

Relationship between physical frailty and geriatric syndromes in older adults in outpatient care

Relação entre fragilidade física e síndromes geriátricas em idosos da assistência ambulatorial
Relación entre fragilidad física y síndromes geriátricos en adultos mayores en atención ambulatoria

Clarice Maria Sétlik¹  <https://orcid.org/0000-0003-2981-2726>

Maria Helena Lenardt¹  <https://orcid.org/0000-0001-8309-4003>

Susanne Elero Betioli¹  <https://orcid.org/0000-0003-4469-4473>

Larissa Sayuri Setoguschi¹  <https://orcid.org/0000-0002-3794-8482>

Dayana Cristina Moraes¹  <https://orcid.org/0000-0001-7859-6471>

Bruno Henrique de Mello¹  <https://orcid.org/0000-0003-0565-9288>

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Corresponding author

Clarice Maria Sétlik
E-mail: setlikc@yahoo.com.br

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Paula Hino
(<https://orcid.org/0000-0002-1408-196X>)
Escola Paulista de Enfermagem, Universidade Federal de São Paulo, SP, Brazil

Abstract

Objective: To analyze the correlation between the condition of physical frailty and the geriatric syndromes, postural instability, urinary incontinence, and family insufficiency in older adults in geriatrics and gerontology outpatient care.

Methods: Quantitative cross-sectional study developed with a sample of 381 older adults 60 years or more. The physical frailty condition and the syndromes of postural instability, urinary incontinence, and family insufficiency were investigated. The evaluation instruments used were Fried's phenotype markers, Berg Balance Scale, International Consultation on Incontinence Questionnaire - Short Form and Adaptability, Partnership, Growth, Affection, Resolve, respectively. Data were analyzed by descriptive, bivariate ($p < 0.05$), and regression statistics by ordinal model.

Results: Among the participants, 56 (14.7%) were frail, 217 (57%) pre-frail, 108 (28.3%) non-frail; 103 (27%) had urinary incontinence, 98 (25.7%) family insufficiency and 62 (16.3%) postural instability. As for the number of geriatric syndromes, 183 (48%) older adults did not present, 139 (36.5%) presented one syndrome, 53 (14%) two, and six (1.5%) three. There was a significant association ($p < 0.001$) with a degree of association far from 0 (Cramer's $V = 0.496$) and "high" correlation (Polychoric correlation = 0.7) between physical frailty and postural instability.

Conclusion: There was a significant correlation between physical frailty and postural instability. Urinary incontinence and family insufficiency were not associated with physical frailty, although most were frail and pre-frail.

Resumo

Objetivo: Analisar a correlação entre a condição de fragilidade física e as síndromes geriátricas instabilidade postural, incontinência urinária e insuficiência familiar em pessoas idosas da assistência ambulatorial de geriatria e gerontologia.

Métodos: Estudo quantitativo transversal, desenvolvido com uma amostra de 381 pessoas idosas com 60 anos ou mais. Investigaram-se a condição de fragilidade física e as síndromes da instabilidade postural, incontinência urinária e insuficiência familiar. Os instrumentos de avaliação empregados foram os marcadores do fenótipo de Fried, Escala de Equilíbrio de Berg, *International Consultation on Incontinence Questionnaire - Short Form e Adaptation Partnership Growth Affection Resolve*, respectivamente. Os dados foram analisados por estatística descritiva, bivariada ($p < 0,05$) e de regressão pelo modelo ordinal.

Resultados: Dos participantes, 56 (14,7%) eram frágeis, 217 (57%) pré-frágeis, 108 (28,3%) não frágeis; 103 (27%) apresentavam incontinência urinária, 98 (25,7%) insuficiência familiar e 62 (16,3%) instabilidade postural. Quanto ao quantitativo de síndromes geriátricas, 183 (48%) pessoas idosas não apresentaram, 139

¹Universidade Federal do Paraná, Curitiba, PR, Brazil.

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(36,5%) uma síndrome, 53 (14%) duas, e seis (1,5%) três. Houve associação significativa ($p < 0,001$) com um grau de associação longe de 0 ($Cramer's V = 0,496$) e “alta” correlação (Policórica = 0,7) entre fragilidade física e instabilidade postural.

Conclusão: Houve correlação significativa entre fragilidade física e instabilidade postural. Incontinência urinária e insuficiência familiar não se mostraram associadas à fragilidade física, embora a maioria era frágil e pré-frágil.

Resumen

Objetivo: Analizar la correlación entre la condición de fragilidad física y los síndromes geriátricos: inestabilidad postural, incontinencia urinaria e insuficiencia familiar en adultos mayores de la atención ambulatoria en geriatría y gerontología.

Métodos: Estudio cuantitativo transversal, desarrollado con una muestra de 381 adultos mayores de 60 años o más. Se investigó la condición de fragilidad física y los síndromes de la inestabilidad postural, incontinencia urinaria e insuficiencia familiar. Los instrumentos utilizados para la evaluación fueron los marcadores de fenotipo de Fried, Escala de Equilibrio de Berg, *International Consultation on Incontinence Questionnaire – Short Form* y *Adaptation Partnership Growth Affection Resolve*, respectivamente. Los datos se analizaron por estadística descriptiva, bivalente ($p < 0,05$) y de regresión por el modelo ordinal.

Resultados: De los participantes, 56 (14,7 %) eran frágiles, 217 (57 %) pre frágiles, 108 (28,3 %) no frágiles; 103 (27 %) presentaban incontinencia urinaria, 98 (25,7 %) insuficiencia familiar y 62 (16,3 %) inestabilidad postural. Respecto a la cantidad de síndromes geriátricos, 183 (48 %) adultos mayores no presentaron ninguno, 139 (36,5 %) un síndrome, 53 (14 %) dos síndromes y seis (1,5 %) tres síndromes. Hubo asociación significativa ($p < 0,001$) con grado de asociación distante de 0 ($Cramer's V = 0,496$) y “alta” correlación (Policórica = 0,7) entre fragilidad física e inestabilidad postural.

Conclusión: Hubo correlación significativa entre fragilidad física e inestabilidad postural. Incontinencia urinaria e insuficiencia familiar no demostraron estar asociadas a la fragilidad física, aunque la mayoría era frágil y pre frágil.

Introduction

Human aging is influenced by different factors and experiences in the life course and manifests changes in the physical, mental and psychosocial dimensions, leading to aging with decreased autonomy and independence, in which physical frailty and geriatric syndromes are included.⁽¹⁻³⁾

A consensus among experts at the International Conference of Frailty and Sarcopenia Research (ICFSR) defined frailty as a clinical condition of vulnerability, compounded by internal/external stressors that can lead to functional decline or transition conditions, in other words, being physically active can reverse the development of frailty or pre-frailty.⁽⁴⁾

One way to identify this clinical condition is through five biological markers, which constitute the frailty phenotype, such as: reduced walking speed, reduced handgrip strength, unintentional weight loss, low caloric expenditure, and self-reported fatigue/exhaustion. The older adult who presents three or more markers is considered frail, one or two is pre-frail, and none of the markers is identified as non-frail.⁽⁵⁾

In turn, geriatric syndromes are fairly common clinical conditions in older people that do not fall into specific disease categories and are highly prevalent, multifactorial, and associated with substantial morbidity. These conditions contribute to

increased burden of care, greater disability, and poorer prognosis.⁽⁶⁾

Geriatric syndromes, also referred to as the Great Geriatric Syndromes, include postural instability, urinary incontinence/sphincteric incontinence, family insufficiency, immobility, cognitive impairment, iatrogenesis, and communicative impairment.⁽⁷⁾ This study focuses on three syndromes, postural instability, urinary incontinence, and family insufficiency. These syndromes were selected based on the parent project entitled “Physical Frailty and Geriatric Syndromes in Older Adults” and the results of the studies comprising the project.

Postural instability is defined as the inability to integrate sensory information and determine body oscillations in the upright position while maintaining balance.⁽⁸⁾ Urinary incontinence is established as “complaint of any involuntary urine loss” and should not be interpreted as a natural aspect of aging.⁽⁹⁾ Family insufficiency is a complex psychosocial process based on damaged family bonds and low social support. It presents as a pattern of the family's capacity loss to promote care and offer support, either by the absence of family members or by insufficient conditions.⁽¹⁰⁾

National and international studies point to a significant prevalence of geriatric syndromes in older adults. The study developed in China examined the prevalence of geriatric syndromes in 2,618 older adults. Out of the sample, 75.3% had some geriat-

ric syndrome, while frailty appeared among 14.1% of the older adults.⁽¹¹⁾ In Brazil, 813 medical charts were analyzed to assess the population's frailty profile; from the older adults considered frail, 65.5% were associated with postural instability, 60.5 with urinary incontinence, and 21.2% with family insufficiency.⁽¹²⁾ The results highlight the need for early syndrome identification, preventive actions implementation, and interventions directed to the older adult.^(11, 12)

Establishing the relationships between physical frailty and geriatric syndromes provides direction and meaning to gerontological nursing professionals for early interventions, particularly in robust older adults, as well as to intervene and monitor those who are frail and pre-frail. The aim is to prevent the functional decline of older adults and thus maintain their autonomy and independence.

Considering the above, this study aims to analyze the correlation between the physical frailty condition and the geriatric syndromes postural instability, urinary incontinence, and family insufficiency in older adults from geriatrics and gerontology outpatient care.

Methods

This is a cross-sectional correlational study conducted in a Geriatrics and Gerontology Outpatient Clinic (GGOC) in the city of São José dos Pinhais/PR, located in the metropolitan region of Curitiba/PR (Brazil). The GGOC provides comprehensive care to the older adult population aged 60 years or more, patients of the Unified Health System (Sistema Único de Saúde [SUS]).

The older adults were recruited randomly while waiting for their medical appointment at the GGOC. Posters were fixed at the entrance of the GGOC, with the intent to disclose the research and encourage older adult to participate. While they were waiting for their appointment, they were invited individually and given prior information about the research, the tests, the objectives, and the ethical aspects related to the study. Older adults who agreed to participate were taken to a private room

in the outpatient clinic and signed the Informed Consent Form.

Data collection occurred between October 2016 and March 2017. Older adults aged 60 years or older, of both genders, from Primary Health Care, participated in the study. Four previously trained researchers conducted the collection. The interviews and tests lasted approximately 40 minutes.

The sample was defined by sample calculation based on the older adult population of São José dos Pinhais/PR (36,648) in 2015.⁽¹³⁾ We considered a 95% confidence index (CI:95%), a 5% significance level ($\alpha=0.05$), a sample error of 5 percentage points, and an additional 8% for possible losses or refusals. Initially, the sample comprised 411 older adults. After applying the criteria, 29 participants were excluded, and one refused. Thus, the final sample consisted of 381 older adults.

Inclusion criteria included: being 60 years old or older; attending the scheduled appointment at the OGGC; presenting cognitive ability, according to the results of the Mini Mental State Examination - MMSE.⁽¹⁴⁾ Exclusion criteria for the older adult included: being physically unable to perform the proposed tests (wheelchair users, amputated upper and lower limbs); being under treatment for balance disorders or taking antivertigo drugs.

Mini Mental State Examination - MMSE was used to screen cognition in the older adult.⁽¹⁴⁾ The MMSE total score ranges from zero to thirty, and cutoff points were adopted according to education: 13 points for illiterates, 18 points for those with low and middle education (one to eight incomplete years of study), and 26 points for high education (eight or more years of study).⁽¹⁵⁾

For data collection, we used: a sociodemographic questionnaire, the physical frailty phenotype markers, the Berg Balance Scale, the International Consultation on Incontinence Questionnaire - Short Form, and the Adaptability, Partnership, Growth, Affection, Resolve (family APGAR). The sociodemographic questionnaire included the variables of interest such as gender, age, marital status, education, race, and monthly family income. The instrument was prepared and adapted according to the Brazilian Institute of Geography and Statistics - IBGE.⁽¹⁶⁾

Physical frailty was assessed through the frailty phenotype markers (self-reported fatigue/exhaustion, unintentional weight loss, reduced level of physical activity/and or low caloric expenditure, decreased walking speed, and handgrip strength). Frail older adults are those with three or more markers, pre-frail with one or two, or non-frail in the absence of markers.⁽⁵⁾

The handgrip strength was measured in kilogram/force (Kgf) using a Jamar[®] hydraulic dynamometer. For each older adult person, the values were adjusted according to gender and Body Mass Index (BMI). The values that included the lowest quintile were considered markers of frailty.⁽⁵⁾ To verify the walking speed (m/s), the older adult were instructed to walk a 4.6-meter route, as usual. Adjustments were made according to gender and height, the values in the lowest quintile were markers of frailty.⁽⁵⁾

Postural balance was assessed by the Berg Balance Scale - BBS,⁽¹⁷⁾ translated and validated in Brazil.⁽¹⁸⁾ The BBS aims to identify the abilities and limitations for maintaining balance during activities common to daily life. Scores <45 indicate balance changes and increased risk of collapses.⁽¹⁷⁾

Furthermore, urinary incontinence was assessed with the International Consultation on Incontinence Questionnaire -58416 Short Form - ICIQ-SF, translated and validated in Brazil.⁽¹⁹⁾ The questionnaire is simple and brief, composed of four questions that assess urinary incontinence's impact on quality of life and qualify urinary loss in both genders.⁽¹⁹⁾

To evaluate family functioning, the Adaptability, Partnership, Growth, Affection, Resolve (family APGAR) questionnaire was applied,⁽²⁰⁾ translated, and validated for Brazil,⁽²¹⁾ to evaluate the family dysfunction syndrome, which classifies the older adults with: good family functioning, moderate or high family dysfunction.^(20,21)

This instrument evaluates family functionality in five domains: adaptability, partnership, development, affection, and resolution.⁽¹⁸⁾ For each question, the answer is described on a scale based on the Likert Scale pattern: rarely (0), sometimes (1) and almost always (2) and the results are added. The

scores between 7 and 10 points are interpreted as good family functionality, moderate between 5 and 6 points, and high scores between 0 and 4 points.⁽²⁰⁾

Data were organized in Microsoft Excel[®] 2007 computer software. We analyzed the data using descriptive statistics, with absolute and relative frequency distribution of nominal and ordinal categorical variables, bivariate association between nominal categorical variables (Chi-square test) and between nominal and ordinal categorical variables (Kruskal-Wallis test), with statistical significance level considered $p \leq 0.05$. We used the Cramer's V and Polycorrelation contingency coefficient calculation between physical frailty and geriatric syndromes for the association strength analysis. The interpretation of the value of the Cramer's V and Polycorrelation coefficient ranges from 0 to 1, higher values indicate more significant association and stronger relationship.⁽²²⁾ The software used was the *R CORE TEAM*.

The study was approved by the Research Ethics Committee of the Universidade Federal do Paraná, under protocol CEP/SD 1.755.394 and CAAE: 58954016.1.0000.0102.

Results

Among the 381 participants, most were older adult men ($n=193$; 50.7%) between 60 and 100 years old, with a higher percentage ($n=188$; 49.3%) of older adults between 60 and 69 years old, married ($n=251$; 65.9%), white ($n=310$; 81.4%), with a family income of up to two minimum wages ($n=328$; 86.1%), and with 1 to 4 years of education ($n=206$; 54.1%).

As for physical frailty, 56 (14.7%) older adults were classified as frail, 217 (57%) pre-frail, and 108 (28.3%) non-frail. Regarding the geriatric syndromes evaluated, 103 (27%) presented urinary incontinence, 98 (25.7%) family insufficiency, 62 (16.3%) postural instability.

Table 1 shows the frequency distribution related to physical frailty and geriatric syndromes. Among the three geriatric syndromes evaluated, there was a significant association between physical frailty

Table 1. Frequency distribution, association and correlation between geriatric syndromes and older adults's physical frailty condition

	Physical frailty condition			Total (n=381) n (%)	p-value*	Cramer's V**	Polychoric***
	Non-frail (n=108) n(%)	Pre-frail (n=217) n(%)	Frail (n=56) n(%)				
Postural Inst.					< 0,001	0,496	0,701
Yes	2(1,9)	27(12,4)	33(58,9)	62(16,3)			
No	106(98,1)	190(87,6)	23(41,1)	319(83,7)			
Family Ins.					0,129	0,104	0,136
Yes	20(18,5)	62(28,6)	16(28,6)	98(25,7)			
No	88(81,5)	155(71,4)	40(71,4)	283(74,3)			
Urinary Inc.					0,336	0,076	0,030
Sim	25(23,1)	65(30,0)	13(23,2)	103(27,0)			
Não	83(76,9)	152(70,0)	43(76,8)	278(73,0)			

* Chi-square test; * p-value <0,05; ** Cramer's V coefficient between physical frailty and syndromes; *** Polychoric Correlation between physical frailty and geriatric syndromes

Table 2. Frequency distribution, association and correlation between the number of geriatric syndromes and the physical frailty status of older adults

Number of geriatric syndromes †	Physical frailty condition			Total (n=381) n (%)	p-value*	Cramer' s V **	Polychoric ***
	Non- frail (n=108) n(%)	Pre-frail (n=217) n(%)	Frail (n=56) n(%)				
0	69(37,7)	102(55,7)	12(6,6)	183(48)	< 0,001	0,20	0,344
1	32(23)	79(56,8)	28(20,2)	139(36,5)			
2	6(11,3)	33(62,3)	14(26,4)	53(14)			
3	1(16,7)	3(50)	2(33,3)	6(1,5)			

† Considering the three geriatric syndromes: postural instability, family insufficiency, and urinary incontinence; * Chi-square test, p-value <0,05; ** Cramer's V coefficient; *** Polychoric Correlation between physical frailty and number of geriatric syndromes

and postural instability ($p < 0.001$), most older adults with postural instability were considered frail (58.9%). There was a median correlation between physical frailty and postural instability according to V-Cramer's coefficient (Cramer's $V = 0.496$), with a degree of association far from 0, and a "high" correlation (Polychoric = 0.701) of postural instability with physical frailty.

We noticed that there was no significant association between family insufficiency and frailty ($p=0.129$). However, it can be verified that most of the older adult with family insufficiency were in the frail (28.6%) and pre-frail (28.6%) conditions. As for the variables urinary incontinence and frail, there was also no significant association ($p=0.336$), however the older adult who presented urinary incontinence were classified as pre-frail (30.0%). Table 2 shows the frequency distribution, association, and correlation between the numbers of geriatric syndromes and the older adults physical frailty status.

Out of 381 older adults, 183 (48%) did not present any of the three geriatric syndromes, 139

(36.5%) presented one, 53 (14%) two, and six (1.5%) of the participants presented the three geriatric syndromes simultaneously. There was a significant association between the number of geriatric syndromes and the physical frailty condition ($p=0.001$), although there was a low correlation between the number of geriatric syndromes and the physical frailty condition (Cramer's $V=0.20$). The frailty condition that obtained the highest distribution of syndromes (two) was the pre-fragile older adult (62.3%), followed by the frail ones, 33.3% of them with three syndromes, 26.4% with two geriatric syndromes.

Discussion

Out of the syndromes evaluated postural instability, urinary incontinence, and family insufficiency, there was a significant association ($p<0.001$) with a degree of association (Cramer's $V = 0.496$) and "high" correlation (Polychoric = 0.7) between physical frailty and postural instability.

In turn, urinary incontinence and family insufficiency showed no association and correlation with frailty.

The physical frailty condition in older adults presents excellent variability, depending on the population assessed and the contexts in which the investigations were carried out. A longitudinal study using the Health, Well-Being and Aging (HABE) database assessed 1,399 community-dwelling older adult individuals, from which 8.5% were frail, 41.5% pre-frail, and 50% non-frail.⁽²³⁾ These percentages differ from the present study due to the different sample characteristics, the SABE study was developed with community-dwelling older adult individuals, and this study was developed in an outpatient setting, where there are greater possibilities of finding frail older adult individuals (14.7% frail, 57% pre-frail, 28.3% not frail).

This variability in frailty prevalence may also be related to the individuals' life course, clinical conditions and sociodemographic and environmental issues. When comparing prevalence with data from other countries, genetic differences and the human development level are considered since underdeveloped countries present a higher percentage of older adults with physical frailty.^(10,24)

In London, a systematic review with meta-analysis aimed to analyze research on frailty and pre-frailty among community-dwelling older adults in low- and middle-income countries and to estimate the joint prevalence of frail and pre-frail. A total of 7,057 citations were selected, 56 studies composed the review corpus, frail ranged from 3.9% (China) to 51.4% (Cuba), and the prevalence of pre-frail ranged from 13.4% (Tanzania) to 71.6% (Brazil).⁽²⁴⁾

However, despite the differences between the contexts, scenarios, and countries in which both the research were carried out, the pre-frail condition is prevalent in the cited studies, reinforcing the importance and need to identify it among the older adult.

In this study, the analyzed syndromes reached significant percentages, 27% of the older adult presented urinary incontinence, 25.7% postur-

al instability, and 16.3% family insufficiency. The percentages are even more significant when considering the negative outcomes of these syndromes, such as those related to the older adult's psychosocial aspects.^(25,26)

A national study developed in Belo Horizonte (MG) evaluated 813 older adults's medical records seen in the outpatient setting, and the syndromes showed higher values than the present study. Postural instability affected more than half of the older adult (55.1%), urinary incontinence was even more expressive (57%), and family insufficiency was observed in 26.7% of the older adult.⁽¹²⁾

In Pontevedra (ES), a population-based study was developed with a sample consisting of 8,146 older adults, aiming to determine the prevalence of urinary incontinence (UI) in the older adult population of both genders and to identify a possible outcome relationship between physical activity habits. This syndrome was detected in 15% of women and 11.6% of men. UI was related to behavioral aspects, such as physical activity. A reduction in the UI prevalence was observed in older adults who practiced physical activity.⁽²⁵⁾

As to postural instability, in the United States, research carried out with the Health Interview Survey database in Ann Arbor/Michigan analyzed the prevalence and types of dizziness in the American population. Among the 74,236 participants, 33.4 million individuals reported problems with dizziness or imbalance in the last year.⁽²⁷⁾ For some authors, postural balance is also associated with antigravitational muscles, especially lower limb muscles. These muscles suffer accelerated declines when they are inactive during leisure and physical activity at home, causing the risk of falling, resulting in the older adult losing their independence, since in the frail older adult, the slightest postural disturbance may cause a fall.⁽²⁸⁾

As for family dysfunction, the study conducted by the Health Surveillance Network for the Older Adult (REVISI) in Goiânia (GO) analyzed the prevalence and factors associated with family dysfunction (APGAR Familiar), as well as the older adult community's functional capacity. A

total of 934 older adults were investigated, and the results indicated a percentage similar to the one found in the present study, 18.1% with family dysfunction.⁽²⁹⁾

Regarding family insufficiency, despite not presenting an association with frailty ($p=0.129$), it was verified that family dysfunctionality is more present in frail and pre-frail older adults (28.6%), thus, the physical frailty degree among the older adult corresponds to the family dysfunction level. This result reinforces the need for further studies that can evaluate the association between cause and effect, which provide evidence about causality. This syndrome has been reported recently, so testing trials are still needed to validate proper instruments that provide accuracy in recognizing and assessing family dysfunction in the older adult.

Among the three syndromes evaluated, postural instability showed a statistical association with physical frailty ($p < 0.001$), with a correlation degree far from 0 (Cramer's $V = 0.496$), meaning moderate relatedness.⁽²²⁾

The results presented corroborate the need to evaluate physical frailty in geriatric nursing clinical practice since it is a significant risk factor for the development of postural instability. Likewise, urinary incontinence and family insufficiency did not present an association, although high percentages were observed that require follow-up.

In Porto Alegre (RS), a study with 521 older adults aimed at associating the frailty condition to geriatric syndromes. The results showed that postural instability (self-reported) frequency was 36.5%, and there was a significant association between frailty and postural instability ($p= 0.004$).⁽²⁶⁾ Another study conducted in Northern Thailand investigated the efficacy of a multicomponent exercise program on frailty, physical performance (handgrip strength, Berg Balance Scale (BBS), Timed Up and Go (TUG) test and VO 2 Max), blood biomarkers (Interleukin -6 (IL-6) and C-reactive protein (CRP)) in frail older adult. A significant interaction was observed for BBS, TUG, and frailty scores ($p < 0.001$).⁽³⁰⁾

Postural instability syndrome predicts falls, which is one of the events that leads to older adults'

hospital admission and, frequently, death. The significant association between postural instability and frailty provides a new look at the gerontological care of these older adults. It starts with the need to evaluate the older adult using instruments that accurately detect physical frailty and postural instability in all health care settings.

In the present study, there was no significant association between physical frailty and urinary incontinence ($p=0.336$), however, divergent data was found in the literature. In Porto Alegre (RS), a study evaluated urinary incontinence by self-report based on the Katz index, and a significant association was observed between urinary incontinence and frail older adults ($p=0.004$).⁽²⁶⁾

A cross-sectional study of 440 older adults in Taiwan assessed urinary incontinence prevalence and association with frailty in men aged 80 years and older. It was observed that urinary incontinence was independently associated with frailty (Odds Ratio [OR] = 2.1; 95% confidence interval [CI]: 1.2-3.6; $p=0.012$).⁽³¹⁾ Similar data were observed in China, in a cross-sectional study that investigated factors associated with frailty in 587 older adults, in which urinary incontinence was associated with frailty condition ($p < 0.001$).⁽³²⁾ As a distressing and disabling bladder disorder, urinary incontinence greatly impacts on the control of restriction and social participation, interfering in the older adult's daily life quality.

Although urinary incontinence syndromes and family insufficiency did not show association with physical frailty, we must emphasize that both interfere with the frailty condition since pre-frail and frail older adults presented worsening of family dysfunction and higher urinary incontinence prevalence.

The absence of statistical association between physical frailty and urinary incontinence and family insufficiency is related to the reduced number of reports from the older adult for both syndromes. Frequently, it was observed by older people, a particular embarrassment to expose and confirm the symptoms of certain diseases, such as those related to the urinary system, as well as to report family issues. The unawareness about the

physiological aging process and the possibilities of care and treatment restricts the reporting of these syndromes.

As to the number of syndromes, the results showed a higher prevalence of older adults in the pre-frail category (57%), on the other hand, a variation is observed between the quantity of non-frail and frail as the number of geriatric syndromes increases. The lowest quantity of older adults reached those with three simultaneous syndromes, however, the higher the number of syndromes, the higher the relative frequency of patients in the pre-frail and frail conditions, totaling 71.7%. The study in Switzerland with 85 older adult women observed that most of them (91.2%) had at least one geriatric syndrome, with an average number of three suspected syndromes per older adult.⁽³³⁾

The relationship between the number of syndromes and frailty was also described in the study developed in Porto Alegre (RS). Five geriatric syndromes, cognitive decline, postural instability, urinary/fecal incontinence, polypharmacy, and immobility were evaluated. The predominant number of geriatric syndromes was two (26.8%), which was higher than in the present study (14%). There was an association between frailty and three of the five geriatric syndromes: cognitive decline ($p=0.025$), postural instability ($p=0.004$) and polypharmacy ($p=0.031$).⁽²⁶⁾

The identification of geriatric syndromes by nursing professionals may contribute to more effective care to the older adult, since the accumulation of these syndromes accentuates mortality risks, as well as functional disability, low weight and depressive conditions.⁽³⁴⁾ Studies indicate that aging accompanied by physical frailty and geriatric syndromes makes the older adult more vulnerable to negative events and results in a higher probability of becoming ill, a high number of hospitalizations and greater dependence.^(2,35) Therefore, screening and early identification of these syndromes are essential, providing indications for the need of specific care, before negative outcomes set in, and for effective interventions during gerontological care management.

This study showed some limitations to the results discussion due to the lack of literature on the relationship between physical frailty and geriatric syndromes and the studies developed in the outpatient setting. These limitations reinforce the need for new studies on the subject, as well as those that allow us to evaluate the association between cause and effect, such as longitudinal cohort studies, which provide evidence on the causality of these syndromes.

Conclusion

There was a significant association and correlation between physical frailty and postural instability. Postural instability determined a higher correlation of the older adult being categorized as frail or pre-frail. Since postural instability leads to falling events in older adults, it is considered essential to assess this condition in frail older adults in outpatient care. The results highlight primary warnings for evaluation and more effective gerontological nursing clinical practice by pointing to the relations of physical frailty with urinary incontinence syndromes, family insufficiency, and postural instability. All these syndromes present important negative outcomes when they are not taken into account in the health care of the older adult. Thus, it is required that geriatrics and gerontology outpatient units have available structures that ensure proper instruments for the effective evaluation of physical frailty by the nursing team and the training for such probing.

Collaborations

Sétlik CM, Lenardt MH, Betiulli SE, Setoguschi LS, Moraes DC and Mello BH contributed to the study design, data analysis and interpretation, article writing, relevant critical review of the intellectual content, and approval of the final version to be published.

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