low values (<16 kg in women, <27 kg in men), found in 48% of patients with Jamar, and 71% with Gripwise (p < .001). Thus, we determined alternate cutoffs for diagnosing HGS low values with the Gripwise (<12 kg in women, <22 kg in men), further validated in a supplementary validation population (n = 70). The diagnostic performances of these alternative cutoffs were high (93% sensitivity and 87% specificity in women; 94% sensitivity and 96% specificity in men).
CONCLUSIONS: The correlation of the Gripwise with the Jamar was confirmed in aged inpatients. However, lower values recorded with the Gripwise require alternate cutoffs for a relevant low HGS diagnosis.

4 *Beaudart C, Tilquin N, Abramowicz P, Baptista F, Peng DJ, de Souza Orlandi F, Drey M, Dzhus M, Fábrega-Cuadros R, Fernandez-Garrido J, Laurindo LF, Gasparik AI, Geerinck A, Emin G, Iacob S, Kilaitė J, Kumar P, Lee SC, Lou VWQ, Mahmoodi M, Matijevic R, Matveeva MV, Merle B, Montero-Errasquín B, Bhattoa HP, Safonova Y, Şimşek H, Topinkova E, Tsekoura M, Erdoğan T, Yoo JI, Yu R, Hiligsmann M, Reginster JY, Bruyère O.* **Quality of life in sarcopenia measured with the SarQoL questionnaire: A meta-analysis of individual patient data. Maturitas.** 2024 Feb;180:107902. doi: 10.1016/j.maturitas.2023.107902. Epub 2023 Dec 15. PMID: 38142467.

RESUMEN

Age-related sarcopenia, resulting from a gradual loss in skeletal muscle mass and strength, is pivotal to the increased prevalence of functional limitation among the older adult community. The purpose of this meta-analysis of individual patient data is to investigate the difference in health-related quality of life between sarcopenic individuals and those without the condition using the Sarcopenia Quality of Life (SarQoL) questionnaire. A protocol was published on PROSPERO. Multiple databases and the grey literature were searched until March 2023 for studies reporting quality of life assessed with the SarQoL for patients with and without sarcopenia. Two researchers conducted the systematic review independently. A two-stage meta-analysis was performed. First, crude (mean difference) and adjusted (beta coefficient) effect sizes were calculated within each database; then, a random effect meta-analysis was applied to pool them. Heterogeneity was measured using the Q-test and I2 value. Subgroup analyses were performed to investigate the source of potential heterogeneity. The strength of evidence of this association was assessed using GRADE. From the 413 studies identified, 32 were eventually included, of which 10 were unpublished data studies. Sarcopenic participants displayed significantly reduced health-related quality of life compared with non-sarcopenic individuals (mean difference = -12.32; 95 % CI = [-15.27; -9.37]). The model revealed significant heterogeneity. Subgroup analyses revealed a substantial impact of regions, clinical settings, and diagnostic criteria on the difference in health-related quality of life between sarcopenic and non-sarcopenic individuals. The level of evidence was moderate. This meta-analysis of individual patient data suggested that sarcopenia is associated with lower health-related quality of life measured with SarQoL.

5 Almeida NS, Rocha R, de Souza CA, Daltro C, de Farias Costa PR, de Oliveira TM*, de Oliveira Leite L, Cotrim HP.* **Energy and nutrient intake by people with and without sarcopenia diagnosed by the European Working Group on Sarcopenia in Older People: a systematic review and meta-analysis.** Nutr Rev. 2023 Dec 19:nuad154. doi: 10.1093/nutrit/nuad154. Epub ahead of print. PMID: 38114090.

RESUMEN

CONTEXT: There is growing evidence that insufficient dietary intake is associated with sarcopenia.

OBJECTIVE: In this systematic review and meta-analysis, the energy and nutrient intakes by

people with and without sarcopenia were compared using only the European Working Group on Sarcopenia in Older People 2010 (EWGSOP1) and 2019 (EWGSOP2) consensus diagnostic criteria.
DATA SOURCES: Only observational studies that compared energy and nutrient intake from food alone by individuals with and without sarcopenia were included. Studies were searched in the following databases: Embase, PubMed, Scopus, Web of Science, Lilacs, Ovid, and Scopus. The review followed the PRISMA checklist and submitted the protocol to PROSPERO.
Data extraction: Data were extracted by 2 authors independently. The methodological quality of the studies was assessed using the Newcastle-Ottawa scale.
DATA ANALYSIS: A total of 8648 articles were identified and 12 were selected. Among individuals with sarcopenia, lower intakes of energy and some nutrients, mainly with antioxidant properties, were observed compared with those without sarcopenia. Meta-analyses showed that individuals with sarcopenia consume fewer calories/day than individuals without sarcopenia (n = 10 studies; standardized mean difference (SMD) -0.15; 95% confidence interval: -0.29, -0.01) diagnosed by EWGSOP1 and EWGSOP2. Individuals with sarcopenia consume less omega-3, folate, magnesium, phosphorus, selenium, zinc, and vitamins C, D, and E when compared with those without sarcopenia.
CONCLUSION: The results of the present study suggest that insufficient intake of energy and nutrients with antioxidant potential may be associated with sarcopenia.

6 *Robinson S, Granic A, Cruz-Jentoft AJ, Sayer AA.* **The role of nutrition in the prevention of sarcopenia.** Am J Clin Nutr. 2023 Nov;118(5):852-864. doi: 10.1016/j.ajcnut.2023.08.015. Epub 2023 Aug 30. PMID: 37657521; PMCID: PMC10636259.

RESUMEN

Sarcopenia is a common skeletal muscle disorder characterized by a loss of muscle mass and impaired muscle function that is associated with poor health outcomes. Although nutrition is considered an important factor in the etiology of sarcopenia, the preventive potential of diet, specifically the extent to which differences in habitual patterns of diet and/or nutrient intakes impact risk of its development, is poorly understood. This narrative review considered research evidence on dietary patterns and nutrient intakes in mid- (<60 y) and young-older (60-70 y) adulthood to evaluate how they relate to age-related changes in muscle mass and function. A key finding was that current evidence on adult diet and sarcopenia risk in older age is limited and fragmented, with different outcomes reported across studies (for example, lean mass, strength) and few reporting links to incident diagnosed sarcopenia. As these outcomes are not interchangeable, it challenges collation of the evidence, leaving many gaps in understanding. There is also limited information about adult (<70 y) diet and few longitudinal studies with repeated dietary assessments to enable definition of cumulative exposures across adulthood. However, despite these limitations, findings from studies of dietary patterns already provide reasonably consistent messages about the benefits of diets of higher quality in earlier adulthood for later physical performance, although whole-diet intervention trials are urgently needed to

understand their potential. In comparison, there is little evidence of benefits of higher intakes of individual nutrients in earlier adulthood for later muscle mass and function. Although these gaps need to be addressed in future research, there may already be sufficient data to promote messages about diet quality more widely - that healthier diets of higher quality across adulthood, with known benefits for a range of health outcomes, are also linked to the effective preservation of muscle mass and function.

7 *Yabe D, Shiki K, Homma G, Meinicke T, Ogura Y, Seino Y; EMPA-ELDERLY Investigators*. **Efficacy and safety of the sodium-glucose co-transporter-2 inhibitor empagliflozin in elderly Japanese adults (≥65 years) with type 2 diabetes: A randomized, double-blind, placebo-controlled, 52-week clinical trial (EMPA-ELDERLY).** Diabetes Obes Metab. 2023 Dec;25(12):3538-3548. doi: 10.1111/dom.15249. Epub 2023 Aug 25. PMID: 37622398.

RESUMEN

AIM: Use of sodium-glucose co-transporter-2 inhibitors (SGLT2is) for glycaemic control is increasing in individuals with type 2 diabetes (T2D) for their additional benefits on heart failure and chronic kidney disease. However, SGLT2is generally reduce body weight, which might promote sarcopenia in older individuals. We evaluated the effects of the SGLT2i empagliflozin on muscle mass and strength in addition to glucose control in elderly adults with T2D.

MATERIALS AND METHODS: Individuals with T2D aged ≥65 years with body mass index ≥22 kg/m2 and glycated haemoglobin (HbA1c) 7.0%-10.0% were randomized 1:1 to once-daily empagliflozin 10 mg or placebo for 52 weeks. The primary endpoint was change from baseline in HbA1c at week 52. Secondary endpoints included changes from baseline in muscle mass and strength.

RESULTS: Of the 129 individuals randomized, 72.4% were men, mean age 74.1 years, body mass index 25.6 kg/m2 and HbA1c 7.6%. The placebo-adjusted mean change from baseline in HbA1c at week 52 with empagliflozin was -0.57% [95% confidence interval (CI) -0.78, -0.36]. Change in body weight was -3.26 kg and -0.90 kg with empagliflozin and placebo, respectively (placebo-adjusted difference: -2.37 kg; 95% CI -3.07, -1.68). Placebo-adjusted change in muscle mass was -0.61 kg (95% CI -1.61, 0.39), fat mass -1.84 kg (95% CI -2.65, -1.04) and grip strength -0.3 kg (95% CI -1.1, 0.5).

CONCLUSIONS: Empagliflozin improved glucose control and reduced body weight without compromising muscle mass or strength in elderly adults with T2D in this trial.

8 *Batsis JA, Porter Starr KN, Villareal DT.* **Should the Incretin hype be the same for older adults: Promise + cautions.** J Am Geriatr Soc. 2024 Feb 23. doi: 10.1111/jgs.18816. Epub ahead of print. PMID: 38393783.

RESUMEN

No tiene, es un comentario: "Our opportunity to capitalize upon our excitement of these promising medications is to emphasize the general principle of managing older adults—start low and go slow—with GLP-1 and GIPs, and this is no exception."

9 *Benz E, Pinel A, Guillet C, Capel F, Pereira B, De Antonio M, Pouget M, Cruz-Jentoft AJ, Eglseer D, Topinkova E, Barazzoni R, Rivadeneira F, Ikram MA, Steur M, Voortman T, Schoufour JD, Weijs PJM, Boirie Y*. **Sarcopenia and Sarcopenic Obesity and Mortality Among Older People.** JAMA Netw Open. 2024 Mar 4;7(3):e243604. doi: 10.1001/jamanetworkopen.2024.3604. PMID: 38526491; PMCID: PMC10964118.

RESUMEN

IMPORTANCE: Sarcopenia and obesity are 2 global concerns associated with adverse health outcomes in older people. Evidence on the population-based prevalence of the combination of sarcopenia with obesity (sarcopenic obesity [SO]) and its association with mortality are still limited.

OBJECTIVE: To investigate the prevalence of sarcopenia and SO and their association with all-cause mortality.

DESIGN, SETTING, AND PARTICIPANTS: This large-scale, population-based cohort study assessed participants from the Rotterdam Study from March 1, 2009, to June 1, 2014. Associations of sarcopenia and SO with all-cause mortality were studied using Kaplan-Meier curves, Cox proportional hazards regression, and accelerated failure time models fitted for sex, age, and body mass index (BMI). Data analysis was performed from January 1 to April 1, 2023.

EXPOSURES: The prevalence of sarcopenia and SO, measured based on handgrip strength and body composition (BC) (dual-energy x-ray absorptiometry) as recommended by current consensus criteria, with probable sarcopenia defined as having low handgrip strength and confirmed sarcopenia and SO defined as altered BC (high fat percentage and/or low appendicular skeletal muscle index) in addition to low handgrip strength.

MAIN OUTCOME AND MEASURE: The primary outcome was all-cause mortality, collected using linked mortality data from general practitioners and the central municipal records, until October 2022.

RESULTS: In the total population of 5888 participants (mean [SD] age, 69.5 [9.1] years; mean [SD] BMI, 27.5 [4.3]; 3343 [56.8%] female), 653 (11.1%; 95% CI, 10.3%-11.9%) had probable sarcopenia and 127 (2.2%; 95% CI, 1.8%-2.6%) had confirmed sarcopenia. Sarcopenic obesity with 1 altered component of BC was present in 295 participants (5.0%; 95% CI, 4.4%-5.6%) and with 2 altered components in 44 participants (0.8%; 95% CI, 0.6%-1.0%). An increased risk of all-cause mortality was observed in participants with probable sarcopenia (hazard ratio [HR],

1.29; 95% CI, 1.14-1.47) and confirmed sarcopenia (HR, 1.93; 95% CI, 1.53-2.43). Participants with SO plus 1 altered component of BC (HR, 1.94; 95% CI, 1.60-2.33]) or 2 altered components of BC (HR, 2.84; 95% CI, 1.97-4.11) had a higher risk of mortality than those without SO. Similar results for SO were obtained for participants with a BMI of 27 or greater.

CONCLUSIONS AND RELEVANCE: In this study, sarcopenia and SO were found to be prevalent phenotypes in older people and were associated with all-cause mortality. Additional alterations of BC amplified this risk independently of age, sex, and BMI. The use of low muscle strength as a first step of both diagnoses may allow for early identification of individuals at risk for premature mortality.

10 *Prado CM, Batsis JA, Donini LM, Gonzalez MC, Siervo M.* **Sarcopenic obesity in older adults: a clinical overview.** Nat Rev Endocrinol. 2024 May;20(5):261-277. doi: 10.1038/s41574-023-00943-z. Epub 2024 Feb 6. PMID: 38321142.

RESUMEN

Sarcopenic obesity is characterized by a concurrent decline in muscle mass and function, along with increased adipose tissue. Sarcopenic obesity is a growing concern in older adults owing to significant health consequences, including implications for mortality, comorbidities and risk of developing geriatric syndromes. A 2022 consensus statement established a new definition and diagnostic criteria for sarcopenic obesity. The pathophysiology of this condition involves a complex interplay between muscle, adipose tissue, hormonal changes, inflammation, oxidative stress and lifestyle factors, among others. Sarcopenic obesity is treated with a range of management approaches, such as lifestyle interventions, exercise, nutrition and medical therapies. Emerging therapies that were developed for treating other conditions may be relevant to sarcopenic obesity, including novel pharmacological agents and personalized approaches such as precision medicine. In this Review, we synthesize the current knowledge of the clinical importance of sarcopenic obesity, its assessment and diagnosis, along with current and emerging management strategies.

2| DISFAGIA

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Durante estos meses se han publicado 2656 artículos sobre disfagia de los que 1426 son sobre dis-fagia orofaríngea. Me parece interesante destacar que se han publicado 58 ensayos clínicos aleato-rizados, 62 metanálisis, 75 revisiones sistemáticas y 183 artículos de revisión. Con respecto a las causas subyacentes, de todos ellos, 519 son sobre patología esofágica, 105 artículos son sobre ictus y 241 sobre cancer, y 77 en cuidados intensivos.

Aunque sabemos que es un síndrome prevalente entre los mayores, con consecuencias graves, sólo 44 estudios, abordan el tema de la disfagia en los más ancianos. Este año, disponemos de datos so-bre las consecuencias de la disfagia en nuestro país gracias a un artículo publicado por el Dr. Pere Clavé en un hospital público de nuestro medio, demostró tras revisar 3,328 pacientes que la disfagia orofaríngea en adultos mayores se asocia con mayor riesgos de mortalidad a 1 mes (OR 3.28) y 1 año (OR 3.42) post-neumonía, de malnutrición (OR 2.72), de infecciones respiratorias (OR 2.39) y aspiración (IR 5.07) (1) . El mismo equipo, ha realizado avances en técnicas diagnósticas diagnósti-cas de la disfagia publicado una revisión que ofrece recomendaciones prácticas sobre el uso de la manometría de alta resolución para el diagnóstico etiológico de disfagia orofaríngea (2). Como otro avance importante en el diagnóstico, un grupo de investigación coreano emplea la ecografía diná-mica de los músculos suprahioideos y parece tener utilidad el el diagnóstico etiológico de disfagia en trastornos neurológicos (3). También hay estudios interesantes sobre cribado, destacando el tra-bajo de Nakamori que compara distintos métodos de cribado, incluyendo la presión lingual y la deglución repetitiva de saliva, con los hallazgos en la video fluoroscopia en pacientes con accidente cerebrovascular agudo (4).

En lo que respecta a los avances en el tratamiento de la disfagia, se han publicado meta análisis que evalúan la eficacia de diferentes intervenciones, como la “maniobra de mentón hacia abajo” (5) y el efecto del entrenamiento respiratorio en pacientes con disfagia que los que he seleccionado en esta ocasión (6).

Como en años anteriores, la disfagia secundaria al ictus ha sido objeto de numerosos estudios, entre los cuales destaca un metaanálisis que examina la eficacia de diversas técnicas de estimulación eléctrica transcraneal (7) y del entrenamiento de fuerza deglutoria en estos pacientes (8). La mayor-ía de estos avances están resumidos en el artículo publicado en en JAMA neurology que tiene como título avances en la disfagia post ictal (9).

Este año, también se han publicado estudios de relevancia en pacientes hospitalizados con disfagia orofaríngea y demencia, una población en general poco estudiado. En un artículo publicado en JA-MA, Makhnevich et al. analizan una cohorte retrospectiva de casi 9000

pacientes, sin encontrar diferencias significativas en la mortalidad hospitalaria entre aquellos que recibieron líquidos espe-sados durante su ingreso y los que no(10). Por otra parte, parecen relevantes los estudios realizados en residencias, dado que la población de pacientes institucionalizados presenta una alta prevalencia de disfagia. En este sentido, Bice EM et al. han publicado un estudio multicéntrico en JAMDA, donde revisan la consistencia de la dieta prescrita y la comparan con la recomendada después de realizar un estudio instrumental de la deglución en pacientes que reciben tratamiento rehabilitador (11). Sus resultados resaltan la naturaleza dinámica de los trastornos de la deglución, que requieren una reevaluación cuando cambia la situación clínica del paciente. Y por último destacar un docu-mento de consenso internacional sobre el manejo de la disfagia en pacientes de unidades de cuidados intensivos, en el que se hacen recomendaciones prácticas sobre el manejo de otro de los grupos de pacientes en los que la disfagia es más prevalente

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RESÚMENES

1 Prospective Observational Study for the Comparison of Screening Methods Including Tongue Pressure and Repetitive Saliva Swallowing With Detailed Videofluoroscopic Swallowing Study Findings in Patients With Acute Stroke

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Hirofumi Maruyama , MD, PhD; Naohisa Hosomi , MD, PhD

BACKGROUND: Simple, noninvasive, and repeatable screening methods are essential for assess-ing swallowing disorders. We focused on patients with acute stroke and aimed to assess the charac-teristics of swallowing screening tests, including the modified Mann Assessment of Swallowing Ability score, tongue pressure, and repetitive saliva swallowing test (RSST), com-

pared with de-tailed videofluoroscopic swallowing study (VFSS) findings to contribute as a helpful resource for their compre- hensive and complementary use.

METHODS AND RESULTS: We enrolled first-ever patients with acute stroke conducting simultaneous assessments, including VFSS, modified Mann Assessment of Swallowing Ability score, tongue pressure measurement, and RSST. VFSS assessed aspiration, laryngeal penetration, oral cavity residue, vallecular residue, pharyngeal residue, and swallowing reflex delay. Screening tests were compared with VFSS findings, and multiple logistic analysis determined variable importance. Cutoff values for each abnormal VFSS finding were assessed using receiver operating characteristic analyses. We evaluated 346 patients (70.5±12.6years of age, 143 women). The modified Mann As-sessment of Swallowing Ability score was significantly associated with all findings except aspira-tion. Tongue pressure was significantly associated with oral cavity and pharyngeal residue. The RSST was significantly associated with all findings except oral cavity residue. Receiver operating characteristic analyses revealed that the minimum cutoff value for all VFSS abnormal findings was RSST ≤2.

CONCLUSIONS: The modified Mann Assessment of Swallowing Ability is useful for broadly detecting swallowing disorders but may miss mild issues and aspiration. The RSST, with a score of ≤2, is valuable for indicating abnormal VFSS findings. Tongue pressure, especially in oral and pha-ryngeal residues, is useful. Combining these tests might enhance accuracy of the swallowing evaluation.

Nakamori M, Imamura E, Maetani Y, Yoshida M, Yoshikawa M, Nagasaki T, Masuda S, Kayashita J, Mizoue T, Wakabayashi S, Maruyama H, Hosomi N. Prospective Observational Study for the Comparison of Screening Methods Including Tongue Pressure and Repetitive Saliva Swallowing With Detailed Videofluoroscopic Swallowing Study Findings in Patients With Acute Stroke. J Am Heart Assoc. 2024 Feb 6;13(3):e032852. doi: 10.1161/JAHA.123.032852. Epub 2024 Jan 31. PMID: 38293925; PMCID: PMC11056116.

2 Manometría de alta resolución con impedancia para el estudio de la motilidad faríngea y del esfínter esofágico superior: claves para su utilización en el estudio de la fisiopatología de la disfagia orofaríngea

Miguel Martínez-Guillén, Pere Clavé, Mónica Zavala y Silvia Carrión

RESUMEN La disfagia orofaríngea (DO) es una enfermedad con una alta prevalencia en difeRentes fenotipos de pacientes. La manometría de alta resolución faringoesofágica (MARFE) con impedan-cia (MARFE-I) se ha convertido en los últimos an˜os en una técnica fundamental para el mejor en-tendimiento de la fisiopatología de las disfunciones de la faringe y del esfínter esofágico superior (EES) en pacientes con DO. Diversos grupos de expertos han propuesto una metodología para la práctica de la MARFE-I y para la estandarización de las diferentes métricas para el estudio de las disfunciones de la motilidad faríngea y del EES basadas en el la cuantificación de 3 fenómenos principales: la relajación del EES, la resistencia al flujo a través del EES y la propulsión del bolo a través de la faringe hacia el esófago. De acuerdo a las alteraciones de estas métricas, se proponen 3 patrones de disfunción que permiten un abordaje terapéutico

específico: a) restricción al flujo del EES con propulsión faríngea normal; b) restricción al flujo del EES con propulsión faríngea inefec-tiva, y c) contracción faríngea inefectiva con normal relajación del EES. Presentamos una revisión práctica de la metodología y la métrica que emplean los principales grupos de trabajo junto con la descripción de los principales patrones de disfunción de acuerdo con nuestra experiencia para po-ner de relevancia la utilidad de la MARFE-I en el estudio de la fisiopatología y selección de un tra-tamiento específico en pacientes con DO.

Martínez-Guillén M, Clavé P, Zavala M, Carrión S. High-resolution manometry with impedance for the study of pharyngeal motility and the upper esophageal sphincter: Keys for its use in the study of the pathophysiology of oropharyngeal dysphagia. Gastroenterol Hepatol. 2024 Mar;47(3):272-285. English, Spanish. doi: 10.1016/j.gastrohep.2023.09.007. Epub 2023 Oct 9. PMID: 37816469.

3 Dynamic suprahyoid muscle ultrasound in assessing oropharyngeal dysphagia in neurological disorders

Joo hye suNG, seol-hee baEK, Jin-Woo parK, Jung hun IEE, Myeong hun soN, byung-Jo KiM

BACKGROUND: appropriate evaluation and management of dysphagia are essential in neurological disorders. however, there is currently a lack of a simple yet reliable method for dysphagia evalua-tion.
AIM: this study aimed to investigate the usefulness of new dynamic M-mode ultrasonography (us) parameters of suprahyoid muscle (shM) to evaluate dysphagia.
DESIGN: prospective observational, cross-sectional study.
SETTING: inpatient setting at neurology department of tertiary medical center.
POPULATION: a total of 89 patients with dysphagia and 175 healthy volunteers were enrolled in the study. patients were subdivided into mild and severe dysphagia groups depending on the need for dietary changes and disease classification, which included amyotrophic lateral sclerosis, peripheral neuromuscular diseases, and stroke.
METHODS: dynamic M-mode us was performed during swallowing to obtain the shM thickness (the baseline thickness of the shM), shM displacement (peak-to-peak amplitude of shM movement), shM difference (shM displacement – shM thickness), shM ratio (shM displace- ment/ SHM thick-ness), peak-to-peak time, and total duration. A videofluoroscopic swallowing study (VFSS) was performed.
RESULTS: Significant differences were found in SHM displacement and SHM difference according to dysphagia severity (P<0.001). The SHM ratio, total duration (P<0.001), and peak-to-peak time (P=0.001) differed significantly according to the patients' underlying diseases. The pha- ryngeal delay time and penetration-aspiration scale from the VFSS demonstrated significant negative corre-lations with SHM displacement and difference (P<0.001). By combining SHM difference and total duration, patients with dysphagia could be distinguished from healthy controls, with the highest negative predictive value of 95.6%.
CONCLUSION: dynamic M-mode us of the shM provided added value in evaluating the severity

of dysphagia and differentiating swallow- ing mechanics of dysphagia related to underlying neurologi-cal disorders.
CLINICAL AND REHABILITATION IMPACT: dynamic M-mode us of the shM can serve as a supportive tool for rapid screening and repetitive follow-up of patients with dysphagia, which would contribute to dysphagia rehabilitation in patients with various neurological disorders.
Sung Jh, baek sh, park JW, lee Jh, son Mh, Kim bJ. dynamic suprahyoid muscle ultrasound in as-sessing oropharyngeal dysphagia in neurological disorders. Eur J phys rehabil Med 2024;60:233-44. doi: 10.23736/s1973-9087.24.08216-9

4 Effect of respiratory training on swallowing function in swallowing disorders: a systematic review and meta-analysis

Yinuo Dai, Jianzheng Cai, Haifang Wang, Ying ying, Zhang Chunyan, NiuYalan Wang

PURPOSE To determine the clinical efficacy of different respiratory training interventions on swallowing function in patients with swallowing disorders through the systematic review.
METHODS We reviewed the literature regarding the application of respiratory training therapy in pa-tients with swallowing disorders, followed by a PRISMA search of published literature in five data-bases (PubMed, Web of Science, The Cochrane Library, CINAHL and EMBASE) in December 2022. Two reviewers performed study selection, quality evaluation, and risk of bias, followed by data extraction and detailed analysis.
RESULTS A total of six randomized controlled studies with a total sample size of 193 cases were in-cluded. Respiratory train- ing improved swallowing safety (PAS (n = 151, SMD = 0.69, 95% CI – 1.11 to – 0.26, I2 = 36, p < 0.001)) and swallowing efficiency [residual (n = 63, SMD = 1.67, 95% CI – 2.26 to – 1.09, I2 = 23%, p < 0.001)] compared to control groups. The results of the qualitative analysis conducted in this study revealed that respiratory training enhanced hyoid bone movement but had no effect on swallowing quality of life.
CONCLUSIONS Respiratory training interventions may improve swallowing safety and efficiency in patients with dysphagia. However, the level of evidence is low, and there is a limited amount of research on the effectiveness and physiology of this intervention to improve swallowing function. In the future, there is a need to expand clinical studies, standardize measure- ment tools, and improve study protocols.

Dai Y, Cai J, Wang H, Zhang Y, Niu C, Wang Y. Effect of respiratory training on swallowing function in swallowing disorders: a systematic review and meta-analysis. Eur Arch Otorhinolaryngol. 2024 Mar;281(3):1069-1081. doi: 10.1007/s00405-023-08280-7. Epub 2023 Oct 16. PMID: 37843618; PMCID: PMC10858149.

5 The effectiveness of chin-down manoeuvre in patients with dysphagia: A systematic review and meta-analysis

Mengchao Li, Shaochun Huang, Yaping Ding , Xianwen Li, Yan Cui, Shen Chen

AIM: The chin-down posture is a widely used compensatory manoeuvre for patients with dysphagia. The aim of this study was designed to systematically measure the effectiveness of chin-down manoeuvre application.
Methodology: We retrieved the PubMed, Web of Science, Embase, Cochrane Library, EBSCO, Medline, CNKI, WANFANG, VIP and SinoMed databases from inception to 30 August 2022. Raters independently screened literature according to inclusion and exclusion criteria. The quality of the included literature was evaluated, and data were extracted. The software Review Manager soft-ware 5.3 was used for statistical analysis.
RESULTS: Fourteen studies with a total of 571 patients were included in this meta-analysis. The meta-analysis indicated that chin-down manoeuvre could significantly reduce the risk of aspiration (MD = -1.35, 95% CI [-2.25, -0.44], Z = 2.92, p < .01), decrease the chin angle (MD = -12.20, 95% CI [-14.61, -9.79], Z = 9.91, p < .001), shorten oral transit time (MD = -0.81, 95% CI [-1.20, -0.43], Z = 4.17, p < .001), reduce the maximum swallowing pressure at upper oesophageal sphincter (MD = -82.07, 95% CI [-112.77, -51.37], Z = 5.24, p < .001) and decrease pharyngeal residue.
CONCLUSIONS: Existing evidence indicated that chin-down manoeuvre could reduce the risk of aspi-ration and pharyngeal residue, decrease the maximum swallowing pressure at UES. More large-sample, high-quality clinical trials are still needed in the future to further ascertain the results of this research

Li M, Huang .S, Ding Y, Li X, Cui Y, Chen S. The effectiveness of chin-down manoeuvre in patients with dysphagia: A systematic review and meta-analysis. J Oral Rehabil. 2024 Apr;51(4):762-774. doi: 10.1111/joor.13631. Epub 2023 Nov 29. PMID: 38030571

6 Living with Dysphagia: A Survey Exploring the Experiences of Adults Living with Neuromuscular Disease and their Caregivers in the United Kingdom.

Allen J, Stone-Ghariani A, Quezada G, Banks D, Rose F, Knight W, Newman J, Newman W, Anderson P, Smith C

Dysphagia is common in adults living with neuromuscular disease (NMD). Increased life expectancy, secondary to improvements in standards of care, requires the recognition and treatment of dysphagia with an increased priority. Evidence to support the establishment of healthcare pathways is, however, lacking. The experiences of people living with NMD (pplwNMD) and their caregivers are valuable to guide targeted, value-based healthcare.
Objective:
To generate preliminary considerations for neuromuscular dysphagia care and future research in the United Kingdom, based on the experiences of those living with, or caring for, people with NMD.
METHODS: Two surveys (one for adults living with NMD and dysphagia, and a second for caregivers) were co-designed with an advisory group of people living with NMD. Surveys were electronically

distributed to adults living with NMD and their caregivers between 18th May and 26th July 2020. Distribution was through UK disease registries, charity websites, newsletters, and social media.
RESULTS: Adults living with NMD receive little information or education that they are likely to develop swallowing difficulties. Most respondents report wanting this information prior to developing these difficulties. Difficulties with swallowing food and medication are common in this group, and instrumental assessment is considered a helpful assessment tool. Both adults living with NMD and caregivers want earlier access to neuromuscular swallowing specialists and training in how best to manage their difficulties.
CONCLUSIONS: Improvement is needed in the dysphagia healthcare pathway for adults living with NMD to help mitigate any profound physical and psychological consequences that may be caused by dysphagia. Education about swallowing difficulties and early referral to a neuromuscular swallowing specialist are important to pplwNMD and their caregivers. Further research is required to better understand the experiences of pplwNMD and their caregivers to inform the development of dysphagia healthcare pathways.

Allen J, Stone-Ghariani A, Quezada G, Banks D, Rose F, Knight W, Newman J, Newman W, Anderson P, Smith C. J Neuromuscul Dis. 2024;11(2):389-410. doi: 10.3233/JND-230002. PMID: 38250781; PMCID: PMC10977401

7 Transcranial direct current stimulation for post-stroke dysphagia: a meta-analysis

Nerea Gómez-García , Lorena Álvarez-Barrio , Raquel Leirós-Rodríguez, Anxela Soto-Rodríguez , Elena Andrade-Gómez , Pablo Hernández-Lucas

BACKGROUND: Strokes may cause some swallowing difficulty or associated dysphagia in 25-80% of patients. This phenomenon has been linked to increased morbidity and mortality. Therefore, the aim of this study was to evaluate the efficacy of transcranial direct current stimulation in patients with dysphagia in post-stroke patients.
METHODS: A systematic search in PubMed, Scopus, Web of Science and MEDLINE was conducted. The articles must have to evaluate an intervention that included transcranial direct current stimula-tion; the sample had to consist exclusively of patients with post-stroke dysphagia; and the experi-mental design consisted of randomized controlled trial. Difference in mean differences and their 95% confidence interval were calculated as the between-group difference in means divided by the pooled standard deviation. The I2 statistic was used to determine the degree of heterogeneity.
RESULTS: Of the 9 investigations analyzed, all applied transcranial direct current stimulation in com-bination with conventional dysphagia therapy to the experimental group. All the studies analyzed identified improvements in swallowing function and meta-analysis confirmed their strong effect on reducing the risk of penetration and aspiration (Hedges's g = 0.55). The results showed that partici-pants who received transcranial direct current stimulation significantly improved swallowing function.

CONCLUSIONS: Transcranial direct current stimulation has positive effects in the treatment of post-stroke dysphagia by improving swallowing function, oral and pharyngeal phase times and the risk of penetration and aspiration. Furthermore, its combination with conventional dysphagia therapy, balloon dilatation with catheter or training of the swallowing muscles ensures improvement of swal-lowing function.

Gómez-García N, Álvarez-Barrio L, Leirós-Rodríguez R, Soto-Rodríguez A, Andrade-Gómez E, Hernández-Lucas P. Transcranial direct current stimulation for post-stroke dysphagia: a meta-analysis. J Neuroeng Rehabil. 2023 Dec 11;20(1):165. doi: 10.1186/s12984-023-01290-w. PMID: 38082316; PMCID: PMC10712182

8 Thick Liquids and Clinical Outcomes in Hospitalized Patients With Alzheimer Disease and Related Dementias and Dysphagia

Alexandra Perrin; Dristi Talukder, BS; et al

IMPORTANCE Oropharyngeal dysphagia is common in hospitalized patients with Alzheimer disease and related dementias (ADRD). Although the use of thick liquids in patients with dysphagia has been shown to reduce aspiration on direct visualization, there is no clear evidence that this practice translates into improved clinical outcomes.
OBJECTIVES To determine whether a diet of thick liquids compared with thin liquids is associated with improved outcomes in hospitalized patients with ADRD and dysphagia.
DESIGN, SETTING, AND PARTICIPANTS This cohort study included adults aged 65 years and older with ADRD who were admitted to the medicine service across 11 diverse hospitals in New York be-tween January 1, 2017, and September 20, 2022, with clinical suspicion of dysphagia during hospi-talization and survival for at least 24 hours after hospital arrival. Patients were grouped according to whether at least 75% of their hospital diet consisted of a thick liquid diet or a thin liquid diet. Pro-pensity score matching was used to balance covariates across the 2 groups for the following covari-ates: demographics (eg, age, sex), baseline clinical characteristics (eg, Charlson Comorbidity In-dex), and acute presentation (eg, respiratory diagnosis, illness severity, delirium).
MAIN OUTCOMES AND MEASURES Hospital outcomes included mortality (primary outcome), respira-tory complications (eg, pneumonia), intubation, and hospital length of stay (LOS).
RESULTS Of 8916 patients with ADRD and dysphagia included in the propensity score matched analysis, the mean (SD) age was 85.7 (8.0) years and 4829 were female (54.2%). A total of 4458 patients receiving a thick liquid diet were matched with 4458 patients receiving a thin liquid diet. There was no significant difference in hospital mortality between the thick liquids and thin liquids groups (hazard ratio, 0.92; 95% CI, 0.75-1.14]; P = .46). Compared with patients receiving thin liq-uids, patients receiving thick liquids were less likely to be intubated (odds ratio [OR], 0.66; 95% CI, 0.54-0.80), but they were more likely to have respiratory complications (OR, 1.73; 95% CI, 1.56-1.91).
CONCLUSIONS AND RELEVANCE This cohort study emphasizes the need for prospective studies that evaluate whether thick liquids are associated with improved clinical outcomes in hospitalized pa-tients with ADRD and dysphagia

Makhnevich A, Perrin A, Talukder D, Liu Y, Izard S, Chiuzan C, D'Angelo S, Affoo R, Rogus-Pulia N, Sin-vani L. Thick Liquids and Clinical Outcomes in Hospitalized Patients With Alzheimer Disease and Related Dementias and Dysphagia. JAMA Intern Med. 2024 May 6:e240736. doi: 10.1001/jamainternmed.2024.0736. Epub ahead of print. PMID: 38709510; PMCID: PMC11074929.

9 Dysphagia and Diets in Skilled Nursing Facilities When Patient's Health Status Changes: The Role of Imaging

Ed M Bice , Kristine E Galek, Matthew Ward

OBJECTIVES: Research suggests that clinical decision making for assessing and treating patients with swallowing dysfunction varies significantly, and decisions may harm patients. The study aimed to investigate clinical practice of speech-language pathologists (SLPs) assessing and treating swallow-ing in skilled nursing facilities (SNFs).
DESIGN: Retrospective review of 120 medical records of patients recommended for a flexible endo-scopic evaluation of swallowing (FEES).
SETTING AND PARTICIPANTS: 120 SNF patients.
METHODS: Records from 25 SNFs were reviewed to determine which patients were receiving swal-lowing therapy, their diet level pre- and post-FEES, and if they received prior imaging studies. Re-cordings of FEES were assigned severity ratings based on the Dynamic Imaging Grade of Swallow-ing Toxicity-FEES scores to determine the relationship between diet and liquid recommendations before and after FEES, how often patients consume a modified diet in the absence of dysphagia, percentage of patients without dysphagia receiving swallowing treatment, percentage of patients receiving alternative means of nutrition without dysphagia, and the percentage of patients with a feeding tube without an imaging assessment.
RESULTS: Chi-square tests revealed no agreement between pre- and postimaging diet levels. Ordinal re- gressions indicated preimaging diets did not fit the DIGEST severity rating model; however, investigators found a good fit with postimaging diet recommendations. Descriptive statistics indi-cated that 67% of the patients receiving a modified solid and/or liquid did not have dysphagia. Treatment was provided to 100% of the patients without dysphagia. Sixty-one percent of patients with feeding tubes had no dysphagia. Forty-five percent of NPO (nothing by mouth) patients had imaging during their acute stay. Conclusions and Implications: The results strongly suggest that the practice of continuing acute care diet recommendations in a SNF increases cost and may negatively impact patient quality of life. The practice may also lead to negative health consequences. A new imaging assessment is required to inform treatment when medical status changes.

Bice EM, Galek KE, Ward M. Dysphagia and Diets in Skilled Nursing Facilities When Patient's Health Status Changes: The Role of Imaging. J Am Med Dir Assoc. 2024 Feb;25(2):381-386. doi: 10.1016/j.jamda.2023.11.008. Epub 2023 Dec 15. PMID: 38109943

10 Management of swallowing disorders in ICU patients - A multinational expert opinion

Rudolf Likar, Ilia Aroyo , Katrin Bangert, Bjo¨rn Degen, Rainer Dziewas , Oliver Galvan , Michae-la, Trapl Grundschober, Markus Ko¨stenberger , Paul Muhle, Joerg C. Schefold, PatrickZuercher

BACKGROUND: Dysphagia is common in intensive care unit (ICU) patients, yet it remains underrec-ognized and often unmanaged despite being associated with life-threatening complications, pro-longed ICU stays and hospitalization.
PURPOSE: To propose an expert opinion for the diagnosis and management of dysphagia developed from evidence- based clinical recommendations and practitioner insights.
METHODS: A multinational group of dysphagia and critical care experts conducted a literature review using a modified ACCORD methodology. Based on a fusion of the available evidence and the panel's clinical experience, an expert opinion on best practice management was developed.
RESULTS: The panel recommends adopting clinical algorithms intended to promote standardized, high-quality care that triggers timely systematic dysphagia screening, assessment, and treatment of extubated and tracheostomized patients in the ICU.
CONCLUSIONS: Given the lack of robust scientific evidence, two clinical management algorithms are proposed for use by multidisciplinary teams to improve early systematic detection and effective management of dysphagia in ICU patients. Additionally, emerging therapeutic options such as neu-rostimulation have the potential to improve the quality of ICU dysphagia care.

Likar R, Aroyo I, Bangert K, Degen B, Dziewas R, Galvan O, Grundschober MT, Köstenberger M, Muhle P, Schefold JC, Zuercher P. Management of swallowing disorders in ICU patients - A multinational expert opinion. J Crit Care. 2024 Feb;79:154447. doi: 10.1016/j.jcrc.2023.154447. Epub 2023 Nov 2. PMID: 37924574.

3| OBESIDAD EN PERSONAS MAYORES

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RESUMEN

La obesidad sarcopénica combina dos cambios relacionados con la edad. La presencia adicional de obesidad en pacientes ancianos con sarcopenia se acompaña en algunos casos de un menor riesgo de mortalidad. Probablemente existen diferencias biológicas en el envejecimiento, de tal forma que un envejecimiento más lento hace que el pico de masa grasa se establezca de forma más tardía. Este grado de obesidad adicional no se acompaña de un riesgo más elevado de caídas, alteraciones cognitivas o cardiovasculares en ancianos con sarcopenia. En estos casos la obesidad tendría un menor periodo de tiempo para ejercer efectos negativos a nivel muscular. En sujetos severamente enfermos o con neoplasias no se aprecia este retraso en la mortalidad, conocido como paradoja de la obesidad. Por tanto, es interesante intentar mantener masa y fuerza muscular en sujetos ancianos para prevenir la aparición de obesidad sarcopénica. Referencia 1.

Habitualmente se ha utilizado el índice cintura/altura como prueba de despistaje en sujetos con riesgo cardio metabólico. Sin embargo, no queda claro su empleo en población anciana. De forma tradicional se ha utilizado, con sus limitaciones, el índice de masa corporal. En estudios de diseño prospectivo se sugiere que índices como cintura/altura y perímetro abdominal pudieran tener un mayor valor predictivo a la hora de diagnosticar el síndrome metabólico. En este estudio, el índice cintura/altura es más adecuado que el índice de masa corporal y el perímetro abdominal a la hora de diagnosticar síndrome metabólico en sujetos mayores de 65 años, especialmente en sujetos varones. Sería necesario realizar más estudios que facilitaran la adecuación de dicho índice y la publicación de puntos de corte en diversas poblaciones. Referencia 2.

La obesidad abdominal se define como un acúmulo excesivo de grasa abdominal. Con el envejecimiento este hecho se acompaña de cambios estructurales y, en algunos casos, se acompaña de una menor fuerza muscular (dinapenia). Desde un punto de vista epidemiológico, su prevalencia se incrementa con la edad. En estudios españoles se considera que el 32% de varones y un 39% de mujeres presenta obesidad abdominal. Existen pocos estudios que hayan comparado el riesgo de presentar caídas en sujetos con obesidad abdominal y dinapenia. En este metaanálisis, los sujetos varones con obesidad abdominal y dinapenia tenían un mayor riesgo de presentar caídas comparado con el grupo de mujeres. En la práctica clínica, los profesionales de la salud deben valorar el riesgo de caídas para minimizar, en la medida de lo posible, la incidencia de caídas y discapacidad. Referencia 3.

Parece existir una alteración en la composición de la microbiota intestinal relacionada con la obesidad. La composición de la microbiota puede verse afectada por otras patologías asociadas a la obesidad, como el síndrome metabólico y la diabetes. Entre los factores relacionados con la microbiota, se incluyen la ingesta energética, la permeabilidad intestinal, el metabolismo lipídico, la resistencia insulínica y diversas alteraciones hormonales. Aunque la microbiota es relativamente estable durante la edad adulta, el envejecimiento supone una serie de cambios fisiológicos que se combinan con modificaciones dietéticas, cambios cognitivos y alteraciones inmunitarias. Uno de los factores que modifican el papel de la microbiota a la hora de regular el peso y la obesidad es el potencial para metabolizar algunos nutrientes. Es el caso de la fermentación de la fibra dietética, que, modificada por la microbiota, produce ácidos grasos de cadena corta que se relacionan con una reducción en la incidencia de obesidad. Otro factor importante es la actividad física. Referencia 4.

La disfunción metabólica asociada con la esteatosis hepática (DMAEH) puede asociarse a fragilidad y cierta desventaja social en sujetos ancianos. En este estudio se valoraron más de 9000 sujetos mayores de 70 años y se describe una prevalencia de DMAEH del 33%. Entre los resultados destaca que la prevalencia se minimizaba con la edad, aunque su existencia se asociaba a comorbilidades metabólicas, a condiciones sociales negativas basadas en el nivel educativo e incluso a fragilidad. Referencia 5.

Uno de los enfoques terapéuticos de la obesidad de clase 3 es la intervención quirúrgica. Sin embargo, el pronóstico todavía no está bien definido en sujetos mayores. En este artículo se comparan las indicaciones de dos técnicas quirúrgicas: el bypass gástrico con técnica Y de Roux y la gastrectomía tipo Sleeve. En general, las complicaciones fueron más frecuentes en el grupo de ancianos que se sometieron a tratamiento quirúrgico mediante gastrectomía respecto a los más jóvenes. La técnica de Y de Roux fue más eficiente en términos de pérdida ponderal y remisión de HTA. Por tanto, la cirugía bariátrica es efectiva en los mayores de 60 años. Referencia 6.

Básicamente el enfoque terapéutico del tratamiento de sobrepeso u obesidad radica en el ejercicio físico, los fármacos y la dieta. Recientemente ha cobrado importancia el estudio del ayuno intermitente. Este enfoque es muy variado e incluye ayuno a días alternos, ayuno varios días por semana, tiempos restringidos de ingesta e incluso ayuno por motivos religiosos. En este estudio se compara la efectividad del ayuno intermitente frente a una dieta regular. Los autores aprecian una mayor pérdida ponderal a expensas de masa grasa, aunque llama la atención que no parece afectarse la masa muscular. Tampoco se describe un efecto sobre variables como la hipertensión arterial, probablemente por el corto tiempo de seguimiento. En definitiva, el ayuno intermitente mejora el peso corporal, el índice de masa corporal y el nivel de triglicéridos. Esta pérdida ponderal se produce en principio a expensas de componente graso sin afectar la masa muscular. Referencia 7.

La resistencia a la insulina es un hecho importante dentro de la fisiopatología de la diabetes mellitus tipo 2 y de otras enfermedades como la demencia. En este artículo se quiere valorar un aspecto específico, como es la resistencia insulínica a nivel cerebral, ya que se relaciona con metabolismo energético, conducta alimentaria y funcionamiento cognitivo. Se desconoce si este tipo de resistencia a nivel central puede ser reversible. Para ello realizan

un estudio aleatorizado y controlado en el que el grupo interventor recibe 60 gramos diarios de frutos secos durante 16 semanas frente a un grupo control. El consumo prolongado de este tipo de nutrientes mejora la resistencia insulínica en regiones occipitales y frontales en sujetos mayores con obesidad o sobrepeso. Referencia 8.

La obesidad está relacionada con consecuencias negativas a nivel cognitivo, que pueden ser minimizadas mediante una intervención dietética basada en las propiedades antioxidantes del consumo de polifenoles. En esta revisión sistemática se valoran ensayos clínicos aleatorizados que profundizan en el efecto de los polifenoles sobre tareas que requieren la intervención de la memoria, tanto remota como inmediata. Los autores concluyen que el consumo prolongado de polifenoles (sobre todo flavonoides) puede tener un efecto positivo sobre la memoria inmediata de sujetos con edades superiores a los 60 años, con obesidad y factores de riesgo para presentar deterioro cognitivo. Referencia 9.

En este estudio se valora el efecto del ejercicio físico multicomponente y de potencia con banda elástica sobre diversos parámetros inflamatorios, de composición corporal y antropometría en mujeres ancianas con síndrome metabólico durante 20 semanas. En ambos grupos de tratamiento mejoraban perfil glucémico y lipídico, además de parámetros de composición corporal, antropometría y funcionalidad. Sin embargo, el ejercicio multicomponente mejoró equilibrio y parámetros inflamatorios mientras que el ejercicio de potencia conseguía mejoras en fuerza de prensión. Referencia 10.

RESÚMENES

1 Obesity paradox in older sarcopenic adults - a delay in aging: A systematic review and meta-analysis

Eitmann S, Matrai P, Hegyi P, Balasko M, Eross B, Dorogi K, Petervari E.
Ageing Res Rev. 2024; 93: 102164. doi: 10.1016/j.arr.2023.102164

RESUMEN

The prognostic significance of obesity in sarcopenic adults is controversial. This systematic review and meta-analysis aimed to investigate the effect of additional obesity on health outcomes in sarcopenia. MEDLINE, EMBASE, Scopus and CENTRAL were systematically searched for studies to compare health outcomes of adults with sarcopenic obesity (SO) to those of sarcopenic non-obese (SNO) adults.

We also considered the methods of assessing obesity. Of 15060 records screened, 65 papers were included (100612 participants).

Older community-dwelling SO adults had 15% lower mortality risk than the SNO group (hazard ratio, HR: 0.85, 95% confidence interval 0.76, 0.94) even when obesity was assessed by measurement of body composition. Additionally, meta-regression analysis revealed a significant negative linear correlation between the age and the HR of all-cause mortality in SO vs. SNO community-dwelling adults, but not in severely ill patients. Compared with SNO, SO patients presented lower physical performance, higher risk for metabolic syndrome, but similar cognitive

function, risk of falls and cardiovascular diseases.
Age-related obesity, SO and later fat loss leading to SNO represent consecutive phases of biological aging. Additional obesity could worsen the health state in sarcopenia, but above 65 years SO represents a biologically earlier phase with longer life expectancy than SNO.

2 Diagnostic Accuracy of Waist-to-Height Ratio, Waist Circumference, and Body Mass Index in Identifying Metabolic Syndrome and Its Components in Older Adults: A Systematic Review and Meta-Analysis.

Chan V, Cao L, Wong MMH, Lo K, Tam W.
Curr Dev Nutr. 2023 Dec 12;8(1):102061. doi: 10.1016/j.cdnut.2023.102061

RESUMEN

BACKGROUND: Although numerous studies have indicated the utility of waist-to-height ratio (WHtR) in early screening for individuals with adverse cardiometabolic health, there is controversy on using WHtR as a one-size-fits-all approach, including in older adults.
Objectives: Our study aims to identify the pooled diagnostic accuracy of WHtR in screening for metabolic syndrome (MetS) and its components among older adults.
METHODS: A systematic review of observational studies was performed using 4 databases. A diagnostic meta-analysis with a random effects model was conducted, and the pooled area under the summary receiver operating characteristic curve, sensitivity, specificity, positive and negative likelihood ratios, and diagnostic odds ratio (dOR) of each outcome compared with WHtR, body mass index (BMI), and waist circumference (WC) were calculated, with sex-stratified analysis.
RESULTS: A total of 17 studies with 74,520 participants were included. As reflected by the dOR, WHtR (7.65; 95% CI: 6.00, 9.75) performed better than BMI (5.17; 95% CI: 4.75, 5.62) and WC (5.77; 95% CI: 4.60, 7.25) in screening for MetS among older adults and was potentially better among males. For hyperglycemia, hypertension, and dyslipidemia, the performances of WHtR, BMI, and WC were comparable.
CONCLUSION: More studies focusing on older adults are still needed to determine the cutoff values of WHtR to screen for MetS.The search strategy was registered in PROSPERO as CRD42022350379.

3 The Relationship between Dynapenic Abdominal Obesity and Fall: A Systematic Review and Meta-Analysis of 15,506 Middle to Older Adults.

Kao CY, Su YC, Chang SF.
J Clin Med. 2023: 23; 12(23): 7253. doi: 10.3390/jcm12237253.

RESUMEN

BACKGROUND: The main objective of this study was to investigate the risk of falls among middle-aged and older adults with dynapenic abdominal obesity.
Methods: A systematic literature search was conducted to review and analyze relevant studies. Dynapenia was measured by handgrip strength, and abdominal obesity was measured by waist

circumference. The search keywords included “older people” OR “elderly” OR “middle age” AND “dynapenia” AND “abdominal obesity” AND “fall.” The search was not limited by time and included articles published up until April 2023. The literature search process followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, involving extraction and examination of the retrieved relevant articles. Systematic literature searches were performed in databases such as Embase, PubMed, MEDLINE, CINAHL, and Cochrane Library.
RESULTS: This study collected a total of eight articles with a combined sample size of 15,506 participants. The findings revealed that the average follow-up period for falls was 6.6 years (SD = 3.67). The overall results of the study showed that individuals with dynapenic abdominal obesity had a higher risk of falls compared to those without dynapenic abdominal obesity (RR = 6.91, 95% CI: 5.42-8.80). Subgroup analysis demonstrated that both prospective studies (HR = 6.61; 95% CI = 4.29-10.20) and retrospective studies (OR = 7.37; 95% CI = 5.13-10.59) consistently found a higher risk of falls among individuals with dynapenic abdominal obesity. However, there was no significant difference in fall risk between community-dwelling individuals with dynapenic abdominal obesity and hospitalized individuals with dynapenic abdominal obesity (Qbetweenx2 = 0.29, p = 0.58). Additionally, there was no difference in fall risk between individuals with dynapenic abdominal obesity residing in Europe and Latin America compared to those residing in Asia (Qbetweenx2 = 0.05, p = 0.81). It was worth noting that male individuals with dynapenic abdominal obesity had a higher risk of falls compared to females (Qbetweenx2 = 4.73, p = 0.03).
CONCLUSIONS: Empirical studies have demonstrated that individuals with dynapenic abdominal obesity have a higher risk of falls. Therefore, healthcare professionals should conduct early fall risk assessments and develop effective preventive strategies specifically targeted at individuals with dynapenic abdominal obesity.

4 Alteration in Gut Microbiota Composition of Older Adults Is Associated with Obesity and Its Indices: A Systematic Review

Hoseini Tavassol Z, Ejtahed HS, Atlasi R, Saghafian F, Khalagi K, Hasani-Ranjbar S, Siadat SD, Nabipour I, Ostovar A, Larijani B.

J Nutr Health Aging. 2023; 27: 817-823. doi: 10.1007/s12603-023-1988-8.

RESUMEN

BACKGROUND: Obesity in the older adults is a health concern that increases the risk of several life-threatening diseases. Previous research has been revealed that alterations in the gut microbiota composition is related to obesity. So, understanding the gut microbiota changes in older adults’ obesity may help to provide promising strategies for their health management.
OBJECTIVES: Here we conducted a systematic review that investigate the alteration of gut microbiota composition in association with obesity and its indices in the older adults.
DESIGN: Systematic review.
SETTING: A comprehensive systematic search was performed through PubMed, Web of Science, Scopus and Embase databases for all relative studies up to 2023 with the main search concepts as Microbiota, Obesity and Elderly. The data about gut microbiota in association with obesity indices had been extracted.

PARTICIPANTS: Older adults (≥60 years).
INTERVENTION: None.
MEASUREMENTS: None.
RESULTS: Within 10741 recordes, 11 studies met the inclusion criteria and were included in this systematic review. Most of them indicated the gut microbiota alterations in obese compared with non-obese older adults. However, the gut microbiome composition in obese older adults is affected by other underlying diseases like diabetes and metabolic syndrome. The most important taxa that had abundance alteration in association with obesity in older adults were Christensenellaceae, Porphyromonadaceae and Rikenellaceae, Akkermansia, Blautia, Prevotella, Ruminococcus, Bacteroides and Faecalibacterium.
CONCLUSION: The gut microbiota composition is associated with obesity in older adults. Considering the other factors affecting the composition of gut microbiota, such as age, underlying diseases and lifestyle, a more accurate conclusion about this matter requires more future studies

5 Metabolic dysfunction-associated steatotic liver disease in older adults is associated with frailty and social disadvantage

Clayton-Chubb D, Kemp WW, Majeed A, Lubel JS, Woods RL, Tran C, Ryan J, Hodge A, Schneider HG, McNeil JJ, Roberts SK.
Liver Int. 2024; 44: 39-51. doi: 10.1111/liv.15725

RESUMEN
BACKGROUND & AIMS: The burden of metabolic dysfunction-associated steatotic liver disease (MASLD) is growing rapidly, as is the number of older adults globally. However, relatively few studies have been performed evaluating the prevalence and risk factors for MASLD in older adults. As such, we aimed to identify the prevalence of MASLD in older adults, as well as sociodemographic, clinical, functional and biochemical associations.
METHODS: The study population included older adults without a history of cardiovascular disease, dementia or independence-limiting functional impairment who had participated in the ASPirin in Reducing Events in the Elderly (ASPREE) randomised trial. MASLD was defined using the Fatty Liver Index (FLI). Associations were identified using Poisson regression with robust variance for FLI ≥ 60 vs FLI < 30.
RESULTS: 9097 Australian participants aged ≥70 years had complete biochemical and anthropometric data to identify MASLD. The study population had a mean age of 75.1 ± 4.3 years and was 45.0% male. Almost one-third (33.0%) had prevalent MASLD, and the prevalence decreased with increasing age (adjusted RR [aRR] 0.96, 95% CI: 0.96-0.97). MASLD was also negatively associated with social advantage (aRR 0.94, 95% CI: 0.90-0.99) and exercise tolerance and was positively associated with diabetes mellitus (aRR: 1.22, 95% CI: 1.16-1.29), hypertension (aRR: 1.31, 95% CI: 1.22-1.41), male sex (aRR: 1.66, 95% CI: 1.57-1.74), pre-frailty (aRR: 1.99, 95% CI: 1.82-2.12) and frailty (aRR: 2.36, 95% CI: 2.16-2.56). MASLD and nonalcoholic fatty liver disease (NAFLD) results were 100% concordant.
CONCLUSION: This study in a large cohort of relatively healthy community-dwelling older adults shows that MASLD is common, decreases with age and is associated with poorer metabolic health, social disadvantage and frailty.

6 Comparing the safety and efficacy of sleeve gastrectomy versus Roux-en-Y gastric bypass in elderly (>60 years) with severe obesity: an umbrella systematic review and meta-analysis

Kermansaravi M, Vitiello A, Valizadeh R, Shahmiri SS, Musella M.
Int J Surg. 2023; 109: 3541-3554. doi: 10.1097/JS9.0000000000000629.

RESUMEN

BACKGROUND: Today, bariatric surgeons face the challenge of treating older adults with class III obesity. The indications and outcomes of Roux-en-Y gastric bypass (RYGB) versus sleeve gastrectomy (SG) also constitute a controversy.

METHODS: PubMed, Web of Science and Scopus were searched to retrieve systematic reviews/meta-analyses published by 1 March 2022. The selected articles were qualitatively evaluated using A Measurement Tool to Assess systematic Reviews (AMSTAR).

RESULTS: An umbrella review included six meta-analyses retrieved from the literature. The risk of early-emerging and late-emerging complications decreased by 55% and 41% in the patients underwent SG than in those receiving RYGB, respectively. The chance of the remission of hypertension and obstructive sleep apnoea, respectively increased by 43% and 6%, but type-2 diabetes mellitus decreased by 4% in the patients underwent RYGB than in those receiving SG. RYGB also increased excess weight loss by 15.23% in the patients underwent RYGB than in those receiving SG.

CONCLUSION: Lower levels of mortality and early-emerging and late-emerging complications were observed in the older adults undergoing SG than in those receiving RYGB, which was, however, more efficient in term of weight loss outcomes and recurrence of obesity-related diseases.

7 Effectiveness of an intermittent fasting diet versus regular diet on fat loss in overweight and obese middle-aged and elderly people without metabolic disease: a systematic review and meta-analysis of randomized controlled trials.

Yao K, Su H, Cui K, Gao Y, Xu D, Wang Q, Ha Z, Zhang T, Chen S, Liu T.
J Nutr Health Aging. 2024; 28: 100165. doi: 10.1016/j.jnha.2024.100165

RESUMEN

OBJECTIVE: As the number of adults aged over 40 with obesity increases dramatically, intermittent fasting interventions (IF) may help them to lose fat and weight. This systematic review investigated the most recent research on the effects of intermittent fasting and a regular diet on body composition and lipids in adults aged over 40 with obesity without the metabolic disease.

DATA SOURCES: Randomized controlled trials (RCTs) on IF on adults aged over 40 with obesity were retrieved from PubMed, Web of Science, EBSCO, China Knowledge Network (CNKI), VIP database, Wanfang database with the experimental group using IF and the control group using a regular diet. Revman was used for meta-analysis. Effect sizes are expressed as weighted mean differences (WMD) and 95% confidence intervals (CI).

STUDY SELECTION: A total of 9 articles of randomised controlled trials that met the

requirements were screened for inclusion. Studies typically lasted 2-6 weeks. The experimental population was aged 42-66 years, with a BMI range of 25.7-35 kg/m2.
SYNTHESIS: A total of 9 RCTs were included. meta-analysis showed that body weight (MD: -2.05 kg; 95% CI (-3.84, -0.27); p = 0.02), BMI (MD: -0.73 kg/m2; 95% CI (-1.05, -0.41); p < 0.001), fat mass (MD: -2.14 kg; 95% CI (-3.81, 0.47); p = 0.01), and TG (MD = -0.32 mmol/L, 95% CI (-0.50, -0.15, p < 0.001) were significantly lower in the experimental group than in the control group. No significant reduction in lean body mass (MD: -0.31 kg; 95% CI (-0.96, 0.34); p = 0.35).
CONCLUSION: IF had a reduction in body weight, BMI, fat mass, and TG in adults aged over 40 with obesity without metabolic disease compared to RD, and IF did not cause a significant decrease in lean body mass, which suggests healthy and effective fat loss. However, more long-term and high-quality trials are needed to reach definitive conclusions.

8 Mixed nut consumption improves brain insulin sensitivity: a randomized, single-blinded, controlled, crossover trial in older adults with overweight or obesity

Nijssen KM, Mensink RP, Plat J, Ivanov D, Preissl H, Joris PJ.
Am J Clin Nutr. 2024; 119: 314-323. doi: 10.1016/j.ajcnut.2023.12.010

RESUMEN
BACKGROUND: Improving brain insulin sensitivity, which can be assessed by measuring regional cerebral blood flow (CBF) responses to intranasal insulin, may prevent age-related metabolic and cognitive diseases.
OBJECTIVES: This study aimed to investigate longer-term effects of mixed nuts on brain insulin sensitivity in older individuals with overweight/obesity.
METHODS: In a randomized, single-blinded, controlled, crossover trial, 28 healthy adults (mean ± standard deviation: 65 ± 3 years; body mass index: 27.9 ± 2.3 kg/m2) received either daily 60-g mixed nuts (15 g of walnuts, pistachio, cashew, and hazelnuts) or no nuts (control) for 16 weeks, separated by an 8-week washout period. Throughout the study, participants were instructed to adhere to the Dutch food-based dietary guidelines. During follow-up, brain insulin action was assessed by quantifying acute effects of intranasal insulin on regional CBF using arterial spin labeling magnetic resonance imaging. Furthermore, effects on peripheral insulin sensitivity (oral glucose tolerance test), intrahepatic lipids, and cardiometabolic risk markers were assessed.
RESULTS: Body weight and composition did not change. Compared with control, mixed nut consumption improved regional brain insulin action in 5 clusters located in the left (difference in CBF responses to intranasal insulin: -4.5 ± 4.7 mL/100 g/min; P < 0.001; -4.6 ± 4.8 mL/100 g/min; P < 0.001; and -4.3 ± 3.6 mL/100 g/min; P = 0.007) and right occipital lobes (-4.3 ± 5.6 mL/100 g/min; and -3.9 ± 4.9 mL/100 g/min; P = 0.028). A fifth cluster was part of the left frontal lobe (-5.0 ± 4.6 mL/100 g/min; P < 0.001). Peripheral insulin sensitivity was not affected. Intrahepatic lipid content (-0.7%-point; 95% CI: -1.3%-point to -0.1%-point; P = 0.027), serum low-density lipoprotein cholesterol concentration (-0.24 mmol/L; 95% CI: -0.44 to -0.04 mmol/L; P = 0.019), and systolic blood pressure (-5 mm Hg; 95% CI: -8 to -1 mm Hg; P = 0.006) were lower after the mixed nut intervention.
CONCLUSIONS: Longer-term mixed nut consumption affected insulin action in brain regions

involved in the modulation of metabolic and cognitive processes in older adults with overweight/obesity. Intrahepatic lipid content and different cardiometabolic risk markers also improved, but peripheral insulin sensitivity was not affected. This trial was registered at clinicaltrials.gov as NCT04210869.

9 Effect of Polyphenol Supplementation on Memory Functioning in Overweight and Obese Adults: A Systematic Review and Meta-Analysis

Farag S, Tsang C, Al-Dujaili EAS, Murphy PN.
Nutrients. 2024; 16: 474. doi: 10.3390/nu16040474

RESUMEN

Negative health consequences of obesity include impaired neuronal functioning and cell death, thus bringing the risk of impaired cognitive functioning. Antioxidant properties of polyphenols offer a possible intervention for overweight people, but evidence for their effectiveness in supporting cognitive functioning is mixed. This review examined evidence from randomized controlled trials concerning the effect of polyphenols on tasks requiring either immediate or delayed retrieval of learned information, respectively, thus controlling for differences in cognitive processes and related neural substrates supporting respective task demands.

Searches of the PubMed/Medline, PsycInfo, and Scopus databases identified 24 relevant primary studies with N = 2336 participants having a BMI ≥ 25.0 kg/m2. The participants' mean age for the 24 studies exceeded 60 years. Respective meta-analyses produced a significant summary effect for immediate retrieval but not for delayed retrieval.

The present findings support a potential positive effect of chronic supplementation with polyphenols, most notably flavonoids, on immediate retrieval in participants aged over 60 years with obesity being a risk factor for cognitive impairment. We recommend further investigation of this potential positive effect in participants with such risk factors. Future research on all populations should report the phenolic content of the supplementation administered and be specific regarding the cognitive processes tested.

10 Multicomponent and power training with elastic bands improve metabolic and inflammatory parameters, body composition and anthropometry, and physical function in older women with metabolic syndrome: A 20-week randomized, controlled trial.

Gargallo P, Tamayo E, Jiménez-Martínez P, Juesas A, Casaña J, Benitez-Martinez JC, Gene-Morales J, Fernandez-Garrido J, Saez GT, Colado JC.
Exp Gerontol. 2024; 185: 112340. doi: 10.1016/j.exger.2023.112340

RESUMEN

PURPOSE: This study aimed to explore the effects of 20 weeks of multicomponent or power training with elastic bands (EBs) on metabolic and inflammatory blood parameters, body

composition, anthropometry, and physical function in older women with metabolic syndrome (MS).
METHODS: Ninety participants were randomly assigned to a multicomponent (MCG; n = 30), power (PG; n = 30), or a control group (CG; n = 30). The MCG performed balance, slow-speed strength, and aerobic training, twice per week. The PG completed a high-speed resistance training program twice per week, composed of three to four sets of ten repetitions of six overall body exercises at a perceived rating of effort for the first repetition of 3-4 on the OMNI-Resistance Exercise Scale EB. MS-related variables (glucose, triglycerides, and waist circumference) and cardiometabolic risk factors (high-density lipoprotein [HDL], glycosylated hemoglobin, total cholesterol, low-density lipoprotein cholesterol [LDL], C-reactive protein, and anthropometric profile) were assessed. Physical function was evaluated through balance, strength, and mobility tests.
RESULTS: An analysis of variance revealed that both training groups similarly improved most glycemic and lipidic profile parameters ($p \leq 0.006$; $d \geq 0.46$), body composition and anthropometry ($p < 0.001$; $d \geq 0.41$), and physical function ($p \leq 0.005$; $d \geq 0.69$). Opposed to the PG, the MCG improved balance ($p < 0.001$; $d = 0.96$) and decreased the inflammatory status by downregulating C-reactive protein ($p = 0.003$; $d = 0.47$). On the other hand, the PG exhibited improvements in handgrip strength ($p = 0.006$; $d = 0.48$), while the MCG did not.
CONCLUSION: Therefore, multicomponent and power training with EBs are plausible strategies for improving the cardiometabolic health status and physical function in older women with MS.
TRIAL REGISTRATION: ClinicalTrials.gov NCT3455179.

4| CRIBADO Y DIAGNÓSTICO DE LA MALNUTRICIÓN

DOLORES SÁNCHEZ-RODRÍGUEZ
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PROLOGO PREVIO A LOS RESUMENES

Los criterios diagnósticos de ‘’malnutrición en adultos” fueron actualizados en 2019 mediante un consenso global de sociedades científicas y son los criterios Global Leadership Initiative on Malnutrition (GLIM)1. Siguen vigentes y continúan expandiéndose en todas las especialidades, incluida la Geriatría. Los criterios son coherentes con el nuevo Global Leadership Initiative on Sarcopenia (GLIS) y se encuentran en proceso de reconocimiento por la Clasificación Internacional de Enfermedades de la Organización Mundial de la Salud(CIE-11)2. GLIM recomienda tres pasos: Primero, cribado mediante un instrumento validado. Segundo, evaluación de todos los criterios, diferenciados en fenotípicos y etilógicos. Tercero, evaluación de la severidad mediante los criterios fenotípicos. Estos aspectos e indicaciones del GLIM forman parte de un marco diagnóstico y terapéutico multidisciplinar más amplio, llamado Cuidado Nutricional, que permite abordar la Multicomplejidad de los trastornos relacionados con la nutrición y que ha sido declarado como uno de los Derechos Humanos (Declaración de Viena 2022)3.

Desde su inicio en 2019, 80 Avances NFS es un curso con un formato educativo pionero en Geriatría, que reúne a un conjunto de expertos referentes en nutrición, sarcopenia y fragilidad, donde cada experto selecciona 10 artículos relevantes en su área de conocimiento, publicados durante el último año. Este formato de actualización anual de la literatura es conocido en ámbitos anglosajones como annual update. Hasta ahora, era relativamente poco frecuente en Geriatría y no existía una metodología específica para llevarlo a cabo, por lo que se realizaba según criterios individuales o no se mencionaba. Este tipo de actualizaciones está en auge, probablemente por su alta eficacia didáctica. Investigadores de la Universidad de Toronto (Canadá) ha desarrollado una revisión exploratoria (scoping review) que recopila la metodología para realizar actualizaciones anuales. Se propone un marco metodológico para la preparación de actualizaciones anuales en Geriatría que se ha publicado en Journal of the American Geriatrics Society (JAGS) en 20244. Se ha seguido este marco en la medida de lo posible para la selección de artículos sobre cribado y diagnóstico de la malnutrición.

RESULTADOS DE APRENDIZAJE ESPERADOS.

1) Conocer las recomendaciones básicas para realizar actualizaciones anuales.
2) Familiarizarse con las nociones y terminología básicas sobre el cribado y diagnóstico de la malnutrición.
3) Conocer algunas actualizaciones.

4) Despertar interés y potencialmente utilizar estos conocimientos básicos como punto de partida hacia un conocimiento más profundo.

OBJETIVOS. Este prólogo previo a los resúmenes resume algunos aspectos clave de los artículos seleccionados y secundariamente, contextualiza esta selección.
METODOS. Revision anual de la literatura4 que detalla cuatro aspectos: búsqueda bibliográfica, selección, evaluación crítica y ámbito de diseminación4.

BÚSQUEDA BIBLOGRAFICA

1.PubMed. Se realizo una búsqueda extensiva (no sistemática) de artículos publicados en cualquier idioma durante el periodo 01/11/2023-25/04/2024 (desde la edición anterior de 80 Avances NFS a la actualidad) mediante términos libres: “screening”, ‘’diagnosis”, “malnutrition”, “nutrition”, “older people”, “meta-analysis”, “guidelines”, “endorsed papers”, “recommendations”, “cohort”, “GLIM”, ‘’Intrinsic capacity” y ‘’vitality domain”.

2.Artículos destacados en revistas oficiales de 14 sociedades de Geriatría y nutrición:

- Revista española de Geriatría y Gerontología (SEGG),
- Gériatrie et Psychologie Neuropsychiatrie du Vieillissement (SBGG y SFGG),
- Age and Ageing (BGS),
- European Geriatric Medicine (EuGMS),
- JAGS (AGS)
- JAMDA (AMDA)
- Aging Clinical and Experimental Research (ESCEO)
- Maturitas (EMAS)
- JNHA, JOFA (ICFSR)
- Nutricion Hospitalaria (SENPE)
- Clinical Nutrition, Clinical Nutrition ESPEN (ESPEN),
- Journal of Enteral and Parenteral Nutrition, Nutrition in Clinical Practice (ASPEN),
- Journal of Cachexia, Sarcopenia, and Muscle (SCSWD).
- Nutrients

3.McMaster Evidence Alerts. Base bibliográfica de la Universidad McMaster (Canadá), conteniendo una selección de artículos por su alta calidad metodológica4.

4.Redes sociales. LinkedIn (autores y grupos de referencia).

CRITERIOS DE SELECCIÓN

1. Artículos centrados en el cribado y/o diagnóstico de la malnutrición y/o sus componentes.
2. Artículos que, permaneciendo dentro del cribado/diagnóstico, incluyeran, en lo posible, las 5M del geriatra (Mente, Movilidad, Medicación/Interventiones, Multicomplejidad y Lo Que Más Importa para Mí")4.
3. Artículos representativos, didácticos sobre las líneas estratégicas de sociedades de Geriatría y nutrición.
4. Artículos desarrollados/destacados en el marco del Special Interest Group on Geriatrics de la Sociedad Europea de Nutrición Clínica y Metabolismo (ESPEN) y/o el Special Interest Group on Nutrition de la Sociedad Europea de Geriatría y Gerontología (EuGMS).
5. Artículos destacados en el marco del ESPEN Workshop Screening and diagnosis of malnutrition (Director: Prof. De Van Der Schueren), Ámsterdam, Abril 2024.
6. Diferentes diseños de estudio, priorizando los diseños con mayor nivel de evidencia científica según el Oxford Center for Evidence-Based Medicine Standards.
7. Artículos que aporten respuestas a cuestiones pragmáticas y necesidades no cubiertas de la clínica y la investigación en Geriatría.
8. Criterio personal, focalizado en las áreas de interés de los grupos de investigación a los que pertenezco o con los que colaboro.

EVALUACIÓN CRÍTICA. Formato narrativo para discutir individualmente los artículos de manera breve y crítica.
DIFUSIÓN. Actualización realizada con el objetivo de ser una de las 8 partes de 80 Avances NFS 2024. Una versión preliminar piloto se probó en Les séances scientifiques du Gérontopôle bruxellois.
RESULTADOS. Se seleccionaron 10 artículos,

- Una revisión sistemática y metaanálisis-en-red[resumen#25].
- Una revisión sistemática y metaanálisis[resumen#16].
- Una scoping review[resumen#107].
- Un estudio de desarrollo y validación de un cuestionario[resumen#88].
- Un estudio observacional longitudinal[resumen#39].
- Un estudio transversal[resumen#910].
- Un estudio de investigación cualitativa[resumen#411].
- Un consenso de expertos [resumen#512].
- Un articulo de posición[resumen#613].
- Un articulo de opinión de expertos[resumen#714].

La actualización se focaliza en el enfoque de cribado y diagnóstico de la malnutrición e incluye las 5M del geriatra4, en lo posible: Mente [resumen#411, resumen#88, resumen#910, resumen#107]; Movilidad [resumen#910, resumen#107]; Medicamentos/Intervenciones [re-

sumen#107], Multicomplejidad [resumen#411, resumen#613, resumen#714, resumen#910, resumen#107]; y “Lo Que Más Me Importa” [resumen#39, resumen#411, resumen#107].

Tras la publicación de los criterios GLIM, se han desarrollado diferentes recomendaciones para la aplicación de sus diferentes aspectos/criterios, basándose en consenso de expertos y la nueva evidencia científica que ha ido apareciendo desde 2019. En 2020, se desarrollaron recomendaciones que proporcionan un marco metodológico su para aplicación15.

El primer articulo es una revisión sistemática y metaanálisis cuyo objetivo es identificar la herramienta de cribado nutricional más válida y fiable para evaluar el riesgo de malnutrición en adultos hospitalizados, ancianos incluídos[resumen#16]. Se utiliza PRISMA. El metaanálisis evalúa 4 herramientas de cribado frente a dos estándares de referencia: Subjective Global Assessment (SGA) y criterios ESPEN-2015. Entre los diferentes métodos de evaluación y basándose en sus indicadores diagnósticos, se identifica MUST como un instrumento de cribado adecuado en adultos hospitalizados en general. MNA-SF no parecia presentar ventajas (especificidad subóptima).

El cribado preoperatorio de la malnutrición en pacientes hospitalizados, incluidos ancianos, se aborda en una reciente revisión sistemática y metaanálisis-en-red[resumen#25]. Se utiliza PRISMA-NMA. Se comparan 7 herramientas de cribado frente al SGA como estándar de referencia. MUST tuvo la mayor precisión en relación con el SGA y podría ser un adecuado instrumento de cribado en el preoperatorio. Uno de los puntos fuertes de esta revision es la alta calidad metodológica (cumple el 80% de los criterios de calidad AMSTAR-2). Como limitaciones de estas dos revisiones, no se utiliza GLIM (en el metaanalisis) y una de las posibles conclusiones es la necesidad de articulos que especifiquen los criterios y sigan el marco metodologico15.

En 2022, se publicaron las recomendaciones para la evaluación del criterio fenotípico de la masa muscular del GLIM16. Uno de los métodos recomendados es la bioimpedanciometría. Los resultados de la bioimpedanciometría pueden variar por múltiples factores y aunque aún no existe un único protocolo, hay varias recomendaciones de sociedades científicas disponibles (ejemplo, https://nutritionalassessment.nl). El siguiente artículo explora la necesidad/conveniencia de ayunar antes de la prueba[resumen#39]. El estudio determina si los valores de la bioimpedanciometría se modificaban con la ingesta (desayuno) en ancianos de la comunidad. Se encontraron diferencias estadísticamente significativas, pero estas no llegaban a alcanzar 1kg, que se había prefijado como cambio clínicamente relevante. Se ha seleccionado por su originalidad y metodología rigurosa para contestar una pregunta práctica, y porque precisa reproductiblemente la administración de la bioimpedanciometría.

Uno de los criterios etiológicos del GLIM es la disminución de la ingesta, ligada a la anorexia del envejecimiento, uno de los cuatro Gigantes geriátricos y en auge por sus implicaciones en los trastornos ligados a la nutrición. Un estudio de investigación cualitativa con entrevistas semiestructuradas explora la experiencia del paciente anciano con pérdida de apetito, desde la perspectiva del paciente. Se muestran diferencias en los recorridos individuales hacia la pérdida de apetito, con variaciones probablemente debidas a las diferentes etiologías, que impactaban en la experiencia de la pérdida del apetito[resumen#411]. Este

tema es abordado desde su Multicomplejidad y mediante investigación cualitativa centrada en la persona. Es un enfoque innovador relacionado con dos proyectos en marcha que nuestro grupo de investigación está desarrollando desde 2023, enfocados hacia Lo que Más Le Importa Al Paciente (y por tanto, debería ser Lo Que Más Me Importa a Mí, También).

En 2024, acaba de publicarse la guía para la evaluación del criterio etiológico de inflamación[resumen#512]. Esta guía es coherente con la actualización de la ESPEN guideline for definitions and terminology of clinical nutrition, donde se unifican los términos "caquexia" y "malnutrición relacionada con la enfermedad CON inflamación" (sinónimos), desarrollada por ESPEN SIG Cachexia-anorexia y SIG on Geriatrics17. Esta guía clarifica aspectos relativos al criterio etiológico de inflamación y diferencian "malnutrición relacionada con la enfermedad CON inflamación" y "malnutrición relacionada con la enfermedad SIN inflamación"12. Contienen información relevante en la práctica, pues el criterio fenotípico de inflamación aporta valor pronóstico, relacionado con la respuesta al tratamiento nutricional (a mayor inflamación, menor respuesta)12.

ESPEN desarrolla anualmente guías clínicas y/o documentos de consenso dedicados al cuidado nutricional de ciertas poblaciones o niveles asistenciales específicos. En 2024, se ha realizado un acuerdo OMS-ESPEN https://iris.who.int/handle/10665/375033 fundamentado en la Declaracion de Viena. Se acaba de publicar el documento de posición ESPEN sobre cuidado nutricional en Atención Primaria[resumen#613], que se basa en el elevado número de personas malnutridas en la comunidad (mayor que en ningún otro medio asistencial en valores absolutos). Por ejemplo, recordemos el estudio en Holanda que encontraba que una de cada doce personas mayores de 65 años estaba en riesgo de malnutrición según el SNAQ65+, y una de cada catorce tenía malnutrición según GLIM18. Las claves del documento de posición serían: crear conciencia, integrar la nutrición en los planes de estudios médicos/enfermería, establecer equipos multidisciplinares con acceso a dietistas, facilitar herramientas de evaluacion aptas para Atención Primaria y establecer vías de derivación para un abordaje sistemático de la malnutrición en este medio.

Buscando fomentar la colaboración multidisciplinar, facilitar y mejorar el cuidado nutricional, una parte de los expertos del grupo de trabajo de GLIM ha publicado una propuesta en la que se destacan las posibilidades profesionales y el emergente rol de los especialistas en dietética. Este artículo hace hincapié en sus competencias profesionales como pieza clave en el abordaje de la Multicomplejidad en los trastornos relacionados con la malnutrición y agenda 17 preguntas clave[resumen#714].

Siguiendo esta estrategia enfocada en "crear conciencia" (Mente), en el entorno del ESPEN SIG on Geriatrics se ha desarrollado el Malnutrition Awareness Scale (MAS). Este se fundamenta en la escasa conciencia respecto a los riesgos/consecuencias de la malnutrición entre los propios ancianos, que dificultaría la adherencia terapéutica o la búsqueda de soporte profesional. El estudio explica el desarrollo del MAS, que evalúa cuantitativamente la conciencia sobre la malnutrición en adultos mayores de 60 años de la comunidad. Se describe el estudio piloto, de viabilidad y la valoración de las propiedades psicométricas[resumen#88].

Para integrar Mente, Movilidad, Multicomplejidad y Lo Que Más Me Importa4, se han incluido dos articulos sobre Capacidad intrinseca (CI, ''conjunto de todas las capacidades físicas y mentales del individuo"). Un estudio trasversal sobre Gerodontología valora la asociación entre la CI y la salud oral en ancianos frágiles de la comunidad. Se encontraron asociaciones entre la salud oral y la CI, particularmente con el dominio locomotor. Las fortalezas serían su novedoso enfoque integrador (Gerodontología y CI) y su rigurosidad en la evaluación de la salud oral. El estudio tiene las limitaciones inherentes al diseño transversal[resumen#910].

Para finalizar, comparto una revisión que identifica los resultados de salud (outcomes) utilizados en todos los estudios de intervenciones (RCT) sobre CI en ancianos[resumen#107]. Se encontraron 7 RCT sobre CI que utilizaban 28 resultados diferentes (6 relacionados con el dominio nutricional/vitalidad) y 54 instrumentos de medida diferentes, lo que pone de manifiesto la urgente necesidad de un Core Outcome Set. La scoping review forma parte de un proyecto co-liderado por nuestro Departamento de Geriatría del Hospital Brugmann (Bruselas) y la Universidad de Namur, que tiene como objetivo desarrollar un conjunto mínimo de resultados (Core Outcome Set) para los estudios intervencionales sobre la CI (Co-Investigadores Principales: Dolores Sanchez-Rodriguez y Charlotte Beaudart, https://www.comet-initiative.org/Studies/Details/2722)(Medicación/Interventiones y Lo Que Más Me Importa)4[resumen#107].

RESÚMENES

1 Validity of nutrition screening tools for risk of malnutrition among hospitalized adult patients: A systematic review and meta-analysis

Regina Cortés-Aguilar, Narges Malih, Manuela Abbate, Sergio Fresneda, Aina Yañez, Miquel Bennasar-Veny. Clin Nutr. 2024 Mar 15;43(5):1094-1116. doi: 10.1016/j.clnu.2024.03.008. PMID: 38582013.

RESUMEN

BACKGROUNDS & AIMS: Malnutrition is prevalent among hospitalized patients in developed countries, contributing to negative health outcomes and increased healthcare costs. Timely identification and management of malnutrition are crucial. The lack of a universally accepted definition and standardized diagnostic criteria for malnutrition has led to the development of various screening tools, each with varying validity. This complicates early identification of malnutrition, hindering effective intervention strategies. This systematic review and meta-analysis aimed to identify the most valid and reliable nutritional screening tool for assessing the risk of malnutrition in hospitalized adults.

METHODS: A systematic literature search was conducted to identify validation studies published from inception to November 2023, in the Pubmed/MEDLINE, Embase, and CINAHL databases. This systematic review was registered in INPLASY (INPLASY202090028). The risk of bias and quality of included studies were assessed using the Quality Assessment of Diagnostic Accuracy

Studies version 2 (QUADAS-2). Meta-analyses were performed for screening tools accuracy using the symmetric hierarchical summary receiver operative characteristics models.
RESULTS: Of the 1646 articles retrieved, 60 met the inclusion criteria and were included in the systematic review, and 21 were included in the meta-analysis. A total of 51 malnutrition risk screening tools and 9 reference standards were identified. The meta-analyses assessed four common malnutrition risk screening tools against two reference standards (Subjective Global Assessment [SGA] and European Society for Clinical Nutrition and Metabolism [ESPEN] criteria). The Malnutrition Universal Screening Tool (MUST) vs SGA had a sensitivity (95% Confidence Interval) of 0.84 (0.73-0.91), and specificity of 0.85 (0.75-0.91). The MUST vs ESPEN had a sensitivity of 0.97 (0.53-0.99) and specificity of 0.80 (0.50-0.94). The Malnutrition Screening Tool (MST) vs SGA had a sensitivity of 0.81 (0.67-0.90) and specificity of 0.79 (0.72-0.74). The Mini Nutritional Assessment-Short Form (MNA-SF) vs ESPEN had a sensitivity of 0.99 (0.41-0.99) and specificity of 0.60 (0.45-0.73). The Nutrition Universal Screening Tool-2002 (NRS-2002) vs SGA had a sensitivity of 0.76 (0.58-0.87) and specificity of 0.86 (0.76-0.93).

2 Diagnostic test accuracy of preoperative nutritional screening tools in adults for malnutrition: a systematic review and network meta-analysis.

Helen Hoi Ting Cheung 1, Gavin Matthew Joynt, Anna Lee. Int J Surg. 2024 Feb 1;110(2):1090-1098. doi: 10.1097/JS9.0000000000000845. PMID: 37830947.

RESUMEN

BACKGROUND: Good nutritional screening tests can triage malnourished patients for further assessment and management by dietitians before surgery to reduce the risk of postoperative complications. The authors assessed the diagnostic test accuracy of common nutritional screening tools for preoperative malnutrition in adults undergoing surgery and determined which test had the highest accuracy.
METHODS: MEDLINE, EMBASE, CINAHL, and Web of Science were searched for relevant titles with no language restriction from inception till 1 January 2023. Studies reporting on the diagnostic test accuracy of preoperative malnutrition in adults using one or more of the following index nutritional screening tools were included: Malnutrition Screening Tool (MST), Malnutrition Universal Screening Tool (MUST), Mini Nutritional Assessment (MNA), short-form Mini Nutritional Assessment (MNA-SF), Nutritional Risk Index (NRI), Nutrition Risk Screening Tool 2002 (NRS-2002), and Preoperative Nutrition Screening (PONS). The reference standard was the Subjective Global Assessment (SGA) before surgery. Random-effects bivariate binomial model meta-analyses, meta-regressions, and a network meta-analysis were used to estimate the pooled and relative sensitivities and specificities.
RESULTS: Of the 16 included studies (5695 participants with an 11 957 index and 11 957 SGA tests), all were conducted after hospital admission before surgery. Eleven studies (n =3896) were at high risk of bias using the Quality Assessment of Diagnostic Accuracy Studies tool due to a lack of blinded assessments. MUST had the highest overall test accuracy performance (sensitivity 86%, 95% CI: 75-93%; specificity 89%, 95% CI: 83-93%). Network meta-analysis showed NRI had similar relative sensitivity (0.93, 95% CI: 0.77-1.13) but lower relative specificity (0.75, 95% CI: 0.61-0.92) than MUST.

CONCLUSIONS: Of all easy-to-use tests applicable at the bedside, MUST had the highest test accuracy performance for screening preoperative malnutrition. However, its predictive accuracy is likely insufficient to justify the application of nutritional optimization interventions without additional assessments.

3 Having breakfast has no clinically relevant effect on bioelectrical impedance measurements in healthy adults.

Julia W Korzilius 1, Sosha E Oppenheimer 2, Nicole M de Roos 2, Geert J A Wanten 3, Heidi Zweers. Nutr J. 2023 Oct 31;22(1):55. doi: 10.1186/s12937-023-00882-5. PMID: 37904176.

RESUMEN

BACKGROUND: Bioelectrical impedance analysis (BIA) is commonly used to evaluate body composition as part of nutritional assessment. Current guidelines recommend performing BIA measurements in a fasting state of at least 2 h in a clinical setting and 8 h in a research setting. However, since asking patients with malnutrition or sarcopenia to fast is not desirable and literature to support the strategy in the guidelines is lacking, this study aimed to assess the impact of breakfast on BIA measurements.

METHODS: We performed an explorative, prospective study in healthy volunteers aged between 18 and 70 years, with a normal fluid balance and a body mass index between 18.5 and 30 kg/m2. BIA measurements were performed according to the standard operating procedure in the fasting state, and 1, 2, 3, and 4 h after ingesting a standardized breakfast meal of about 400 kcal with a 150 mL drink, using the hand-to-food single-frequency BIA (Bodystat500 ®). The Kyle formula was used to calculate the primary outcome, i.e. fat-free mass (FFM, kg). A linear mixed model was used to compare baseline values with other time points. A difference of 1 kg in FFM was considered clinically relevant.

RESULTS: Thirty-nine (85% female) volunteers were included, with a median age of 28 years (IQR 24-38). In 90% of the participants, having breakfast had no clinically relevant impact on the estimated FFM. For the group, the most pronounced mean difference, a statistically but not clinically significant higher value of 0.2 kg (0.4%), was observed after 3 h of fasting compared to baseline. No statistically significant differences were found at the other time points.

CONCLUSION: Eating affects single-frequency BIA measurements, but differences in FFM remain below clinical relevance for most participants when using a standardized breakfast. Thus, the current study suggests performing a BIA measurement in a fasting state is not required.

4 Exploring the experience of appetite loss in older age: insights from a qualitative study.

Lorelle Dismore, Avan Sayer, Sian Robinson. BMC Geriatr. 2024 Jan 31;24(1):117. doi: 10.1186/s12877-024-04732-9. PMID: 38297212.

RESUMEN

BACKGROUND: Poor appetite is common in older age, with estimated prevalence figures ranging between 15-30% in community-dwelling populations. Despite known links between poor appetite and adverse health outcomes, appetite is not routinely assessed and the causes and impact of appetite loss in older age are not well understood. This study aimed to improve understanding of the influences on, and experiences of, appetite loss among older people who have poor appetite and to consider the implications for prevention and treatment strategies.

METHODS: Thirteen older adults aged 60-93 years (9 women) identified as having poor appetite (Simplified Nutritional Appetite Questionnaire (SNAQ) scores < 14; ranging from 8-11) took part in semi-structured interviews. Open-ended questions focused on influences on and experiences of appetite and appetite loss in older age. Interviews were transcribed; reflective thematic analysis was conducted using an inductive approach.

RESULTS: The analysis generated three themes: 1) a complex web of influences on appetite loss, that include biological, psychological, and social factors; 2) living with poor appetite-variation in perceptions of poor appetite and attitudes to appetite loss; 3) living with poor appetite-the role and importance of the eating environment and social interactions. The themes highlight marked differences in individual 'journeys' to poor appetite, with variation in the balance and role of specific causal influences, that impact on the experience of appetite loss and on coping strategies.

CONCLUSIONS: A broad range of influences (including biological, psychological and social factors) and experiences of appetite loss in older age were described. Future research should consider person-centred approaches, that take account of individual narratives of appetite loss, in the design of effective strategies to support older adults.

5 Guidance for assessment of the inflammation etiologic criterion for the GLIM diagnosis of malnutrition: A modified Delphi approach.

*Gordon L Jensen, Tommy Cederholm, Maria D Ballesteros-Pomar, Renee Blaauw, M Isabel T D Correia, Cristina Cuerda, David C Evans, Ryoji Fukushima, Juan Bernardo Ochoa Gautier, M Cristina Gonzalez, Andre van Gossum, Leah Gramlich, Joseph Hartono, Steven B Heymsfield, Harriët Jager-Wittenaar, Renuka Jayatissa, Heather Keller, Ainsley Malone, William Manzanares, M Molly McMahon, Yolanda Mendez, Kris M Mogensen, Naoharu Mori, Maurizio Muscaritoli, Guillermo Contreras Nogales, Ibolya Nyulasi, Wendy Phillips, Matthias Pirlich, Veeradej Pisprasert, Elisabet Rothenberg, Marian de van der Schueren, Han Ping Shi, Alison Steiber, Marion F Winkler, Charlene Compher, Rocco Barazzon*i. JPEN J Parenter Enteral Nutr. 2024 Feb;48(2):145-154. doi: 10.1002/jpen.2590. Epub 2024 Jan 15. PMID: 38221842.

RESUMEN

BACKGROUND: The Global Leadership Initiative on Malnutrition (GLIM) approach to malnutrition diagnosis is based on assessment of three phenotypic (weight loss, low body mass index, and reduced skeletal muscle mass) and two etiologic (reduced food intake/assimilation and disease burden/inflammation) criteria, with diagnosis confirmed by fulfillment of any combination of at least one phenotypic and at least one etiologic criterion. The original GLIM description provided limited guidance regarding assessment of inflammation, and this has been a factor impeding further implementation of the GLIM criteria. We now seek to provide practical guidance for assessment of inflammation.

METHODS: A GLIM-constituted working group with 36 participants developed consensus-based guidance through a modified Delphi review. A multiround review and revision process served to develop seven guidance statements.

RESULTS: The final round of review was highly favorable, with 99% overall “agree” or “strongly agree” responses. The presence of acute or chronic disease, infection, or injury that is usually associated with inflammatory activity may be used to fulfill the GLIM disease burden/inflammation criterion, without the need for laboratory confirmation. However, we recommend that recognition of underlying medical conditions commonly associated with inflammation be supported by C-reactive protein (CRP) measurements when the contribution of inflammatory components is uncertain. Interpretation of CRP requires that consideration be given to the method, reference values, and units (milligrams per deciliter or milligram per liter) for the clinical laboratory that is being used.

CONCLUSION: Confirmation of inflammation should be guided by clinical judgment based on underlying diagnosis or condition, clinical signs, or CRP.

6 Clinical nutrition in primary care: ESPEN position paper

Željko Krznarić, Darija Vranešić Bender, Milena Blaž Kovač, Cristina Cuerda, Annemieke van Ginkel-Res, Michael Hiesmayr, Anibal Marinho, Juan Mendive, Isabel Monteiro, Matthias Pirlich, Sanja Musić Milanović, Nada Rotovnik Kozjek, Stephane Schneider, Michael Chourdakis, Rocco Barazzoni; ESPEN Council authors group. Clin Nutr. 2024 Feb 21:S0261-5614(24)00059-1. doi: 10.1016/j.clnu.2024.02.017. Epub ahead of print. PMID: 38471980.

RESUMEN

Primary care healthcare professionals (PCHPs) are pivotal in managing chronic diseases and present a unique opportunity for nutrition-related disease prevention. However, the active involvement of PCHPs in nutritional care is limited, influenced by factors like insufficient education, lack of resources, and time constraints. In this position paper The European Society for Clinical Nutrition and Metabolism (ESPEN) promotes the active engagement of PCHPs in nutritional care. We emphasize the importance of early detection of malnutrition by screening and diagnosis, particularly in all individuals presenting with risk factors such as older age, chronic disease, post-acute disease conditions and after hospitalization for any cause. ESPEN proposes a strategic roadmap to empower PCHPs in clinical nutrition, focusing on education, tools, and multidisciplinary collaboration. The aim is to integrate nutrition into medical curricula, provide simple screening tools for primary care, and establish referral pathways to address malnutrition systematically. In conclusion, we urge for collaboration with PCHP organizations to raise awareness, enhance nutrition skills, facilitate dietitian accessibility, establish multidisciplinary teams, and promote referral pathways, thereby addressing the underestimated clinical challenge of malnutrition in primary care.

7 The Malnutrition Awareness Scale for community-dwelling older adults: Development and psychometric properties

Visser M, Sealy MJ, Leistra E, Naumann E, De Van Der Schueren MAE, Jager-Wittenaar H. Clin Nutr. 2024 Feb;43(2):446-452. doi: 10.1016/j.clnu.2023.12.023. Epub 2024 Jan 1. Erratum in: Clin Nutr. 2024 Apr;43(4):988. PMID: 38181522.

RESUMEN

BACKGROUND & AIMS: Qualitative studies suggest that malnutrition awareness is poor in older adults. The aim of this study was to develop a questionnaire to quantitatively assess malnutrition awareness in community-dwelling older adults aged 60+ years.

METHODS: The Malnutrition Awareness Scale (MAS) was developed based on the awareness phase of the Integrated-Change model, and included four domains: knowledge, perceived cues, risk perceptions, and cognizance. Twenty-six scale items were developed using results from mainly qualitative research and the expertise of the authors. Items were piloted in 10 Dutch older adults using the Thinking Aloud method to optimize wording. In a feasibility study, annoyance, difficulty and time to complete the MAS and its comprehensibility were tested. After final revisions, the MAS was applied to a large sample to test its psychometric properties (i.e., inter-item

correlations, Cronbach's alpha, score distribution) and relevance of the items was rated on a 5-point scale by 12 experts to determine content validity.

RESULTS: The feasibility study (n = 42, 55 % women, 19 % 80+ y) showed that the MAS took 12 ± 6 min to complete. Most participants found it not (at all) annoying (81 %) and not (at all) difficult (79 %) to complete the MAS, and found it (very) comprehensible (83 %). Psychometric analyses (n = 216, 63 % women, 28 % 80+ y) showed no redundant items, but two items correlated negatively with other items, and one correlated very low. After removal, the final MAS consists of 23 items with a min-max scoring range from 0 to 22 (with higher scores indicating higher awareness) and an overall Cronbach's alpha of 0.67. The mean MAS score in our sample (n = 216) was 14.8 ± 3.2. The lowest obtained score was 6 (n = 3) and the highest 22 (n = 1), indicating no floor or ceiling effects. Based on the relevance rating, the overall median across all 22 items was 4.0 with IQR 4.0-5.0.

CONCLUSION: The Malnutrition Awareness Scale is a novel, feasible and reliable tool with good content validity to quantitively assess malnutrition awareness in community-dwelling older adults. The scale is now ready to identify groups with poor malnutrition awareness, as a basis to start interventions to increase malnutrition knowledge and awareness..

8 Global Leadership Initiative on Malnutrition (GLIM) for the diagnosis of malnutrition - a framework for consistent dietetic practice.

Elisabet Rothenberg, Amalia Tsagari, Nicole Erickson, Christina N Katsagoni, Ainsley Malone, Marian de van der Schueren, Clare Shaw, Alison Steiber, Darija Vranesic Bender, Harriët Jager-Wittenaar. Clin Nutr ESPEN. 2024 Apr;60:261-265. doi: 10.1016/j.clnesp.2024.02.009. Epub 2024 Feb 17. PMID: 38479920.

RESUMEN

Malnutrition is an alarming and ongoing healthcare problem globally. Malnutrition has a negative impact on the individual patient, leading to poorer clinical outcomes and increased mortality, but also poses an economic burden on society. Proper identification and diagnostics are prerequisites for initiation of treatment. In 2019, the Global Leadership Initiative on Malnutrition, a consensus-based global framework to uniformly diagnose malnutrition across populations, healthcare settings, and countries was published. Identifying and treating malnutrition is an interdisciplinary team effort. Nonetheless, the nutrition and dietetics profession is specifically trained for diagnosing and treating nutrition(-related) conditions, and therefore has a key role in the interdisciplinary team in implementing the GLIM framework in clinical practice. For the nutrition and dietetics profession, GLIM offers a great opportunity for moving both the scientific and clinical knowledge of malnutrition management forward. While the GLIM framework has been extensively studied since its launch, various knowledge gaps still remain. For the nutrition and dietetics profession, these knowledge gaps mainly relate to the GLIM implementation process, to the role of GLIM in relation to the nutrition care process, and to treatment strategies for various nutrition-related conditions. In this opinion paper, we aimed to describe the rationale for implementing the GLIM framework in clinical dietetic practice, and propose a research agenda based on knowledge gaps regarding GLIM in relation to nutrition care from a dietetic point of view.

9 Association between intrinsic capacity and oral health in older patients in a frailty clinic.

Shuzo Miyahara, Keisuke Maeda, Koki Kawamura, Yasumoto Matsui, Shosuke Satake, Hidenori Arai, Hiroyuki Umegaki. Eur Geriatr Med. 2024 Mar 5. doi: 10.1007/s41999-024-00956-5. Epub ahead of print. PMID: 38438830.

RESUMEN

PURPOSE: This study aimed to investigate how intrinsic capacity (IC) deficit is associated with oral functional decline.

METHODS: This cross-sectional study enrolled older adults at a research hospital frailty clinic between July 2021 and May 2023. IC evaluation included the locomotion, cognition, vitality, psychology, and sensory domains. Criteria for deficits were established within each domain, and the number of IC deficit domains was calculated for each patient. Oral function assessment included oral hygiene, oral dryness, occlusal force, tongue-lip motor function, tongue pressure, masticatory function, and swallowing function. Patients who met three or more criteria were classified into the oral hypofunction (OHF) group. Univariate and multivariate logistic regression analyses were performed to investigate the relationship between IC deficit and OHF.

RESULTS: Of 222 included patients (mean age 78.3 ± 6.3 years; 39.6% men), 105 (47.3%) met the criteria for OHF. This OHF group showed a significantly higher prevalence of locomotion, cognition, psychology, and sensory domain deficits than the normal oral function group. Multivariate analysis adjusted for age and sex revealed a significant association between IC deficits and OHF (odds ratio [OR], 1.33; 95% confidence interval [CI] 1.04-1.70). A significant association was also observed between the locomotion domain and OHF (OR, 2.06; 95% CI 1.13-3.76).

CONCLUSION: This study highlights the potential relationship between the number of IC domain deficits and oral functional decline, with the most significant domain being locomotion. Furthermore, it suggests a possible link between sensory and oral function..

10 Towards a core outcome set (COS) for intrinsic capacity (IC) intervention studies in adults in midlife and beyond: a scoping review to identify frequently used outcomes and measurement toolsAdvances in muscle health and nutrition: A toolkit for healthcare professionals

Dolores Sanchez-Rodriguez, Olivier Bruyère, Murielle Surquin, Jean-Yves Reginster, Charlotte Beaudart. Aging Clin Exp Res. 2024 Mar 5;36(1):54. doi: 10.1007/s40520-023-02681-8. PMID: 38441748.

RESUMEN

This scoping review was conducted to identify the outcomes and measurement tools used in IC intervention studies, as first step towards the development of a core outcome set (COS) for IC trials. PRISMA-ScR and COS-STAD were followed. The review considered randomized controlled trials targeting IC published in Medline, Scopus, Embase, Cochrane Central Register of Controlled Trials, and clinicaltrials.gov, until June 2023. Of 699 references, 534 studies were screened once

duplicates were removed, 15 were assessed for eligibility, and 7 (4 articles and 3 protocols) met eligibility criteria. Twenty-eight outcomes were identified (19 related to IC and its domains and 9 unrelated). The most reported primary outcome was the change in IC levels postintervention (5 over 7 studies) and the most reported outcomes (either as primary and/or secondary) were the changes in physical performance and in depressive symptoms (6 over 7 studies). Fifty-five tools used to construct the domains' z-scores and/or assess the effect of interventions were identified (47 related to IC and its domains and 8 unrelated). The most reported tool was an IC Z-score, calculated by 4 domains' z-scores: locomotor, vitality, cognitive, and psychological (5 over 7 studies). The tools differed among studies (10 locomotor related, 6 vitality related, 16 cognitive related, 8 psychological related, 6 sensorial related, 8 unrelated tools). The vast heterogeneity (28 outcomes and 55 tools within 7 studies) highlighted the need of a COS. These outcomes and tools will be presented to experts in a future step, to select the ones that should be taken into consideration in IC trials.

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5| FRAGILIDAD

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JEFA DEL SERVICIO DE GERIATRA DEL PARC DE SALUT MAR DE BARCELONA.

RESUMEN

En esta edición de 2024 se presentan diez artículos seleccionado a partir de una muestra de un total de 2820, publicados entre el 1 de noviembre de 2023 y el 30 de abril de 2024 e identificados en PubMed mediante la palabra fragilidad (frailty) en el título o en el resumen. Este año como novedad, también se realizó una búsqueda en las redes sociales, especialmente X (antigua twitter) e Instagram, en cuentas de referentes de la Geriatría (personas o sociedades científicas) en nuestro país.

Manteniendo el criterio de seleccionar artículos orientados a la práctica clínica e inspirar nuevas líneas de investigación he seleccionado un primer grupo de tres artículos que reflexionan sobre la seguridad y la adecuación de la prescripción farmacológica en personas frágiles.

El primer artículo es un ensayo multicéntrico aleatorizado y controlado sobre la seguridad del cambio de un anticoagulante oral antagonista de la vitamina K (AVK) a un anticoagulante no antagonista de la vitamina K (NACO) en pacientes ancianos frágiles con fibrilación auricular. Tras una asignación aleatoria a continuar con el tratamiento AVK o bien cambiar a un NACO y un seguimiento de 12 meses, se calcularon por intención de tratamiento los riesgos específicos de cada grupo en relación a las complicaciones hemorrágicas graves (o no graves, pero clínicamente relevante). Se analizaron también eventos tromboembólicos acaecidos durante el periodo de estudio. Los autores concluyen que el cambio del tratamiento de AVK a un NACO en pacientes ancianos frágiles con fibrilación auricular se asoció con más complicaciones hemorrágicas en comparación con la continuación del tratamiento con AVK, sin una reducción asociada de las complicaciones tromboembólicas.

El siguiente artículo seleccionado se centra en la seguridad y eficacia de los inhibidores del co-transportador 2 de sodio-glucosa en personas mayores o frágiles. Se trata de una revisión sistemática y metanaálisis de 20 ensayos controlados aleatorizados y estudios observacionales que comparaban los SGLT2 frente a placebo u otro agente reductor de la glucosa en personas frágiles con DM2 e insuficiencia cardiaca (IC). Los autores concluyen que en estos pacientes los SGLT2Is están relacionados con una disminución de la mortalidad total y de eventos cardiovasculares, (IC y muerte cardiaca) pero no son protectores para muerte por otras causas macrovasculares o eventos renales. El riesgo de cetoacidosis diabética o lesión renal aguda no aumentó significativamente.

Finalmente, el tercero de este primer bloque es una revisión sistemática de la prescripción de fármacos cardioprotectores (aspirina, tratamiento hipolipemiante, IECAs, ARA II, Betabloquentes) recomendados por las guías después de un infarto de miocardio (IAM) en perso-

nas frágiles. Se incluyeron 16 estudios observacionales publicados entre 2013 y 2022 que informaron de la prescripción de medicación cardioprotectora post-IAM estratificada según el estado de fragilidad. La prescripción de todas las clases de medicación cardioprotectora después de un IAM fue menor en personas frágiles en comparación con las no frágiles. De aquí la conclusión final de que es necesario seguir investigando sobre los beneficios y los riesgos del tratamiento en las personas frágiles para mejorar la adecuación de la prescripción farmacológica.

Cada vez más se impone planificar los estudios de investigación teniendo en cuenta, no solo la curiosidad científica del investigador, sino las necesidades no resueltas de las personas enfermas. Y el primer paso es preguntar a los pacientes qué es importante para ellos cuando están enfermos. Este segundo bloque incluye dos revisiones sistemáticas que nos acercan a la perspectiva de lo que es importante para las personas mayores.

La primera pretende establecer si las necesidades de las personas mayores que viven con fragilidad severa y se acercan al final de su vida, están representadas en las PROMs (medidas de resultados reportadas por los pacientes) y PREMs (medidas de experiencia reportadas por los pacientes) existentes, y examinar hasta qué punto estas medidas han sido validadas en este grupo de pacientes. La conclusión es que los PROMs y PREMs existentes no están bien diseñadas para lo que sabemos sobre las necesidades de las personas mayores con fragilidad severa. Por lo que la investigación futura debe centrarse en primer lugar en adaptar y validar las medidas existentes, y en segundo lugar en desarrollar una mejor comprensión de cómo utilizarlas para mejorar la atención centrada en la persona.

La segunda tiene como objetivo identificar las prioridades de investigación o las necesidades no cubiertas de las personas mayores frágiles que viven en la comunidad. Se excluyeron estudios que describían prioridades relacionadas con condiciones de salud específicas. Los diseños de los estudios fueron heterogéneos, incluyendo ejercicios de establecimiento de prioridades, encuestas, entrevistas, grupos de discusión y revisiones bibliográficas. Las prioridades identificadas y las necesidades insatisfechas se organizaron en temas: prevención y gestión, mejora de la prestación de servicios sanitarios y asistenciales, mejora de la vida diaria, satisfacción de las necesidades de los cuidadores y planificación anticipada. Comparto con los autores, que los resultados de esta revisión constituyen un valioso recurso para los investigadores y el personal sanitario y asistencial que deseen centrar su investigación o prestación de servicios en áreas de importancia para las personas mayores.

Las visitas a urgencias de los pacientes mayores frágiles a menudo no abordan adecuadamente sus necesidades, y muchos, una vez dados de alta del servicio de urgencias, presentan problemas de salud no resueltos. La siguiente revisión sistemática seleccionada incluyó 16 estudios y 12 tipos de intervenciones iniciadas en los servicios de urgencias para abordar las necesidades de los adultos mayores. Se evaluaron múltiples intervenciones: las llamadas telefónicas de seguimiento, las derivaciones, la evaluación geriátrica, las intervenciones dirigidas por farmacéuticos, los servicios de fisioterapia, los planes de atención, la educación, la gestión de casos, las visitas domiciliarias, las intervenciones de transición de la atención, un servicio de urgencias geriátrico y la coordinación de la atención. La mayoría no consiguieron reducir el reingreso en urgencias, pues este hecho se relaciona con la fragi-

lidad y la trayectoria de las enfermedades de base. Los autores concluyen que los esfuerzos para mejorar las necesidades de los pacientes mayores deberían centrarse en intervenciones iniciadas fuera de los servicios de urgencia.

A continuación, se han seleccionado cuatro artículos en relación a la prevención de la fragilidad desde diferentes perspectivas: analizando intervenciones educacionales coste-efectivas, desde la perspectiva de la intervención farmacológica sobre los factores inflamatorios relacionados con la fragilidad, desde la visión del control de los factores de riesgo a lo largo de la vida y finalmente desde la importancia de considerar la vulnerabilidad social como factor acelerador de la fragilidad.

El primero es un ensayo controlado aleatorizado multicéntrico en 14 centros de salud ubicados en Cádiz y Málaga, que evalúa el impacto de un programa educativo sobre el estado de fragilidad, la función física, la actividad física, los patrones de sueño y el estado nutricional en adultos mayores frágiles residentes en la comunidad. A pesar de que las intervenciones estuvieron mínimamente supervisadas el programa mejoró eficazmente la función física, los patrones de sueño y el estado nutricional en comparación con la asistencia sanitaria habitual, en línea con otros estudios internacionales.

Aunque la inflamación está fuertemente asociada con la fragilidad, no está claro si los medicamentos que reducen la inflamación disminuyen la fragilidad y la evidencia de ensayos aleatorios es escasa. En este análisis post hoc del Canakinumab ANti-inflammatory Thrombosis Outcome Study (CANTOS), (un ensayo aleatorizado doble ciego controlado con placebo de 10.061 pacientes estables post infarto de miocardio aleatorizados a canakinumab subcutáneo una vez cada 3 meses) los autores buscaron probar si canakinumab, un anticuerpo monoclonal terapéutico que inhibe la IL-1β y reduce la proteína C reactiva (PCR), podía disminuir el riesgo de fragilidad. Aunque la mediana de edad es baja, se trata de un estudio prospectivo con cinco años de seguimiento y midiendo la fragilidad incidente. Concluyen entre los pacientes adultos estables con aterosclerosis, la asignación aleatoria a la inhibición de la interleucina-1b con canakinumab frente a placebo no redujo el riesgo de fragilidad incidente durante 5 años. Se necesitan más datos aleatorizados para entender el papel de los antiinflamatorios específicos en la prevención de la fragilidad en adultos mayores.

El objetivo de la siguiente revisión sistemática que incluyó estudios de cohortes con al menos 10 años de seguimiento, fue identificar los factores de riesgo en los primeros años de vida y la edad adulta asociados con fragilidad. El riesgo de fragilidad a largo plazo fue menor entre las personas que tenían un peso normal, eran físicamente activas, consumían frutas y verduras con regularidad y se abstenían de fumar tabaco, consumir alcohol en exceso y/o consumir azúcar o bebidas edulcoradas artificialmente. Por tanto, la fragilidad en adultos mayores podría prevenirse o posponerse con conductas cardiosaludables.

Por último, una revisión sistemática publicada recientemente en The Lancet Longevity, sobre la relación entre la vulnerabilidad social y la fragilidad.

Tanto la fragilidad (reserva fisiológica reducida) como la vulnerabilidad social (escasez de relaciones sociales adecuadas) son más frecuentes a medida que las personas envejecen y

se asocian a consecuencias adversas para la salud. En esta revisión sistemática, se recogen 130 estudios observacionales que evalúan la asociación bidireccional entre fragilidad y vulnerabilidad social. La fragilidad se asoció con un aumento de la soledad y el aislamiento social. A su vez, cada uno de los componentes de vulnerabilidad social también se asoció con una progresión más rápida de la fragilidad y menores probabilidades de mejora en comparación con la ausencia de ese componente de vulnerabilidad social. La combinación de fragilidad y vulnerabilidad social se asoció con una mayor mortalidad, deterioro de la función física y deterioro cognitivo. Por tanto, concluyen los autores, las medidas clínicas y de salud pública deberían tener en cuenta tanto la fragilidad como la vulnerabilidad social.

RESÚMENES

1 Safety of Switching From a Vitamin K Antagonist to a Non-Vitamin K Antagonist Oral Anticoagulant in Frail Older Patients With Atrial Fibrillation: Results of the FRAIL-AF Randomized Controlled Trial.

Joosten LPT, van Doorn S, van de Ven PM, Köhlen BTG, Nierman MC, Koek HL, Hemels MEW, Huisman MV, Kruip M, Faber LM, Wiersma NM, Buding WF, Fijnheer R, Adriaansen HJ, Roes KC, Hoes AW, Rutten FH, Geersing GJ.

Circulation. 2024 Jan 23;149(4):279-289.

doi: 10.1161/CIRCULATIONAHA.123.066485. PMID: 37634130.

RESUMEN

There is ambiguity whether frail patients with atrial fibrillation managed with vitamin K antagonists (VKAs) should be switched to a non-vitamin K oral anticoagulant (NOAC).

METHODS: We conducted a pragmatic, multicenter, open-label, randomized controlled superiority trial. Older patients with atrial fibrillation living with frailty (≥75 years of age plus a Groningen Frailty Indicator score ≥3) were randomly assigned to switch from international normalized ratio-guided VKA treatment to an NOAC or to continued VKA treatment. Patients with a glomerular filtration rate <30 mL·min-1·1.73 m-2 or with valvular atrial fibrillation were excluded. Follow-up was 12 months. The cause-specific hazard ratio was calculated for occurrence of the primary outcome that was a major or clinically relevant nonmajor bleeding complication, whichever came first, accounting for death as a competing risk. Analyses followed the intention-to-treat principle. Secondary outcomes included thromboembolic events.

RESULTS: Between January 2018 and June 2022, a total of 2621 patients were screened for eligibility and 1330 patients were randomly assigned (mean age 83 years, median Groningen Frailty Indicator score 4). After randomization, 6 patients in the switch-to-NOAC arm and 1 patient in the continue-with-VKA arm were excluded due to the presence of exclusion criteria, leaving 662 patients switched from a VKA to an NOAC and 661 patients continued VKAs in the intention-to-treat population. After 163 primary outcome events (101 in the switch arm, 62 in the continue arm), the trial was stopped for futility according to a prespecified futility analysis. The hazard ratio for our primary outcome was 1.69 (95% CI, 1.23-2.32). The hazard ratio for thromboembolic events was 1.26 (95% CI, 0.60-2.61).

CONCLUSIONS: Switching international normalized ratio-guided VKA treatment to an NOAC in frail older patients with atrial fibrillation was associated with more bleeding complications compared with continuing VKA treatment, without an associated reduction in thromboembolic complications.

2 Sodium-glucose cotransporter-2 inhibitors (SGLT2) in frail or older people with type 2 diabetes and heart failure: a systematic review and meta-analysis.

Aldafas R, Crabtree T, Alkharaiji M, Vinogradova Y, Idris I.

Age Ageing. 2024 Jan 2;53(1):afad254.
doi: 10.1093/ageing/afad254. PMID: 38287703; PMCID: PMC10825241.

RESUMEN

OBJECTIVE: Sodium-glucose cotransporter-2 inhibitors (SGLT2Is) reduce cardio-metabolic and renal outcomes in patients with type 2 diabetes (T2D) but their efficacy and safety in older or frail individuals remains unclear.

METHODS: We searched PubMed, Scopus, Web of Science, Cochrane CENTRA and Google Scholar and selected randomised controlled trials and observational studies comparing SGLT2Is versus placebo/other glucose-lowering agent for people with frailty or older individuals (>65 years) with T2D and heart failure (HF). Extracted data on the change in HbA1c % and safety outcomes were pooled in a random-effects meta-analysis model.

RESULTS: We included data from 20 studies (22 reports; N = 77,083 patients). SGLT2Is did not significantly reduce HbA1c level (mean difference -0.13, 95%CI: -0.41 to 0.14). SGLT2Is were associated with a significant reduction in the risk of all-cause mortality (risk ratio (RR) 0.81, 95%CI: -0.69 to 0.95), cardiac death (RR 0.80, 95%CI: -0.94 to 0.69) and hospitalisation for heart failure (HHF) (RR 0.69, 95%CI: 0.59-0.81). However, SGLT2Is did not demonstrate significant effect in reducing in the risk of macrovascular events (acute coronary syndrome or cerebral vascular occlusion), renal progression/composite renal endpoint, acute kidney injury, worsening HF, atrial fibrillation or diabetic ketoacidosis.

CONCLUSIONS: In older or frail patients with T2D and HF, SGLT2Is are consistently linked with a decrease in total mortality and the overall burden of cardiovascular (CV) events, including HHF events and cardiac death, but not protective for macrovascular death or renal events. Adverse events were more difficult to quantify but the risk of diabetic ketoacidosis or acute kidney injury was not significantly increas

3 Guideline concordant prescribing following myocardial infarction in people who are frail: A systematic review.

Doody H, Livori A, Ayre J, Ademi Z, Bell JS, Morton JI.

Arch Gerontol Geriatr. 2023 Nov;114:105106.
doi: 10.1016/j.archger.2023.105106. Epub 2023 Jun 18. PMID: 37356114.

RESUMEN

AIMS: The risk-to-benefit ratio of cardioprotective medications in frail older adults is uncertain. The objective was to systematically review prescribing of guideline-recommended cardioprotective medications following myocardial infarction (MI) in people who are frail.Data sources: Ovid Medline, PubMed and Cochrane were searched from inception to October 2022 for studies that reported prescribing of one or more cardioprotective medication classes post-MI or acute coronary syndromes in people with frailty.

STUDY SELECTION: We included observational studies that reported prescribing of cardioprotective medications post-MI stratified by frailty status.

RESULTS: Overall, 16 cohort studies published from 2013 to 2022 that used seven different frailty scales were included. Prescribing of all cardioprotective medication classes following MI was lower in frail compared to non-frail people, with absolute rates of prescribing varying substantially across studies. Median prescribing in frail and non-frail people, respectively, was 88.9% (IQR 81.5-96.2) and 93.1% (IQR 92.0-98.9) for aspirin; 68.1% (IQR 61.9-91.2) and 86.7% (IQR 79.5-92.8) for P2Y12-inhibitors; 83.1% (IQR 76.9-91.3) and 94.0% (IQR 87.1-95.9) for lipid-lowering therapy; 67.9% (IQR 60.6-74.0) and 74.7% (IQR 71.3-84.5) for angiotensin-converting enzyme inhibitor/angiotensin II receptor blockers; and 74.1% (IQR 69.2-79) and 77.6% (IQR 71.8-85.9) for beta-blockers.

CONCLUSION: People who were frail were less likely to be prescribed guideline recommended medication classes post-MI than those who were non-frail. Further research is needed into treatment benefits and risks in frail people to avoid unnecessarily withholding treatment in this high-risk population, while also minimising potential for medication related harm

4 Understanding the extent to which PROMs and PREMs used with older people with severe frailty capture their multidimensional needs: A scoping review.

Howard FD, Green R, Harris J, Ross J, Nicholson C.

Palliat Med. 2024 Feb;38(2):184-199.
doi: 10.1177/02692163231223089. PMID: 38268061; PMCID: PMC10865766.

RESUMEN

BACKGROUND: Older people with severe frailty are nearing the end of life but their needs are often unknown and unmet. Systematic ways to capture and measure the needs of this group are required. Patient reported Outcome Measures (PROMs) & Patient reported Experience Measures (PREMs) are possible tools to assist this.

AIM: To establish whether, and in what ways, the needs of older people living with severe frailty are represented within existing PROMs and PREMs and to examine the extent to which the

measures have been validated with this patient group.
DESIGN: The scoping review follows the method of Arksey and O'Malley.
RESULTS: Seventeen papers from 9 countries meeting the inclusion criteria and 18 multi-dimensional measures were identified: 17 PROMs, and 1 PROM with PREM elements. Seven out of the 18 measures had evidence of being tested for validity with those with frailty. No measure was developed specifically for a frail population. Using the adapted framework of palliative need, five measures covered all five domains of palliative need (IPOS, ICECAP-SCM, PDI, WHOQOL-BREF, WHOQOL-OLD). The coverage of items within the domains varied between the measures.
CONCLUSION: Existing PROMs and PREMs are not well designed for what we know about the needs of older people with severe frailty. Future research should firstly focus on adapting and validating the existing measures to ensure they are fit for purpose, and secondly on developing a better understanding of how measures are used to deliver/better person-centred care..

5 What are the priorities for research of older people living in their own home, including those living with frailty? A systematic review and content analysis of studies reporting older people's priorities and unmet needs.

Graham L, Brundle C, Harrison N, Andre D, Clegg A, Forster A, Spilsbury K.
Age Ageing. 2024 Jan 2;53(1):afad232.
doi: 10.1093/ageing/afad232. PMID: 38243402; PMCID: PMC10798941.

RESUMEN
BACKGROUND: There is limited evidence regarding the needs of older people, including those living with frailty, to inform research priority setting.
OBJECTIVES: This systematic review aimed to identify the range of research priorities of community-dwelling older people living in their own home, including those living with frailty.
METHODS: Included studies were from economically developed countries and designed to identify the priorities for research or unmet needs of community-dwelling older people. Studies were excluded if they described priorities relating to specific health conditions. Medline, Embase, PsycInfo and CINAHL were searched (January 2010-June 2022), alongside grey literature. Study quality was assessed, but studies were not excluded on the basis of quality. A bespoke data extraction form was used and content analysis undertaken to synthesise findings.
RESULTS: Seventy-five reports were included. Seven explicitly aimed to identify the priorities or unmet needs of frail older people; 68 did not specify frailty as a characteristic. Study designs varied, including priority setting exercises, surveys, interviews, focus groups and literature reviews. Identified priorities and unmet needs were organised into themes: prevention and management, improving health and care service provision, improving daily life, meeting carers' needs and planning ahead.
DISCUSSION: Many priority areas were raised by older people, carers and health/care professionals, but few were identified explicitly by/for frail older people. An overarching need was identified for tailored, collaborative provision of care and support.
CONCLUSION: Review findings provide a valuable resource for researchers and health/care staff wishing to focus their research or service provision on areas of importance for older people.

6 Strategies for improving ED-related outcomes of older adults who seek care in emergency departments: a systematic review.

Memedovich A, Asante B, Khan M, Eze N, Holroyd BR, Lang E, Kashuba S, Clement F

Int J Emerg Med. 2024 Feb 1;17(1):16.
doi: 10.1186/s12245-024-00584-7. PMID: 38302890; PMCID: PMC10835906.

BACKGROUND: Despite constituting 14% of the general population, older adults make up almost a quarter of all emergency department (ED) visits. These visits often do not adequately address patient needs, with nearly 80% of older patients discharged from the ED carrying at least one unattended health concern. Many interventions have been implemented and tested in the ED to care for older adults, which have not been recently synthesized.

METHODS: A systematic review was conducted to identify interventions initiated in the ED to address the needs of older adults. Embase, MEDLINE, CINAHL, Cochrane CENTRAL, the Cochrane Database of Systematic Reviews, and grey literature were searched from January 2013 to January 18, 2023. Comparative studies assessing interventions for older adults in the ED were included. The quality of controlled trials was assessed with the Cochrane risk-of-bias tool for randomized trials, and the quality of observational studies was assessed with the risk of bias in non-randomized studies of interventions tool. Due to heterogeneity, meta-analysis was not possible.

RESULTS: Sixteen studies were included, assessing 12 different types of interventions. Overall study quality was low to moderate: 10 studies had a high risk of bias, 5 had a moderate risk of bias, and only 1 had a low risk of bias. Follow-up telephone calls, referrals, geriatric assessment, pharmacist-led interventions, physical therapy services, care plans, education, case management, home visits, care transition interventions, a geriatric ED, and care coordination were assessed, many of which were combined to create multi-faceted interventions. Care coordination with additional support and early assessment and intervention were the only two interventions that consistently reported improved outcomes. Most studies did not report significant improvements in ED revisits, hospitalization, time spent in the ED, costs, or outpatient utilization. Two studies reported on patient perspectives.

CONCLUSION: Few interventions demonstrate promise in reducing ED revisits for older adults, and this review identified significant gaps in understanding other outcomes, patient perspectives, and the effectiveness in addressing underlying health needs. This could suggest, therefore, that most revisits in this population are unavoidable manifestations of frailty and disease trajectory. Efforts to improve older patients' needs should focus on interventions initiated outside the ED.

7 Effects of an educational intervention on frailty status, physical function, physical activity, sleep patterns, and nutritional status of older adults with frailty or pre-frailty: the FRAGSALUD study.

Casals C, Ávila-Cabeza-de-Vaca L, González-Mariscal A, Marín-Galindo A, Costilla M, Ponce-Gonzalez JG, Vázquez-Sánchez MÁ, Corral-Pérez J.

Front Public Health. 2023 Nov 30;11:1267666.
doi: 10.3389/fpubh.2023.1267666. PMID: 38098822; PMCID: PMC10720710.

RESUMEN

INTRODUCTION: The prevalence of frailty is increasing worldwide, emphasizing the importance of prioritizing healthy ageing. To address this, cost-effective and minimally supervised interventions are being sought. This study aimed to assess the impact of an educational program on frailty status, physical function, physical activity, sleep patterns, and nutritional status in community-dwelling older adults with at least 1 Fried's frailty criteria.

METHODS: A 6-month multicentre randomized controlled trial was conducted from March 2022 to February 2023 in 14 health centres located in Cadiz and Malaga, Spain. The educational intervention consisted of 4 group sessions and 6 follow-up phone calls spread over 6 months. The program focused on educating participants about frailty and its impact on health, providing guidelines for physical activity, healthy dietary habits, cognitive training, psychological well-being and social activities. A total of 163 participants, divided into control (n = 80) and educational groups (n = 83) were assessed before and after the intervention.

RESULTS: The results showed a significant group-time interaction in the physical function evaluated with a large effect on Short Physical Performance Battery score (η2p = 0.179, -0.1 [-1.2-1.0] points for control group vs. 1.0 [0.0-3.0] points for educational group, p < 0.001), and an effect on the 4-meter gait test ((η2p = 0.122, 0.5 [0.1-0.0] s for control group vs. -0.4 [-0.5- -0.3] s for educational group, p < 0.001), and the 5-repetition sit-to-stand test (η2p = 0.136, 1.0 [0.0-1.2] s for control group vs. -4.3 [-7.0- -2.3] for educational group, p < 0.001). Additionally, the use of accelerometers to assess physical activity, inactivity, and sleep patterns revealed a significant small effect in the number of awakenings at night ((η2p = 0.040, 1.1 [-0.5-3.4] awakenings for control group vs. 0.0 [-2.2-0.0] awakenings for educational group, p = 0.009). The findings also highlighted a significant medium effect regarding malnutrition risk, which was assessed using the Mini-Nutritional Assessment score (η2p = 0.088, -0.7 [-2.3-1.5] points for control group vs. 1.5 [-0.5-3.0] points for educational group, p < 0.001).

DISCUSSION: Thus, the 6-month educational program effectively improved physical function, sleep patterns, and nutritional status compared to usual healthcare attendance in community-dwelling older adults with frailty or pre-frailty. These findings underscore the potential of minimally supervised interventions in promoting a healthy lifestyle in this vulnerable population.

8 Understanding the Causes of Frailty Using a Life-Course Perspective: A Systematic Review.

Barrera A, Rezende LFM, Sabag A, Keating CJ, Rey-Lopez JP.

Healthcare (Basel). 2023 Dec 21;12(1):22.
doi: 10.3390/healthcare12010022. PMID: 38200928; PMCID: PMC10778671.

RESUMEN

BACKGROUND: Few studies have examined risk factors of frailty during early life and mid-adulthood, which may be critical to prevent frailty and/or postpone it. The aim was to identify early life and adulthood risk factors associated with frailty.

METHODS: A systematic review of cohort studies (of at least 10 years of follow-up), using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA). A risk of confounding score was created by the authors for risk of bias assessment. Three databases were searched from inception until 1 January 2023 (Web of Science, Embase, PubMed). Inclusion criteria were any cohort study that evaluated associations between any risk factor and frailty.

RESULTS: Overall, a total of 5765 articles were identified, with 33 meeting the inclusion criteria. Of the included studies, only 16 were categorized as having a low risk of confounding due to pre-existing diseases. The long-term risk of frailty was lower among individuals who were normal weight, physically active, consumed fruits and vegetables regularly, and refrained from tobacco smoking, excessive alcohol intake, and regular consumption of sugar or artificially sweetened drinks.

CONCLUSIONS: Frailty in older adults might be prevented or postponed with behaviors related to ideal cardiovascular health.

9 Effect of canakinumab on frailty: A post hoc analysis of the CANTOS trial.

Orkaby AR, Thomson A, MacFadyen J, Besdine R, Forman DE, Travison TG, Ridker PM.

Aging Cell. 2024 Jan;23(1):e14029.
doi: 10.1111/acel.14029. Epub 2023 Nov 5. PMID: 37927208; PMCID: PMC10776110.

RESUMEN

Although inflammation is strongly associated with frailty, whether medications that lower inflammation decrease frailty is unclear and randomized trial evidence is scant. We sought to test whether canakinumab, a therapeutic monoclonal antibody that inhibits IL-1β and reduces C-reactive protein (CRP), can lower frailty risk. This was a post hoc analysis of the Canakinumab ANti-inflammatory Thrombosis Outcome Study (CANTOS), a randomized double-blind placebo-controlled trial of 10,061 stable postmyocardial infarction patients randomized to subcutaneous canakinumab once every 3 months. Incident frailty was measured using a 34-item cumulative-deficit Frailty Index (FI). Time-to-event analysis using intent to treat. A total of 9942 CANTOS participants had data to calculate a baseline FI. Median age was 61 (IQR 54-68); 74% were male, 12% Asian, 3% Black, 80% White, and 16% Hispanic/Latino. At baseline, mean FI score was

0.12 and 13% were frail using a cutoff of 0.2. Over 5 years, 1080 participants (12.5%) became frail and mean FI scores increased to 0.14. There was no effect on frailty incidence according to randomization to any canakinumab dose versus placebo over time, HR 1.03 (0.91-1.17), p = 0.63. Results were similar using phenotypic frailty. Additionally, the primary findings of CANTOS in terms of canakinumab-associated cardiovascular event reduction were unchanged in analyses stratified by baseline frailty. In conclusion, among stable adult patients with atherosclerosis, random allocation to interleukin-1b inhibition with canakinumab versus placebo did not lower risk of incident frailty over 5 years. More randomized data are needed to understand the role of targeted anti-inflammatory medications for frailty prevention in older adults.

10 The relationship between frailty and social vulnerability: a systematic review.

Hanlon P, Wightman H, Politis M, Kirkpatrick S, Jones C, Andrew MK, Vetrano DL, Dent E, Hoogendijk EO.

Lancet Healthy Longev. 2024 Mar;5(3):e214-e226.
doi: 10.1016/S2666-7568(23)00263-5. PMID: 38432249.

RESUMEN

Both frailty (reduced physiological reserve) and social vulnerability (scarcity of adequate social connections, support, or interaction) become more common as people age and are associated with adverse consequences. Analyses of the relationships between these constructs can be limited by the wide range of measures used to assess them. In this systematic review, we synthesised 130 observational studies assessing the association between frailty and social vulnerability, the bidirectional longitudinal relationships between constructs, and their joint associations with adverse health outcomes. Frailty, across assessment type, was associated with increased loneliness and social isolation, perceived inadequacy of social support, and reduced social participation. Each of these social vulnerability components was also associated with more rapid progression of frailty and lower odds of improvement compared with the absence of that social vulnerability component (eg, more rapid frailty progression in people with social isolation vs those who were not socially isolated). Combinations of frailty and social vulnerability were associated with increased mortality, decline in physical function, and cognitive impairment. Clinical and public health measures targeting frailty or social vulnerability should, therefore, account for both frailty and social vulnerability.

6| NUTRITICIÓN Y EJERCICIO FÍSICO

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RESUMEN

Para la presente edición de “Avances” hemos seleccionado 10 artículos sobre el efecto de la nutrición y el ejercicio físico en la fragilidad y la sarcopenia, procurando evitar entrar en conflicto con otros compañeros que tratan temas “similares” como suplementos nutricionales o intervención nutricional. Este año, hemos encontrado un mayor número de revisiones sistemáticas con meta-análisis que ensayos clínicos aleatorizados. Traemos algunos papeles muy interesantes sobre programas multimodales y sobre barreras y facilitadores para implantar estos programas. Asimismo, van apareciendo cada vez más artículos sobre biomarcadores y metabolómica.

En relación con la sarcopenia, presentamos un ensayo clínico aleatorizado (ARTÍCULO 1) realizado por rehabilitadores y geriatras en un hospital terciario de Barcelona, que pretendía demostrar la eficacia de la suplementación con 3 gr/d de β-hydroxy-β- methylbutyrato (HMB) a adultos mayores con sarcopenia que están siguiendo un programa de ejercicio de fortalecimiento muscular de 12 semanas de duración (3 sesiones a la semana), tras el alta de una unidad de rehabilitación post-aguda. El grupo de intervención con HMB (N=17) en comparación con el grupo placebo (N = 15), mejoró la fuerza muscular (fuerza de prensión) y en pruebas de rendimiento físico (SPPB).

Algunos estudios han demostrado que la sarcopenia se suele acompañar de un estado proinflamatorio con elevación de citokinas como TNFα o IL-6. Un grupo de investigadores de Taiwan han publicado un papel con el objetivo de confirmar esta afirmación y lo que es más relevante, investigar los cambios que se producen en los niveles de estas citokinas tras un programa de ejercicio y suplementos nutricionales (ARTICULO 2). Para ello, hacen un análisis post-hoc de un ensayo clínico aleatorizado comparando 57 pacientes con sarcopenia con otros 57 sin ella. El grupo de sarcopenia tenía niveles iniciales significativamente más altos de TNFα, IL-1β, e IL-6 que tras el programa de ejercicio y nutrición descendían significativamente.

Está sobradamente demostrado el beneficio de los programas de ejercicio multimodal, especialmente los ejercicios de fortalecimiento muscular, en la prevención y el tratamiento de la sarcopenia. Últimamente van apareciendo trabajos que demuestran el beneficio del entrenamiento de intervalos de alta intensidad (HIIT, High intensity interval traininig) en mayores. Esta modalidad se caracteriza por períodos cortos de ejercicio (desde 6 s a 4 min), que se repiten varias veces, discontinuos, a una intensidad > 80-85% de la frecuencia cardíaca

máxima (FCM) y máximo consumo de oxígeno (VO2 max), y periodos de recuperación de 1 a 5 min, a menor intensidad (60% FCM). Un grupo de internacional de investigadores (españoles, turcos, canadienses e italianos) han publicado una revisión sistemática sobre esta modalidad de ejercicio en la prevención y tratamiento de la sarcopenia en adultos mayores (ARTÍCULO 3). Para ello, analizan los resultados de 5 estudios realizados con participantes de 60 a 75 años, demostrándose mejoría significativa en composición corporal, capacidad cardiorespiratoria y fuerza y masa muscular.

Los suplementos proteicos han demostrado su eficacia en aumentar el efecto beneficioso del ejercicio en la prevención y el tratamiento de la sarcopenia. Sin embargo, existe debate sobre cuál es el tipo de suplementación más eficaz. Para intentar arrojar un poco de luz sobre este tema, un grupo de investigadores taiwaneses publican un meta-análisis en red de 78 ensayos aleatorizados (5272 participantes) que comparan la eficacia de suplementos proteicos de diferente origen (suero, leche, caseína, carne, soja, cacahuete), en la masa y fuerza muscular y en los índices de sarcopenia en mayores que viven en la comunidad, hospitalizados o institucionalizados, que realizan ejercicios de fortalecimiento muscular (ARTÍCULO 4). Entre todas las fuentes, los suplementos que utilizan proteína de suero fueron los más efectivos en aumentar el efecto del ejercicio en la masa muscular, fuerza de prensión y velocidad de marcha.

En el desarrollo de la sarcopenia intervienen distintos factores y procesos que afectan el mantenimiento y la renovación de la masa y fuerza muscular durante el envejecimiento. Entre estos cada vez toma mayor protagonismo la “resistencia anabólica” que es la alteración de la respuesta del músculo envejecido al estímulo anabólico para formar y reparar el músculo. Este estímulo anabólico está mediado por hormonas (insulina, GH, andrógenos, IGF-1, epinefrina), substratos (aminoácidos, glucosa, grasas) y metabolitos (β-hydroxy-β- methylbutyrato), actividad física e inmunomoduladores. Todos estos factores pueden estar afectados de distinta manera e intensidad a lo largo del envejecimiento y a su vez existen estrategias para contrarrestar esta afectación. Un grupo de investigadores italianos han publicado una exhaustiva revisión sobre este tema (ARTÍCULO 5).

La efectividad de las intervenciones con ejercicio físico y nutrición en la prevención y tratamiento de la fragilidad, están sobradamente demostradas. Sin embargo, existen intervenciones más “amplias” que incluyen aspectos físicos, cognitivos y psicosociales, que pueden incrementar el beneficio conseguido con aquellas, y que pueden ser implementadas sin una excesiva supervisión de profesionales. En este sentido, un grupo de investigadores gaditanos publican los resultados de un programa de 6 meses de duración (ARTÍCULO 6) de educación sobre fragilidad, estado físico, actividad, patrones de sueño y estado nutricional realizado en ancianos frágiles y prefrágiles que viven en la comunidad, consistente en 4 sesiones presenciales y 6 llamadas telefónicas. Al terminar el programa, los participantes habían mejorado su función física, el patrón del sueño y el estado nutricional en comparación con el grupo control.

En los últimos tiempos están apareciendo papeles que analizan no tanto el diseño de los programas multimodales para prevención y/o tratamiento de sarcopenia o fragilidad, si no los factores que facilitan o dificultan su implantación para tomar medidas que aumenten la

adherencia. Un grupo de enfermeras australianas publican un estudio que explora las barreras y facilitadores de un programa de ejercicio y nutrición en ancianos frágiles y pre-frágiles en la transición entre el hospital y el domicilio (ARTICULO 7). Describen para la adherencia al componente de nutrición 11 barreras y 18 facilitadores y para el de ejercicio 14 barreras y 24 facilitadores. Las principales barreras fueron las intenciones, influencias sociales, el contexto o recurso ambiental y las emociones. Los facilitadores comunes para ambos componentes incluyeron el conocimiento, identidad social, contexto o recurso ambiental, influencias sociales y emociones.

En esta misma línea, un grupo de investigadores escoceses publican una revisión sistemática sobre las barreras y motivadores para realizar actividad física en adultos mayores de 70 años (ARTÍCULO 8). Analizan 37 papeles con un total de 26961 participantes de 78 años de edad media (70-101). Las barreras más citadas fueron: preocupación por la salud física, falta de motivación, miedo a las caídas y barreras ambientales. Los motivadores clave fueron: apoyo de familiares/amigos, interacción social, beneficios personales e instalaciones externas.

Siguiendo en esta línea, un grupo de investigadores chinos, publican una metasíntesis de estudios cualitativos sobre los facilitadores y barreras para la implementación de intervenciones nutricionales en ancianos con fragilidad y sarcopenia que viven en la comunidad (ARTICULO 9). Incluyen diez estudios, clasifican los factores encontrados según rasgos individuales, relacionados con el entorno y con la intervención y recomiendan ciertas medidas para mejorar la adherencia.

Y para finalizar traemos un artículo escrito por investigadores de la Clínica Mayo que intenta profundizar en la fisiopatología de la resistencia anabólica que se produce con la edad, analizando la respuesta metabolómica a una dosis única de ejercicio de fuerza muscular (ARTÍCULO 10). Mediante sofisticadas técnicas de análisis describen algunas vías metabólicas alteradas en personas mayores sanas.

RESÚMENES

1 Supplementation with β-hydroxy-β-methylbutyrate after resistance training in post-acute care patients with sarcopenia: A randomized, double-blind placebo-controlled trial

Delky Meza-Valderrama, Dolores Sánchez-Rodríguez, Monique Messaggi-Sartor, Elena Muñoz-Redondo, Andrea Morgado-Pérez, Marta Tejero-Sánchez, Elisabet De Jaime-Gil, Nuria Leiva-Bañuelos, Ester Marco.

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OBJECTIVES: This study aimed to evaluate the efficacy of adding β-hydroxy-β- methylbutyrate (HMB) supplementation to a 12-week exercise-based rehabilitation program in older adults with sarcopenia after discharge from a post-acute geriatric rehabilitation unit.

STUDY DESIGN: A randomized, double-blind, placebo-controlled trial with two parallel groups. The intervention group received 3 g/day of Ca-HMB prand participated in a 12- week resistance training program (3 sessions/week). The control group received a placebo and followed the same training program.

MAIN OUTCOME MEASURES: The primary outcomes were the improvements of handgrip strength and physical performance assessed through the Short Physical Performance Battery (SPPB) and 4-meter gait speed; and handgrip strength. All variables were assessed at baseline, post-intervention, and 1-year follow-up.

RESULTS: After completing the 12-week exercise program, the intervention group showed significant improvements in SPPB-Balance (1.3, 95 %CI 0.3 to 2.4) and total SPPB score (2.2, 95 %CI 0.4 to 4.0). Intra-group analysis demonstrated gains in the SPPB-Chair Stand (0.7 points, 95 %CI 0.0 to 1.4) and total SPPB score (2.1 points, 95 %CI 0.3 to 3.9) in the intervention group. Improvements in handgrip strength were observed in women (3.7 kg, 95 %CI: 0.2 to 7.3) at the end of the intervention, and persisted at the 1-year follow-up.

CONCLUSIONS: Our findings suggest that the supplementation of 3 g/day of Ca-HMB with resistance exercise may significantly enhance muscle strength and physical performance among older women with sarcopenia after recent hospitalization. Given this study's limitations, the intervention's effectiveness cannot be drawn, and further studies are needed.

2 Enhanced serum levels of tumor necrosis factor-α, interleukin-1β, and -6 in sarcopenia: alleviation through exercise and nutrition intervention

Ke-Vin Chang, Wei-Ting Wu, Yu-Hsin Chen, Lan-Rong Chen, Wei-Hsiang Hsu, Yun-Lian Lin, Der-Sheng Han

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doi: 10.18632/aging.205254. Epub 2023 Nov 29

BACKGROUND: Limited research has been conducted on the post-intervention inflammatory status in sarcopenic patients, despite previous studies revealing elevated pro-inflammatory

markers. This study aimed to investigate the potential elevation of specific pro-inflammatory cytokines in sarcopenic patients and evaluate the effects of exercise and nutritional support interventions on these cytokine levels.

METHODS: In this post-hoc analysis of a randomized controlled trial (RCT), 57 individuals with sarcopenia from the RCT and 57 non-sarcopenic participants from the same geriatric community cohort that did not participate in the RCT were enrolled. Grip strength and body composition measurements were recorded. Tumor necrotizing factor (TNF)-α, interleukin (IL)-1β, IL-6, and IL-15 levels were assessed at baseline for both groups and after a 12-week intervention consisting of resistive exercise and supplementation with branched-chain amino acids, calcium, and vitamin D3 in the patients with sarcopenia.

Results: The sarcopenic group demonstrated significantly lower body weight, body mass index, grip strength, and skeletal muscle mass index. Moreover, sarcopenic patients exhibited higher levels of TNF-α ($p=0.007$), IL-1β ($p<0.001$), and IL-6 ($p<0.001$), while no significant difference was observed in IL-15 ($p=0.345$) between participants with and those without sarcopenia. Following the intervention, the sarcopenic group experienced significant improvements in grip strength and skeletal muscle mass index with a notable reduction in TNF-α ($p=0.003$), IL-1β ($p=0.012$) and IL-6 ($p=0.001$) levels.

Conclusions: Sarcopenic patients exhibit elevated levels of TNF-α, IL-1β, and IL-6, which declined after nutrition support and exercise interventions. However, further research is necessary to evaluate the long-term impact of these interventions on cytokine levels

3 Effects of High-Intensity Interval Training on Muscle Strength for the Prevention and Treatment of Sarcopenia in Older Adults: A Systematic Review of the Literature

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Sarcopenia is a significant health concern primarily affecting old adult individuals, characterized by age-related muscle loss, and decreased strength, power, and endurance. It has profound negative effects on overall health and quality of life, including reduced independence, mobility, and daily activity performance, osteoporosis, increased fall and fracture risks, metabolic issues, and chronic diseases like diabetes and cardiovascular conditions. Preventive strategies typically involve a combination of proper nutrition and regular physical activity. Among strength training exercises, high-intensity interval training (HIIT) stands out as the most effective approach for improving muscle function in older adults with sarcopenia. The current review identifies and summarizes the studies that have examined the effects of HIIT on muscle strength in older adults as an element of the prevention and treatment of sarcopenia. A systematic search using several computerized databases, namely, MEDLINE/PubMed, Scopus, SPORTDiscus, and Web of Science, was performed on 12 January 2023, according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A total of 224 studies were initially

retrieved. A total of five studies met the selection criteria. HIIT training shows improvements in body composition and functional and cardiorespiratory capacity, has benefits on muscle strength, increases muscle quality and architecture, and is associated with muscle hypertrophy in healthy older adults. Nonetheless, given the shortcomings affecting primary research in terms of the limited number of studies and the high risk of bias, further research is warranted.

4 Comparative Efficacy of Different Protein Supplements on Muscle Mass, Strength, and Physical Indices of Sarcopenia among Community-Dwelling, Hospitalized or Institutionalized Older Adults Undergoing Resistance Training: A Network Meta-Analysis of Randomized Controlled Trials.

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Aging-related sarcopenia exerts harmful impacts on muscle mass, strength, and physical mobility. Protein supplementation has been demonstrated to augment efficacy of resistance training (RT) in elderly. This study compared the relative effects of different protein supplements on muscle mass, strength, and mobility outcomes in middle-aged and older individuals undergoing RT. A comprehensive search of online databases was performed to identify randomized controlled trials (RCTs) examining the efficacy of protein supplement plus RT in untrained community-dwelling adults, hospitalized, or institutionalized residents who suffered acute or chronic health conditions. Network meta-analysis (NMA) was performed using a frequentist method for all analyses. Treatment effects for main outcomes were expressed as standard mean difference (SMD) with 95% confidence interval (CI). We used the surface-under-the cumulative-ranking (SUCRA) scores to rank probabilities of effect estimation among all identified treatments. Meta-regression analyses were performed to identify any relevant moderator of the treatment efficacy and results were expressed as β with 95% credible interval (CrI). We finally included 78 RCTs (5272 participants) for analyses. Among the six protein sources identified in this NMA, namely whey, milk, casein, meat, soy, and peanut, whey supplement yielded the most effective treatments augmenting efficacy of RT on muscle mass (SMD = 1.29, 95% CI: 0.96, 1.62; SUCRA = 0.86), handgrip strength (SMD = 1.46, 95% CI: 0.92, 2.00; SUCRA = 0.85), and walking speed (SMD = 0.73, 95% CI: 0.39, 1.07; SUCRA = 0.84). Participant's health condition, sex, and supplementation dose were significant factors moderating the treatment efficacy on muscle mass (β = 0.74; 95% CrI: 0.22, 1.25), handgrip strength (β = -1.72; 95% CrI: -2.68, -0.77), and leg strength (β = 0.76; 95% CrI: 0.06, 1.47), respectively. Our findings suggest whey protein yields the optimal supplements to counter sarcopenia in older individuals undergoing RT.

5 Anabolic Resistance in the Pathogenesis of Sarcopenia in the Elderly: Role of Nutrition and Exercise in Young and Old People

Caterina Tezze, Marco Sandri, Paolo Tessari.
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The development of sarcopenia in the elderly is associated with many potential factors and/or processes that impair the renovation and maintenance of skeletal muscle mass and strength as ageing progresses. Among them, a defect by skeletal muscle to respond to anabolic stimuli is to be considered. Common anabolic stimuli/signals in skeletal muscle are hormones (insulin, growth hormones, IGF-1, androgens, and β-agonists such epinephrine), substrates (amino acids such as protein precursors on top, but also glucose and fat, as source of energy), metabolites (such as β-agonists and HMB), various biochemical/intracellular mediators), physical exercise, neurogenic and immune-modulating factors, etc. Each of them may exhibit a reduced effect upon skeletal muscle in ageing. In this article, we overview the role of anabolic signals on muscle metabolism, as well as currently available evidence of resistance, at the skeletal muscle level, to anabolic factors, from both in vitro and in vivo studies. Some indications on how to augment the effects of anabolic signals on skeletal muscle are provided.

6 Effects of an educational intervention on frailty status, physical function, physical activity, sleep patterns, and nutritional status of older adults with frailty or pre-frailty: the FRAGSALUD study

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INTRODUCTION: The prevalence of frailty is increasing worldwide, emphasizing the importance of prioritizing healthy ageing. To address this, cost-effective and minimally supervised interventions are being sought. This study aimed to assess the impact of an educational program on frailty status, physical function, physical activity, sleep patterns, and nutritional status in community-dwelling older adults with at least 1 Fried's frailty criteria.
METHODS: A 6-month multicentre randomized controlled trial was conducted from March 2022 to February 2023 in 14 health centres located in Cadiz and Malaga, Spain. The educational intervention consisted of 4 group sessions and 6 follow-up phone calls spread over 6 months. The program focused on educating participants about frailty and its impact on health, providing guidelines for physical activity, healthy dietary habits, cognitive training, psychological well-being and social activities. A total of 163 participants, divided into control (n = 80) and educational groups (n = 83) were assessed before and after the intervention.
RESULTS: The results showed a significant group-time interaction in the physical function evaluated with a large effect on Short Physical Performance Battery score (η2p = 0.179, -0.1

[-1.2-1.0] points for control group vs. 1.0 [0.0-3.0] points for educational group, p < 0.001), and an effect on the 4-meter gait test ((η2p = 0.122, 0.5 [0.1-0.0] s for control group vs. -0.4 [-0.5- -0.3] s for educational group, p < 0.001), and the 5-repetition sit-to-stand test (η2p = 0.136, 1.0 [0.0-1.2] s for control group vs. -4.3 [-7.0- -2.3] for educational group, p < 0.001). Additionally, the use of accelerometers to assess physical activity, inactivity, and sleep patterns revealed a significant small effect in the number of awakenings at night ((η2p = 0.040, 1.1 [-0.5-3.4] awakenings for control group vs. 0.0 [-2.2-0.0] awakenings for educational group, p = 0.009). The findings also highlighted a significant medium effect regarding malnutrition risk, which was assessed using the Mini-Nutritional Assessment score (η2p = 0.088, -0.7 [-2.3-1.5] points for control group vs. 1.5 [-0.5-3.0] points for educational group, p < 0.001).
DISCUSSION: Thus, the 6-month educational program effectively improved physical function, sleep patterns, and nutritional status compared to usual healthcare attendance in community-dwelling older adults with frailty or pre-frailty. These findings underscore the potential of minimally supervised interventions in promoting a healthy lifestyle in this vulnerable population.

7 Barriers and Enablers to a Hospital-to-Home, Combined Exercise and Nutrition, Self-Managed Program for Pre-Frail and Frail Hospitalised Older Adults

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INTRODUCTION: Self-managed exercise and nutrition interventions can alleviate pre-frailty and frailty but understanding of adherence to them is lacking. This study aimed to explore the experiences of, and barriers and enablers to, a hospital-to-home self-managed combined exercise and nutrition program for hospitalised older adults living with pre-frailty and frailty.
METHODS: A hybrid approach to data- and theory-driven descriptive thematic analysis identified experiences, barriers, and enablers to participation in a 3-month, self-managed, exercise-nutrition, hospital-to-home frailty-support program. Pre-frail and frail older adult patients ≥ 65 years admitted to the acute medical unit at a South Australian tertiary hospital were recruited. Individual semi-structured interviews were audio-recorded, transcribed verbatim, and analysed descriptively, using the Theoretical Domains Framework.
RESULTS: The nutrition component of the program found 11 common barriers and 18 common enablers. The exercise component included 14 barriers and 24 enablers. Intentions, Social influences, Environmental context/resource and Emotions served as primary barriers towards adherence to both components. Common enablers for both components included Knowledge, Social identity, Environmental context/resource, Social influences, and Emotions.
CONCLUSIONS: This research revealed important factors affecting adherence to a self-managed exercise-nutrition program in pre-frail and frail older adults within the environment, resources, and emotion domains that should be considered when designing other intervention programs in this population group.

8 Barriers and motivators to undertaking physical activity in adults over 70—a systematic review of the quantitative literature.

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Age Ageing 2024 Apr 1;53(4):afae080.
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BACKGROUND: Physical activity (PA) has multiple benefits for older adults (≥70 years old). Despite this many older adults do not undertake the World Health Organisation guideline recommended amount of PA. This systematic review examines barriers and motivators to PA in adults aged ≥70 years.

METHODS: We analysed the quantitative literature, including observational studies and baseline data from randomised controlled trials. Studies examining specific diseases (e.g. cognitive impairment), or care home residents were excluded. Database searches of ASSIA, CINAHL, Embase, Medline, PsycINFO and Web of Science were undertaken on 7 March 2023. Quality assessment was performed using the ROBANS tool. We synthesised the results using the socioecological model. The protocol was registered on PROSPERO (CRD42021160503).

RESULTS: We identified 37 papers, n = 26,961, age 70-101 years (median 78), 62% female. We undertook a narrative review; meta-analysis was not possible. Overall risk of bias was low. A total of 23 studies addressed barriers, seven motivators, seven both. The most cited barriers were: concern about physical health/fitness (14 studies), lack of motivation/interest (13 studies), fear of falls/history of falling (11 studies) and environmental barriers (10 studies). Key motivators were: support from family/friends (five studies), social interaction (five studies), personal benefits (five studies) and outside facilities (five studies). Results varied across gender, age, functional ability and geographical location.

DISCUSSION: To maximise PA in older adults, important modifiable factors identified in this review should be targeted: support from healthcare professionals; reducing fear of falls; and prioritising ease of access and safety of outdoor facilities. When considering future policy, a person-centred, age group appropriate approach will have the most impact

9 Facilitators and barriers to the implementation of dietary nutrition interventions for community-dwelling older adults with physical frailty and sarcopenia: A qualitative meta-synthesis

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OBJECTIVES: With the acceleration of an aging society, the prevalence of age-related chronic diseases such as physical frailty and sarcopenia is gradually increasing with numerous adverse effects. Dietary nutrition is an important modifiable risk factor for the management of physical frailty and sarcopenia, but there are many complex influences on its implementation in community

settings. This study aimed to summarize the facilitators and barriers to the implementation of dietary nutrition interventions for community-dwelling older adults with physical frailty and sarcopenia, and to provide a reference for the formulation of relevant health management programs.

METHODS: Searches were conducted in databases including PubMed, Web of Science, Medline (Ovid), Embase (Ovid), and Cochrane Library from inception to January 2023. Searches were completed for a combination of MeSH terms and free terms. The Critical Appraisal Skills Program (CASP) instrument was used to appraise quality. Coding and analysis of the extracted information were performed using the socio-ecological modeling framework. The study protocol for this review was registered on the PROSPERO (CRD42022381339).

RESULTS: A total of 10 studies were included. Of these, four were nutrition-only focused interventions, and six were dietary nutrition and exercise interventions. The facilitators and barriers were summarized based on the socio-ecological model that emerged at three levels: individual trait level, external environment level, and intervention-related level, containing ten subthemes.

CONCLUSION: Individual internal motivation and external support should be integrated with the implementation of diet- and nutrition-related interventions in community-living aged people with physical frailty and sarcopenia. Develop “tailored” interventions for participants and maximize available human and physical resources.

10 Metabolomic response to acute resistance exercise in healthy older adults by 1H-NMR

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BACKGROUND: The favorable health-promoting adaptations to exercise result from cumulative responses to individual bouts of physical activity. Older adults often exhibit anabolic resistance; a phenomenon whereby the anabolic responses to exercise and nutrition are attenuated in skeletal muscle. The mechanisms contributing to age-related anabolic resistance are emerging, but our understanding of how chronological age influences responsiveness to exercise is incomplete. The objective was to determine the effects of healthy aging on peripheral blood metabolomic response to a single bout of resistance exercise and whether any metabolites in circulation are predictive of anabolic response in skeletal muscle.

METHODS: Thirty young (20-35 years) and 49 older (65-85 years) men and women were studied in a cross-sectional manner. Participants completed a single bout of resistance exercise consisting of eight sets of 10 repetitions of unilateral knee extension at 70% of one-repetition maximum. Blood samples were collected before exercise, immediately post exercise, and 30-, 90-, and 180-minutes into recovery. Proton nuclear magnetic resonance spectroscopy was used to profile circulating metabolites at all timepoints. Serial muscle biopsies were collected for measuring muscle protein synthesis rates.

RESULTS: Our analysis revealed that one bout of resistance exercise elicits significant changes

in 26 of 33 measured plasma metabolites, reflecting alterations in several biological processes. Furthermore, 12 metabolites demonstrated significant interactions between exercise and age, including organic acids, amino acids, ketones, and keto-acids, which exhibited distinct responses to exercise in young and older adults. Pre-exercise histidine and sarcosine were negatively associated with muscle protein synthesis, as was the pre/post-exercise fold change in plasma histidine.

CONCLUSIONS: This study demonstrates that while many exercise-responsive metabolites change similarly in young and older adults, several demonstrate age-dependent changes even in the absence of evidence of sarcopenia or frailty.

7| SUPLEMENTOS NUTRICIONALES ORALES

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RESUMEN

Presentamos diez artículos que podrían sintetizar la actividad investigadora sobre suplementación nutricional oral en este desde finales de 2023 a mayo 2024.

El primer artículo realiza un análisis secundario del MEDPas. Es un estudio en el que valoraban la eficacia de administrar el suplemento nutricional en pequeñas tomas de 50 ml junto con la medicación frente a la forma convencional entre comidas o después de la cena. Revisa la influencia del estado nutricional previo a la suplementación nutricional oral y de la densidad del suplemento sobre su eficacia. No encuentra diferencias significativas en la ingesta de energía, proteínas, fuerza de agarre de la mano, apetito ni nauseas por lo que concluye que debemos seguir las preferencias del paciente en cuanto a la hora de administrarlo.

El segundo artículo es un análisis post-hoc de los datos del estudio NOURISH. Este estudio demostró una mejoría en el estado nutricional y supervivencia en pacientes con suplementación oral hiperproteica y con HMB tomada durante el ingreso y 90 dias tras alta. En este estudio investigan si además tuvo efectos beneficiosos sobre la calidad de vida medida al alta y a los días 30, 60 y 90 tras alta. Observan una mejoría en los dominios de salud mental, conocimiento, vitalidad, función social y salud general, pero no en componente físico, función física, dolor corporal y papel emocional. Los pacientes que más se benefician son los que ingresaron por infarto de miocardio, hombres, malnutrición moderada.

El tercer artículo consiste en un meta análisis sobre el papel de la suplementación nutricional oral sobre la pérdida de peso tras gastrectomía por cáncer gástrico. De los 144 estudios recogidos, selecciona 7 estudios. ES el primer estudio que demuestra un efecto significativo de la suplementación nutricional sobre la pérdida de peso en estos pacientes, siendo más efectivo enpacientes con menor ingesta calórica. Observa que los pacientes con menor puntuación TNM son mas susceptibles de mantener el peso en rangos de normalidad. Por otra parte, la duración de la suplementación se relaciona con ligera reducción de su eficacia.

El cuarto artículo es una revisión sistemática para valorar el efecto de la suplementación perioperatoria de cirugía por cáncer gastrointestinal. De los 5289 estudios iniciales, los autores seleccionan 14 publicaciones, que agrupan a 1349 pacientes. Los estudios con suplementación PREOPERATORIA muestran una evidencia de baja calidad sobre el efecto de la suplementación en el peso y la ingesta calórica y protéica frente a solo el consejo dietético. En los estudios POSTOPERATORIOS, también observan una evidencia de muy baja calidad en el cambio de peso y la ingesta protéica tanto en el periodo postoperatorio inmediato (3-7

días), como a largo plazo a las 4-10 semanas tras el alta hospitalaria. Los estudios POS-TALTA vuelven a encontrar una evidencia de muy baja calidad sobre su efecto positivo en el peso y la ingesta tanto calórica como protéica. Por último, los estudios PERI-OPERATORIOS muestran una evidencia muy baja de que la suplementación no tiene efecto sobre el peso.

El quinto artículo estudia el efecto de los factores dietéticos y el momento del día en que se toman los suplementos orales de hierro en mujeres con déficit de hierro. Es conocido el efecto del ácido fitico y el ascórbico en la absorción del hierro alimentario, pero no está bien estudiado en las altas dosis que se administran como suplementos. Administran 100 mg de hierro ferroso fumarato y analizan su absorción mediante isótopos en relación a dos dosis diferentes de ácido ascórbico (80 mg y 500 mg), café, desayuno con café, jugo de naranja (80 mg de ácido ascórbico). El estudio comienza con 122 mujeres elegibles pero termina incluyendo para el estudio final a solo 34 mujeres. Los autores observan 1) 80 mg de ácido ascórbico aumentó la absorción de hierro un 30% pero una dosis de 500 mg de ácido ascórbico no aumento la absorción. 2) El consumo de café redujo la absorción de hierro un 54%. 3) El desayuno con café disminuye la absorción de hierro un 66% aunque se tome el zumo de naranja (80 mg de ácido ascórbico). 4) El consumo a medio día es un 37% menor que si lo toman por la mañana. Así pues, los autores recomiendan tomar los suplementos de hierro por la mañana en ayunas y con bebida rica en ácido ascórbico (zumo de naranja).

El sexto artículo es una revisión intensa y extensa de la Sociedad Internacional de Deporte sobre su nutrición en mujeres atletas. El interés de la nutrición clínica por el músculo nos hace ver que deberíamos aprender de esta medicina “paralela” que no se estudia en las facultades de medicina, pero que hace años que ya usaba por ejemplo el HMB. A continuación presento sus conclusiones.

1. Las atletas tienen perfiles hormonales únicos e impredecibles, que influyen en su fisiología y necesidades nutricionales a lo largo de su vida. Para comprender cómo las perturbaciones en estas hormonas afectan al individuo, recomendamos que las atletas en edad reproductiva realicen un seguimiento de su estado hormonal (natural, impulsado por hormonas) en relación con el entrenamiento y la recuperación para determinar sus patrones y necesidades individuales, y que las atletas peri y posmenopáusicas deban realizar un seguimiento en relación con el entrenamiento y su recuperación para determinar los patrones únicos de los individuos.

2. La principal consideración nutricional para todos los atletas, y en particular para las atletas femeninas, debe ser lograr una ingesta de energía adecuada para satisfacer sus necesidades energéticas y lograr una disponibilidad de energía óptima; centrándose en el momento de las comidas en relación con el ejercicio para mejorar las adaptaciones al entrenamiento, el rendimiento y la salud del atleta.

3. Las diferencias sexuales y las influencias de las hormonas sexuales en el metabolismo de los carbohidratos y los lípidos son evidentes, por lo que recomendamos primero asegurarse de que las atletas satisfagan sus necesidades de carbohidratos en todas las fases del ciclo menstrual. En segundo lugar, adaptar la ingesta de carbohidratos al estado hormonal con énfasis en una mayor ingesta y disponibilidad de carbohidratos durante las semanas ac-

tivas de la píldora de las usuarias de anticonceptivos orales y durante la fase lútea del ciclo menstrual, donde hay un mayor efecto de la supresión de las hormonas sexuales sobre la producción de gluconogénesis durante el ejercicio.

4. Basado en la limitada investigación disponible, recomendamos que las atletas femeninas que toman los anticonceptivos premenopáusicos, eumenorreicos y orales deben consumir una fuente de proteína de alta calidad en una dosis de 0,32 a 0,38 g/kg de peso lo más cerca posible del inicio y/o después de completar el ejercicio para reducir pérdidas oxidativas de aminoácidos inducidas por el ejercicio e iniciar la remodelación y reparación de proteínas musculares. Para las mujeres eumenorreicas, la ingestión durante la fase lútea deben ingerir la cantidad cercana al extremo superior del rango normal debido a las acciones catabólicas de la progesterona y la mayor necesidad de aminoácidos.

5. Cerca del comienzo y/o después de completar el ejercicio, las atletas peri y posmenopáusicas deben tomar un bolo de suplementos o fuentes de proteínas intactas que contengan un alto contenido de aminoácidos esenciales (~10 g) para superar la resistencia anabólica.

6. La ingesta diaria de proteínas debe estar en el rango medios a superior de las pautas actuales de nutrición deportiva (1,4-2,2 g/kg de peso y día) para las mujeres en todas las etapas de la función menstrual (pre, peri, post- menopáusicas y usuarias de anticonceptivos) con dosis de proteínas distribuidas uniformemente cada 3-4 h a lo largo del día. Las atletas eumenorreicas en la fase lútea y las atletas peri/posmenopáusicas, independientemente del deporte, deben tomar el extremo superior del rango.

7. Las hormonas sexuales femeninas afectan la dinámica de fluidos y el manejo de electrolitos. Se produce una mayor predisposición a la hiponatremia en épocas de progesterona elevada y en mujeres menopáusicas, que excretan agua más lentamente. Además, las mujeres tienen menos líquido absoluto y relativo disponible para perder a través del sudor que los hombres, lo que hace que las consecuencias fisiológicas de la pérdida de líquido sean más graves, particularmente en la fase lútea.

8. Existe falta de evidencia específica por sexo sobre la suplementación con productos que mejoren el rendimiento, debido a la escasez de investigaciones específicas para las mujeres. La cafeína, el hierro y la creatina tienen la mayor evidencia de su uso en las mujeres. Tanto el hierro como la creatina son muy eficaces para las deportistas. Se recomienda la suplementación con creatina de 3 a 5 g por día para mejorar la cinética de las proteínas musculares, los factores de crecimiento, las células satélite, los factores de transcripción miogénicos, la regulación del glucógeno y el calcio, el estrés oxidativo y la inflamación. Las mujeres posmenopáusicas se benefician de la salud ósea, la salud mental y el tamaño y función del músculo esquelético cuando consumen dosis más altas de creatina (0,3 g/kg de peso y día).

9. Para fomentar y promover investigaciones de alta calidad que involucren a atletas femeninas, primero se alienta a los investigadores a dejar de excluir a las mujeres a menos que los criterios de valoración principales estén directamente influenciados por mecanismos específicos del sexo. En todos los escenarios de investigación, se alienta a los investigadores de todo el mundo a investigar e informar sobre información más detallada sobre el estado

hormonal del atleta, incluido el estado menstrual (días transcurridos desde la menstruación, duración del período, duración del ciclo, etc.) y/o detalles de los anticonceptivos hormonales. y/o estado menopáusico.

El séptimo artículo investiga el efecto de los suplementos nutricionales orales en ancianos de residencia geriátrica en riesgo de desnutrición. La mayoría de los estudios previso son en ancianos con desnutrición grave, pero este trabajo pone el foco en los ancianos con riesgo de desnutrición. Compara dos grupos: 61 ancianos con educación nutricional por dietista (dos veces las primeras 6 semanas y una vez las otras seis semanas) y 57 ancianos con suplementos nutricionales líquidos (dos tomas de 125 cc, 203 Kcal, 7.5g proteína, aa ramificdos, leucina con cumplimiento del 75%) durante 12 semanas. El grupo con suplementos nutricionales mejoró en peso, IMC, fuerza mano, 6 metros de marcha, velocidd de marcha, MUST, MNA-SF e ingeta de energía total, mientras que en el grupo de solo educación no mejoró significativamente nada. Ajustado a edad, peso e IMC iniciales, el efecto de los suplementos se mantuvo en peso, IMC, circunferencia pantorrilla, velocidad de la marcha y MNA-SF. Tambien se observa mejoría de los test de calidad de vida en el grupo con suplementación pero no en el grupo de consejos dietéticos. Se observa que la mejoría de los test de calidad de vida se relaciona con la mejoría del estado nutricional.

El octavo artículo estudia el efecto de una fórmula nutricional baja en proteínas asociada a consejo dietético en ancianos con enfermedad renal crónica en estadios 3-5. Es un tema controvertido porque en estos pacientes se recomienda una dieta baja en proteínas para evitar la progresión de la enfermedad renal, pero en situaciones de desnutrición protéica se recomienda una dieta rica en proteínas. Compara un grupo de 23 pacientes con una dieta baja en proteínas habitual 06-0.8 gr/Kg y 30 Kcal/Kg/dia) vs otro grupo de 24 pacientes con la misma dieta y además suplementado con Fresubin Renal (400 Kcal, 6g de proteínas: 6% del aporte calórico total) con un seguimiento de 3 meses. Llama la atención que el MNA-SF de los dos grupos es de normo nutridos. El grado de cumplimiento es del 91.6% en el grupo de suplementos. No encuentran diferencias en ninguno de los dos gruposen composición corporal. Fuerza de la mano disminuye en el grupo control pero no en el intervención. Velocidad de la marcha mejora en el grupo intervención. No hay variaciones en el filtrado glomerular de los dos grupos. El estudio concluye que una dieta baja en proteínas suplementada con una formula hipercalorica e hipoproteica puede retrasar el deterioro de la capacidad funcional en estos pacientes con enfermedad renal crónica grados 3-5.

El noveno artículo, es una revisión sistematica con meta-analisis sobre el efecto de los suplementos nutricionales intradiatilisis, que recoge 10 artículos (3 estudios observacionales con 17.882 pacientes y 7 clinical trials con 529 pacients). Los resultados no son brillantes por la falta de homogeneidad de los estudios. La suplementación intradialisis presenta una tendencia estadísticamente no significativo a disminuir el riesgo de mortalidad. Los efectos adversos de la suplementacion (hipotensión, síntomas gastrointestinales) no aparecen con mayor frecuencia en los grupos con suplementación intradiálisis. Respecto a la calidad de vida, apetito o capacidad funcional tampoco encuentran diferencias significativas. Los autores concluyen que dada la compleja etiología de la malnutrición en el paciente en hemodiálisis, posiblemente los suplementos intradiálisis no sean suficientes para mejorar todos estos objetivos.

El decimo artículo, estudia el efecto de la osmolaridad del suplemento nutricional sobre el débito en pacientes con ileostomía. Estos pacientes sufren un riesgo muy alto de deshidratación e insuficiencia prerenal aguda en el que el manejo del débito es fundamental. Utilizan un término que quiere decir "la cantidad justa y correcta". Es un estudio de un centro cuasi-randomizado en el que cada sujeto es su propio control con un periodo de 8h de lavado. Cada paciente tomó 500 mg de diferentes suplementos hipo-iso-hiperosmolares y recogían orina y debido de ileostomía durante las 6 horas posteriores. Observan que el débito de la ileostomía aumenta 57g en 6h cuando la osmolaridad del suplemento oral aumenta 100 mOsm/Kg. El menor debito se consiguió con una osmolaridad del suplemento de 100-290 mOsm/Kg. La natriuresis y la diuresis no varió en esas 6 horas. En 5 pacientes repitieron la prueba con una variabilidad en el mismo individuo del debido del 4-35%.

RESÚMENES

1 The influence of patients' nutritional risk, nutritional status, and energy density in MEDPass versus conventional administration of oral nutritional supplements - A secondary analysis of a randomized controlled trial.

Karin Schläppi, Emilie Reber, Katja A Schönenberger, Zeno Stanga , Silvia Kurmann.

J Nutr Health Aging. 2024 Mar;28(3):100170.doi: 10.1016/j.jnha.2024.100170. Epub 2024 Feb 2.

OBJECTIVES: The clinical influence of nutritional risk, nutritional status, and energy density of oral nutritional supplements (ONS) in MEDPass versus conventional administration of ONS is currently unknown. The aim of this analysis was to examine whether these variables have an impact on clinical outcomes.

METHODS: Secondary analysis of the intention to treat dataset of the randomized controlled MEDPass Trial in geriatric and medical inpatients. Patients in the intervention group received 4 × 50 ml ONS during the medication rounds (MEDPass mode), while those in the control group received ONS in a non-standardized manner. The examined endpoints included energy and protein coverage, ONS intake, handgrip strength (HGS), weight, appetite nausea and 30-day mortality. Three subgroup analyses for NRS 2002 total score (3, 4 or 5-7 points), NRS 2002 impaired nutritional status score (0, 1, 2 or 3 points) and energy density of the ONS (1.5 kcal/mL or 2 kcal/mL) were performed using linear and logistic regression with interaction and mixed effect models.

RESULTS: The data of 202 patients (103 women and 99 men) at nutritional risk (NRS total 2002 score ≥3), mean (SD) age 82.2 (6.5) years were included. There was no significant difference between the groups in the primary endpoint energy coverage in all three subgroup analyses. There were also no significant differences between the groups in the secondary endpoints of protein coverage, ONS intake, HGS, weight, appetite, nausea, and 30-day mortality.

CONCLUSION: The MEDPass mode of ONS administration was not superior to the conventional

mode of administration in this study. ONS with high energy density (≥2 kcal/mL) should be offered since current evidence shows a tendency towards improved appetite, increased ONS and increased energy intake.

2 Impact ofa specialized oral nutritional supplement on quality of life in older adults following hospitalization: Post-hoc analysis of the NOURISH trial.

Baggs GE, Middleton C, Nelson JL, Pereira SL, Hegazi RM, Matarese L, Matheson E, Ziegler TR, Tappenden KA, Deutz N.

Clin Nutr. 2023 Nov;42(11):2116-2123. doi: 10.1016/j.clnu.2023.09.004. Epub 2023 Sep 9.PMID: 37757502

BACKGROUND & AIMS: Both during and after hospitalization, nutritional care with daily intake of oral nutritional supplements (ONS) improves health outcomes and decreases risk of mortality in malnourished older adults. In a post-hoc analysis of data from hospitalized older adults with malnutrition risk, we sought to determine whether consuming a specialized ONS (S-ONS) containing high protein and beta-hydroxy-beta-methylbutyrate (HMB) can also improve Quality of Life (QoL).

METHODS: We analyzed data from the NOURISH trial-a randomized, placebo-controlled, multi-center, double-blind study conducted in patients with congestive heart failure, acute myocardial infarction, pneumonia, or chronic obstructive pulmonary disease. Patients received standard care + S-ONS or placebo beverage (target 2 servings/day) during hospitalization and for 90 days post-discharge. SF-36 and EQ-5D QoL outcomes were assessed at 0-, 30-, 60-, and 90-days post-discharge. To account for the missing QoL observations (27.7%) due to patient dropout, we used multiple imputation. Data represent differences between least squares mean (LSM) values with 95% Confidence Intervals for groups receiving S-ONS or placebo treatments.

RESULTS: The study population consisted of 622 patients of mean age ±standard deviation: 77.9 ± 8.4 years and of whom 52.1% were females. Patients consuming placebo had lower (worse) QoL domain scores than did those consuming S-ONS. Specifically for the SF-36 health domain scores, group differences (placebo vs S-ONS) in LSM were significant for the mental component summary at day 90 (-4.23 [-7.75, -0.71]; p = 0.019), the domains of mental health at days 60 (-3.76 [-7.40, -0.12]; p = 0.043) and 90 (-4.88 [-8.41, -1.34]; p = 0.007), vitality at day 90 (-3.33 [-6.65, -0.01]; p = 0.049) and social functioning at day 90 (-4.02 [-7.48,-0.55]; p = 0.023). Compared to placebo, differences in LSM values for the SF-36 general health domain were significant with improvement in the S-ONS group at hospital discharge and beyond: day 0 (-2.72 [-5.33, -0.11]; p = 0.041), day 30 (-3.08 [-6.09, -0.08]; p = 0.044), day 60 (-3.95 [-7.13, -0.76]; p = 0.015), and day 90 (-4.56 [-7.74, -1.38]; p = 0.005).

CONCLUSIONS: In hospitalized older adults with cardiopulmonary diseases and evidence of poor nutritional status, daily intake of S-ONS compared to placebo improved post-discharge QoL scores for mental health/cognition, vitality, social functioning, and general health. These QoL benefits complement survival benefits found in the original NOURISH trial analysis.

3 Oral Nutritional Supplements Reduce Body Weight Loss after Gastrectomy in Patients with Gastric Cancer: A Systematic Review and Meta-Analysis of Randomized Controlled Trials.

Choi M, Kim JY, Kang HH, Park E, Shim SR.

Nutrients. 2023 Sep 10;15(18):3924. doi: 10.3390/nu15183924. PMID: 37764708; PMCID: PMC10537263.

This systematic review and meta-analysis aimed to summarize the effects of oral nutritional supplements (ONSs) on body weight loss (BWL) after gastrectomy. A systematic search was conducted across the PubMed, Cochrane, and Embase databases through May 2023. The study inclusion criteria were as follows: (1) studies on interventions including ONSs after gastrectomy in patients with gastric cancer; (2) studies in which comparisons were specified according to standard, regular, or usual postoperative diets; and (3) randomized controlled trial studies including outcomes measured as mean differences in BWL. The data were pooled using the random-effects model and expressed as mean differences with 95% confidence intervals (CI). Based on data from seven studies including 1743 patients (891 for ONSs and 852 for the control), the overall pooled mean difference was 0.848 (95% CI: 0.466 to 1.230) and the Higgins I2 value was 86.0%. This systematic review and meta-analysis is the first study to show that ONSs are significantly associated with reducing BWL, compared with standard diets, after gastrectomy in patients with gastric cancer. Furthermore, we found that ONSs were more effective in patients with lower nutritional kilocalorie intake after gastrectomy.

4 Oral nutrition interventions in patients undergoing gastrointestinal surgery for cancer: A systematic literature review.

Reece L, Hogan S, Allman-Farinelli M, Carey S.

Support Care Cancer. 2020 Dec;28(12):5673-5691. doi: 10.1007/s00520-020-05673-w. Epub 2020 Aug 19. PMID: 32815021.

PURPOSE: Weight loss and poor food intake have been shown to affect several outcomes in patients undergoing surgery for gastrointestinal cancer. This review aims to examine the effect of pre-, post- or perioperative nutrition interventions focused on increasing oral energy or protein intake in patients undergoing surgery for gastrointestinal cancer. Interventions using standard oral nutrition supplements and/or dietary counselling were included. The primary outcome was weight change, and secondary outcomes were energy and protein intake. A secondary aim was to examine this effect in malnourished patients.

METHODS: Embase, Medline, CINAHL and CENTRAL were searched from inception to September 2019 for relevant randomised controlled trials. Study quality was assessed using the revised Cochrane Collaboration risk of bias tool for randomised trials. The quality of evidence for each outcome was assessed using GRADE.

RESULTS: Fourteen articles met the inclusion criteria. Studies assessed patients undergoing surgery for gastric, colorectal, oesophageal and pancreatic cancers. The interventions studied

included oral nutrition supplements and/or dietary counselling. Five studies reported preoperative interventions; five studies reported post-operative interventions; six studies reported post-discharge interventions; and two studies reported perioperative interventions. Overall, low or very low quality evidence was found to support the use of oral nutrition supplements to positively influence weight and increase energy and protein intake in the preoperative period and immediate post-operative period. Very low quality evidence was found to support the use of oral nutrition interventions to influence weight, energy or protein intake in the post-discharge period. Very limited evidence with high risk of bias was found to support positive effects of nutrition intervention in malnourished patients.

CONCLUSIONS: This review demonstrates limited evidence for the use of oral nutrition supplements to increase intake and positively influence weight in patients undergoing surgery for gastrointestinal cancer. Overall, results were heterogeneous leading to inconsistent results. Further research into optimal nutrition support interventions and timing of interventions is required.

5 Effect of dietary factors and time of day on iron absorption from oral iron supplements in iron deficient women.

Von Siebenthal HK, Moretti D, Zimmermann MB, Stoffel NU.

Am J Hematol. 2023 Sep;98(9):1356-1363. doi: 10.1002/ajh.26987. Epub 2023 Jun 26. PMID: 37357807.

Guidelines generally recommend taking iron supplements in the morning away from meals and with ascorbic acid (AA) to increase iron absorption. However, there is little direct evidence on the effects of dietary factors and time of day on absorption from iron supplements. In iron-depleted women (n = 34; median serum ferritin 19.4 μg/L), we administered 100 mg iron doses labeled with 54 Fe, 57 Fe, or 58 Fe in each of six different conditions with: (1) water (reference) in the morning; (2) 80 mg AA; (3) 500 mg AA; (4) coffee; (5) breakfast including coffee and orange juice (containing ~90 mg AA); and (6) water in the afternoon. Fractional iron absorption (FIA) from these n = 204 doses was calculated based on erythrocyte incorporation of multiple isotopic labels. Compared to the reference: 80 mg AA increased FIA by 30% ($p < .001$) but 500 mg AA did not further increase FIA ($p = .226$); coffee decreased FIA by 54% ($p = .004$); coffee with breakfast decreased FIA by 66% ($p < .001$) despite the presence of ~90 mg of AA. Serum hepcidin was higher ($p < .001$) and FIA was 37% lower ($p = .059$) in the afternoon compared to the morning. Our data suggest that to maximize efficacy, ferrous iron supplements should be consumed in the morning, away from meals or coffee, and with an AA-rich food or beverage. Compared to consuming a 100 mg iron dose in the morning with coffee or breakfast, consuming it with orange juice alone results in a ~ 4-fold increase in iron absorption, and provides ~20 more mg of absorbed iron per dose. The trial was registered at Clinicaltrials.gov(NCT04074707).

6 International society of sports nutrition position stand: nutritional concerns of the female athlete.

Sims ST, Kerksick CM, Smith-Ryan AE, Janse de Jonge XAK, Hirsch KR, Arent SM, Hewlings SJ, Kleiner SM, Bustillo E, Tartar JL, Starratt VG, Kreider RB, Greenwalt C, Rentería LI, Ormsbee MJ, VanDusseldorp TA, Campbell BI, Kalman DS, Antonio J.
J Int Soc Sports Nutr. 2023 Dec;20(1):2204066. doi: 10.1080/15502783.2023.2204066. PMID: 37221858; PMCID: PMC10210857.

1. Female athletes have unique and unpredictable hormone profiles, which influence their physiology and nutritional needs across their lifespan. To understand how perturbations in these hormones affect the individual, we recommend that female athletes of reproductive age should track their hormonal status (natural, hormone driven) against training and recovery to determine their individual patterns and needs and peri and postmenopausal athletes should track against training and recovery metrics to determine the individuals' unique patterns.

2. The primary nutritional consideration for all athletes, and in particular, female athletes, should be achieving adequate energy intake to meet their energy requirements and to achieve an optimal energy availability (EA); with a focus on the timing of
meals in relation to exercise to improve training adaptations, performance, and athlete health.

3. Significant sex differences and sex hormone influences on carbohydrate and lipid metabolism are apparent, therefore we recommend first ensuring athletes meet their carbohydrate needs across all phases of the menstrual cycle. Secondly, tailoring carbohydrate intake to hormonal status with an emphasis on greater carbohydrate intake and availability during the active pill weeks of oral contraceptive users and during the luteal phase of the menstrual cycle where there is a greater effect of sex hormone suppression on gluconogenesis output during exercise.

4. Based upon the limited research available, we recommend that pre-menopausal, eumenorrheic, and oral contraceptives using female athletes should aim to consume a source of high-quality protein as close to beginning and/or after completion of exercise as possible to reduce exercise-induced amino acid oxidative losses and initiate muscle protein remodeling and repair at a dose of 0.32–0.38 g·kg–1. For eumenorrheic women, ingestión during the luteal phase should aim for the upper end of the range due to the catabolic actions of progesterone and greater need for amino acids.

5. Close to the beginning and/or after completion of exercise, peri- and post-menopausal athletes should aim for a bolus of high EAA-containing (~10 g) intact protein sources or supplements to overcome anabolic resistance.

6. Daily protein intake should fall within the mid- to upper ranges of current sport nutrition guidelines (1.4–2.2 g·kg–1·day–1) for women at all stages of menstrual function (pre-, peri-, post-menopausal, and contraceptive users) with protein doses evenly distributed, every 3-4 h, across the day. Eumenorrheic athletes in the luteal phase and peri/post-menopausal athletes, regardless of sport, should aim for the upper end of the range.

7. Female sex hormones affect fluid dynamics and electrolyte handling. A greater predisposition to hyponatremia occurs in times of elevated progesterone, and in menopausal women, who are slower to excrete water. Additionally, females have less absolute and relative fluid available to lose via sweating than males, making the physiological consequences of fluid loss more severe, particularly in the luteal phase.

8. Evidence for sex-specific supplementation is lacking due to the paucity of female-specific research and any differential effects in females. Caffeine, iron, and creatine have the most evidence for use in females. Both iron and creatine are highly efficacious for female athletes. Creatine supplementation of 3 to 5 g per day is recommended for the mechanistic support of creatine supplementation with regard to muscle protein kinetics, growth factors, satellite cells, myogenic transcription factors, glycogen and calcium regulation, oxidative stress, and inflammation. Post-menopausal females benefit from bone health, mental health, and skeletal muscle size and function when consuming higher doses of creatine (0.3 g·kg–1·d–1).

9. To foster and promote high-quality research investigations involving female athletes, researchers are first encouraged to stop excluding females unless the primary endpoints are directly influenced by sex-specific mechanisms. In all investigative scenarios, researchers across the globe are encouraged to inquire and report upon more detailed information surrounding the athlete's hormonal status, including menstrual status (days since menses, length of period, duration of cycle, etc.) and/or hormonal contraceptive details and/or menopausal status.

7 Beneficial Effects of Oral Nutrition Supplements on the Nutritional Status and Physical Performance of Older Nursing Home Residents at Risk of Malnutrition.

Chen YH, Lee CY, Chen JR, Ding MY, Liang FQ, Yang SC.

Nutrients. 2023 Oct 8;15(19):4291. doi: 10.3390/nu15194291. PMID: 37836574; PMCID: PMC10574690.

The purpose of this study was to compare the effects of nutritional supplement drinks (NSDs) and nutritional education (NE) on the nutritional status and physical performance of older nursing home residents who were at risk of malnutrition. This study was a clustered, randomized, parallel, multi-center clinical trial, with 107 participants more than 65 years old and at risk of malnutrition recruited from several nursing homes in this study. Participants were divided into two groups: an NE group (n = 50) and an NSD group (n = 57). The NE group was given NE by a dietitian, while the NSD group was provided with two packs of NSD except receiving NE (Mei Balance, Meiji Holdings, Tokyo, Japan) per day as a snack between meals and before bed. Anthropometric data, blood pressure, nutritional status, blood biochemical biomarkers, and physical performance were measured before and after 12-week interventions. After 12 weeks of NE combined with NSD intervention, body weight, body-mass index, the mini nutritional assessment-short form (MNA-SF) score, walking speed, and SF-36 questionnaire score were improved in older nursing home residents at risk of malnutrition.

8 Effects of a low-protein nutritional formula with dietary counseling in older adults with chronic kidney disease stages 3-5: a randomized controlled trial.

Yang WC, Hsieh HM, Chen JP, Liu LC, Chen CH.

BMC Nephrol. 2023 Dec 14;24(1):372. doi: 10.1186/s12882-023-03423-8. PMID: 38097963; PMCID: PMC10720150.

BACKGROUND: Although combining a low-protein diet (LPD) with oral nutritional supplements increases treatment adherence and nutritional status in patients with chronic kidney disease (CKD), the effect of this combination approach in older adults remains unclear. This study examined the impact of a 6% low-protein formula (6% LPF) with diet counseling in older adults with stage 3-5 CKD.

METHODS: In this three-month randomized controlled study, 66 patients (eGFR < 60 mL/min/1.73 m2, non-dialysis, over 65 years of age) were randomly assigned to an intervention group (LPD plus a 6% LPF) or control group (LPD alone). The 6% LPF comprised 400 kcal, 6 g of protein, eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA), and various micronutrients. All data were collected at baseline and after three months, including physical performance based on hand grip strength (HGS) and gait speed, nutritional status using Mini Nutritional Assessment-Short Form (MNA-SF) scores, body composition through bioelectrical impedance analysis, and dietary intake from 24-h dietary records.

RESULTS: This study incorporated 47 participants (median age, 73; median eGFR, 36 ml/min/1.73 m2; intervention group: 24; control group: 23). The intervention group exhibited significant differences in HGS and gait speed, and micronutrient analysis revealed significantly higher monounsaturated fatty acids (MUFA), EPA, DHA, calcium, iron, zinc, copper, thiamine, riboflavin, niacin, B6, B12, and folic acid intake than the control group. MNA-SF scores, macronutrient intake, and body composition did not differ significantly between the two groups.

CONCLUSIONS: Compared to LPD counseling alone, an LPD prescription with 6% LPF in older adults with CKD stages 3-5 helped relieve physical deterioration and increased micronutrient intake after three months.

Trial registration: ClinicalTrials.gov NCT05318014 (retrospectively registered on 08/04/2022).

9 Is intradialytic oral nutritional supplementation safe and effective on clinical outcomes? A systematic review with conventional meta-analysis and network meta-analysis.

López-Cisneros S, Ramos-Acevedo S, González-Ortiz A, González-Garay AG, Serralde-Zúñiga AE, Espinosa-Cuevas Á.

Clin Nutr ESPEN. 2023 Dec;58:301-310. doi: 10.1016/j.clnesp.2023.10.005. Epub 2023 Oct 18. PMID: 38057020.

AIM: determine the effect of intradialytic oral nutrition (ION) on clinical and safety outcomes.

DESIGN: Systematic Review with conventional Meta-analysis, and a Network Meta-analysis (NMA) as sensitivity analysis. We searched on MEDLINE, LILACS, CENTRAL, and EMBASE in June 2020, and the last update was until August 2022. We selected observational and

randomized controlled trials with ION for at least four weeks. Primary outcomes were all-cause mortality and quality of life (QoL); adverse events, physical performance, and appetite were secondary outcomes.
RESULTS: Seven clinical trials and three observational studies were selected. Even when we did not obtain significant differences in physical performance and gastrointestinal symptoms, we identified a clinical improvement in the QoL's physical role, bodily pain, and physical performance domains. After pooling the data on mortality, a protection rate trend was observed in the ION group without statistical significance. The home-prepared ION was the best nutritional supplementation when assessing the appetite outcome through NMA.
CONCLUSIONS: ION seems to have a protective trend in mortality risk; the current evidence is insufficient to establish a relationship with adverse events or other clinical outcomes. The lack of homogeneity in the trials makes it difficult to generalize these results.
Prospero registration: CRD42020186311.

10 Osmolality in oral supplements drives ileostomy output: Defining the Goldilocks zone.

Quist JR, Rud CL, Frumer K, Julsgaard M, Dahl Baunwall SM, Hvas CL.
Clin Nutr ESPEN. 2024 Jun;61:88-93. doi: 10.1016/j.clnesp.2024.03.003. Epub 2024 Mar 15. PMID: 38777478.

BACKGROUND: Patients with an ileostomy often have impaired quality of life, sodium depletion, secondary hyperaldosteronism, and other organ-specific pathologies. The osmolality of oral supplements influences ileostomy output and increases sodium loss. We hypothesized the existence of an osmolality range in which fluid absorption and secondary natriuresis are optimal.
METHODS: This was a single-center, quasi-randomized crossover intervention study, including patients with an ileostomy and no home parenteral support. After an 8-h fasting period, each patient ingested 500 mL of 3-18 different oral supplements and a standardized meal during the various intervention periods, followed by a 6-h collection of ileostomy and urine outputs. The primary outcome was 6-h ileostomy output.
RESULTS: A total of 14 ileostomy patients with a median age of 65 years (interquartile range 38-70 years) were included. The association between osmolalities (range 5-1352 mOsm/kg) and ileostomy output forecasted an S-curve. A linear association between osmolality of oral supplements (range 290-600 mOsm/kg) and ileostomy output was identified and assessed with a mixed-effects model. Ileostomy output increased by 57 g/6 h (95% confidence interval (CI) 21-94) when the oral supplement osmolality increased by 100 mOsm/kg ($p = 0.005$).
CONCLUSION: Osmolality in oral supplements correlated with ileostomy output. Our results indicate that patients with an ileostomy may benefit from increased ingestion of oral supplements with osmolalities between 100 and 290 mOsm/kg. We define this range as the Goldilocks zone, equivalent to optimal fluid and electrolyte absorption.

8| INTERVENCIÓN NUTRICIONAL

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RESUMEN

La intervención nutricional (IN) debe ser entendida como un amplio concepto que incluye todas aquellas medidas que tienen capacidad de modificar el estado nutricional de los individuos. Así, en esta revisión, como cada año ponemos el foco en la investigación básica y clínica publicada para conocer cómo abordar los factores que pueden modificar la ingesta de los mayores, o el papel de algunos nutrientes, alimentos o patrones alimentarios que aporten valor a la mejoría del estado nutricional de los individuos, o los avances relacionados con el Tratamiento Médico Nutricional (TMN) más allá de la dietoterapia que incluye la utilización de Suplementos Orales Nutricionales (SON), Nutrición Enteral y Nutrición Parenteral, sin olvidar, por supuesto, lo relativo al ámbito de la calidad y la gestión, así como las políticas y metodologías concretas de intervención nutricional en distintos niveles asistenciales comunidad, residencias de mayores u hospitales.

La búsqueda en Pub Med de publicaciones indexadas como intervención nutricional en personas mayores /ancianos ("nutritional intervention AND older people OR ederly people") publicadas asciende a 18213, siendo importante reseñar que en su crecimiento se concentra en los últimos años, en los que año tras año las cifras se superan. En este año la cifra de publicaciones alcanzada asciende a 1861.

Teniendo en cuenta la estructura de esta Jornada 80 FSN (Fragilidad, Sarcopenia y Nutrición) en el que se revisan los ítems relacionados con el Cribado y Diagnostico de la Desnutrición; la Disfagia; la Obesidad; la Fragilidad; la Sarcopenia; los Suplementos Nutricionales; la Nutrición y el Ejercicio físico, y para no solaparme con mis compañeros, como en ediciones anteriores, he seleccionado los artículos relacionados con la intervención nutricional agrupándolos en lo que considerado podría resultar de interés para la audiencia.

En este apartado dedicado a la IN revisaremos aspectos relacionados con la relación entre la pérdida de apetito de la persona mayor y su impacto en la ingesta. El articulo del grupo de la Dra Dorothee Volkert pone el foco en los cambios en el patrón alimentario de estos que condicionan ingestas pobres asociando déficit de algunos nutrientes fundamentales.

Un año más, siguiendo la tendencia de la producción científica, dedicamos dos artículos a las proteínas, ese macronutriente fundamental que hoy en día constituye el foco de casi todas las intervenciones nutricionales en la población mayor.

Por un lado, revisamos datos epidemiológicos de la población mayor de 65 años japonesa y el consumo de proteínas, y por otro, analizamos un estudio sobre la seguridad y eficacia de la propuesta de ingesta de proteínas a dosis de 1,5 gr/kg/d, también en población

japonesa que nos hace reflexionar como trasladar las recomendaciones a gran parte de la población mayor pluripatológica.

La educación nutricional también constituye un tema de preocupación y desarrollo en la intervención nutricional. Sin duda es uno de los pasos fundamentales para optimizar la atención nutricional de nuestros mayores. Además de la metodología clásica formativa que implica a los profesionales sanitarios, el desarrollo de las nuevas TICS (Tecnología de la Información y la Comunicación) que se engloban conceptualmente en proyectos de salud digital (e-Salud) están marcando la diferencia en el aprendizaje de los mayores reduciendo la brecha digital. Presentamos herramientas de interés para la selección de alimentos en el ámbito hospitalario que se están implementando en hospitales noruegos.

Otro aspecto que nos preocupa en la intervención nutricional es la calidad percibida por el paciente. Tener un feed back de los pacientes sobre la alimentación hospitalaria debería ayudar a optimizar el proceso de alimentación hospitalaria. Presentamos un estudio realizado en un hospital australiano que describe una iniciativa para identificar los problemas en el día a día relacionado con la alimentación hospitalaria y muy especialmente con el momento de cada una de las ingestas del paciente analizadas desde el punto de vista del paciente, cuidadores y profesionales sanitarios implicados.

En los últimos años, la investigación básica y clínica se está desarrollado con gran intensidad en el campo del microbioma. Las relaciones entre microbiota y alimentación son cada vez más conocidas y resultan de gran interés en el abordaje clínico del mayor. Dedicamos tiempo a reflexionar sobre dos artículos sobre el tema. Uno estudia los cambios de la microbiota intestinal en persona mayores hospitalizadas y su posible relación con el desarrollo de la desnutrición, y otro analiza la interacción entre Dieta Mediterránea y microbioma intestinal poniendo el foco en las posibles estrategias a considerar en los pacientes frágiles. Esta línea de investigación creciente nos permitirá orientar mejor los cambios específicos que queramos introducir en la alimentación de nuestros pacientes geriátricos.

Casi todos los trabajos recientes hacen mención a intervenciones multicomponentes que incluyen el ejercicio y muchos otros a la suplementación nutricional. Estos dos aspectos son habitualmente contemplados por mis compañeros el Dr Serra y el Dr Sanz respectivamente en sus intervenciones, por lo que intento no abordarlos para no solaparnos. Es poco habitual que esta revisión de intervención nutricional encontremos trabajo referidos a otras medidas de intervención nutricional como son la nutrición enteral y la nutrición parenteral, porque existen pocos trabajos. Esta vez les traigo un trabajo del JPEN (Journal Parenteral and Enteral Nutrition), órgano de expresión de ASPEN (acrónimo de las siglas en inglés de la Sociedad Americana de Nutrición Parenteral y Enteral), que analiza las características clínicas de pacientes mayores con fallo intestinal que precisan Nutrición Parenteral (NP) comprándolo con las características de los pacientes más jóvenes evidenciando que los pacientes mayores a pesar de sus comorbilidades no tienen más complicaciones con la nutrición parenteral como a priori muchos profesionales sanitarios piensan limitando este tipo de intervención nutricional en esta población.

Para el final he dejado dos temas de interés. Uno relacionado con la calidad de vida relacionada con la salud (CVRS) y su relación con el estado nutricional y las intervenciones nutricionales. Y otro relacionado con el coste efectividad de los programas de prehabilitación.

En relación con el de calidad de vida relacionada con la salud presentamos una revisión sistemática que evalúa los estudios publicados en los que se mide la CVRS y estado nutricional o respuesta a la intervención nutricional. Creo que es importante detenernos a analizar que a pesar de disponer de herramientas generales y específicas para evaluar la calidad de vida, estos cuestionarios son probablemente menos utilizados de lo que se debería y se pierden los potenciales beneficios de su uso.

Por último, como en años anteriores, volvemos a poner el foco en los programas de prehabilitación, pero esta vez lo hacemos bajo el prisma de la gestión. Hemos seleccionado un artículo que muestra el protocolo de estudio de coste efectividad de las intervenciones implicadas en los programas de preahbilitación en pacientes prefrágiles y frágiles en Alemania. El estudio ha sido registrado como PRAEP_GO RCT: NCT04418271; economic evaluation: OSF (https:// osf. io/ ecm74). Es un estudio en marcha, su ambicioso diseño es un buen ejemplo para el desarrollo de análisis económicos. Los autores del proyecto esperan que la evaluación económica de la salud proporcione información sobre la rentabilidad de la prehabilitación en poblaciones mayores frágiles, informando los procesos de toma de decisiones y contribuyendo a la base de evidencia en este campo.

RESÚMENES

1 Dietary characteristics of community-dwelling older adults with poor appetite: a cross-sectional analysis

Pia Scheufele, Anja Rappl , Marjolein Visser, Eva Kiesswetter , Dorothee Volkert
Age and Ageing 2024; 53: ii4–ii12.
PMID: 38745488 PMCID: PMC11094405 DOI: 10.1093/ageing/afae040

RESUMEN

RATIONALE: Poor appetite is considered a key factor in the development of malnutrition, a link that can be explained by alterations in dietary intake. Given the limited data on dietary characteristics in community-dwelling older adults with poor appetite, the present study aimed to examine whether poor appetite is associated with lower nutrient intake and more unfavourable food choices.

METHODS: In 569 participants of the Longitudinal Aging Study Amsterdam aged ≥70 years appetite was assessed using the Simplified Nutritional Appetite Questionnaire and dichotomised into normal (>14) and poor (≤14). Intake of energy, 19 nutrients, 15 food groups, the Dutch Healthy Diet Index 2015 (DHD15) and Mediterranean Diet Score (MDS) were calculated from a food frequency questionnaire. Dietary differences between appetite groups were examined using Mann-Whitney U test and binary logistic regression adjusted for potential confounders.

RESULTS: Mean age was 78 ± 6 years and 52% were female. Appetite was poor in 12.5% of participants. Energy intake was 1951 (median; quartiles 1-3: 1,653-2,384) kcal/day with no difference between appetite groups. Poor appetite was associated with lower intake of protein (OR 0.948, 95%CI 0.922-0.973), folate (0.981, 0.973-0.989), zinc (0.619, 0.454-0.846),

vegetables (0.988, 0.982-0.994) and lower scores of DHD15 (0.964, 0.945-0.983) and MDS (0.904, 0.850-0.961), as well as higher intake of carbohydrates (1.015, 1.006-1.023), and vitamins B2 (4.577, 1.650-12.694) and C (1.013, 1.005-1.021).
CONCLUSIONS: Community-dwelling older adults with poor appetite showed poorer diet quality with a lower intake of protein, folate, zinc and vegetables, compared with those reporting normal appetite and should be advised accordingly.

2 Are higher protein intake and distribution of protein intake related to higher appendicular muscle mass among an older Japanese population?: A cross-sectional analysis of the National Health and Nutrition Survey 2017

Kazuko Ishikawa-Takata, Mai Matsumoto, Hidemi Takimoto.
Geriatr Gerontol Int. 2024 Apr 28. doi: 10.1111/ggi.14875. Online ahead of print.
PMID: 38679586 DOI: 10.1111/ggi.14875

RESUMEN
AIM: Protein intake is an important component in retaining muscle mass, especially among older people. This study examined the relationship between total protein intake and/or the distribution of protein intake in each meal and appendicular muscle mass, using data from the National Health and Nutrition Survey (NHNS) in Japan.
METHODS: Data from the NHNS were re-analyzed in this study. We used data from a one-day dietary record, physical examination, and lifestyle questionnaire completed by 1766 participants aged over 60 years. Appendicular muscle mass was assessed by multiple-frequency bioimpedance measurement. Leucine intake was calculated by the weighted average amino acid content from all 98 food subcategories used in the NHNS, based on amino acid composition data in the 2020 Standard Tables of Food Composition.
RESULTS: Participants with higher protein intake showed significantly higher appendicular muscle mass. This relationship was independent of physical activity, including steps taken per day, exercise habit, and physical labor. Frequent intake of ≥0.4 g protein/kg/meal was not related to appendicular muscle mass. The combination of higher total protein intake and higher physical activity seemed to have the largest association with appendicular muscle mass.
CONCLUSIONS: Higher protein intake may be related to higher appendicular muscle mass, independent of higher physical activity, among older Japanese people.

3 Efficacy and Safety of 6-Month High Dietary Protein Intake in Hospitalized Adults Aged 75 or Older at Nutritional Risk: An Exploratory, Randomized, Controlled Study

Shota Moyama , Yuichiro Yamada, Noboru Makabe, Hiroki Fujita, Atsushi Araki , Atsushi Suzuki , Yusuke Seino, Kenichiro Shide, Kyoko Kimura, Kenta Murotani, Hiroto Honda, Mariko Kobayashi, Satoshi Fujita, Koichiro Yasuda, Akira Kuroe, Katsushi Tsukiyama, Yutaka Seino, Daisuke Yabe.

Nutrients. 2023 Apr 22;15(9):2024.
PMID: 37432141 PMCID: PMC10180981 DOI: 10.3390/nu15092024

RESUMEN

The aim of this study was to investigate the effects of increased dietary protein in daily-life settings in Japan for 6 months on the activities of daily living (ADL) in adults aged 75 or older at nutritional risk. The study was an open-label, exploratory, randomized controlled trial conducted at seven hospitals in Japan. The study participants were adults aged 75 or older who were hospitalized for treatable cancer, pneumonia, fractures, and/or urinary-tract infection at nutritional risk. The primary outcome was change in grip strength, skeletal muscle, and ADL indices (Barthel index, Lawton score). One hundred sixty-nine patients were randomly assigned to the intensive care (IC) or standard care (SC) group; the protein intake goals (g/kgw/day) were 1.5 for IC and 1.0 for SC. There was a significant improvement in grip strength only in the IC group (1.1 kg: 95% CI 0.1 to 2.1) ($p = 0.02$). While the skeletal muscle index and ADL indices were not significantly improved in either group, the improvement ratio tended to be greater in the IC group. There was no decrease in renal function in either group. Thus, intervention of increased dietary protein in daily-life settings for 6 months in adults aged 75 or older with treatable cancer, pneumonia, fractures, and/or urinary-tract infection and at nutritional risk may be effective in ameliorating loss of muscle strength.

4 An educative nutritional intervention supporting older hospital patients to eat sufficiently using eHealth: a mixed methods feasibility and pilot study

Rikke Terp, Lars Kayser, Tove Lindhardt.

BMC Geriatr. 2024 Jan 4;24(1):22..
PMID: 38177992 PMCID: PMC10768306 DOI: 10.1186/s12877-023-04582-x

RESUMEN

BACKGROUND: Insufficient food intake is common in older hospital patients and increases the risk of readmission, mortality, and decline in functional status. To improve food intake in older patients, an eHealth solution (Food'n'Go) enabling them to participate in their own nutritional care was implemented in a hospital unit. We developed an educative nutritional intervention (ENI) to support hospitalized older adults (aged ≥ 65 years) to participate in their own nutritional care using Food'n'Go. In this study, we evaluate the feasibility of the ENI and its potential to improve nutritional intake.

METHODS: Feasibility was evaluated using process evaluation, and nutritional intake was

examined by using a pre- and post-test design. Assessment of feasibility: Contextual factors (availability of Food'n'Go and prevalence of counseling by a dietitian); Intervention fidelity (whether patients were informed of nutrition and Food'n'Go, and whether their needs for support were assessed); and Mechanism of impact (patients' knowledge and skills related to nutrition and the use of Food'n'Go and their acceptance of the ENI). Assessment of nutritional intake: Patients' intake of protein and energy based on one-day observations before implementation of the ENI (pre-test; n = 65) and after a three-month intervention (post-test; n = 65).
RESULTS: Feasibility: Food'n'Go was available for more patients after the intervention (85 vs. 64%, p = .004). Most patients managed the use of Food'n'Go and were involved in ordering their food, but only a few monitored their food intake. Information on nutrition was not provided sufficiently to all patients. In general, the ENI had high acceptability among the patients. Nutritional intake: Compared to patients in the pre-test, patients in the post-test had a higher daily mean intake of energy (kJ) (6712 (SD: 2964) vs. 5660 (SD: 2432); difference 1052 (95% CI 111-1993)), and of protein (g) (60 (SD: 28) vs. 43 (SD: 19); difference 17 (95% CI 9-26)). Likewise, there was an increase in the mean attainment of protein requirements: 73% (SD: 34) vs. 59% (SD: 29) (p = .013).
CONCLUSION: The ENI is feasible for supporting hospitalized older adults to participate in their own nutrition using eHealth and preliminary results indicate that it may lead to an increasing energy and protein intake.

5 Exploring hospital mealtime experiences of older inpatients, caregivers and staff using photovoice methods

Adrienne M Young, Angela Byrnes, Danielle Mahoney, Gary Power, Margaret Cahill, Sarah Heaton, Prue McRae, Alison Mudge, Evonne Miller.
Clin Nurs. 2024 May;33(5):1906-1920.
PMID: 38284486

RESUMEN

AIM: To gather and understand the experience of hospital mealtimes from the perspectives of those receiving and delivering mealtime care (older inpatients, caregivers and staff) using photovoice methods to identify touchpoints and themes to inform the co-design of new mealtime interventions.
METHODS: This study was undertaken on acute care wards within a single metropolitan hospital in Brisbane, Australia in 2019. Photovoice methods involved a researcher accompanying 21 participants (10 older patients, 5 caregivers, 4 nurses and 2 food service officers) during a mealtime and documenting meaningful elements using photographs and field notes. Photo-elicitation interviews were then undertaken with participants to gain insight into their experience. Data were analysed using inductive thematic analysis, involving a multidisciplinary research team including a consumer.
RESULTS: Themes were identified across the three touchpoints: (1) preparing for the meal (the juggle, the anticipation), (2) delivering/receiving the meal (the rush, the clutter and the wait) and (3) experiencing the meal (the ideal, pulled away and acceptance). Despite a shared understanding

of the importance of meals and shared vision of ‘the ideal’ mealtime, generally this was a time of tension, missed cares and dissatisfaction for staff, patients and caregivers. There was stark contrast in some aspects of mealtime experience, with simultaneous experiences of ‘the rush’ (staff) and ‘the wait’ (patients and caregivers). There was an overwhelming sense of acceptance and lack of control over change from all.

CONCLUSIONS: This study identified themes during hospital mealtimes which have largely gone unaddressed in the design of mealtime interventions to date. This research may provide a framework to inform the future co-design of mealtime interventions involving patients, caregivers and multidisciplinary staff, centred around these key touchpoints.

PRACTICE IMPLICATIONS: Mealtimes are experienced differently by patients, caregivers, nurses and food service officers across three key touchpoints: preparing for, delivering/receiving and experiencing the meal. Improving mealtime experiences therefore necessitates a collaborative approach, with co-designed mealtime improvement programs that include specific interventions focusing each touchpoint. Our data suggest that improvements could focus on reducing clutter, clarifying mealtime roles and workflows and supporting caregiver involvement.

IMPACT: What problem did the study address? Mealtimes are the central mechanism to meet patients’ nutritional needs in hospital; however, research consistently shows that many patients do not eat enough to meet their nutritional requirements and that they often do not receive the mealtime assistance they require. Interventions to improve hospital mealtimes have, at best, shown only modest improvements in nutritional intake and mealtime care practices. Gaining deeper insight into the mealtime experience from multiple perspectives may identify new opportunities for improvement. What were the main findings? Patients, caregivers and staff have shared ideals of comfort, autonomy and conviviality at mealtimes, but challenges of complex teamwork and re-prioritisation of mealtimes in the face of prevailing power hierarchies make it difficult to achieve this ideal. There are three discrete touchpoints (preparing for, delivering/receiving and experiencing the meal) that require different approaches to improvement. Our data suggests a need to focus improvement on reducing clutter, clarifying mealtime roles and workflows and supporting caregivers. Where and on whom will the research have an impact? The research provides a framework for multidisciplinary teams to begin co-designing improvements to mealtime care to benefit patients, caregivers and staff, while also providing a method for researchers to understand other complex care situations in hospital.

REPORTING METHOD: This manuscript is written in adherence with the Standards for Reporting Qualitative Research.

PATIENT OR PUBLIC CONTRIBUTION: Patients and caregivers were involved in the conception and design of the study through their membership of the hospital mealtime reference group. A consumer researcher (GP) was involved in the team to advise on study conduct (i.e. recruitment methods and information), data analysis (i.e. coding transcripts), data interpretation (i.e. review and refinement of themes) and manuscript writing (i.e. review and approval of final manuscript).

6 Gut microbiota disturbances in hospitalized older adults with malnutrition and clinical outcomes

Shirley S Muñoz-Fernandez, Flavia B Garcez, Julio C G Alencar, Amália A Bastos, John E Morley, Tommy Cederholm, Ivan Aprahamian, Heraldo P de Souz3, Thiago J Avelino-Silva, Laure B Bindels, Sandra M L Ribeiro.

Nutrition. 2024 Jun:122:112369.
PMID: 38422755 DOI: 10.1016/j.nut.2024.112369

RESUMEN

OBJECTIVE: Malnutrition is one of the most threatening conditions in geriatric populations. The gut microbiota has an important role in the host's metabolic and muscular health: however, its interplay with disease-related malnutrition is not well understood. We aimed to identify the association of malnutrition with the gut microbiota and predict clinical outcomes in hospitalized acutely ill older adults.

METHODS: We performed a secondary longitudinal analysis in 108 geriatric patients from a prospective cohort evaluated at admission and 72 h of hospitalization. We collected clinical, demographic, nutritional, and 16S rRNA gene-sequenced gut microbiota data. Microbiota diversity, overall composition, and differential abundance were calculated and compared between patients with and without malnutrition. Microbiota features associated with malnutrition were used to predict clinical outcomes.

RESULTS: Patients with malnutrition (51%) had a different microbiota composition compared to those who were well-nourished during hospitalization (ANOSIM R = 0.079, P = 0.003). Patients with severe malnutrition showed poorer α-diversity at admission (Shannon P = 0.012, Simpson P = 0.018) and follow-up (Shannon P = 0.023, Chao1 P = 0.008). Differential abundance of Lachnospiraceae NK4A136 group, Subdoligranulum, and Faecalibacterium prausnitzii were significantly lower and inversely associated with malnutrition, while Corynebacterium, Ruminococcaceae Incertae Sedis, and Fusobacterium were significantly increased and positively associated with malnutrition. Corynebacterium, Ruminococcaceae Incertae Sedis, and the overall composition were important predictors of critical care in patients with malnutrition during hospitalization.

CONCLUSION: Older adults with malnutrition, especially in a severe stage, may be subject to substantial gut microbial disturbances during hospitalization. The gut microbiota profile of patients with malnutrition might help us to predict worse clinical outcomes.

7 The interaction between Mediterranean diet and intestinal microbiome: relevance for preventive strategies against frailty in older individuals

Andrea Ticinesi, Antonio Nouvenne, Nicoletta Cerundolo, Alberto Parise, Pedro Mena, Tiziana Meschi.

Aging Clin Exp Res . 2024 Mar 6;36(1):58
PMID: 38448632 PMCID: PMC10917833 DOI: 10.1007/s40520-024-02707-9

RESUMEN

Age-related changes in intestinal microbiome composition and function are increasingly recognized as pivotal in the pathophysiology of aging and are associated with the aging phenotype. Diet is a major determinant of gut-microbiota composition throughout the entire lifespan, and several of the benefits of a healthy diet in aging could be mediated by the microbiome. Mediterranean diet (MD) is a traditional dietary pattern regarded as the healthy diet paradigm, and a large number of studies have demonstrated its benefits in promoting healthy aging. MD has also a positive modulatory effect on intestinal microbiome, favoring bacterial taxa involved in the synthesis of several bioactive compounds, such as short-chain fatty acids (SCFAs), that counteract inflammation, anabolic resistance, and tissue degeneration. Intervention studies conducted in older populations have suggested that the individual response of older subjects to MD, in terms of reduction of frailty scores and amelioration of cognitive function, is significantly mediated by the gut-microbiota composition and functionality. In this context, the pathophysiology of intestinal microbiome in aging should be considered when designing MD-based interventions tailored to the needs of geriatric patients.

8 Parenteral nutrition-related complications in older patients with acute intestinal failure: A descriptive cohort study

Garrett Kang, Mark Chang Chuen Cheah, Poh Bee Yen, Lee Boo Tan, Janet Ngian Choo Chong, Lai Ye Cheang, Rachel Jia Ling Goh, Miaw Sim Lee, Travis Kim Chye Tan, Ennaliza Salazar

JPEN J Parenter Enteral Nutr. 2024 Feb;48(2):174-183.
PMID: 37991279 DOI: 10.1002/jpen.2578

RESUMEN

INTRODUCTION: Reported outcomes for parenteral nutrition (PN)-related complications in older adult patients with acute intestinal failure who are receiving PN in the acute hospital setting are limited. Our study aims to compare PN-related complications between older and younger adult patients.

METHODS: A retrospective descriptive study of inpatients who were administered PN from January 1, 2019, to December 31, 2019, was performed. Patients were categorized into older (≥65 years old) and younger (<65 years old) adult groups.

RESULTS: Two hundred thirty-five patients were included. There were 103 patients in the older adult group (mean age: 73.9 [SD: 6.9] years) and 132 patients in the younger adult group (mean age: 52.4 [SD: 12.5] years). There was a significantly higher Charlson Comorbidity Index score

and lower Karnofsky score in the older adult group. The older adult group received significantly lower total energy (20.8 [SD: 7.8] vs 22.8 [SD: 6.3] kcal/kg/day), dextrose (3.1 [SD: 1.4] vs 3.6 [SD: 1.4] g/kg/day), and protein (1.1 [SD: 0.4] vs 1.2 [SD: 0.3] g/kg/day) than the younger group received. The mean length of stay was significantly shorter in the older adult group (35.9 [SD: 21.3] vs 59.8 [SD: 55.3]; $P < 0.05$). There was no significant difference in PN-related complications and clinical outcomes (catheter-related bloodstream infections, hypoglycemia or hyperglycemia, fluid overload, or inpatient mortality) between the two groups.
CONCLUSION: Despite more comorbidities in the older adult, the usage of PN in older adult patients with acute intestinal failure was associated with neither an increased rate of PN-related complications nor worse clinical outcomes when compared with that of younger patients.

9 How quality of life is measured in studies of nutritional intervention: a systematic review

Raquel Clapés Pemau, Patricia González-Palacios, Kirk W Kerr.
Health Qual Life Outcomes. 2024 Jan 24;22(1):9.
PMID: 38267976 PMCID: PMC10809546 DOI: 10.1186/s12955-024-02229-y

RESUMEN
BACKGROUND: Nutrition care can positively affect multiple aspects of patient's health; outcomes are commonly evaluated on the basis of their impact on a patient's (i) illness-specific conditions and (ii) health-related quality of life (HRQoL). Our systematic review examined how HRQoL was measured in studies of nutritional interventions. To help future researchers select appropriate Quality of Life Questionnaires (QoLQ), we identified commonly-used instruments and their uses across populations in different regions, of different ages, and with different diseases.
METHODS: We searched EMCare, EMBASE, and Medline databases for studies that had HRQoL and nutrition intervention terms in the title, the abstract, or the MeSH term classifications "quality of life" and any of "nutrition therapy", "diet therapy", or "dietary supplements" and identified 1,113 studies for possible inclusion.We then reviewed titles, abstracts, and full texts to identify studies for final inclusion.
RESULTS: Our review of titles, abstracts, and full texts resulted in the inclusion of 116 relevant studies in our final analysis. Our review identified 14 general and 25 disease-specific QoLQ. The most-used general QoLQ were the Short-Form 36-Item Health Survey (SF-36) in 27 studies and EuroQol 5-Dimension, (EQ-5D) in 26 studies. The European Organization for Research and Treatment of Cancer Quality of life Questionnaire (EORTC-QLQ), a cancer-specific QoLQ, was the most frequently used disease-specific QoLQ (28 studies). Disease-specific QoLQ were also identified for nutrition-related diseases such as diabetes, obesity, and dysphagia. Sixteen studies used multiple QoLQ, of which eight studies included both general and disease-specific measures of HRQoL. The most studied diseases were cancer (36 studies) and malnutrition (24 studies). There were few studies focused on specific age-group populations, with only 38 studies (33%) focused on adults 65 years and older and only 4 studies focused on pediatric patients. Regional variation in QoLQ use was observed, with EQ-5D used more frequently in Europe and SF-36 more commonly used in North America.

CONCLUSIONS: Use of QoLQ to measure HRQoL is well established in the literature; both general and disease-specific instruments are now available for use. We advise further studies to examine potential benefits of using both general and disease-specific QoLQ to better understand the impact of nutritional interventions on HRQoL.

10 Cost-effectiveness of prehabilitation of elderly frail or pre-frail patients prior to elective surgery (PRAEP-GO) versus usual care - Protocol for a health economic evaluation alongside a randomized controlled trial

Helene Eckhardt, Wilm Quentin, Julia Silzle , Reinhard Busse and Tanja Rombey

BMC Geriatr. 2024 Mar 6;24(1):231
PMID: 38448804 PMCID: PMC10916129 DOI: 10.1186/s12877-024-04833-5

RESUMEN

BACKGROUND: Prehabilitation aims to improve patients' functional capacity before surgery to reduce perioperative complications, promote recovery and decrease probability of disability. The planned economic evaluation is performed alongside a large German multi-centre pragmatic, two-arm parallel-group, randomized controlled trial on prehabilitation for frail elderly patients before elective surgery compared to standard care (PRAEP-GO RCT). The aim is to determine the cost-effectiveness and cost-utility of prehabilitation for frail elderly before an elective surgery.

METHODS: The planned health economic evaluation comprises cost-effectiveness, and cost-utility analyses. Analyses are conducted in the German context from different perspectives including the payer perspective, i.e. the statutory health insurance, the societal perspective and the health care provider perspective. Data on outcomes and costs, are collected alongside the ongoing PRAEP-GO RCT. The trial population includes frail or pre-frail patients aged ≥70 years with planned elective surgery. The intervention consists of frailty screening (Fried phenotype), a shared decision-making conference determining modality (physiotherapy and unsupervised physical exercises, nutrition counselling, etc.) and setting (inpatient, day care, outpatient etc.) of a 3-week individual multimodal prehabilitation prior to surgery. The control group receives standard preoperative care. Costs include the intervention costs, the costs of the index hospital stay for surgery, and health care resources consumed during a 12-month follow-up. Clinical effectiveness outcomes included in the economic evaluation are the level of care dependency, the degree of disability as measured by the WHO Disability Assessment Schedule 2.0 (WHODAS 2.0), quality-adjusted life years (QALY) derived from the EQ-5D-5L and the German utility set, and complications occurring during the index hospital stay. Each adopted perspective considers different types of costs and outcomes as outlined in the protocol. All analyses will feature Intention-To-Treat analysis. To explore methodological and parametric uncertainties, we will conduct probabilistic and deterministic sensitivity analyses. Subgroup analyses will be performed as secondary analyses.

DISCUSSION: The health economic evaluation will provide insights into the cost-effectiveness of prehabilitation in older frail populations, informing decision-making processes and contributing to the evidence base in this field. Potential limitation includes a highly heterogeneous trial population.

TRIAL REGISTRATION: PRAEP-GO RCT: NCT04418271; economic evaluation: OSF (https://osf.io/ecm74).

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