

## FRAGILITY PROFILE OF ELDERLY CARE IN PRIMARY HEALTH CARE

Perfil de fragilidade de idosos atendidos na atenção primária à saúde

Perfil de fragilidad de atención a personas mayores en atención primaria de salud

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### ABSTRACT

**Objective:** to evaluate the prevalence and degrees of frailty in the elderly cared for in Primary Health Care, through the Edmonton Frail Scale. **Method:** The data were obtained through a previously prepared questionnaire. Except for sample losses and refusals, 118 elderly people participated in the study. Data collection was performed at the Basic Health Unit or at the elderly's home. **Results:** Among the 118 elderly people interviewed, there was a predominance of females (72%), the average age was approximately 71.55, corroborating also with other studies. Over these, the low level of education stood out. Regarding frailty in general, 28% (n = 3) of the interviewees obtained scores common to frailty, 32.2% (n = 38) were considered apparently vulnerable and 39.8% (n = 47) were not fragile. **Conclusion:** In view of the changes that the frail elderly can undergo with the progress of this problem, early interventions are needed that Primary Health Care is able to prioritize, however further studies are needed to assess variables related to frailty in different types of people.

**DESCRIPTORS:** Health of the elderly; Frail elderly; Primary health care.

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## RESUMO

**Objetivo:** Avaliar a prevalência e os graus da fragilidade em idosos atendidos na Atenção Primária à Saúde, através da *Edmonton Frail Scale*. **Método:** Os dados foram obtidos por meio de um questionário previamente elaborado. Excetuando-se as perdas e recusas amostrais, participaram do estudo 118 idosos. A coleta de dados foi realizada na Unidade Básica de Saúde ou no domicílio dos idosos. **Resultados:** Obteve-se predominância de pessoas do sexo feminino (72%), a idade média foi de aproximadamente 71,55 anos. No tocante a fragilidade de forma geral, 28% (n=3) dos entrevistados obtiveram escores comuns à fragilidade, 32,2% (n=38) foram considerados aparentemente vulneráveis e 39,8% (n=47) não frágeis. **Conclusão:** Considerando as alterações que o idoso fragilizado pode enfrentar com o avanço desse problema, são necessárias intervenções precoces, as quais a Atenção Primária à Saúde é capaz de priorizar, contudo são necessários estudos maiores para avaliarem variáveis relacionadas à fragilidade em diferentes realidades.

**DESCRIPTORIOS:** Saúde do idoso; Idoso fragilizado; Atenção primária à saúde.

## RESUMEN

**Objetivo:** evaluar la prevalencia y grados de fragilidad en ancianos atendidos en Atención Primaria de Salud, a través de la *Edmonton Frail Scale*. **Método:** Los datos se obtuvieron mediante un cuestionario elaborado previamente. A excepción de las pérdidas y negativas de la muestra, 118 personas mayores participaron en el estudio. La recogida de datos se realizó en la Unidad Básica de Salud o en el domicilio del anciano.

**Resultados:** Entre los 118 ancianos entrevistados, hubo predominio del sexo femenino (72%), la edad promedio fue de aproximadamente 71,55 años, corroborando también con otros estudios. Sobre estos, se destacó el bajo nivel educativo. En cuanto a la fragilidad en general, el 28% (n = 3) de los entrevistados obtuvo puntuaciones comunes a la fragilidad, el 32,2% (n = 38) se consideró aparentemente vulnerable y el 39,8% (n = 47) no frágil.

**Conclusión:** Considerando los cambios que pueden enfrentar los ancianos frágiles con el avance de esta problemática, se necesitan intervenciones tempranas, las cuales la Atención Primaria de Salud es capaz de priorizar, sin embargo, se necesitan estudios más amplios para evaluar variables relacionadas con la fragilidad en diferentes realidades.

**DESCRIPTORIOS:** Salud del anciano; Ancianos frágiles; Primeros auxilios.

## INTRODUCTION

The rapid process of population aging and the increase in life expectancy - of men aged 81 years and women 84 years between the years 2010 and 2060 - leads one to think about the way in which older people live, going beyond simply prolonging time, but having a life with quality and dignity.<sup>1,2</sup>

Throughout the world, and especially in developing and emerging countries, there is a need for strategic decision-making to help older people stay healthy and active for as long as possible, with collective and multidisciplinary attention to health conditions, morbidity, and functional limitations of the elderly, focusing on prevention of diseases.<sup>1,3</sup>

In order to expand care, the Sistema Único de Saúde (SUS) is guided towards Primary Health Care, which is the first level of health care and is characterized by a set of health actions, at individual and collective levels, which includes health promotion and protection, disease prevention, diagnosis,

treatment, rehabilitation, harm reduction, and health maintenance, with the goal of developing comprehensive care that positively impacts the health status of communities.<sup>4</sup>

The aging process can lead to the loss of autonomy, that is, the ability to determine, carry out one's own will, and make decisions. Anyone who reaches the age of eighty capable of managing their own life and determining when, where, and how their rest, social interaction, and work activities will take place will surely be considered a healthy person.

It is of little consequence to know that this same person is hypertensive, has endocrine and heart problems, and takes medication for depression, conditions that are common at this age. The important thing is that, as a result of successful treatment and interventions, he or she cultivates autonomy, is happy, interacts socially, and is, to all intents and purposes, a healthy elderly person.<sup>3,5</sup>

However, a person with the same age range and the same diseases, but without management of these diseases, may present a different picture. A priori, with the influence of depression, this person may present a progressive social reclusion, with a tendency to sedentarism, cognitive deficit, loss of self-esteem, and renunciation of self-care. In parallel, the diabetes and the cardiac problem, which initially did not limit them, start to limit them physically, worsening the cognitive problem and increasing the risk for cardiovascular complications.<sup>5-6</sup>

Thus, the transformations observed in the demographic composition lead to changes in the epidemiological profile, with a decrease in infectious-contagious diseases and an increase in chronic degenerative diseases, which, for the most part, interfere with the functional fitness and quality of life of the aging population.<sup>7</sup>

It is noteworthy that in this population, besides non-transmissible chronic diseases, geriatric syndromes, physical barriers, cognitive impairment, depressive signs, sensory decline, accidents, and social withdrawal are factors that contribute to the greater vulnerability of the elderly. Given this panorama, then, it becomes important to discuss frailty in the elderly population.<sup>7-8</sup>

Frailty started to be mentioned in the literature in the 1980's, naming frail individuals to those older than 60 years, who were dependent for daily life activities (DLAs) and generally institutionalized. This opinion was based on the perspective of functionality, i.e., it was linked to disability and chronic diseases.<sup>8</sup>

Frailty is conceptualized as a multidimensional geriatric syndrome, with reduced efficiency of homeostasis and, consequently, reduced ability to perform the DLAs, involving the interrelation of biological, psychological and social factors that result in a state of increased vulnerability, associated with risk of adverse clinical outcomes such as delirium, functional decline, impaired mobility, falls, social withdrawal, increased morbidity and mortality, and hospitalization.<sup>1</sup>

Among the signs and symptoms that elderly people with the frailty syndrome have, one can find reports of fatigue, weight loss without apparent cause within a year, reduced capacity for physical activity, reduced grip strength, altered

gait and balance time, and decreased social relationships. People with at least three of these symptoms are considered frail, and those with at least two are considered potentially or pre-frail. The model suggested by Fried considers that two are the main mechanisms responsible for reaching the fragile condition: senescence-related changes and the presence of comorbidities.<sup>1,8-10</sup>

Studies show that data on frailty in the elderly are still scarce, mainly due to the lack of consensus as to a meaning that can be used favoring each characteristic and how these are agreed upon to determine the frailty of subjects.<sup>8,10</sup>

Therefore, it becomes relevant the realization of studies related to the evaluation and classification of the elderly according to the fragility criteria, because they will be able to organize the priorities of nursing care, especially in APS, which has the purpose of preventing diseases, besides conserving and/or repairing the functional capacity and autonomy.

From this perspective, this study aimed to evaluate the prevalence and degrees of frailty in community-dwelling elderly individuals seen in APS and thus contribute to the planning and implementation of preventive and therapeutic actions in collective health in different populations.

## METHOD

This is a descriptive, exploratory and cross-sectional study with a quantitative approach. It was conducted in the Health District III, specifically in the Basic Health Unit (BHU) Palmeira I, in the municipality of Campina Grande - Paraíba.

The population of elderly people registered in the E-SUS by the BHU Palmeira during the writing of the research project was 301, and the study sample was selected by simple random sampling. The sample size calculation resulted in an n equivalent to 134 participants, and, considering the confidence level of 95% and sampling error of 5%. Except for sample losses and refusals, 118 elderly people participated in the study. Inclusion criteria were: being 60 years old or older; being duly registered in the Estratégia Saúde da Família (ESF), and presenting cognitive ability according to the Mini Mental State Examination score (MMSE). Exclusion criteria were: being traveling or hospitalized during the collection period, and having diseases or symptoms that made it impossible to answer the MMSE.

Data collection was carried out at the BHU or at the homes of the elderly participants in the research. It was carried out between the months of January and March 2019, with the collaboration of Community Health Agents (CHAs), using a sociodemographic questionnaire composed of the variables: age, gender, education, marital status, family income, religion, and whether the elderly person lives alone. This instrument also included the MMSE and the Edmonton Frail Scale - EFS, validated for the Portuguese language,<sup>11</sup> which assesses nine domains, including cognition, general health status, functional independence, social support, use of medication, nutrition, mood, continence, and functional performance.

The collected data were entered into Microsoft Office Excel 2010 spreadsheets, and then statistically analyzed, being developed descriptive statistics, involving tables, graphs, mean and standard deviation.

The researchers proposed to follow the guidelines contained in resolution No. 466, December 12, 2012, of the National Health Council.<sup>12</sup> For this, the Informed Consent Form (ICF) was used for the elderly participants of the research. It is noteworthy that the ICF was prepared in two copies, initialed on all its pages and signed by the elderly, invited to participate in the research, as well as by the responsible researcher.

The project was approved by the Ethics and Research Committee of the Alcides Carneiro University Hospital/ UFCG with opinion number 3.080.306.

## RESULTS

Of the total of 118 elderly participants, 31 (26.27%) made a mistake on the clock test, which assesses cognition, so we considered the maximum score (two points) in the EFE, which brings as a meaning, that a higher score would have a greater possibility of loss of autonomy and decrease of variable degrees of functionality.

Table 1 presents the demographic and socioeconomic conditions of the protagonists of the study.

**Table 1** - Demographic and socioeconomic variables of the study participants. Campina Grande - PB, 2019.

VARIABLES	n	%
<b>Gender</b>		
Male	33	28,0
Female	85	72,0
<b>Age Group</b>		
60 to 69	52	44,0
70 to 79	43	36,4
80 or more	23	19,5
<b>Live alone</b>		
Yes	18	15,3
No	100	84,7
<b>Education</b>		
First degree complete	15	12,7
I didn't go to school	21	17,8
First degree incomplete	55	46,6
College degree complete	7	5,9
High school incomplete	5	4,2
High school complete	12	10,2
Incomplete higher education	3	2,5
<b>Color</b>		
White	35	29,7
Brown	77	65,3
Yellow	3	2,5
Black	3	2,5

VARIABLES	n	%
<b>Marital Status</b>		
Married	46	39,0
Widower	37	31,0
Single	19	16,0
Divorced	16	13,6
<b>Family Income</b>		
From 2 to 5 MW	44	37,3
Less than or equal to 1 MW	71	60,2
From 5 to 10 MW	3	2,5
<b>Religion</b>		
Catholic	87	73,7
Evangelical	29	24,6
It doesn't have	1	0,8
Spiritist	1	0,8

Source: Survey data, 2019.

Table 2 presents the questionnaires present in the EFE, adapted to Portuguese, 11 which was used in this study.

**Table 2** - General presentation of the results of the application of EFE. Campina Grande-PB, 2019.

VARIABLES	n	%
<b>Clock test</b>		
Approved	42	35,6
Failed with minor errors	45	38,3
Failed with significant errors	31	26,3
<b>N of hospitalizations in the last year</b>		
0	99	83,9
0 to 1	15	12,7
> 2	4	3,4
<b>How would you describe your health</b>		
Good	44	37,3
Fair	61	51,7
Bad	13	11,0
<b>Functional independence</b>		
0 - 1 activities	97	82,2
2 - 4 activities	17	14,4
5 - 8 activities	4	3,4
<b>When you need assistance in some activity you have someone to help you</b>		
Always	72	61,0
Sometimes	36	30,5
Never	10	8,5
<b>Do you usually use five or more medicines prescribed by your doctor?</b>		
Yes	34	28,8
No	84	71,2

VARIABLES	n	%
<b>Do you forget to take your medicine sometimes?</b>		
Yes	50	47,4
No	68	57,6
<b>Have you lost weight recently?</b>		
Yes	47	39,8
No	71	60,2
<b>Do you often feel sad or depressed?</b>		
Yes	46	39,0
No	72	61,0
<b>Do you have incontinence?</b>		
Yes	28	23,7
No	90	76,3
<b>Get up and walk around timed</b>		
0 - 10 seconds	40	33,9
11 - 20 seconds	66	55,9
> 20 seconds	12	10,2

Source: survey data, 2019.

The probable EFE responses presented above are analyzed in three variables, A, B and C, namely: variable A concerns responses that express favorable conditions, whose score is equal to zero. Variable B groups those points that show intermediate fragility conditions and are worth one point. And variable C conceives severe fragility quality and receives a total of two points. Therefore, it is pondered that individuals with total points between zero and four do not present fragility, between five and six are classified as apparently vulnerable, from seven to eight present mild fragility, from nine to ten, moderate fragility, and 11 or more, severe fragility.<sup>11</sup>

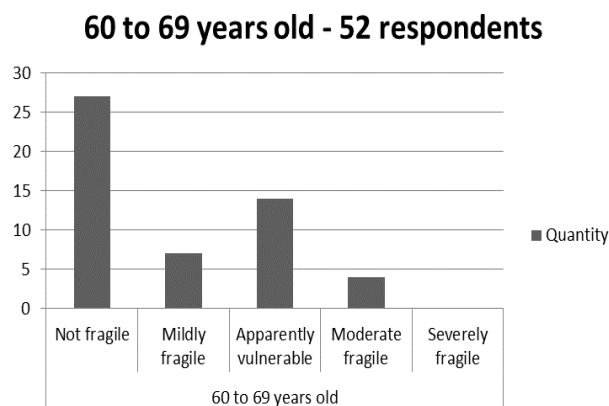
Regarding frailty in general, 33 participants (27.9%) obtained scores common to frailty (mild, moderate and severe), 38 (32.2%) were considered apparently vulnerable and 47 elderly (39.8%) not frail.

As for the presence of urinary incontinence, identified in 28 elderly (23.72%), after the classification we obtained that 13 (46.4%) were frail elderly, 12 (42.8%) pre-frail or vulnerable elderly and three (10.7%) non-frail or robust elderly.

About the elderly who live alone, n = 18, it is possible to consider that four (22.2%) use polypharmacy, and 13 (72.2%) stated that they forgot to take their medications sometimes. Regarding frailty, six (33.3%) have some degree of frailty (mild or moderate), and five (27.8%) have an advanced age of 80 years or more.

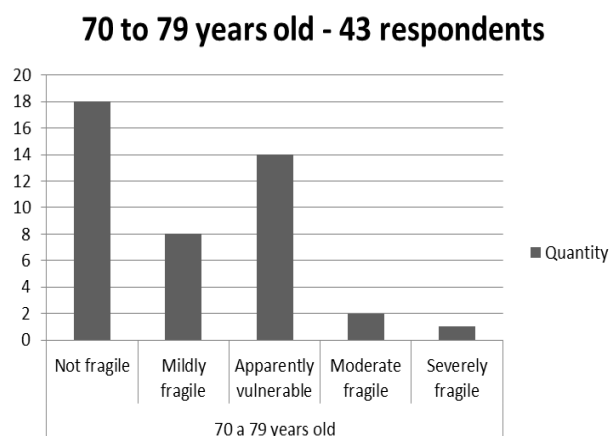
Charts 1, 2, and 3 below present the classification of participants according to the age groups 60 to 69 years, 70 to 79 years, and 80 years or older and the EFE scores.

**Graph 1** - Distribution of participants, age group 60 to 69 years. Campina Grande, Paraíba, Brazil, 2019.



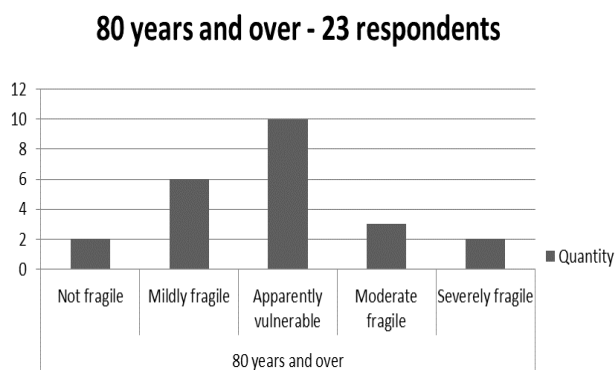
Source: Survey data, 2019.

**Graph 2** - Distribution of participants, age group 70 to 79 years. Campina Grande, Paraíba, Brazil, 2019.



Source: survey data, 2019.

**Graph 3** - Distribution of participants, age group 80 to 89 years. Campina Grande - PB, 2019.



Source: survey data, 2019.

In this way, it is possible to analyze fragility in an isolated way according to the age groups mentioned above, representing the elderly interviewed from 60 to 69 years old (52 elderly) being 11 (21.1%) fragile, 14 (26.9%) apparently

vulnerable and 27 (51.9%) not fragile. Those aged between 70 and 79 years (43 elderly) were 11 (25.6%) fragile, 14 (32.5%) apparently vulnerable and 18 (41.8%) not fragile. And finally, those aged 80 years (23 elderly) or more were 11 (47.8%) frail, 10 (43.5%) apparently vulnerable and two (8.7%) not frail.

## DISCUSSION

The sociodemographic characterization of the elderly interviewed is similar to those obtained in a study conducted in Brazil, with a prevalence of females 86 (72%), the average age was approximately 71.55 years and standard deviation 8.25, corroborating also with other studies. About these, the low level of schooling stood out (incomplete first grade with about 46.6%). Regarding religion, the majority professed the Catholic religion 88 (73.7%).<sup>7-8,11</sup>

With regard to schooling, it is important to note that the 23 (48.9%) non-fragile elderly had low schooling, did not attend school or had not completed the first degree. Of the 33 elderly who were considered frail, 28 had low schooling (84.8%). It is important to emphasize this point, for possibly those who did not have the opportunity to have a higher academic education may also have less access to information, health services, treatment of morbidities and among others.<sup>7,13-14</sup>

Although urinary incontinence is not present in most of the elderly, among those who have it, 13 (46.4%) of the elderly were frail and 12 (42.8%) were pre-frail. Therefore, it can be inferred that incontinence is a risk factor for the development of frailty.<sup>7</sup>

Most of the respondents, 73 (61.0%), as in a study<sup>15</sup> did not have indications of depression (feeling sad frequently), and contrary to what the study showed, 98 (82.2%) of the respondents were independent for instrumental activities of daily living (IADL). Moreover, another difference from the aforementioned study is that most of the frail, pre-frail and non-frail elderly in this research did not use five or more medications (71.2%).

The percentage of frail, pre-frail and non-frail elderly found in the sample is similar to that of national studies,<sup>16-17</sup> which cover results common to the age range of 70 to 79 years, and 80 years or more. Aging as a predictor of the frailty process may be related to modifications and decay of multiple systems, resulting from the mutual influence of physiological mechanisms and pathological conditions. However, although aging may increase the possibility of having frailty, not all elderly people are frail, implying common but not equal pathways.<sup>17</sup>

Regarding the percentage of general frailty in the elderly, in a survey<sup>18</sup> it was observed that 16.9% of the elderly were classified as frail elderly, 61.8% as pre-frail elderly and 21.3% as non-frail elderly. In view of these results, we could notice a significant difference, considering the majority of the elderly interviewed, represented by 47 (39.8%), were classified as non-fragile.

In this research, 33 (28%) of the participants were considered frail, differing from the FIBRA study, carried out in Rio de Janeiro, with 9% of the elderly with scores common to frailty. Pre-fragile equivalent to 39 (32.2%), and 47 (39.8%) not fragile or robust. In the FIBRA study, 52% were pre-fragile and 39% were not fragile.<sup>19</sup>

As for the international studies, it can be seen that in this survey there was a higher prevalence of frailty. In a study<sup>20</sup> carried out in the north of Madrid, Spain, frailty was found in 10.5% of 1,327 elderly individuals living in a community, whereas in a study<sup>21</sup> carried out with Italian elderly individuals, frailty was found in 7.6% of the 5,636 participating elderly individuals. In a survey in Germany, 5.1% of the respondents were described as frail (2.8% female and 2.3% male).<sup>22</sup>

Given the prevalence of pre-fragile and frail elderly in this and other studies, it is important to develop and implement interventions to prevent antagonistic events. Therefore, the importance of preventing the incidence of frailty in the three levels of health care is emphasized, focusing on actions aimed at the prevention of the most prevalent morbidities in the elderly, among them, hypertension, diabetes, and dyslipidemia.

Vaccination campaigns, physical exercise, and dietary orientations should be promoted. For the pre-fragile, in general, early diagnosis, treatment of chronic diseases, and prevention of falls, among others, are recommended. In relation to the frail, a gerontological approach should be taken focusing on rehabilitation to maintain functionality.<sup>23</sup>

Regarding the limitations of the study, it was noticed a decrease in the demand of users in the BHU during data collection, because it was without medical consultation, and for this reason the demand for the service by the elderly had decreased. Another obstacle was the unavailability of the CHAs to visit only the households with elderly people, since some of them were in the registration phase of the families assisted and had to comply with the registration schedule.

It is necessary that further studies be carried out with larger samples that allow evaluation. It is suggested that other studies be developed considering the elderly population not only from the community assisted by the BHU, expanding also to individuals assisted in the outpatient setting and those who are institutionalized, since institutionalization is the common outcome for this group.

## CONCLUDING REMARKS

It was found that frailty should be recognized as a target for surveys and interventions, considering the consequences for elderly individuals, their families and the aging society. Despite contemporary actions, the number of studies evaluating this condition and its associated factors is still incipient, and they also consider pre-fragile and non-fragile individuals for actions focused on prevention.

The deepening of this theme may subsidize the emergence of public policies and the planning of strategic health actions aimed at this elderly population. Besides contributing to the

investigation of the national scenario for the identification of the frail elderly, considering the specificities of each Brazilian region, and the way of life in each one of them.

The present study proved to be relevant, as it infers that it is necessary to identify early those individuals who are vulnerable or in the process of becoming frail, as they are more likely to become frail over time, and also with a view to preventing the overcrowding of health services, since the elderly will be the largest population contingent in the future.

To change this scenario, it is suggested to apply the frailty scale throughout the municipality's APS and also in the hospital environment, since it is represented in a simple way, which requires only the instrument and pen for applicability. After its application and consequently the classification, interventions can be made in order to reduce the changes that interfere with the quality of life of the elderly.

It is concluded then, that the evaluation and categorization of the elderly according to the fragility criteria make it possible to organize the priorities of assistance, particularly in the APS, aiming to prevent fragility, maintain and/or restore the functional capacity and preserve autonomy. Thus, because this study contemplates a limited population, the arguments presented are restricted to its universe and not to eventual generalizations, requiring investigations at a national level, so that greater care strategies can be developed.

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