Multidimensional Short Tools to assess frailty: a narrative review

V. Formosa[1], G. Lorusso[1], G. Lentini[1], E. Terracciano[1], S. Gentili[2], G. Liotta[2]

Abstract

Background. *The population of the European Union is progressively ageing, therefore frailty is becoming a crucial public health issue. In recent years there is a growing interest in a multidimensional concept of frailty, that is not only physical but also psychological and social, in line with a person-centered care.*
Study design. *To measure frailty represents a fundamental step to evaluate the needs for care at both population and individual levels. Of course, to assess frailty in a large population is essential to find short and quick tools able to give reliable results in terms of risk of occurrence of negative events, to stratify older adults according to their frailty level. In this way the most appropriate strategies can be chosen and applied, to delay the functional decline associated to frailty and its consequences, such as hospitalization, institutionalization, low quality of life, and death.*
Methods. *In this review we searched on PubMed for articles about scales assessing frailty with peculiar characteristics: published for the first time in 2010, available in English, with a short length and duration of administration, composed by multidimensional domains.*
Results. *Seven scales were found and analyzed: The Zulfiqar Frailty Scale (ZFS), The Pictorial Fit-Frail Scale (PFFS), The Tilburg Frailty Indicator (TFI), The SUNFRAIL Tool, The (fr)AGILE, The Risk Instrument for Screening in the Community (RISC) and The Short Functional Geriatric Evaluation (SFGE). We compared their main features as the number of questions, the time for administration, the domains used and the psychometric properties as validity and reliability, with the aim of providing a set of useful information to health professionals in their everyday work.*
Conclusions. *The use of these tools provides important information to help plan community health and social care and meet individuals' needs for care, but this approach is not common for community care in the EU yet.*

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[1] *School of Specialization in Hygiene and Preventive Medicine, University of Rome Tor Vergata, Rome, Italy*
[2] *Department of Biomedicine and Prevention, University of Rome Tor Vergata, Rome, Italy*

Introduction

The most recent statistical data show that the population is aging, life expectancy increases, and birth rates lower in the European Union (EU). These events have many consequences, such as a progressive reduction of the working-age population. In fact, in 2019, people over 65 were 20.3% of the EU population, and during the next three decades, the number of people over 65 in the EU will follow an upward path, reaching approximately 28 % in 2050 (1). On the other hand, about 25% of >85 y people are frail nowadays, so the risk of developing disability, institutionalization, hospitalization, and death intensifies. Indeed the prevalence of frailty and the need for its prevention and easy detection increase (2). In this context, planning the care of the elderly has a fundamental role in managing health costs and achieving a better quality of life (3).

For this reason, evaluating the older population's needs for care is crucial, especially by planning out-of-hospital care and services customized on the actual request for assistance and not only on the momentary need for care (i.e., rehabilitation therapy, medication, diagnostic exams, Etc.). Moreover, starting from the available resources instead of a person-centered approach will necessarily leave unmet needs behind. In healthcare, to decide, there must be proper quantitative ways to calculate risk and a balance of costs and benefits of the various management methods (4). In Italy, out-of-hospital care relies on different characteristics of the patient but not on the assessment of bio-psycho-social frailty, which is the result of the combination of the individual psychophysical condition (intrinsic capacity) and socioeconomic resources. This multidimensional approach includes physical, functional, psychological, and socioeconomic dimensions (5, 6) as predictive indicators of the older

population's care needs; this helps them plan out-of-hospital care and services. Supporting frail community-dwelling older people should include identifying individualized care plans to give services tailored to their needs to preserve their independence longer and reduce the risk for hospitalization/institutionalization. The World Health Organization (WHO) highlights the importance of supporting integrated care for healthy aging, too (7). There is no coordination between settings and care providers in many countries because of the absence of an integrate continuum of care (8).

Moreover, few primary care services use an integrated approach for frail elderly, as it happens in a limited number of cases in the USA, Canada, and some European countries (9). However, identifying and managing frail older adults in community settings can effectively improve their health outcomes (10). So operators have to work on many patients with short and fast administering tools to identify the frails, plan efficient and effective out-of-hospital care, and assess the aging population's multidimensional frailty and assistance needs. This review aims to examine some short and fast tools to assess frailty recently published to help plan efficient and effective out-of-hospital care for the elderly.

Methods

We performed a narrative review in line with "The 2020 Preferred Reporting Items for Systematic reviews and Meta-Analyses" (PRISMA) statement (11) and using a double-blind approach, intending to observe short questionnaires at the international literature level for the early identification and assessment of frailty in older people. The review was conducted from April 2021 to June 2021 using PubMed as a single database, and this is our main limitation. The population

targeted in the research is the frail old adult; the intervention is a short questionnaire to multidimensional evaluation, so the outcome is frailty assessment. We started using the string (Frailty scale tool elderly AND (2010:2021)) OR (Multidimensional evaluation AND (2010:2021)) with the filter for years because the purpose of the research was to study the literature produced in the last years, and we obtained 7,864 articles published from 2010. Then we have narrowed down the search because it is too broad using another string [Frailty scale tool elderly AND (2010:2021)]. We obtained 289 articles. We deleted 4 Randomized Controlled Trials because they did not study the reliability and validity of the questionnaires. We deleted 11 papers because their full text wasn't in English or Italian (1 in French, 2 in Japanese, 7 in Spanish, 1 in Chinese). We deleted nine papers because their full text was not available. We deleted three reports being conference proceedings. In the end, we obtained 262 articles that have been scanned by title and abstracts not related, and we reached 62 pieces. Out of these 62 articles, we analyzed 13 that included six questionnaires because we excluded those that concerned scales that were not quick (more than 15 minutes on average), with more than 15 items, and not composed of multidimensional domains (Figure 1). They could be helpful in the context of community-dwelling older people
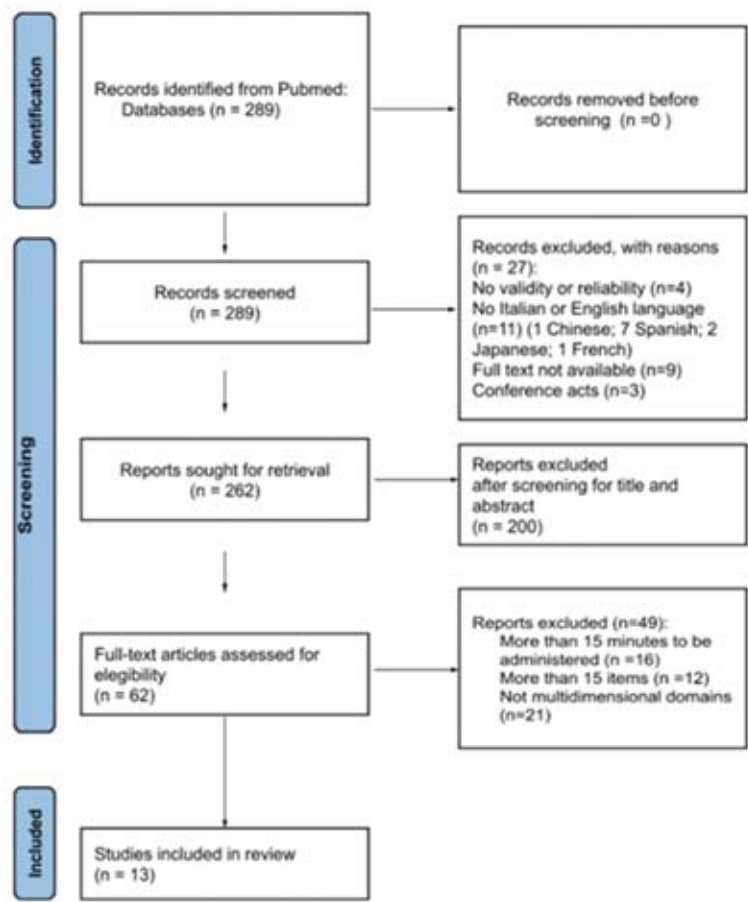

Figure 1 - Flow chart describing the article selection process.

and Primary Health Care. Instead, we deepened the research about the SUNFRAIL Tool using PubMed with the keyword "SUNFRAIL." We obtained six articles, three of which were intrinsic to our study. So finally, we have analyzed seven short questionnaires. At last, we examined the first articles in which the selected questionnaires were developed by following the COSMIN checklist (12) - if applicable - and using a double-blind approach.

Results

We identified 13 papers describing seven scales that matched our criteria (Table 1). All scales were published in the period between 2010 and 2021 in the countries of the European Union. The number of people administered the scales ranges from 95 to 1,345, and they are all over 65 years of age; only one scale, the Zulfiqar Frailty Scale (ZFS), was reserved for people aged >65 and able to perform at least 4 ADLs. The number of questions ranges from 4 to 15. All these questionnaires include questions on physical, psychological, and socioeconomic domains for a multidimensional evaluation; (fr)AGILE and ZFS scales also include the nutritional field. Furthermore, the reliability has been studied for all scales, except for ZFS. The reliability is inter-rater for three scales ((fr)AGILE, Risk Instrument for Screening in the Community (RISC) and SUNFRAIL Tool), test-retest for one scale, Short Functional Geriatric Evaluation (SFGE) (13), test-retest, and inter-rater test for one scale, the Pictorial Fit-Frail Scale (PFFS), and inter-rater, test-retest, internal consistency for one scale, the Tilburg Frailty Indicator Part B (TFI Part B). Four scales have been validated ((fr) AGILE, RISC, SUNFRAIL Tool, SFGE). The PFFS has been studied for face, content, and construct validity; the TFI Part B has been studied for construct, face, content,

criterion (concurrent and predictive), structural validity. The predictivity has been studied for (fr)AGILE (2 years disability, hospitalization, and death), RISC (1-year hospitalization, institutionalization, and death), TFI (1-year mortality) (14, 15), and SFGE (1-year mortality and use of hospital service). All questionnaires have a numerical score, except SUNFRAIL Tool, which generates a specific alert according to any item. For all scales, the administration time is very short, ranging from less than two minutes to a maximum of fifteen minutes. In the COSMIN checklist, we have analyzed only two questionnaires, TFI and PFFS; the other short tools were not evaluable because they were not validated as Patient-Reported Outcome Measures (PROMs) (Table 2).

The Zulfiqar Frailty Scale (ZFS) (16) was published very recently (2021). It is arranged to be used in primary care, and it is composed of six items: "nutritional status, physical capabilities, social isolation, limitations in daily living activities, cognitive functions, and polymedicine". So, there is one social question in this tool, which is 16.6% of the items, and five psycho-social questions. We found only one study about ZFS, where the scale was tested on a sample of 102 patients. In this research, the scale was administered by general practitioners not trained before and in a primary care clinic; we need other studies about its possibility of being administered by other health professionals. The author writes that the answer to the question about cognitive function has to be confirmed by a caregiver. In this first study, the ZFS was only administered to people over 75 years old to perform at least Activities of Daily Living (ADL) ≥ 4. The average time of administration was less than 2 minutes. More studies are needed to assess validity and reliability.

The Pictorial Fit-Frail Scale (PFFS) was published in 2019 (17). It involves 14 items represented by images (mobility, function, cognition, social support, affect,

Table 1 - Key points of the seven tools considered.

Title	N. of questions	N. of people	Age	Reliability	Validation	Domain type	Country	Year	Predictivity	Score	Time
(fr)AGILE [2]	10	401	≥65	inter-rater	yes	Physical, Mental, Nutritional, Socioeconomic	Italy	2020	2 years disability, hospitalization, death	light (0-3), moderate (4-7), severe(8-10)	2,4±1,2 minutes
PFFS [17-19]	14	95 in Phase 4 [17]	over 65 [?]° [17]	test-retest reliability [18]; inter-rater reliability [18, 19]	Face validity [17], content validity [17], construct validity [19]	Physical, Functional, Cognitive, Social, Psychological	Canada	2019	N/A	The threshold for vulnerability, mild, moderate, and severe frailty is 4, 9, 13, and 19	Mean time in Phase 3: 3,31 (min,sec) [17]
RISC [4]	4	803	mean age 79,8	inter-rater	yes	Mental state, ADLs, Medical/Physical state, Other	Ireland	2014	1 year hospitalization, institutionalization, death	from 1 (minimal and rare) to 5 (extreme and certain)	2-5 minutes
SFGE [27]	10	1342	>64	test-retest	yes	Physical, Mental, Socioeconomic	Italy	2018	1 year mortality and for use of hospital services	from -6 to +27	10 minutes
SUNFRAIL TOOL [24-26]	9	651*	>65	inter-rater	yes	Biological, Psychological, Social	Europe**	2015	N/A	no score, but an alert	few minutes
TFI Part B [14,15, 20-23]	15	479 (n=245; n=234) [20]	≥75 [20]	test-retest reliability [20], internal consistency reliability [20], inter-rater reliability [14]	construct validity [20], face validity [20], content validity [20], criterion validity (concurrent and predictive) [14, 15], structural validity [14]	Physical, Psychological, Social	Netherlands	2010	in four studies, the findings concerning mortality were at least acceptable; only Op Het Veld et al qualified the predictive value of the TFI as poor [14, 15]	a person is considered frail with a score 25	average 14 minutes [20]
ZFS [16]	6	102	>75	N/A	N/A	Nutritional, Physical, Social, Functional, Cognitive	France	2021	N/A	0=robust; 1-2: pre-frail; ≥3: frail	<2 minutes

° In Phase 4 the age of the sample is not specified;
* The total of European people having been tested is 651, but the published studies are 3 and the tested people are 418 (195 people by Prof. Gobbens's dutch study, 95 by Prof. Maggio's Italian study, 128 by Prof. Cardoso's Portuguese study)
** Netherlands, Italy, Portugal
N/A: not applicable

Table 2 - The COSMIN Risk of Bias checklist.
V: Very Good; A: Adequate; D: Doubtful; I: Inadequate; N/A: not applicable

Frailty Assessment Tool	Study Reference	Prom development	Content Validity	Structural Validity	Internal Consistency	Cross- Cultural Validity	Reliability	Measurement Error	Criterion Validity	Hypotheses Testing	Responsiveness
(fr)AGILE	Liguori et al. (2)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFFS	Theou et al. (15)	D	D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
RISC	O'Caoimh et al. (4)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SFGE	Capanna et al. (27)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SUNFRAIL Tool	Gobbens et al. (22)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TFI	Gobbens et al. (18)	N/A	D	N/A	V	N/A	D	N/A	N/A	D	N/A
ZFS	Zulfiqar (14)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

medication, continence, vision, hearing, balance, aggression, weight loss, pain, and daytime tiredness). One of the authors' purposes was to use the PFFS for people with different cultural levels. Social items are 7.1% of the total (one in 14 questions). The maximum score is 43, and the cutoffs are 4, 9, 13, and 19 (vulnerability, mild, moderate, and severe frailty). In the first published study, the PFFS was also administered in Malaysia in public primary healthcare clinics by caregivers, healthcare assistants, nurses, and medical officers, and it was self-administered too. The average time of administration was more than 3 minutes. Face and content validity were significant, although the sample was small (n=95). Another study (18) has shown a significant test-retest reliability when patients and nurses filled in the PFFS. Patients recruited (n=150) were not suffering from a severe visual deficit. However, they had to be aged 50 and over (mean age 78) and to be able to speak English, too. Inter-rater reliability assessed between nurse and physician gave good results. In another study performed in a memory clinic setting, the PFFS was characterized by a significant construct validity, considering patients, caregivers, nurses, and geriatricians (19). In this case, PFFS was tested on patients without a significant visual deficit, and that could manifest their consent or the consent to ask their substitute decision-maker. Participants were 51, with an average age of 77.3. Inter-rater reliability between nurses and geriatricians was significant, but it lowered considering patients with a low Mini-Mental State Examination (MMSE) score. Construct validity was significant when PFFS was administered by geriatricians, nurses, and caregivers but not when self-administered by patients with low MMSE scores.

The Tilburg Frailty Indicator (TFI) is a self-reported scale. It has been proposed in 2010 (20), and it is regularly used in the context of community-dwelling older people. Besides, in these eleven years, TFI has been widely utilized in research and translated into many languages, including Italian (21). It was designed considering a precise definition of frailty that takes into account a bio-psycho-social approach, and the fact that it is different from the classical phenotypic one: "frailty is a dynamic situation affecting an individual who experiences losses in one or more domains of human functioning (physical, psychological and social), which is caused by the influence of a range of variables and increases the risk of adverse outcomes" (20). The TFI is composed of 2 parts: Part A about "determinants of frailty and diseases", and Part B about the "presence of frailty" that generates a final score. Part B includes three domains (physical, psychological, and social) and 15 items. Among them, 3 are social items, representing 20% of the total. A total score equal to or greater than five is considered the threshold for frailty. In the first study, TFI was tested on a sample of 479 community-dwelling persons aged 75 or more. The average time of administration was 14 minutes. In this study (20), face validity and content validity were satisfactory, construct validity, and test-retest reliability were good. After this first article was published in 2010, others have been produced about this scale's validity and reliability, the most recent in 2021 (20). Internal consistency reliability resulted low for the social domains for Gobbens et al. (20). Regarding criterion validity (concurrent and predictive), Gobbens et al. (14) found that TFI was associated with disability and lower quality of life in some studies. However, it was not associated with visits to a general practitioner and with hospitalization (14). Si et al. (22) recently have not found a correlation between TFI and short-term disability, falls, and hospitalization. Four studies have also shown a correlation with mortality (14). Therefore, structural validity was acceptable (14, 23).

The SUNFRAIL Tool was a part of the European project SUNFRAIL (Reference Sites Network for Prevention and Care of Frailty and Chronic Conditions in community-dwelling persons of EU Countries) in May 2015. The SUNFRAIL Tool is a questionnaire composed of 9 items:

• 5 items (56% of questions) in a biological-physical domain;

• 2 items (22% of the questions) in the psychological-cognitive domain;

• 2 items (22% of the questions) in the socio-economic domain.

The answers to the questions are "yes" or "no" and they do not produce a score but an alert to deepen and eventually activate the health or social system (24). The SUNFRAIL tool is very fast; the time of administration is a few minutes. The number of people involved in published studies is 418 aged >65 (24-26), with no disability, and recruited by general practitioners or family nurses in Day Centers. In Italy, it has been administered by general practitioners, and results have been compared with those obtained from other geriatric scales (25). In The Netherlands and Portugal, the SUNFRAIL has been self-administered (24, 26). This tool was used only for study purposes, to check reliability and validation, but not predictivity.

AGILE contains 10 questions, 8 of which investigate psycho-physical frailty (80%), and 2 investigate socio-economic frailty (20%). The expected answers are "yes" or "no", and score one is attributed for the presence of each deficit; the total score ranges from 0 to 10, divided into tertiles: light (0-3), moderate (4-7) and severe (8-10) frailty. It has not been specified who should administer the questionnaire. However, authors affirm that AGILE allows clinicians to early identify and manage frailty in the elderly (>65 y) to prevent adverse events and develop personalized prevention interventions such as physical exercise, nutritional supplementation, or mental training (2).

RISC is used to screen many patients to identify those at most risk of adverse outcomes (i.e., institutionalization, hospitalization, and death) and direct them to further evaluations, investigation, and treatments (4). RISC evaluates the presence (yes or no) and severity (mild, moderate, and severe) of a "concern", referring to three aspects: Mental conditions, ADL (Activities of Daily Living), and Medical-physical conditions. Then, it assesses the caregiver's ability to manage these needs. In the end, a PHN (Public health nurse) assigns a "global risk score" to three adverse outcomes: institutionalization, hospitalization, and death. This instrument is administered by PHN to elderly (>65y) patients under their care after being trained and certified for scoring the RISC.

SFGE contains twelve questions: 5 investigate psycho-physical frailty (41%) and 6 investigate socio-economic frailty (50%), 1 is about age. The score ranges from -6 to +27, with a range of 34 points. The questionnaire can be administered by anyone holding at least a secondary school diploma. With regard to validity, a clinical study on SFGE reported a sensitivity of 90.4% and a specificity of 78.3% to detect frailty in community-dwelling older people in comparison with FGE (Functional Geriatric Evaluation) (area under ROC: 0.928; CL95%: 0.910 - 0.947; p-value < 0.001) (27). FGE is a questionnaire that can predict institutionalization, hospitalization, and death (6). Authors affirm that SFGE aims to identify the pre-frail state characterized by poor socio-economic resources and the onset of psycho-physical disability. This is associated with higher UHS (Use of Hospital Services) rates than are observed in robust subjects. So the use of this questionnaire could be helpful in the context of Public Health planning, being able to predict the demand for hospital care (27).

Discussion

Bio-Psycho-social frailty is a synthetic indicator of the risk of adverse events, especially in the elderly population. The assessment of frailty makes it possible to plan health and social services at the community level based on individuals' needs for care. Furthermore, assessment of frailty in the community-dwelling elderly population allows meeting the need for support of family caregivers and the potential workload addressed to home care services (28).

The most critical requirements of this kind of tool are:

● Being short, administrable in a maximum of 15 minutes, containing a few simple questions with closed answers, avoiding the possibility of personal interpretation, and very easy to be used even by personnel not involved in primary health care.

● The person administering the questionnaire should not need a high level of education or specific training. So that as many people as possible can make this assessment when they contact older people to identify early frail populations in need of care.

● The multidimensionality of the evaluation of the tool is crucial because a socio-economic domain has a heavy impact on health and on-demand care for community-dwelling older adults. The social determinants as social isolation, economic problems, loneliness, lack of social activities, inadequate social resources, not having family members or someone who can help in case of need are involved in the population's well-being, especially in older adults. They cannot be excluded or separated from the health care assessment (29).

Frailty is associated with more frequent and intense use of health resources as the degree of frailty increases (30). So, the predictivity provides a measure of care needs of frail older adults in the coming years

and consequently the impact on the health system and health expenditure.

Nowadays, there are a lot of tools available to be used in specific research, but it is not easy to choose the most appropriate one. So it is essential to evaluate in detail the psychometric properties of a questionnaire before using it, to assess its quality and help the researcher choose the proper scale for the correct use. It is crucial to evaluate statistical reliability (31) and validity, which are the most relevant properties used to evaluate a questionnaire (32). Validity can be considered "the ability of the instrument to measure what it intends to measure" (33), and reliability can be considered "the ability to reproduce a consistent result in time and space, or from different observers, presenting aspects on coherence, stability, equivalence, and homogeneity" (34). Reliability is fundamental for validity in psychometric instruments (32). There are different methods to assess this property, such as test-retest reliability and inter-rater reliability. The first one permits us to evaluate if the test has similar results if used for a second time. In contrast, the second one indicates if a scale has similar results if administered by different interviewers (32). Most of these tools showed an acceptable validity, reliability, and predictivity of adverse events. For that reason, they are ready to be used in public health practice.

The study's main limitation is intrinsic to the methodology: the search strings are questionable even if we think to have touched the main aspects of the issue of a quick and reliable assessment of frailty in a significant population. Furthermore, we performed the search on one only database, PubMed.

The tools analyzed in Table 1, although they all concern the assessment of frailty, can be used differently:

● The ZFS is a quick tool, that requires less than two minutes to administer and that includes one domain about nutrition and

another about cognitive function. However, ZFS was only administered by General Practitioners to older persons able to perform at least ADL ≥ 4.

● The PFFS is a visual scale that can be self-administered and used by people with different cultural levels. It takes only three minutes, but the social item includes only one question. This tool cannot be used in patients with several visual deficits, and its use in patients with severe cognitive impairment is challenging.

● The TFI Part B is a self-reported scale used in several countries, and it is associated with short-term disability, lower quality of life, hospitalization, and falls. It is characterized by the longest administration time (average 14 minutes).

● The SUNFRAIL tool can be administered by general practitioners to persons over 65 years of age. The administration time is a few minutes, it has closed answers (yes or no), and five items out of 9 are biological-physical domains. The SUNFRAIL tool does not produce a score but an alert to deepen health or social problems, and it has been used only for study purposes until now.

● The AGILE is a very rapid tool, with closed answers and a score. It can be administered to those ≥65 years old, but only two items out of ten check the socio-economic domain, and those responsible for its administration have not been indicated.

● The RISC assesses mental and physical state with the caregiver's ability to manage needs. It does not set the socio-economic domain, and it has been administered to people with a mean age of 79.8 years.

● The SFGE weighs up psycho-physical and socio-economic domains. It can be administered to people over 64 years old and checks the pre-frail state. Anyone with at least a secondary school diploma can administer the SFGE.

In conclusion, these tools represent an approach that can provide crucial information for planning community healthcare and meeting the individuals' need for care. This approach is not typical for community care in the EU yet, but could successfully face some urgent needs like integrating health and social care by implementing the assessment of bio-psycho-social frailty at the population level. The challenge for the care system is to deeply revise the approach to health and social care at the community level, shifting to a person-centered approach. A person-centered approach is essential for all healthcare choices, for example, choosing the proper treatment, especially for frail people with multimorbidity (35). Actually, physicians must consider each person's unique features (35). The Actifcare underlines the importance of person-centered care in the treatment path of people with dementia and the priority of guaranteeing them access to the community service network (36). It is essential to act on care disparities to achieve good person-centered care, so it is crucial to invest resources in innovation (37). This makes us understand how fundamental this approach is for the elderly to ensure the best possible quality of life and sociality.

Conclusions

This review has considered seven tools to identify frailty early and to address health services and home care management most appropriately. A few countries apply such instruments to small populations. These questionnaires should focus on preventing aggravation of the degree of frailty and, therefore, increasing health costs, and can solve this with personalized care programs. There is still a lot to do and deepen with research on the assessment and management of frailty. This study can give indications to the multidisciplinary team for more effective and efficient management for the assessment of frailty and for the improvement of its management at home:

1. Improvement of identification of frailty;

2. improvement of health and home services;

3. early identification of frailty;

4. including frailty assessment in the management of the elderly.

Early identification of frailty improves the management of frail older adults and directs them to more appropriate health and social interventions.

Conflicts of interest All authors declare no conflicts of interest.

Contributors All authors contributed equally to the writing of the review.

Riassunto

Gli strumenti multidimensionali brevi per valutare la fragilità: una revisione narrativa

Premessa. La popolazione dell'Unione Europea sta invecchiando progressivamente e per questo motivo la fragilità sta diventando un aspetto sempre più importante da considerare nel management della sanità pubblica. Negli anni recenti c'è stato un crescente interesse per quanto riguarda il concetto di fragilità multidimensionale, cioè non solo fisica ma anche psicologica e sociale, in linea con l'idea di un'assistenza che ponga al centro il paziente.

Disegno dello studio. In questo contesto appare essenziale trovare degli strumenti che permettano di effettuare uno screening della fragilità tra gli anziani che vivono in comunità, al fine di stratificare la popolazione secondo il livello di fragilità. In questo modo possono essere scelte ed applicate le strategie più appropriate al fine di ritardare il declino funzionale associato alla fragilità e le sue conseguenze, come l'ospedalizzazione, l'istituzionalizzazione, una bassa qualità della vita ed il decesso.

Metodi. In questa review abbiamo analizzato gli articoli che riguardavano scale che misuravano la fragilità rintracciabili su PUBMED, con alcune caratteristiche: brevi, somministrabili senza una lunga formazione, multidimensionali, pubblicate dal 2010 in poi in inglese.

Risultati. Vengono descritte 7 scale: la Zulfiqar Frailty Scale (ZFS), la Pictorial Fit-Frail Scale (PFFS), la Tilburg Frailty Indicator (TFI), la SUNFRAIL Tool, la (fr)AGILE, il Risk Instrument for Screening in the Community (RISC) e la Short Functional Geriatric Eva-

luation (SFGE). Abbiamo paragonato le loro principali caratteristiche quali il numero di domande, il tempo di somministrazione, i domini usati, e le proprietà psicometriche quali la validità e l'affidabilità, con lo scopo di aiutare i professionisti socio-sanitari nel loro lavoro di tutti i giorni.

Conclusioni. L'utilizzo di questi strumenti fornisce importanti informazioni che permettono di pianificare l'assistenza sanitaria e sociale della comunità e soddisfare il bisogno di cura degli individui, ma questo approccio non è ancora comune per l'assistenza comunitaria nell'UE.

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Corresponding author: Grazia Lorusso, School of Specialization in Hygiene and Preventive Medicine, University of Rome Tor Vergata, Viale Montpellier 1, 00133 Rome, Italy
e-mail: grazia.lorusso@students.uniroma2.eu