

The relationship between physical frailty and sociodemographic and clinical characteristics of elderly

Relação entre fragilidade física e características sociodemográficas e clínicas de idosos

Relación entre la fragilidad física y las características sociodemográficas y clínicas de adultos mayores

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ABSTRACT

Objective: To investigate the association between the syndrome of physical frailty and sociodemographic and clinical characteristics of elderly users of the basic health care. **Methods:** Cross-sectional quantitative study. The sample was calculated based on the estimated population proportion and consisted of 203 elderly users of the Basic Health Unit. Tests were applied for screening of cognitive impairment, assessment of physical frailty and sociodemographic and clinical questionnaire. **Results:** The age and education variables appeared as significant for the group of frail elderly. The gender, health problems, loneliness, falls and urinary incontinence variables were statistically significant for the non-frail ones. **Conclusion:** Frailty was related to the sociodemographic variables age and education and non-frailty was related to gender and clinical variables, such as health problems, loneliness, falls and urine incontinence. The identification of the variables associated with frailty allows the development of interventions and specific care for the management of frailty.

Keywords: Frail elderly; Demographic data; Geriatric Nursing.

RESUMO

Objetivo: Investigar a associação entre a síndrome da fragilidade física e características sociodemográficas e clínicas de idosos usuários da atenção básica de saúde. **Métodos:** Estudo quantitativo transversal. A amostra foi calculada com base na estimativa da proporção populacional e constituída por 203 idosos usuários de Unidade Básica de Saúde. Foram aplicados testes para rastreio da alteração cognitiva, avaliação da fragilidade física e questionário sociodemográfico e clínico. **Resultados:** As variáveis idade e escolaridade se apresentaram significativas para o grupo de idosos frágeis. As variáveis sexo, problemas de saúde, solidão, quedas e incontinência urinária se mostraram significativas para os não-frágeis. **Conclusão:** A fragilidade relacionou-se às variáveis sociodemográficas idade e escolaridade e a não fragilidade relacionou-se à variável sexo e às variáveis clínicas problemas de saúde, solidão, quedas e incontinência urinária. A identificação das variáveis associadas à fragilidade permite o desenvolvimento de intervenções e cuidados específicos para a gestão da fragilidade.

Palavras-chave: Idoso fragilizado; Dados demográficos; Enfermagem geriátrica.

RESUMEN

Objetivo: Investigar la asociación entre el síndrome de fragilidad física y las características sociodemográficas y clínicas de las personas mayores usuarios de la atención básica de la salud. **Métodos:** Estudio cuantitativo transversal. La muestra se calculó en base a la proporción de la población estimada y constaba de 203 personas mayores usuarios de la Unidad Básica de Salud. Las pruebas se utilizan para la detección del deterioro cognitivo, la evaluación de la fragilidad física y cuestionario sociodemográfico y clínico. **Resultados:** La edad y la educación fueron presentados significativo para el grupo de ancianos frágiles. Las variables sexo, problemas de salud, soledad, caídas y la incontinencia urinaria fueron estadísticamente significativas para no frágil. **Conclusión:** La fragilidad se relaciona con la edad y la educación variables sociodemográficas y la no fragilidad estaba relacionada con el género y los problemas de las variables de salud clínicas, la soledad, caídas y la incontinencia urinaria. La identificación de las variables asociadas a la fragilidad permite el desarrollo de las intervenciones y cuidados específicos para la gestión de la fragilidad.

Palabras clave: Anciano frágil; Datos demográficos; Enfermería geriátrica.

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INTRODUCTION

The term frailty has been commonly used in health care to refer to older people who are physically vulnerable, and that being in such this condition, require extra care from their family, the health system and society¹. According to some authors physical frailty is "a medical syndrome with multiple causes and inputs/determinants which is characterized by the decrease in strength, endurance and physiological function, which increases the vulnerability of the individual and develops greater dependence and/or death"^{2,3}.

The evaluation method considered as the phenotype of physical frailty has five biological components that can be measured: unintentional weight loss, self-reported fatigue/exhaustion, decreased grip strength, decreased physical activity and reduced gait speed³. Elderlies who do not present any of the components are considered non-frail, those with one or two are characterized as pre-frail and the elderlies with three or more of the components are already in frailty state³.

Physical frailty predicts adverse health outcomes such as worsening of chronic and disabling diseases, comorbidities, falls, institutionalization, hospitalization, disability and death^{3,4}. Moreover, it has also been associated with different variables of sociodemographic and clinical profiles of elderlies.

The number of studies focused on the associations between health and socioeconomic variables and the clinical profile of the elderly population have been increasing. Such investigations provide detailed information on the impact of different aspects of life in their health and are considered valuable information in the planning of policies for decent care of this age group^{5,6}.

Healthy aging depends on the multidimensional interaction of several factors. However, few are the studies that explore a model that matches the age, gender, living arrangements, marital status, education, income, chronic diseases and frailty in the elderly, especially in developing countries, as in the case of Brazil⁷.

In the United States, a study with 5,317 participants aged ≥ 65 years identified the prevalence of frailty of 6.9%³. Frailty has shown association with the female gender, African-American ethnicity, low socioeconomic status, low educational attainment, poor health conditions, comorbidities, chronic non communicable diseases (NCDs) and disabilities³. The authors also observed that within three years, the condition of frailty was a predictive factor for susceptibility to falls, dependency in ADL and the hospitalization. In a period of five years it was a predictive factor for mortality³.

Another research, conducted with 814 elderly residents in Madrid, Spain, aimed to estimate the prevalence of frailty in an elderly population and to assess sociodemographic and health factors associated⁸. The authors⁸ found 10.8% of elderly people with frailty, with a significant association with

advanced age and socioeconomic and unfavorable health conditions such as insufficient income and low educational level.

In Taiwan, researchers investigated 2,238 subjects aged 65 or more in order to estimate the prevalence of frailty in the elderly and identify the factors associated with this syndrome⁹. The authors⁹ found 4.9% of frail elderly and significant association between frailty and advanced age, female gender, low educational level, living alone, presence of chronic diseases, depressive symptoms and geriatric syndromes.

The gerontological nursing has a significant role in preventing, stabilizing and even reversing frailty. Therefore, the proper knowledge about the syndrome and the factors associated with this condition are essential. The incomplete or incorrect gerontological assessment can progress to the return of the elderly to hospital or early hospitalization of this individual, greater use of health services and decreased quality of life². The techniques used for the assessment and identification of the frail elderly can be applied to all health care levels, especially in primary care.

From the need to know the characteristics of elderly people in frailty condition, the objective of this research was to investigate the association between the syndrome of physical frailty and sociodemographic and clinical characteristics of elderly users of the basic health care.

METHODS

It is a quantitative cross-sectional study conducted in a primary care unit - PCU from Curitiba, Paraná, Brazil. The targeted population consisted of elderlies on the wait list for a consultation at the PCU, in the period January-April 2013.

The size of the sample was determined based on the estimated population proportion. The PCU has a population of approximately 1050 registered senior citizens. The degree of confidence of 95% ($\alpha = 0.05$) and sampling error fixed at five percentage points were considered. The sample size was added 10%, due to the chances of losses and refusals, which resulted in a sample of 203 elderlies.

For the selection of the sample participants, the following inclusion criteria were adopted: to be aged 60 years old or more; to be registered in the Basic Health Unit where the research was carried out; to present cognitive ability, that is, to be able to answer the questionnaires of the study, identified through the cut-off points of the Mini-Mental State Examination (MMSE). The exclusion criteria were having diseases, and physical and mental symptoms that, for whatever reason, prevented answering the questionnaires and undergoing the tests.

The sample was recruited by convenience and individuals were invited to participate in the study in order of arrival at the PCU reception. The objective was explained, and those who agreed to participate signed the consent form. After that, in a private atmosphere, the test was applied to cognitive

screening - the Mini-Mental State Examination (MMSE)¹⁰. The test comprises 11 items, grouped into seven categories, each in order to assess a group of specific cognitive functions: temporal orientation, spatial orientation, immediate memory, attention and calculation, evoked memory, language and visual constructive capacity. The total score ranges from zero to 30. The following cutoff points were used: 13 points to low educational level, 18 points for average education and 26 for high education¹¹.

Data collection included the application of sociodemographic and clinical questionnaire and the assessment for physical frailty, which was conducted by the authors of the study. In order to minimize information, the collectors took part in a course on frailty in the elderly and were trained as for the application of the questionnaire and the carrying out of tests, both organized by the research coordinator.

The questionnaire was prepared in order to identify the sociodemographic variable (gender, age, education, marital status, who they live with and financial situation) and clinic variables (the presence of health problems, loneliness, history of falls in the last year, urinary function, tobacco use and alcohol, drug use, number of hospitalizations in the past year, use of assistive technology as a crutch, walker and cane) of the elderly.

The phenotype of physical frailty was measured through five components: physical activity, fatigue/exhaustion, loss of unintentional weight, manual grip strength and gait speed. In order to make effective the specificity of the Brazilian elderly, there were two changes in the assessment of these measures. According to American researchers and their collaborators, in order to identify the physical activity level we applied the *Minnesota Leisure Activity Questionnaire*¹² and in the assessment of the energy level, specifically for component fatigue/exhaustion, the authors used two questions from the Center for Epidemiological Scale - Depression (CES-D)¹³.

In this study, for the physical activity component, we used the Physical Activity Questionnaire for Elderly - Curitiba¹². This questionnaire is composed by 20 questions and comprises systematic physical activities, domestic chores or heavy work tasks and social and leisure activities. The final score is calculated according to the frequency and timing of the carried out activities performed in the past week.

The energy level was identified through a question from the of Geriatric Depression Scale - GDS and through a graduated visual scale, using a ruler numbered from zero to 10, where zero corresponds to minimum energy and ten to maximum energy¹³.

The unintentional weight loss component was measured by the self-report of weight loss equal to or greater than 4.5 kg or 5% of body weight in the last years³. The slowness was measured by the gait speed test, measured in seconds (distance of 4 m) and adjusted according to the gender³. The handgrip strength (HS) was measured with a dynamometer (Jamar® brand) in the dominant hand and adjusted according to the gender and body mass index (BMI)³.

Data were organized in the computer program *Excel 2007*, double-check to reduce the possibility of error. In sequence they were verified by a third person, in order to ensure its accuracy. We used the *chi-square* test for the association between the frailty syndrome (classification of frail groups, pre-frail and non-frail) and sociodemographic and clinical variables. The values $p < 0.05$ were considered statistically significant. In the comparison test of the groups, two by two (for significant variables in the association test), the level of significance was corrected by Bonferroni. For these comparisons, the level of significance 0.05 was divided by the number of comparisons, which were three (frail X pre-frail, frail x non-frail and pre-frail x pre-frail) and the p values ≤ 0.017 indicated statistic significance. The statistics analysis were performed using the *software* Statistica v.8.0.

The study was approved by the Ethics Committee on Human Research from the Health Sciences Sector, under protocol CEP/SD: 913.038.10.04 CAAE: 0023.0.091.000-10. The ethical principles of voluntary and informed participation of each subject were observed, according to Resolution No. 196, effective at the project approval period.

RESULTS

Among the 203 study participants, 115 (56.7%) are pre-frail elderly, 49 (24.1%) non-frail and 39 (19.2%) frail. Table 1 shows the sociodemographic characteristics of three groups of elderly. The age range of the participants of this study varied between 60 and 93 years with a mean of 70.87 ± 7.42 years. The significant sociodemographic variables to elderly groups were gender ($p < 0.001$), age ($p < 0.001$) and education ($p = 0.035$).

The clinical characterization of the elderly showed consonance in the results among the three frailty groups. In this sense, regardless of the group, most elderly reported: health problems, medication use and not feeling lonely. Contrarily, most of the participants didn't report: falling episodes or hospitalization in the last year, urinary incontinence, cigarette or alcohol use and use of assistive technologies. The significant clinical variables of the groups of elderly were: health problems ($p < 0.001$), loneliness ($p = 0.001$), falls in the last year ($p = 0.003$) and urinary incontinence ($p = 0.001$) (Table 2).

It can be verified in Table 3 the comparison among the three groups of elderly and sociodemographic and clinical variables that appeared as significant. It appears that the variables age and educational level proved to be significant for the frail elderly and the variables gender, health problems, loneliness, falls and urinary incontinence for the non-frail ones.

DISCUSSION

The distribution of the condition of frailty in the elderly of this study is similar when compared to international researches, which also used to assess the phenotype of physical in elderly of a community. Several countries present investigations with greater

Table 1. Sociodemographic characterization of elderly according to the frailty level. Curitiba, Paraná, Brazil, 2013

Variable	Classification	Total n (%)	Frail n (%)	Pre-frail (%)	Non-frail n (%)	p-value
Sex	Male	99 (48.7)	10 (25.6)	42 (36.5)	28 (57.1)	< 0.001*
	Female	104 (51.3)	29 (74.4)	73 (63.5)	21 (42.9)	
Age	60 to 69 years	100 (49.2)	6 (15.4)	65 (56.5)	29 (59.2)	< 0.001*
	70 to 79 years	73 (36)	17 (43.6)	39 (33.9)	17 (34.7)	
	≥ 80 years	30 (14.8)	16 (41)	11 (9.6)	3 (6.1)	
Marital status	Married	103 (50.7)	16 (41)	59 (51.3)	28 (57.1)	0.112
	Divorced	16 (7.8)	0 (0)	10 (8.7)	6 (12.2)	
	Single	13 (6.5)	4 (10.3)	6 (5.2)	3 (6.1)	
	Widow (er)	71 (35)	19 (48.7)	40 (34.8)	12 (24.5)	
Who they live with	Partner	45 (22.2)	6 (15.4)	30 (26.1)	9 (18.4)	0.447
	Family member	125 (61.6)	25 (64.1)	66 (57.4)	34 (69.4)	
	Alone	33 (16.2)	8 (20.5)	19 (16.5)	6 (12.2)	
Educational level	Illiterate	27 (13.3)	11 (28.2)	14 (12.2)	2 (4.1)	0.035*
	Unfinished Elementary School	121 (59.7)	24 (61.5)	69 (60)	28 (57.1)	
	Finished Elementary School	18 (8.9)	1 (2.6)	10 (8.7)	7 (14.3)	
	Unfinished High School	6 (3)	1 (2.6)	3 (2.6)	2 (4.1)	
	Finished High School and University degree	31 (15.1)	2 (5.1)	19 (16.5)	10 (20.4)	
Financial support	Unsatisfactory	58 (28.5)	9 (23.1)	36 (31.3)	13 (26.5)	0.649
	Median	79 (39)	19 (71.8)	42 (36.5)	18 (36.7)	
	Satisfactory	66 (32.5)	11 (28.2)	37 (32.2)	18 (36.7)	
Total		203 (100)	39 (100)	115 (100)	49 (100)	

* Chi-squared test, $p \leq 0.05$, significant variables.

frequency distribution of pre-frail elderly, followed by frail ones. A Study in Spain have found 47% of pre-elderly to be frail and 9.6% of frail¹⁴. In the United States studies have pointed the frequency of 53.1% and 9.8% of pre-frail and fragile elderly¹⁵, respectively. In Colombia, this percentage was 53.3% and 12.2%¹⁶. In Brazil, multi center study showed rates of 51.8% and 9.1% for pre-frailty and frailty¹⁷.

The similarity of the results found on the distribution of the frailty condition, in national and international studies, requires healthcare workers a special attention to this matter. The results show that the highest percentage of pre-elderly is frail, and this segment of the syndrome requires the more attention. The frailty syndrome may be reversible and/or mitigated by immediate interventions, which comprises frailty management. The early interventions can enable better living conditions for the elderly².

The literature points the association between frailty and some sociodemographic and clinical factors in elderlies. The sociodemographic studies cite, more often, the age factor¹⁸, the low educational level¹⁹, the low-income²⁰, and the female gender^{9,21}, and the clinical outcomes for frailty cite the comorbidities¹⁴ and disabilities⁸.

In this study, the age and education variables were statistically significant for the group of frail elderly. The variables gender, health problems, loneliness, falls and urinary incontinence showed a significant association among non-frail elderly.

Regarding the age range, 53.3% of the elderly who were 80 or more, in this study, were frail. Those between 70 and 79 years 23.2% were frail. By contrast, among those aged 60 to 69 years only 6% were frail. It appears that frailty is directly proportional to the age of the elderly. Studies in the literature corroborate such affirmation^{8,15}.

Table 2. Sociodemographic characterization of elderly according to the frailty level. Curitiba, Paraná, Brazil, 2013

Variable	Classification	Total n (%)	Frail n (%)	Pre-frail n (%)	Non-frail n (%)	p-value
Health problems	Yes	180 (88.6)	38 (97.4)	104 (90.4)	38 (77.6)	< 0.001*
	No	23 (11.4)	1 (2.6)	11 (9.6)	11 (22.4)	
Loneliness	Yes	52 (25.6)	16 (41)	32 (27.8)	4 (8.2)	0.001*
	No	151 (74.4)	23 (59)	83 (72.2)	45 (91.8)	
Falls in the last year	Yes	61 (30.1)	16 (41)	37 (32.2)	8 (16.3)	0.003*
	No	142 (69.9)	23 (59)	78 (67.8)	41 (83.7)	
Urinary incontinence	Yes	58 (29.1)	18 (46.2)	34 (29.6)	6 (12.2)	0.001*
	No	145 (70.9)	21 (53.8)	81 (70.4)	43 (87.8)	
Smoker	Yes	18 (8.8)	3 (7.7)	9 (7.8)	6 (12.2)	0.633
	No	185 (91.2)	36 (92.3)	106 (92.2)	43 (87.8)	
Alcoholic	Yes	27 (13.3)	3 (7.7)	15 (13)	9 (18.4)	0.339
	No	176 (86.7)	36 (92.3)	100 (87)	40 (81.6)	
Assistive Technologies	Yes	11 (5.4)	5 (12.8)	6 (5.2)	0 (0)	0.085
	No	192 (94.6)	34 (87.2)	109 (94.8)	49 (100)	
Medications	Yes	179 (88.1)	38 (97.4)	101 (87.8)	40 (81.6)	0.073
	No	24 (11.9)	1 (2.6)	14 (12.2)	9 (18.4)	
Hospitalization in the last year	Yes	35 (17.2)	6 (15.4)	24 (20.9)	5 (10.2)	0.239
	No	168 (82.8)	33 (84.6)	91 (79.1)	44 (89.8)	
Total		203 (100)	39 (100)	115 (100)	49 (100)	

* Chi-squared test, $p \leq 0.05$, significant variables.

Table 3. Correction of the significant sociodemographic and clinical variables for the groups frail, pre-frail and non-frail. Curitiba, Paraná, Brazil, 2013.

Compared groups	Sex	Age	Education	Health problems	Loneliness	Falls	Urinary incontinence
Frail x pre-frail	0.244	< 0.001*	0.063	0.297	0.161	0.334	0.077
Frail x non-frail	0.005*	< 0.001*	0.003*	0.010*	< 0.001*	0.015*	0.001*
Pre-frail x non-frail	0.016*	0.769	0.416	0.043	0.007*	0.055	0.018

* Bonferroni correction, $p \leq 0.017$.

In studies about frailty the aging process has often been identified as a predisposing factor and as a mark of triggering structural changes in the fragilization process, which bring negative effects for the establishment of the prevalence of fragility and severity of its evolution^{3,4}. Some authors characterize frailty as the accumulation of lifelong deficits²², while others consider it as a declines syndrome in multiple systems related to conditions associated with aging, such as sarcopenia, neuroendocrine dysregulation and immune dysfunction⁴.

In this study, it is understood that physical frailty comes from the decrease in the energy reservatory and the reduction in ability to resist to stressors. The long-lived elderly throughout their own aging process presents sarcopenia at a higher rate than that seen in younger elderly, and prevalence of chronic diseases²³. These

characteristics justify, in part, the high incidence of physical frailty in the older age group.

The education variable presented a significant association for frail elderlies. The educational level was inversely proportional to the condition of frailty. Most of the frail elderly have low educational level (illiterate or only incomplete primary education). When comparing the percentage of education of the frails between the pre-frail and non-frails that percentage decreased by around 17% and 28%, respectively. Other national and international studies also showed significant association between frailty and education^{3,9,21}.

By comparing developed countries and developing countries, it is known that the last have the largest indexes of illiteracy and low education. However, it is observed in both

(developed and developing countries) significant associations between education and frailty^{3,7,19}. Among those are the United States, Taiwan, Spain and Brazil. Thus, the data show that frailty is related to the low education level of individuals and not necessarily to the countries with low educational achievement index^{3,7,19}.

The low level of education reflects the deprivation of opportunities and inequality in the health condition of the elderly, throughout their lives. Bad socioeconomic conditions, little formal education and low income are features that are present in most debilitated people, who are more susceptible to health problems such as frailty²⁴. It is believed that the level education act as an effect modifier in the association between frailty and cognitive performance through mechanisms such as the cognitive reserve²⁵. Thus, the increase in the educational levels can be seen as a protection against cognitive impairments in older individuals.

As to genders, it is observed greater frailty incidences and pre-frailty for women. The number of frail women was almost three times higher that found in men. The pre-frail was almost the double. Still, in this study, the gender variable showed significant association between the group of non-frail elderly. This result differs from those found in other studies, which identified significant association between gender and frail elderly^{9,21}.

A study conducted by researchers in the United States showed an incidence of 68.5% and 31.5% of frailty for females and males, respectively³. In a study with elderlies from Taipei (Taiwan) this result was 60.1% for women and 40.4% for men⁹. In England, the frailty index in female seniors was approximately twice higher than found in males, with a percentage of 8.5 and 4.1, respectively²⁶.

The highest frailty rates in women have been reported in the literature as being due to prevalent factors as lower muscle strength, worse nutritional status, worse socioeconomic and health status throughout life and low self-perception on health when compared to men²⁷. In women, the hormone levels decrease abruptly due to menopause, which leads to the decrease in muscle mass and strength observed in frail elderly²⁸.

Health problems are existing in almost all frail, pre-frail elderlies and in a smaller percentage in non-frail ones. The "health problems" variable was significantly associated to the group of non-frail elderly. The Bonferroni test explains this little relation, whereas in crossing two by two, the frail X non-frail groups present significant *p* value and the pre-frail x non-frail groups showed significant *p*-value with significance tendency. However, this result may suggest that immediate interventions in the health problems of non-frail elderly, such as control and treatment, can interfere in the picture of frailty of these individuals by the preventing or delaying of the establishment of the syndrome.

The urinary incontinence variable reached significance level for the non-frail elderlies. However, there has been a growing

percentage of vesical disorder as it increases the degree of frailty. Urinary incontinence, as well as the frailty syndrome increase with age and are higher among women than among men²⁹. Some factors contribute to the onset of symptoms in women. Among them we have the natural aging of the muscle fibers, of the pelvic floor, race, obstetric-gynecological factors, hormonal status, measuring, obesity, alcoholism, caffeine intake, smoking, and chronic cough²⁹.

A research with 100 seniors aged 60 and older, in Campinas-SP, had as one of its goals to verify the occurrence of urinary incontinence and their characteristics in pre-frail and frail elderly attending a geriatric clinics. Through certain criteria for the classical of physical frailty, the authors found that 59% of the seniors were characterized as fragile³⁰. In contrast with older people with and without urinary incontinence and fragility, there was a statistically significant difference ($p = 0.001$) as for the rating, that means that 62.8% of the non-incontinent elderly subjects had pre-frailty, while 70.7% of elderly incontinent showed frailty³.

Urinary incontinence in frail elderly is a syndrome model with the interaction of multiple risk factors, such as psychological and cognitive changes related to age and comorbidities³¹. Thus, the findings of this study differ from those found in the literature and reinforce the need for prevention of this condition in the elderly, since the presence of urinary incontinence induces them to reduce the practice of activities in their daily living, especially of instrumental activities.

The fall was another variable in which there was significant association among the elderly without frailty. Although the percentage of falls among the frail, pre-frail and non-frail is increasing, respectively, there was no predominance of this characteristic in any of them. In International studies, the fall event is cited as a clinical outcome³. In the present study, it was not possible to identify whether the decline is cause or consequence of frailty.

A research conducted in Ribeirão Preto (SP) investigated 240 elderly aged 60 or more, in order to analyze the prevalence of falls in frail older people, their consequences and demographic factors associated³². The results differ from this study, once it has shown the prevalence of falls among the elderly with frailty. The authors conclude that frailty and the occurrence of falls can be connected bi-directionally - the fall can lead the elderly to frailty - this may lead them to fall³².

Loneliness is statistically significant for the group of non-frail elderlies. It is observed that the distribution of the frequency of this variable grows as it increases the level of frailty, but in none of the groups it was predominant. The elderly who feel lonely tend to have more courage to carry out the activities of the daily living, interact with others, practice physical activities, join groups, among other activities. All these factors, besides aiding in the psychological dimension of the individual, also interfere with the physical body, as they maintain the elderly more active and less able to develop frailty.

CONCLUSION

Frailty was related to sociodemographic variables such as age and education. Non-frailty was associated to gender and the clinical variables such as health problems, loneliness, falls and urinary incontinence.

The type of study applied in the research was a limiting factor, since cross-sectional studies do not allow the analysis of cause and effect. In this case, the association between some sociodemographic and clinical variables and the condition of the frailty among the elderly. Thus, it is suggested that exploratory and longitudinal studies be carried out, with the same objective in an attempt to define the existing relationships.

The investigation of factors associated with the frailty syndrome in the elderly is essential for gerontologic nursing. The identification of the variables that are associated with the frailty of elderly allows the development of specific interventions and care, that is, it brings benefits to the management of frailty - possibilities for the prevention and reversal of the fragile condition of the elderly.

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