Frailty in community-dwelling older adults: a comparative study of screening instruments

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Abstract

Objective: to analyze the agreement between the Edmonton Frail Scale (EFS) and the Clinical Functional Vulnerability Index (CFVI-20). *Methods:* cross-sectional study, during which the Edmonton Frail Scale and the Clinical Functional Vulnerability Index were applied, at home, to older adults, registered in units of the Family Health Strategy of Montes Claros (MG) and randomly selected by lot. To evaluate the correlation and agreement between the instruments, *Pearson*'s correlation coefficient and the weighted *Kappa* were calculated, considering three levels of frailty classification, as follows: "robust", "risk of frail" and "frail" for the IVCF-20 and "not frail", "vulnerable" and "frail"' for the EFS. *Results:* We evaluated 673 older adults, predominantly brown, between 60 and 74 years old and female. According to the IVCF-20, 153 (22.7%) of the older adults were classified as "frail", 195 (29%) as "risk of frail" and 325 (48.3%) as "robust". According to the EFS, 159 older adults (23.6%) were classified as "frail"; 112 (16.6%) older adults "apparently vulnerable" and 402 (59.7%) "not frail". *Pearson*'s correlation coefficient was 0.865 (p<0.001) and showed a positive correlation between the instruments and *Kappa* statistics showed a value of 0.532 (p=0.027), revealing moderate agreement. *Conclusion:* The instruments evaluated showed moderate agreement and strong positive correlation, despite the differences between some of their components. Both showed to be compatible for the assessment of frailty in older adults in the context of Primary Health Care.

Keywords: Geriatric Assessment. Aged. Primary Health Care. Frailty.

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INTRODUCTION

Brazil, akin to most countries, is undergoing a major epidemiological transition driven by a rapid growth in the older population[1-3]. This increase in the contingent of older people places greater burden on public and private health systems with higher costs for treating chronic non-communicable diseases (NCDs) and their consequences, particularly multimorbidity and polypharmacy[4].

The frailty syndrome in older people is a clinically-preventable and reversible condition characterized by a cumulative decline in physiological systems which result in greater vulnerability to adverse health events[5]. Although no consensus exists, the most widely accepted concept defines frailty as a loss of physical functioning or accumulation of multiple deficits. An alternative conceptual approach describes frailty as a loss of interaction between genetic, biological, functional, cognitive, psychological and socioeconomic dimensions which leads to homeostatic instability[6].

The association between frailty and adverse health events underscores its importance as a marker of functional health in older people. Although the syndrome is associated with disabilities and multiple comorbidities, frailty can also occur in apparently healthy individuals, since its physiology is complex and involves interaction between diseases and aging-related decline[7].

A systematic review of instruments for assessing frailty in the older population found a lack of standardization across screening tools. The large number of instruments available for measuring frailty makes it difficult for researchers and clinicians to choose the most appropriate tool. Given the wide array of different instruments, researchers and clinicians are recommended to select the most suitable tool for the local context, evaluation goals, professional experience and time available[8].

Most available scales are not quick to apply during screening by frontline health professionals who provide care for older people. Multi-dimensional clinical data based on comprehensive geriatric assessment (CGA), and a specialized geriatric-gerontological team, are often required[8-10]. Many professionals typically diagnose frailty based on multiple diseases or comorbidities or on general appearance without taking into account aspects related to older people´s greater vulnerability to functional decline. These aspects can also be overlooked by instruments designed for assessing older individuals[9,10].

In this context, the Clinical Functional Vulnerability Index (CFVI-20) and Edmonton Frail Scale (EFS) constitute two scales used for assessment and screening of frail older individuals. Both these tools are deemed by their authors as reliable and easy-to-apply by non-specialists in geriatric medicine, often frontline health professionals who deliver care to the older population[9-12]. The two tools rank among the 4 most commonly used instruments for evaluating clinimetric properties, according to a systematic review involving studies from many countries, including Brazil [8]. The CFVI-20 is a practical rapid screening instrument developed in Brazil that can be applied by any health professional engaged in primary care, conferring utility for identifying frail older adults living in the community[9]. The EFS, developed in Edmonton city, Canada, is a one of the most internationally recognized scales, with a validated version in Portuguese[11,12].

The objective of the present study was to analyze the agreement between the Edmonton Frail Scale (EFS) and the Clinical Functional Vulnerability Index (CFVI-20).

METHODS

The scales were analyzed by applying both to a random sample of older individuals in a cross-sectional, analytical study conducted in the city of Montes Claros (Minas Gerais state), Brazil. The city is the largest most important urban center in the region. At the time of the study, the city had an estimated population of 400,000 people[13] and 132 Family Health Strategy (ESF) teams, providing 100% primary health coverage.

Two-stage cluster sampling was carried out. An initial total of 6 out of the 12 regional urban health centers of the city were randomized and ESF teams randomly selected from each. For each health region,

sub-regions were randomly selected, where all older residents were considered eligible for the study.

Data were collected at the homes of the older individuals by a previously trained data collection team comprising nurses and medical students engaged in a scientific initiation program. Interviews lasting around 40 minutes were conducted via household visits. Data collection was performed between March and June 2018. All older individuals aged ≥60 years registered with and followed by ESF teams were included. Individuals who had severe physical or cognitive disability precluding the answering of the questionnaire and no caregiver/guardian available during the data collection visit were excluded. Older individuals who were hospitalized or institutionalized at the time of interviews were also not included.

The sample size was calculated using Epi info software available for download at https://www.cdc.gov/epiinfo/support/downloads.html. The estimated parameters were: sample size 34,000 older adults[13]; expected prevalence 20.1% frail individuals, as determined in a previous study of the same region[14]; error margin 4%, confidence level 95%; and sample design effect correction 1.5. Based on these parameters, the minimum number of older participants to be included in the study sample was 572.

The following sociodemographic information was collected to characterize the sample: sex, age group, skin color, education, family income and living arrangements.

The data collection instruments applied were the Edmonton Frail Scale (EFS) and the Clinical Functional Vulnerability Index (CFVI-20). The EFS, adapted and validated for use in Brazil, measures 9 different domains: cognition, general health status, functional independence, social support, use of medications, nutrition, mood, continence and functional performance, investigated using 11 items. Maximum score on the scale is 17 points, representing the maximal level of frailty. Frailty status is determined by the scores: 0-4, not frail; 5-6, vulnerable; 7-8, mild frailty; 9-10, moderate frailty; ≥11, and severe frailty[11,12,15].

The CFVI-20 was devised and validated for use as a screening instrument in primary care to identify frail older individuals. The scale comprises 20 questions under 8 different sections including age (1 question), self-perceived health (1 question), activities of daily living (4 questions), cognition (3 questions), mood (2 questions), mobility (6 questions), communication (2 questions) and multiple comorbidities or recent hospitalization (1 question)[9]. Higher scores on the scale indicate worse clinical-functional state of the respondent. Based on CFVI-20 score, respondents are classified as: robust (0-6 points), exhibits good homeostatic reserve, independence and autonomy and no functional disability; risk of frailty (7-14 points), although manages life with independence and autonomy, has imminent risk of loss of functioning; and, lastly, frail (≥15 points), presenting functional decline and single or multiple disabilities, rendering the individual unable to manage own life[15,16].

Prior to analysis, the database was cleaned by identifying and removing outliers. The presence of normal distribution of variables was determined using the Kolmogorov-Smirnov test. Correlation between the instruments was assessed using Pearson´s correlation coefficient for total scores on each scale. Agreement between the EFS and CFVI-20 was determined using the weighted-kappa statistic for the 3 levels of frailty classification on each scale. Levels for the CFVI-20 were classified as "robust", "risk of frailty" and "frail". On the EFS, the 3 frailty levels "mild", "moderate" and "severe" were pooled into a single group rated as "frail", plus "not frail" and "vulnerable" levels. The value of the kappa statistic was interpreted as per Landis & Koch[17]. The final significance level of 5% ($p < 0.05$) was adopted for all statistical analyses.

The study was conducted in compliance with Resolution 466/12 of the National Board of Health of the Ministry of Health[18]. The research project was approved by the Research Ethics Committee (CEP) of the State University of Montes Claros, under permit no.1.629.395. All participants (or guardians) agreed to take part in the study by signing the Free and Informed Consent Form.

RESULTS

The study group comprised 673 older people registered with and followed by the ESF teams of the city. Of this total, 36 participants were lost due to refusals or exclusions. The sample contained older individuals who were predominantly brown (48.9%), female (63.2%), and aged 60-74 years (64.5%). Most participants were literate (but had <4 years of formal education), lived with others, and had a family income of 1-3 minimum wages (Table 1).

Performance on the CFVI-20 ranged from 0-40 points and 153 (22.7%) respondents were classified as "frail", 195 (29%) as "risk of frailty" and 325 (48.3%) as "robust".

The components of the instrument are described in Table 2. Highest positive response rates were for impairment of activities of daily living ("stopped bathing alone"), cognition ("forgetfulness prevents performing some daily activities") and mobility ("inability to handle/hold small objects" and "inability to raise arms above shoulder level"). Age, communication and comorbidities were the dimensions with the lowest rates of impairment in the frail group.

Table 1. Sociodemographic characteristics of older users of Family Health Strategy, Montes Claros (Minas Gerais state), 2018.

Variables	(n)	(%)
Sex		
Female	425	63.2
Male	248	36.8
Age (years)		
60 - 74	434	64.5
75 - 84	178	26.4
≥ 85	61	9.1
Skin color		
White	250	37.1
Black	84	12.5
Brown	329	48.9
Yellow	10	1.5
Education (years)		
< 1	72	10.7
1 - 4	225	33.4
5 - 8	249	37.0
≥ 9	127	18.9
Family income (minimum wages)*		
< 1	36	5.3
1 - 3	422	62.7
≥ 4	215	31.9
Living arrangements		
Lives alone	605	89.9
Lives with others	68	10.1

* Minimum wage at time of data collection = R$954.00.

Table 2. Positive response rates for items of dimensions of CFVI-20 in older users of Family Health Strategy, Montes Claros (Minas Gerais state), 2018.

CFVI-20 dimensions		Frail n (%)	Frailty risk n (%)	Robust n (%)
1.0	**Age** (years)			
	60-74	54 (13.4)	103 (25.5)	247 (61,1)
	75-84	61 (31.0)	65 (33.0)	71 (36,0)
	≥ 85	38 (52.8)	27 (37.5)	7 (9,7)
2.0	**Self-perceived health**			
	Excellent	3 (4.8)	17 (27.4)	42 (67,7)
	Very good	6 (8.6)	13 (18.6)	51 (72,9)
	Good	46 (14.2)	94 (28.9)	185 (56,9)
	Fair	73 (40.8)	64 (35.8)	42 (23,5)
	Poor	25 (67.6)	7 (18.9)	5 (13,5)
3.0	**Activities of Daily Living (ADLs)**			
3.1	Basic ADLs			
	Stopped bathing alone	54 (94.7)	3 (5.3)	0 (0.0)
3.2	Instrumental ADLs			
	Stopped doing shopping	122 (70.9)	44 (25.6)	6 (3.5)
	Stopped controlling finances	88 (73.3)	28 (23.3)	4 (3.3)
	Stopped doing domestic chores	108 (68.4)	48 (30.4)	2 (1.3)
4.0	**Cognition**			
	Becoming forgetful	112 (46.9)	72 (30.1)	55 (23.0)
	Worsening forgetfulness in recent months	67 (66.3)	24 (23.8)	10 (9.9)
	Forgetfulness preventing some daily activities	57 (87.7)	7 (10.8)	1 (1.5)
5.0	**Mood**			
	Dispiritedness, sadness or hopelessness in last month	97 (43.3)	82 (36.6)	45 (20.1)
	Loss of interest or pleasure, in last month, in previously enjoyable activities	88 (68.2)	32 (24.8)	9 (7.0)
6.0	**Mobility**			
6.1	Reach, grasp, and pincer grip			
	Inability to raise arms above shoulder level	27 (90.0)	2 (6.7)	1 (3.3)
	Inability to handle or hold small objects	11 (91.7)	1 (8.3)	0 (0.0)
6.2	Aerobic and/or muscle capacity			
	Unintentional weight loss	42 (50.6)	25 (30.1)	16 (19.3)
	BMI < 22	43 (35.0)	38 (30.9)	42 (34.1)
	Calf circumference < 31cm	23 (44.2)	19 (36.5)	10 (19.2)
	Gait speed (4m) > 5 sec.	133 (48.4)	96 (34.9)	46 (16.7)
6.3	Gait			
	Walking difficulties	118 (70.2)	47 (28.0)	3 (1.8)
	≥2 falls in last year	58 (47.9)	44 (36.4)	19 (15.7)
6.4	Incontinence			
	Involuntary loss of urine or feces	89 (50.9)	65 (37.1)	21 (12.0)

to be continued

Continuation of Table 2

CFVI-20 dimensions		Frail n (%)	Frailty risk n (%)	Robust n (%)
7.0	**Communication**			
	Vision problems	60 (43.8)	47 (34.3)	30 (21.9)
	Hearing deficits	40 (49.4)	32 (39.5)	9 (11.1)
8.0	**Comorbidities**			
	≥5 chronic diseases	68 (54.0)	45 (35.7)	13 (10.3)
	≥5 drugs used daily	103 (43.3)	76 (31.9)	59 (24.8)
	Hospitalization in last 6 months	34 (47.2)	21 (29.2)	17 (23.6)

Performance on the EFS ranged from 0-16 points, and 159 (23.6%) of respondents were classified as "frail", 112 (16.6%) as "vulnerable" and 402 (59.7%) as "non-frail". The positive response rates on EFS items for respondents are given in Table 3. The most frequent components among respondents with final classification of "frail" were poor self-perceived health, low functional performance, dependence, and high number of hospitalizations in last year.

The two scales were compared by calculating Pearson´s correlation coefficient. The result of 0.865 (p<0.001) demonstrated strong positive correlation between the instruments assessed (Table 4).

For the analysis of agreement, both scales were assessed for classification into 3 categories yielding a Kappa statistic of 0.532 (p=0.027), indicating moderate agreement (Table 5).

Table 3. Positive response rates for items of dimensions of Edmonton Frail Scale (EFS) in older users of Family Health Strategy, Montes Claros (Minas Gerais state), 2018.

EFS dimensions		Frail **n (%)**	Vulnerable **n (%)**	Not frail **n (%)**
1.0	**Cognition (clock test)**			
	Passed - no errors	16 (6.0)	33 (12.4)	218 (81,6)
	Failed – minor errors	17 (17.7)	19 (19.8)	60 (62,5)
	Failed – major errors	126 (40.6)	60 (19.4)	124 (40,0)
2.0	**General health status: hospital admissions in past year**			
	None	105 (18.1)	97 (16,8)	377 (65,1)
	1-2	50 (55.6)	15 (16,7)	25 (27,8)
	> 2	4 (100.0)	0 (0,0)	0 (0,0)
3.0	**Self-rated health**			
	Excellent	4 (6.9)	3 (5.2)	51 (87,9)
	Very good	4 (5.9)	5 (7.4)	59 (86,8)
	Good	58 (17.0)	47 (13.8)	236 (69,2)
	Fair	64 (37.9)	53 (31.4)	52 (30,8)
	Poor	29 (78.4)	4 (10.8)	4 (10,8)
4.0	**Functional independence: number of activities requiring help**			
	0-1	24 (5.2)	61 (13.1)	381 (81.8)
	2-4	22 (27.8)	37 (46.8)	20 (25.3)
	5-8	113 (88.3)	14 (10.9)	1 (0.8)

to be continued

Continuation of Table 3

EFS dimensions		Frail **n (%)**	Vulnerable **n (%)**	Not frail **n (%)**
5.0	**Social support (when need help, can count on someone)**			
	Always	133 (21.7)	101 (16.5)	379 (61.8)
	Sometimes	24 (42.9)	9 (16.1)	23 (41.1)
	Never	2 (50.0)	2 (50.0)	0 (0.0)
6.0	**Use of ≥5 medications**			
	No	56 (12.2)	66 (14.4)	337 (73.4)
	Yes	103 (48.1)	46 (21.5)	65 (30.4)
7.0	**Forget to take medications**			
	No	35 (8.2)	57 (13.3)	335 (78.5)
	Yes	124 (50.4)	55 (22.4)	67 (27.2)
8.0	**Nutrition (weight loss)**			
	No	98 (18.0)	88 (16.1)	359 (65.9)
	Yes	61 (48.0)	23 (18.1)	43 (33.9)
9.0	**Mood (sad or depressed)**			
	No	58 (12.7)	58 (12.7)	342 (74.7)
	Yes	101 (47.0)	54 (25.1)	60 (27.9)
10.0	**Urinary incontinence**			
	No	72 (14.4)	66 (13.2)	363 (72.5)
	Yes	87 (50.6)	46 (26.7)	39 (22.7)
11.0	**Functional Performance (Timed Up and Go test)**			
	0-10 seconds	8 (2.4)	36 (10.7)	293 (86.9)
	11-20 seconds	70 (28.8)	69 (28.4)	104 (42.8)
	> 20 seconds	81 (87.1)	7 (7.5)	5 (5.4)

Table 4. Comparison of frailty classifications on CFVI-20 with 3 categories and EFS with 5 categories in older users of Family Health Strategy, Montes Claros (Minas Gerais state), 2018.

CFVI-20 classification	Edmonton Scale Classification					Total
	Severe frailty	Moderate frailty	Mild frailty	Vulnerable	Not frail	
Frail	44 (28.8%)	40 (26.1%)	35 (22.9%)	28 (18.3%)	6 (3.9%)	153 (100.0%)
Frailty risk	1 (0.5%)	5 (2.6%)	32 (16.4%)	61 (31.3%)	96 (49.2%)	195 (100.0%)
Robust	0 (0.0%)	1 (0.3%)	1 (0.3%)	22 (6.8%)	301 (92.6%)	325 (100.0%)
Total	45 (6.7%)	46 (6.8%)	68 (10.1%)	111 (16.5%)	403 (59.9%)	673 (100.0%)

Linear correlation (Pearson´s): r =0.865 (p<0.001)

Table 5. Comparison of frailty classifications on CFVI-20 with 3 categories and EFS with 3 categories in older users of Family Health Strategy, Montes Claros (Minas Gerais state), 2018.

CFVI-20 classification	Edmonton Scale Classification			
	Frail	Vulnerable	Not Frail	Total
Frail	119 (77.8%)	28 (18.3%)	6 (3.9%)	153 (100.0%)
Frailty risk	38 (19.5%)	61 (31.3%)	96 (49.2%)	195 (100.0%)
Robust	2 (0.6%)	22 (6.8%)	301 (92.6%)	325 (100.0%)
Total	159 (23.6%)	111 (16.5%)	403 (59.9%)	673 (100.0%)

Agreement statistic Kappa = 0.532 (p=0.027)

DISCUSSION

The prevalence of frailty found using the CFVI-20 and EFS proved similar, with a slightly higher rate measured by the EFS. These rates are consistent with those found by other studies involving the Brazilian population[15,16,19,20]. A higher range of prevalence was observed for vulnerable and pre-frail individuals. This result shows the role of the CFVI-20 in assessing patients susceptible to developing frailty syndrome, reiterating its screening function.

The equivalence of the scales assessed in the present study, measured both in terms of linear regression among total scores and for level of agreement, corroborates previous studies in Brazil, but for a larger sample of randomly selected community-dwelling older people[15,19]. The results, however, differ from those of a previous study assessing the level of agreement between the Clinical Functional Vulnerability Index (CFVI-20) and another screening instrument, the Subjective Frailty Assessment (SFA). The results of the cited study showed low-to-moderate agreement, underscoring the need for a standardized instrument for measuring frailty in community-dwelling older adults and the risk of bias in using instruments with subjective assessment components[21].

Frailty in older adults is a complex, multifactorial condition that can and should be prevented[8,22]. This makes the use of instruments capable of rapidly identifying frail individuals in the community extremely desirable and useful for prioritizing and supporting early interventions. However, given the host of instruments available, it is important to consider, besides psychometric properties (mainly validity and reliability), the context of the lives of the people being assessed and the process of applying the instruments.

In this respect, it is noteworthy that, although evaluating the same construct, scales contain different items and may assess the same items in different ways. The use of different instruments for assessing frailty in older people can hamper standardization of screening of the syndrome, hence the importance of comparative studies in helping to standardize reliable, easy-to-apply diagnostic tools for use in different healthcare settings[23].

The cognitive dimension of older people in EFS is evaluated by the clock test. The use of this test may represent a barrier hampering the assessment in the population investigated given that the results for this item revealed that a similar proportion of frail and non-frail respondents failed the test with major errors. Thus, relying on the clock test as the sole item in the EFS for assessing cognition may introduce bias for some populations by assuming they hold previous knowledge on mathematics. Overall, the study population assessed had a low educational level, comprising individuals with less than 4 years of formal education, perhaps explaining the results on this component. The study by Ribeiro[15], analyzing performance on the clock test in a population with an average educational level of 7.13 years, reported a similar result. Other authors have voiced similar reservations regarding the clock test owing to its potential to overestimate the prevalence of frailty and classify low-educated older people as having cognitive problems[24].

The CFVI-20 measures two dimensions not contained in the EFS, namely, age (stratified into 3 categories) and communication aspects, including assessments of vision and hearing. The use of age as a dimension implicated in the process of frailty can be confirmed in the data obtained revealing that patients aged ≥85 years are proportionally more frail, while those aged 60-74 years have more favorable parameters regarding the syndrome. Nevertheless, the present results differ to those of other studies in which all patients aged ≥85 years were rated as frail[25].

Self-reported visual and hearing deficits were associated with poorer functioning among older individuals and, thus, contribute to a worsening of frailty, as reported by other studies employing the instrument[15]. The lack of criteria evaluating these two dimensions in the EFS may have been another factor contributing to the disparities observed in the results obtained when applying the two scales.

The EFS includes a dimension assessing social support, a component not measured by the CFVI-20. The results found showed that fewer frail or pre-frail patients reported being able to count on the help of others who could meet their needs.

Frailty syndrome is not associated with the physical realm alone, where variables related to emotional aspects, social conditions, as well as interpersonal and family relationship, also exert an influence[26,27]. Although the social component furnishes information on care provided to older people, the results are insufficient to conclude that absence of social support is a causal factor or an effect of frailty syndrome. The failure to assess social and environmental contexts is highlighted in a systematic review on the topic[8].

Activities of daily living are assessed by both scales, although the CFVI-20 has the feature or measuring this dimension by comparing different stages in the life course. To this end, the item is rated by probing loss of functioning due to health-related issues or unfavorable physical conditions. In addition, only the CFVI-20 evaluates loss of ability to perform basic activities of daily living, with being able to bathe alone defined as a key activity. In the study by Ribeiro et al.[15] , the authors also noted that most older individuals assessed required help performing an ADL and highlighted the association between loss of autonomy and frailty syndrome.

Despite the difference in the constituent components of the instruments, most of the dimensions are evaluated in a similar fashion. The use of different variables to measure the dimensions in the EFS and CFVI-20 may have further contributed to the disparities in results when applying the two scales. These differences, however, do not prevent the use of these tools, in view of the statistical values of agreement and correlation obtained.

The EFS provides a final classification containing 3 levels of frailty (mild, moderate and severe), a positive aspect in allowing immediate, more timely interventions for those who most require treatment. Despite the dynamic nature of frailty, potentially transitioning between levels over time, a reversal in status from "very frail" to "not frail" is highly unlikely"[20,28]. Given this scenario, older patients identified as more critical cases should be treated with more urgency.

The CFVI-20 proved able to identify pre-frail patients, constituting a sensitive instrument that can aid health professionals in the management and reversal of modifiable risk factors for frailty[9].

As a simple, brief, easy–to-apply tool, that can be readily interpreted by nonspecialist professionals, the CFVI-20 constitutes an effective instrument for health care planning to not only help cure and rehabilitate older patients, but also to guide health prevention and promotion actions. Therefore, use of the tool can help inform planning of preventive measures, as well as optimize the flow of referrals to specialized geriatric-gerontological services, particularly amid scenarios where there is a shortage of specialists in geriatric medicine[8,9].

This study has some limitations, such as the fact that it was conducted within a primary care setting involving community-dwelling older adults, given that frailty assessment may be necessary and useful in other contexts, including long-term care facilities (LTCFs). Both of the tools used center strongly on clinimetric measures, without considering the social and environmental context, which may, to some degree, be modulators of frailty status.

Notwithstanding, the study drew on data obtained from a large representative sample of the population, selected probabilistically, and reports results for an easy-to-apply, home-grown instrument for early detection of frail or pre-frail older patients in a primary care setting.

In this respect, such a standard tool can better cater for the needs of this age group, consolidating the role of the ESF in the national care policy for the older population.

CONCLUSION

The prevalence of frailty measured by the CFVI-20 and EFS screening instruments was 22.7% and 23.6%, respectively. The results of comparisons showed moderate agreement and strong positive correlation between the instruments, despite some differences for some components.

Both instruments proved appropriate for home assessment of frailty in older adults within a primary care setting. The instruments evaluated are suitable for screening, offering ease-of-application by non-specialists in geriatrics and gerontology, besides the ability to classify pre-frail individuals.

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