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Defining and assessing psychological frailty in older adults: a scoping review protocol

Joanes Lameirinhas [ID] , Arantxa Gorostiaga, Igone Etxeberria

Clinical and Health Psychology and Research Methodology, University of the Basque Country UPV/EHU, Donostia/San Sebastián, Gipuzkoa, Spain

Correspondence to
Joanes Lameirinhas;
joanes.lameirinhas@ehu.eus

ABSTRACT

Introduction Frailty is widely acknowledged as a multidimensional construct encompassing physical, psychological and social aspects. However, the lack of consensus in defining and operationalising psychological frailty challenges the holistic approach to frailty advocated by health professionals. Consequently, there is a need to develop a comprehensive definition of psychological frailty based on contributions made by experts in the field, primarily existing frailty assessment tools. This scoping review will aim to identify the key psychological variables that are considered in frailty assessment tools used with older adults as well as to analyse how these psychological variables have been operationalised.

Methods and analysis The study will be conducted in accordance with recommendations from several methodological frameworks for scoping reviews and will be reported following Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews statement guidelines. A systematic literature search will be performed in the CINAHL, MEDLINE, PsycInfo, Scopus and Web of Science databases, supplemented by a search in Google Scholar and reference lists. The focus will be on studies that describe the development of multicomponent frailty assessment tools including at least one psychological variable. Study selection and data extraction will be independently conducted by three reviewers working in pairs. Data will be presented in tabular form, and the data will be analysed using qualitative content analysis.

Ethics and dissemination This study does not require ethical approval since it is based on secondary data analysis. The findings of the review will be disseminated through publication in a peer-reviewed scientific journal and will be presented at conferences and seminars.

Trial registration number The scoping review was registered in Open Science Framework on 29 March 2022 (https://osf.io/bn24y).

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ To ensure validity and rigour, the study will adhere to well-known, agreed-upon and updated practices for conducting and reporting scoping reviews.
⇒ A comprehensive and systematic literature search will be carried out involving multiple databases and incorporating grey literature.
⇒ The selection of electronic databases and the design of search strategies were peer reviewed by a research support librarian using the Peer Review of Electronic Search Strategies checklist.
⇒ To enhance the practicality of our findings, various health professionals will be consulted throughout the study.
⇒ A limitation of the study will be its exclusive focus on English-language publications, which may introduce language bias and omit potential insights from non-English sources, impacting the comprehensiveness and generalisability of our findings.

INTRODUCTION

Population ageing has emerged as a prominent and escalating demographic trend worldwide, primarily due to declining fertility rates, increasing longevity and the progression of large cohorts to older ages.[1] While longer life expectancy is undoubtedly a remarkable achievement in human progress, it presents numerous challenges, particularly concerning the health and well-being of older adults. Ageing has been associated with an increased risk of developing a wide range of chronic diseases and disorders.[2] However, chronological age alone fails to explain the array of health conditions observed among individuals from the same age group.[3] Consequently, many researchers have turned to the burgeoning concept of frailty, which was introduced precisely to explain this variability in risk.[4]

Over the last two decades, frailty has attracted significant attention and gained recognition in the health sciences, particularly in the fields of geriatrics and gerontology. Frailty is commonly defined as a state of extreme vulnerability to external and internal stressors that increases the risk of adverse health outcomes [5 6], including falls, physical limitations, cognitive disorders, hospitalisation and mortality.[7–9] According to a meta-analysis conducted by O'Caoimh et al,[10] the prevalence of frailty among older adults residing in the community and among those residing in nursing homes was 12 % and 45 %, respectively.

Given its impact on health outcomes and its widespread prevalence, understanding and detecting frailty have become major concerns not only for researchers but also for health professionals working with older adults. Moreover, several studies have indicated the interest expressed by health professionals in improving their knowledge about frailty, specifically regarding screening tools and management strategies, which may directly benefit their clinical practice.[11–16]

Although frailty was initially defined—and, therefore, assessed—exclusively in terms of physical limitations, it is now widely acknowledged as a multidimensional construct. Different models of frailty and its dimensions have been proposed, but there is a general agreement that, as suggested by Gobbens et al,[17] frailty encompasses three main dimensions: physical frailty, psychological frailty (PF) and social frailty. Since then, numerous multicomponent frailty assessment tools have been developed, comprising physical, psychological and social variables (see review by Sutton et al[18]). However, these tools vary widely in the way they evaluate each of the dimensions of frailty. In this regard, considerable efforts have been made to establish a common definition and operationalisation of physical frailty[19 20] and social frailty.[21 22] Notably, the latter has garnered recognition due to recent attention concerning the influence of social factors—such as social isolation, social support, and loneliness—on the health of older adults[23–25]. Conversely, PF has received limited attention.

The conceptual definition of PF remains a topic of ongoing debate, with no agreement reached thus far. In a recent scoping review by Zhao et al[26] focusing on PF definitions, no precise conceptual definition was found. Instead, the review highlighted the fact that PF is frequently described in terms of psychological variables related to frailty. This lack of standardisation has led to significant confusion regarding its meaning and usage, to the extent that different terms have been employed in the literature to refer to this dimension, including mental frailty[27 28] and psychosocial frailty.[29 30] Nonetheless, the most widely accepted term is 'psychological frailty'.

Closely related to PF is cognitive frailty, which has attracted considerable interest over the past decade. It was first defined by Kelaiditi et al[31] as a clinical condition characterised by the simultaneous presence of mild cognitive impairment and physical frailty, in the absence of a dementia diagnosis. Since its delimitation, cognitive frailty has been extensively studied and recognised[32 33]. However, its definition may be questionable since, as stated by Facal et al,[34] the cognitive and physical domains of human functioning, although interrelated, do not depend on each other. Therefore, the operational definition of frailty may need to address cognitive and physical aspects independently.

Despite various proposals concerning the components to be included in PF, no consensus has yet been reached. It should be noted that given the diverse possible interpretations of the term 'psychological', the components comprising PF vary across assessment tools, with some measures exclusively focusing on cognitive variables (eg, general cognitive ability and subjective memory complaints), others on emotional factors (eg, depressive and anxious symptoms), and yet others considering both simultaneously.[26 35] Consequently, a wide range of frailty assessment tools include psychological variables, but many adopt different approaches to measuring PF.

In sum, the lack of agreement on the conceptual definition of PF and its constituent components has led to considerable confusion within the field of frailty, hindering the establishment of a consensus regarding its operationalisation and giving rise to diverse approaches across studies. This in turn has impeded the development of interventions and tailored care strategies aimed at mitigating the adverse effects of frailty among older adults.[36] Furthermore, the absence of an agreed-upon definition diminishes the usefulness of the construct itself, making it difficult to ensure the holistic approach to frailty advocated by health professionals.[12 14 16]

The issues discussed above emphasise the need to establish a precise and inclusive conceptual definition of PF. In order to achieve a consensus-based and practical definition, it is crucial to build on the previous insights and contributions of experts in the field, mainly existing multicomponent frailty assessment tools. Given the absence of a specific definition of PF, taking the psychological variables contemplated in available tools into consideration appears to be the most suitable approach to formulating a new and refined definition of PF, around which a consensus can be built. Conducting a thorough analysis of the possible constituent components of PF is an essential part of this undertaking.

For the aforementioned reasons, we plan to carry out a comprehensive scoping review of assessment tools used to measure multicomponent frailty in older adults. The main aim of the review will be to identify the key psychological variables considered in frailty assessment tools and to examine how these psychological variables have been operationalised. The review, therefore, seeks to answer the following research questions: (a) 'What frailty assessment tools assess psychological variables?'; (b) 'What psychological variables do they assess?' and (c) 'How do these assessment tools operationalise the psychological variables they measure?'.

Based on the results obtained, the variables that may make up PF will be discussed and, ultimately, a broad conceptualisation of the dimension will be proposed. To the best of our knowledge, this will be the first attempt at proposing a comprehensive and explicit definition of PF. It will also be a definition based on prior research, an approach that will increase the likelihood of reaching a greater consensus among professionals.

METHODS AND ANALYSIS
Study design
Given the breadth of the research questions, a scoping review approach was adopted. Unlike systematic reviews, scoping reviews aim to systematically identify and map

all available evidence on a particular topic and, therefore, are usually used to address broader research inquiries. Scoping reviews are particularly recommended, for instance, when the purpose is to clarify key concepts or definitions, or to identify the main factors or characteristics related to a concept.[37 38] However, similar to systematic reviews, they follow a systematic, transparent and replicable procedure.[39]

The scoping review proposed in this protocol will be conducted in accordance with the methodological framework established by Arksey and O'Malley,[40] following also the recommendations made by Levac *et al*[41] and the JBI Scoping Review Methodology Group.[39 42 43] Additionally, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) extension for Scoping Reviews statement guidelines[44] will be followed for reporting the study. However, we will also integrate the updated guidelines from the recent PRISMA 2020 statement[45] for reporting systematic reviews, which provides valuable instructions for various aspects that both types of review have in common (eg, the new flow diagram design).

The current protocol adheres to the recently published JBI guidance for conducting and reporting scoping review protocols[46] and was registered in Open Science Framework on 29 March 2022 (https://osf.io/bn24y).

Eligibility criteria
Population
We will consider studies conducted with samples of older adults from the general population. Therefore, tools exclusively validated with older adults with specific diseases or disorders (eg, cardiovascular diseases or intellectual disabilities) will be excluded. These tools are often designed to address the unique needs and characteristics of their target populations, which may result in measurements that are not representative of the general population. Furthermore, given the variability of thresholds employed across studies to delineate the older population, a conservative approach, similar to that used in previous reviews[47] will be adopted, with studies conducted with samples of older adults aged 55 years and over being included. Studies simultaneously involving other age groups will also be considered if they provide separate evidence for each group.

Concept
This scoping review will focus on the psychological variables used to measure frailty and their operationalisation. To be eligible, studies will have to describe the development and validation process of a multicomponent frailty assessment tool. Only the original versions of the instruments will be considered. Consequently, any modified or adapted versions of the original instruments will be excluded. Furthermore, tools will have to include a frailty assessment that uses at least one psychological item.

Context
All settings will be considered eligible (eg, community, primary healthcare, acute care and nursing homes). However, special attention will be paid to studies conducted in clinical settings to ensure they do not focus on older adults with specific medical conditions. No restrictions linked to geographic location or publication date will be applied.

Types of sources
As our aim is to analyse original studies, review articles (literature reviews, systematic reviews, scoping reviews, etc) and meta-analyses will be excluded. Nevertheless, these excluded articles will be scrutinised to identify additional references, as explained in the 'Study selection' section. In terms of language, only studies published in English will be included in the review.

Information sources
In order to encompass studies that are potentially relevant to the review objectives, an exhaustive literature search will be conducted in the following electronic databases: CINAHL, MEDLINE, PsycInfo, Scopus and Web of Science Core Collection. These databases were intentionally selected together with a research support librarian to ensure that the search includes both multidisciplinary databases and those specific to the fields of medicine, psychology and nursing (as these fields are more closely related to mental health). In addition to electronic database searches, a Google Scholar search will be performed using relevant key search terms to enhance the scope of the review. The first 200 results sorted by relevance will be inspected, as suggested by many authors.[48 49] By adopting this constraint, we acknowledge the advice offered by Levac *et al*,[41] namely that scoping reviews may need to balance comprehensiveness against feasibility. Finally, reference lists of both included studies and excluded review articles will be scrutinised to identify any supplementary references not previously captured in the searches of academic databases or the Google Academic search engine.

In line with the recommendations from various authors,[50–52] in order to ensure an exhaustive literature search while minimising publication bias, grey literature may also be considered. Consequently, in the three aforementioned information sources (ie, academic databases, Google Scholar and scanned references), documents that comply with the definition of grey literature (eg, reports, theses and dissertations, and conference papers) and are potentially relevant to the review will be included. Eligibility criteria for grey literature will be consistent with those applied to the rest of the documents.

Search strategy
Search strategies have been arranged decided on by the authors and peer-reviewed by a research support librarian following the Peer Review of Electronic Search Strategies checklist.[53] Multiple similar terms were used to maximise

the breadth of the search, aiming to identify all potentially eligible studies. Moreover, the asterisk (*) wildcard symbol was employed to capture all variations of words that start with the same root, thereby broadening the search. For example, 'assess*' detects terms such as 'assessment' and 'assessing'. In the rest of the databases, the search terms used were the same, although search fields are not always entirely identical. In such cases, efforts were made to use the most similar fields. However, since Google Scholar does not permit the use of the asterisk truncation symbol, full terms were used. A research support librarian ensured equivalence between the searches. The final search strategies for the academic databases and Google Scholar search engine are presented in online supplemental appendix 1.

The literature search will be performed between October 2023 and December 2023.

Study selection

Records from databases and Google Scholar will be imported into an Excel sheet, and duplicates will be manually removed. The resulting records will undergo a two-phase screening process using previously set eligibility criteria to determine their inclusion in the review. A first screening of records based on titles and abstracts will be conducted in pairs by three reviewers. However, if abstracts are unavailable, full texts will be evaluated directly. Each reviewer will work independently at first and then the pair will meet to discuss their evaluations. Any disagreement or uncertainty will be solved by consensus between the pair. If needed, the third reviewer will be involved in the discussion in order to reach an agreement. It is important to note that, following the recommendation made by Levac *et al*,[41] reviewers will convene at the intermediate and final stages of the title and abstract screening process to address challenges and uncertainties regarding study selection. This will help refine the eligibility criteria and/or search strategies (if deemed necessary) in an iterative process. Once the definitive eligibility criteria and search strategies are established, the three reviewers will perform a second screening of articles based on full texts following the same procedure as in the first screening phase. In cases in which the information required to meet the review objectives is unavailable within the document itself (eg, written items), the reviewers will attempt to contact the authors via email. If no response is received, these documents will be excluded from the review process. All reasons for exclusion will be documented. In both screening phases, inter-rater reliability will be measured using Cohen's kappa coefficient (κ). Criteria proposed by Landis and Koch[54] will be used to determine the strength of agreement associated with the statistic.

Subsequently, one reviewer will scan the reference lists from included studies and excluded review articles. Potentially suitable references will then be agreed on by the research team and added to the previously selected studies.

Data extraction

In pairs, the three reviewers will independently perform data extraction, before meeting to interchange results. Any discrepancies or uncertainties will be resolved through consensus or by involving the third reviewer if needed. Before starting the review, calibration exercises will be conducted to ensure consistency among reviewers.

Data of interest will be extracted from each included study using a standardised form. In cases in which the relevant data are missing or confusing, study authors will be contacted for clarification. If no response is received, this information will be indicated with the abbreviation N.A. (not available). Initially, two types of information will be gathered in accordance with the objectives of the review. First, the descriptive characteristics of the studies will be recorded, including authors, year of publication, publication source, state and/or country, study population and descriptive statistics of the study sample (ie, sample size, age range, mean age and SD, and percentage of females). Second, information related to the characteristics of the assessment tools will be gathered: name of the tool, type of measurement (eg, self-report, performance-based, etc), assessed frailty domains, total number of items, number of psychological items, assessed psychological variables and their operationalisation, answer options and their coding, total score range and cut-off points (if applicable). However, during the information gathering process, the data extraction form will be adjusted and refined in an iterative process. The final form will be presented in the scoping review.

Data analysis and presentation

First, the results of the search strategy and study selection process will be reported. Additionally, the study selection process will be depicted in a PRISMA flow diagram (see online supplemental appendix 2). Second, key information or results relevant to the objectives of the scoping review or the questions it seeks to answer will be presented. In order to facilitate the interpretation of the results, the information of interest extracted will be presented in two separate tables. The first table will encompass the descriptive characteristics of the sources of evidence (ie, publication source, study population, sample size…), while the second table will include information related to the characteristics of the assessment tools (ie, type of measurement, assessed frailty domains, assessed psychological variables and their operationalisation…). Each piece of information presented will undergo thorough analysis, which will be conducted and discussed by all members of the research team. As recommended by Pollock *et al*,[43] basic qualitative content analysis will be used as the method of knowledge synthesis. Specifically, a detailed narrative synthesis for each variable of interest will be provided, highlighting the similarities and differences found in each of them across the tools. In addition, an in-depth description of each assessment tool will be included.

Consultation with stakeholders

We conducted consultations with stakeholders, including a primary care physician, a psychologist, a nurse and a nursing assistant. The primary objective of these consultations was to ensure the relevance and applicability of the topic to their respective professions as well as to enhance the quality of the study by integrating valuable insights from practitioners. Stakeholders were, and will continue to be, instrumental in different stages of the study. During the initial stages, they contributed to precisely formulating the purpose of the review, refining the eligibility criteria and improving the drafted search strategies. Their feedback was collected through interviews and meticulously considered to implement any necessary modifications.

These professionals will once again be actively involved at the conclusion of the study to discuss preliminary findings, translate them into understandable terms and provide practical meaning for health professionals. Subsequently, their insights will be sought to identify potential strategies for promoting knowledge transfer, raising awareness of frailty (especially on PF) and implementing preventive interventions in healthcare.

ETHICS AND DISSEMINATION

The scoping review proposed in this protocol will systematically collect and analyse existing published literature. As such, no human participant will be involved, and no primary data will be gathered. Therefore, the study will not require ethical approval.

The findings of the review will be disseminated through publication in a peer-reviewed scientific journal, ensuring accessibility to a diverse range of knowledge users. Additionally, we plan to present our findings at conferences and seminars. We intend to actively engage in knowledge transfer and facilitate the dissemination of the results, not only within the scientific community but also to various professionals involved in the care of the elderly, including physicians, psychologists and nurses. By doing so, we aim to foster awareness of PF and facilitate the practical application of the study's findings within each respective discipline.

Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the 'Methods and analysis' section for further details.

Patient consent for publication Not applicable.

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ORCID iD
Joanes Lameirinhas http://orcid.org/0000-0002-5304-7166

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