55 - FRAILTY IN ELDERLY PEOPLE: INCIDENCE IN LONG-STAY FACILITY FOR ELDERLY PEOPLE IN SOUSA, PARAÍBA, BRAZIL

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INTRODUCTION

In the last decades, demographic aging has been an increasing tendency among developing countries, such as Brazil; nowadays, elderly people amount to around 10% of the whole Brazilian population (CARVALHO; GARCIA, 2003).

This fact highlights a growing elderly population, subject to multiple comorbidities, which potentiate the onset of geriatric syndromes. The latter compromise the independence and autonomy of elderly people, and they may lead to disability, frailty, hospitalization, and even death (BARBOSA et al. 2005).

Among these syndromes, we highlight frailty, which is regarded as a condition of vulnerability and increases the risk for adverse events, such as dependence, falls, injuries, and acute diseases, as well as delayed recovery (BRASIL, 2007).

The main characteristic of this syndrome is impaired functional capacity, which brings several important implications for the elderly person, her/his family, and the community where she/he lives, and it also causes various changes with regard to the health care system, since impairment may cause greater vulnerability and dependence, negatively contributing to reduce the elderly person's well-being and quality of life (CARVALHO; GARCIA, 2003).

Given this context, this study aims to determine the frailty syndrome incidence among elderly people, according to the frailty phenotype based on the criteria defined by the North-American physician Linda Fried and colleagues, in 2 long-stay facilities for elderly people in the town of Sousa, Paraíba, Brazil: “Casa do Caminho” and “Lar Jesus, Maria e José”, having in mind that there is no data for this kind of study in the town, thus, there is a clear need for understanding the redefinition of the age pyramid, as well as its implications.

Therefore, this study is considered as having a paramount importance with regard to the acquisition and development of means which can contribute to new social policies aimed at elderly people. An increased knowledge on the frailty syndrome may be useful to provide the elderly person with health prevention, promotion, or even rehabilitation, according to her/his health status.

METHODOLOGY

This is a field study with an exploratory quantitative approach. It was carried out in 2 long-stay facilities for elderly people in the town of Sousa. The sample consisted of 25 elderly people, with a sampling of 100%.

The collection procedure was fulfilled by means of a script, segmented in order to analyze sociodemographic data, and the frailty phenotype with criteria proposed by the North-American physician Linda Fried and colleagues; this phenotype consists of ≥ 3 of the following components: unintentional weight loss (≥ 4.5 kg or ≥ 5% of body weight in the last year); exhaustion defined through self-reported fatigue; decreased grip strength in the dominant hand (measured by dynamometer and adjusted to sex and body mass index); low level of physical activity, measured by energy expenditure in kilocalories per week, adjusted for sex (based on self-reported activities and physical exercises, measured by the Minnesota Leisure Time Activities Questionnaire); and slowness, measured by time spent in seconds to cover a distance of 4.6 meters, adjusted for sex and height.

Data were collected in March 2013 and analyzed using the software Statistical Package for the Social Sciences (SPSS). The statistical procedures consisted of descriptive analysis of frequency and inferential analysis (bivariate) for nominal data: $\chi 2$ Pearson's chi-square test, which tests the null hypothesis claiming that the frequency distribution of certain events observed in a sample is consistent with a given theoretical distribution.

However, seeking the best way to conduct the analysis, some variables were regrouped considering the frequency distribution and the models available in the literature. Thus, frailty classification is divided into frail individuals (≥ 3 indicative criteria) and non-frail individuals (≤ 2 indicative criteria). We accepted as statistically significant $p \leq 0.05$. The research was approved by the Research Ethics Committee of Faculdade Santa Maria, under the Protocol 216,953.

RESULTS AND DISCUSSION

Maciel (2007) claims that the etiology of the frailty syndrome in elderly people has been described by Fried and colleagues as a phenotype, explained by means of a physiological basis, which has important implications for clinical practice and researches in geriatrics and gerontology. Thus, understanding the factors related to the frailty syndrome provides prospects for prevention and intervention regarding elderly populations.

A total of 25 elderly patients were assessed; 20 of them (80%) were classified as frail and 5 (20%) were classified as pre-frail. It is noteworthy that no participant in the sample was classified as non-frail. The sociodemographic characteristics are displayed in Table 1. Since this is a study with elderly people admitted to a long-stay facility for elderly people (LFEP), we took into account only 3 major variables within the category: age, sex, and marital status.

In the population under study, we observed a higher prevalence of males, accounting for 19 elderly people, representing 76% of the sample, and, out of these, 14 (56%) were classified as frail. The minimum age was 60 years and the maximum age was 100 years. The sample was stratified by age group, thus revealing that 17 elderly people (68%) are aged from 80 to 100 years and 14 (56%) out of these were classified as frail.

Regarding marital status, we took into account four variables: married, single, widower, and divorced. Only single elderly people represented a significant amount, totaling 10 participants (40%). Among these, 8 (0,32%) were classified as frail.

Table 1 – Data related to sample characterization, regarding sociodemography.

Age (sig. 0,03)			Classification		
			Frail	Pré-Frail	Total
Age	Between 50 and 80 years	Relative Freq. (n)	6	2	8
		Absolute Freq. (%)	30,0%	40,0%	32,0%
	≥ 80 years and ≤ 100 years	Relative Freq. (n)	14	3	17
		Absolute Freq. (%)	70,0%	60,0%	68,0%
Total		Relative Freq. (n)	20	5	23
		Absolute Freq. (%)	100,0%	100,0%	100,0%
Sex (sig. 1,00)			Classification		
			Frail	Pré-Frail	Total
Sex	Male	Relative Freq. (n)	14	5	19
		Absolute Freq. (%)	70,0%	100,0%	76,0%
	Female	Relative Freq. (n)	6	0	6
		Absolute Freq. (%)	30,0%	,0%	24,0%
Total		Relative Freq. (n)	20	5	25
		Absolute Freq. (%)	100,0%	100,0%	100,0%
Marital Status (sig. 0.55)			Classification		
			Frail	Pré-Frail	Total
Marital Status	Married	Relative Freq. (n)	6	1	7
		Absolute Freq. (%)	30,0%	20,0%	28,0%
	Single	Relative Freq. (n)	8	2	10
		Absolute Freq. (%)	40,0%	40,0%	40,0%
	Widower	Relative Freq. (n)	5	2	7
		Absolute Freq. (%)	25,0%	40,0%	28,0%
	Divorced	Relative Freq. (n)	1	0	1
		Absolute Freq. (%)	5,0%	,0%	4,0%
Total		Relative Freq. (n)	20	5	25
		Absolute Freq. (%)	100,0%	100,0%	100,0%

Source: Prepared by the authors.

Among the sociodemographic variables included in the model, only age had a significant association even when adjusted for the other variables, something which corroborates other studies with regard to the influence of aging on the onset of frailty.

It is noteworthy that, by applying Fisher's test (a significance test), and unlike other studies, being male was not associated to frailty, although we have found a higher prevalence of men among those classified as fragile. This is mainly due to the fact that most individuals included in the sample were men.

These results are consistent with those of Macedo, Gazzola e Najas (2008) where marital status and sex also showed no association to frailty, thus, we did not regard these variables as risk factors for adverse results in old age.

The sample was also stratified with regard to these aspects: smoking and drinking. For these variables, taking into account the fact that the sample consists of individuals admitted to a LFEP, where the use of drugs such as tobacco or alcohol is not allowed, we adopted the classification as “former” and “non” smokers and alcoholic individuals.

Thus, we obtained the following data: 13 elderly people (52%) are former smokers, and 12 of them (47%) are frail, while 12 individuals (47%) are non-smokers, and 8 of them (32%) are regarded as frail. As for alcohol consumption, 16 individuals (64%) are non-alcoholic, and 12 of them (47%) are frail, while 9 (36%) are former alcoholic individuals, and 8 of them (32%) are fragile.

Studies carried out with clinical samples showed a significantly increased use of tobacco and alcohol among the elderly population. Maciel (2007) points out that there are researches showing that from 6 to 11% of elderly patients admitted to general hospitals exhibit symptoms of alcohol dependence; indeed, the estimates of admission for alcoholism in emergency services are similar to those for heart attack. However, it is worth stressing that the hospital staff recognizes fewer alcoholism cases among elderly people than among younger patients.

Smoking, in turn, is the leading cause of preventable death worldwide. It is estimated that about 1.25 billion people are smokers. Data from the World Health Organization (WHO) indicate that 47% of men and 12% of women are smokers and that 4 million deaths per year may be attributed to smoking (VERAS, 2009).

Corroborating Straub et al.(2001) the variables smoking and alcohol are not regarded as risk factors having a decisive influence on the onset of frailty. In order to check findings, we applied Fisher's test once more, and it showed that these variables were not significant with regard to frailty.

However, the health care team must be prepared to claim that smoking cessation will have a significant impact on well-being as a whole. In order to provide this piece of guidance, there is a need to have in mind several important factors, such as cultural habits, environment, education level, knowledge on health status, and possible complications, as well as family's viewpoint and support at the time of smoking cessation (SMELTZER & BARE, 2006).

In order to design any strategic planning aimed at addressing and controlling tobacco and alcohol consumption in old age, there is a need to know the reasons why elderly people smoke or drink, the influence of family, socioeconomic, and cultural environment on them, the aspects of addiction, the inter-relation between comorbidities and, finally, look very carefully for a better way to deal with this elderly smoker, always appreciating the behavioral cognitive therapy as the main axis for conducting treatment (FRIED et al. 2004)

This study also found a correlation between frailty and comorbidities, such as hypertension and diabetes mellitus.

According to, Speechley e Tinetti (1991) people ≥ 60 years with the frailty syndrome generally have a higher blood pressure and more risk factors with regard to cardiovascular problems.

Regarding morbidities, it was found that 15 elderly people (60%) are hypertensive and 13 of them (52%) are regarded as frail; in turn, 10 elderly people (40%) are not hypertensive and 7 of them (28%) are frail. Data show that 23 individuals (92%) are diabetic and 18 of them (72%) are frail.

These results are reinforced by Veras (2009), who reveals that comorbidities are directly associated to frailty, although the syndromic frailty condition can exist even without comorbidities.

Following this association line, Straub et al.(2001) states that elderly people undergoing associated diseases, such as hypertension and diabetes, seem to be more likely to frailty, and that the prognosis for this condition will depend on clinical manifestations.

Although this study only addresses hypertension as a significant factor for the onset of frailty, we may contextualize it taking into account Veras (2009), who shows that comorbidities are directly associated to frailty, although the syndromic frailty condition can exist even without comorbidities.

Veras (2009) also claims that that diabetes mellitus individually observed has no direct connection to frailty, however, when associated to hypertension, it has a high relevance with regard to intrinsic factors of frailty, such as fatigue, low level of physical activity, gait speed, and decreased muscle strength.

FINAL REMARKS

This study regards the frailty phenotype proposed by Fried and colleagues as a simple method, user-friendly and inexpensive, able to standardize and promote screening and diagnosis of frail elderly people. The 5 items which make up the phenotype (reports of exhaustion/fatigue, low grip strength, low walking speed, weight loss, and low level of physical activity) reflect the conditions of elderly people with regard to functional issues, especially in terms of strength and muscle fatigue.

Undoubtedly, the proposed phenotype has a strong applicability for assessing frailty, but it only represents the physical aspects of a multidimensional and multifactorial syndrome which requires deep investigations on social, environmental, physiological and psychological aspects.

Therefore, for a better etiological understanding, there is a need for investigating the frailty syndrome over time, analyzing how it is influenced and how it influences on the perception of individual's health status.

We believe that conducting epidemiological studies to address the Brazilian elderly population will allow us to plan concrete actions, either in the physical domain of the human body or in the establishment of networks for medical and social support, able to meet the needs for material, instrumental, informational, and affective assistance.

According to this perspective, this set of actions may help elderly people to face everyday life adversities, better adapting to stressors and enabling greater survival free of disabilities and functional constraints.

According to the proposed aims, we conclude that the frailty syndrome among elderly people admitted to a LFEP in the town of Sousa was more prevalent among: men, people ≥ 80 years, and those having associated diseases, as well as the elderly individuals with a deficit for fulfilling the basic and instrumental activities of everyday life. The main factors associated to the frailty syndrome among this population were old age, comorbidities, functional disability to fulfill daily life activities, and poor perception of health status.

Therefore, the frailty syndrome is shown as a natural outcome of the aging process, it is a consequence of a decrease in biological resilience over life. From this perspective, this study has a significant importance with regard to knowledge on the clinical manifestations of frailty in elderly people admitted to a health care institution; it may be useful to promote a better operationalization of researches involving the Brazilian population.

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FRAILTY IN ELDERLY PEOPLE: INCIDENCE IN LONG-STAY FACILITY FOR ELDERLY PEOPLE IN SOUSA, PARAÍBA, BRAZIL

ABSTRACT

Objective: Identify the incidence of frailty in elderly people in long-stay facility for elderly people (LFEP), using the phenotype proposed by Linda Fried and colleagues. Methodology: Exploratory study, with a quantitative approach, carried out in 2 LFEPs in the town of Sousa, Paraíba, Brazil. Data were collected in March 2013, using an instrument validated by Linda Fried and colleagues, with 25 elderly people, who made up the sample. Data were processed, stored, and analyzed using the software

SPSS, version 20, after approval by the Research Ethics Committee of Faculdade Santa Maria, under the Protocol 216,953. Results: 17 elderly people (68%) were aged between 80 and 100 years and 20 (80%) were classified as frail. Among the other markers under analysis, smokers stood out, 13 elderly people (52%), and the former smokers, 12 (47%), who were classified as frail. Conclusions: Given the heterogeneous manifestation of pre-frailty and the clinical similarity between the groups non-frail and pre-frail, factorial analysis allowed confirming the main frailty markers. However, there is a need for investigating the frailty syndrome over time, analyzing how it is influenced and how it influences on individual's health perception. Keywords: Demographic aging. Elderly person. Fried's phenotype. Long-stay facility for elderly people.

FRAGILITÉ CHEZ LES PERSONNES ÂGÉES: LA INCIDENCE DANS ÉTABLISSEMENT DE LONG SÉJOUR POUR PERSONNES ÂGÉES À SOUSA, PARAÍBA, BRÉSIL

RÉSUMÉ

Objectif: Identifier l'incidence de fragilité chez les personnes âgées en établissement de long séjour pour les personnes âgées (ELPA), en utilisant le phénotype proposé par Linda Fried et collègues. Méthodologie: Étude exploratoire, avec une approche quantitative, réalisé en 2 ELPAs à la ville de Sousa, Paraíba, Brésil. Les données ont été recueillies en Mars 2013, en utilisant un instrument validé par Linda Fried et collègues, avec 25 personnes âgées, qui composaient l'échantillon. Les données ont été traités, stockés et analysés en utilisant le logiciel SPSS, version 20, après l'approbation par le Comité d'Éthique de la Recherche de la Faculdade Santa Maria, en vertu du Protocole 216.953. Résultats: 17 personnes âgées (68%) étaient âgées entre 80 et 100 ans et 20 (80%) ont été classés comme fragiles. Parmi les autres marqueurs analysés, les fumeurs se distinguent, 13 personnes âgées (52%), et les ex-fumeurs, 12 (47%), qui ont été classés comme fragiles. Conclusions: Compte tenu de la manifestation hétérogène de la pré-fragilité et la similitude clinique entre les groupes non fragile et pré-fragile, l'analyse factorielle ont permis de confirmer les principaux marqueurs de la fragilité. Cependant, il est nécessaire d'enquêter sur le syndrome de fragilité au fil du temps, d'analyser comment il est influencé et comment il affecte la perception de la santé de l'individu. Mots clés: Vieillissement démographique. Personne âgée. Phénotype de Fried. Établissement de long séjour pour les personnes âgées.

FRAGILIDAD EN ANCIANOS: INCIDENCIA EN INSTITUCIÓN DE LARGA ESTANCIA PARA ANCIANOS EN SOUSA, PARAÍBA, BRASIL

RESUMEN

Objetivo: Identificar la incidencia de la fragilidad en ancianos en institución de larga estancia para ancianos (ILEA), utilizando el fenotipo propuesto por Linda Fried y colegas. Metodología: Estudio exploratorio, con abordaje cuantitativo, realizado en 2 ILEAs en la ciudad de Sousa, Paraíba, Brasil. Los datos fueron recogidos en marzo de 2013, utilizando un instrumento validado por Linda Fried y colegas, con 25 ancianos, que constituyeron la muestra. Los datos fueron procesados, almacenados y analizados por medio del programa SPSS, versión 20, después de la aprobación por el Comité de Ética en Investigación de la Faculdade Santa Maria, bajo el Protocolo 216.953. Resultados: 17 ancianos (68%) tenían entre 80 y 100 años y 20 (80%) fueron clasificados como frágiles. Entre los otros marcadores analizados, se destacaron los tabaquistas, 13 ancianos (52%), y los ex tabaquistas, 12 (47%), que fueron clasificados como frágiles. Conclusiones: Dada la manifestación heterogénea de pre-fragilidad y la similitud clínica entre los grupos no frágil y pre-frágil, el análisis factorial posibilitó la confirmación de los principales marcadores de la fragilidad. Sin embargo, se muestra necesario investigar el síndrome de la fragilidad a lo largo del tiempo, analizando la forma como esta es influida y cómo influye en la percepción de la salud del individuo. Palabras clave: Envejecimiento de la población. Anciano. Fenotipo de Fried. Institución de larga estancia para ancianos.

FRAGILIDADE EM IDOSOS: INCIDÊNCIA EM INSTITUIÇÃO DE LONGA PERMANÊNCIA PARA IDOSOS EM SOUSA, PARAÍBA, BRASIL

RESUMO

Objetivo: Identificar a incidência de fragilidade em idosos em instituição de longa permanência para idosos (ILPI), utilizando o fenótipo proposto por Linda Fried e colaboradores. Metodologia: Estudo exploratório, com abordagem quantitativa, realizado em 2 ILPI em Sousa (PB). Os dados foram coletados em março de 2013, utilizando um instrumento validado por Linda Fried e colaboradores, com 25 idosos, que constituíram a amostra. Os dados foram processados, armazenados e analisados por meio do programa estatístico SPSS, versão 20, após aprovação pelo Comitê de Ética em Pesquisa da Faculdade Santa Maria, sob o Protocolo n. 216.953. Resultados: 17 idosos (68%) tinham entre 80 e 100 anos e 20 (80%) foram classificados como frágeis. Dentre os demais marcadores analisados, destacaram-se os tabagistas, 13 idosos (52%), e os ex-tabagistas, 12 (47%), que foram classificados como frágeis. Conclusões: Diante da manifestação heterogênea da pré-fragilidade e da semelhança clínica entre os grupos não frágil e pré-frágil, a análise fatorial possibilitou a confirmação dos principais marcadores da fragilidade. Contudo, mostra-se necessário investigar a síndrome da fragilidade ao longo do tempo, analisando como ela é influenciada e como influencia a percepção da saúde do indivíduo. Palavras-chave: Envelhecimento populacional. Idoso. Fenótipo de Fried. Instituição de longa permanência para idosos.