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FRAILTY IN OLDER PEOPLE IN THE COMMUNITY: THE ROLE OF SOCIAL SUPPORT

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ABSTRACT

Frailty must be understood within a social and family context. Thus, in principle, elderly people with the same clinical conditions can be considered in different stages of frailty, in view of the social or family support to which they have access. In this context, in order to contribute to the discussion on this theme, the present study aimed to analyze the factors associated with frailty in elderly people in the community, highlighting the role of the family and social context. This is a cross-sectional and analytical study that integrates a larger approach to the evaluation of matrix support for the elderly in primary care. Data collection was carried out from the application of the Clinical-Functional Vulnerability Index-20 (IVCF-20), *Brazilian Older Americans Resources and Services Multidimensional Function Assessment Questionnaire* (BOMFAQ) and questions related to the social and family context that were not included in the instruments used were added. Descriptive and bivariate analyses were performed, followed by binary logistic regression analysis, with robust variance, to obtain adjusted prevalence ratios. The stratification of clinical-functional vulnerability, according to the IVCF-20, revealed that 143 (21.2%) of the elderly were considered frail. The variables that remained statistically associated with frailty after multiple analysis were: age, gender, access to own income, activity outside the home, education, habit of performing manual work as a leisure activity, impairment of at least one of the activities of daily living, cognitive impairment, falls in the last year, urinary incontinence, polypharmacy, depression, and self-perception of health. The study has the merit of recording the importance that social support variables have in the process of frailty of elderly people. The variables identified here portray important aspects of the aging process and care aimed at the health and well-being of the elderly.

Keywords: Aging. Fragility. Fragile Elderly. Social Support. Family Support.

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INTRODUCTION

The increase in the number of older people, both in Brazil and globally, brings with it great challenges for various public sectors, especially health (WHO, 2017; Miranda, Mendes, Silva, 2016). Health services should focus on the control and management of chronic and degenerative conditions, including the adequate management of frailty among the elderly (Lu; Mathiason; Monsen, 2022; Mrejen; Nunes; Giacomin, 2023).

Frailty is considered a predictive factor of lower life expectancy among the elderly and has a dynamic character, with frequent changes in stages over time, evidencing the need for its systematic evaluation during the care of elderly people (Leme *et al*, 2019, Lu; Mathiason; Monsen, 2022; Mrejen; Nunes; Giacomin 2023). Recent literature has highlighted the magnitude of frailty in older people in Brazil (Andrade *et al*, 2018), but investigations on its relationships and association with vulnerability and social support are still scarce (Souza *et al*., 2021; Amaral *et al*., 2013).

Frailty must be understood within a social and family context. Thus, in principle, older people with the same clinical conditions can be considered in different stages of frailty, in view of the social or family support to which they have access (Zhu *et al*., 2023). Social support plays a fundamental role in the biopsychosocial well-being of the elderly, while social support contributes to the maintenance of quality of life and autonomy, social support has been pointed out as an essential variable, intrinsically related to the frailty of the elderly. (Li *et al*., 2023). However, national studies are still scarce and are not conclusive on the subject (Amaral, 2013; Moura, 2020; Jesus, Orlandi and Zazzetta, 2018).

The scarcity of studies requires further research that involves the relationship between frailty and social and family support. In this context, in order to contribute to the discussion on this theme, the present study aimed to analyze the factors associated with frailty in elderly people in the community, highlighting the role of the family and social context.

METHODS

This is a cross-sectional and analytical study that integrates a larger approach to the evaluation of matrix support for older adults in primary care (Maia *et al.,* 2021). The population of this study was composed of elderly people of both sexes, registered and monitored by teams of the Family Health Strategy (FHS) in the urban area of a city in the north of Minas Gerais. The sampling process was by clusters, in two stages. The sample

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size calculation for participation in the study was based on the formula for infinite population. To define the sample size, we considered an estimated elderly population in the city, a prevalence of the event of 50% because it provides a larger sample size, and a margin of error of 5%. Elderly people who were unable to answer the questionnaire, according to the family's assessment, and who also did not have a caregiver/guardian available to assist in the answers during the data collection visits, were excluded.

Data collection was carried out through the application of the Clinical-Functional Vulnerability Index-20 (IVCF-20) questionnaire, a 20-item questionnaire for the initial screening of potentially frail older adults, of a multidimensional nature, simple and quick to apply, developed and validated in Brazil (Moraes *et.al.,* 2016). In addition, the *Brazilian Older Americans Resources and Services Multiple Dimensional Function Assessment Questionnaire* (BOMFAQ) was also used, a multidimensional instrument, adapted and validated in Brazil, which assesses the functionality, sociodemographic data, physical health, and mental health of older people, including the Mini Mental State Examination (MMSE), the Psychogeriatric Screening Questionnaire (QRP) and social integration (Blay, Ramos and Mari, 1988; Di Nubila, 2010). Additionally, considering the lack of specific instruments, questions related to the social and family context that were not included in the instruments used were added. To assess the perception of the sufficiency of income, the question inserted was: *Do you have access to your own income or that of close family members sufficient to guarantee your own subsistence?* (yes x no); To assess the availability of qualified support, the question was: *Do you have the presence of family members or friends who are available to assist you, in case of need or the presence of a caregiver, qualified to provide the necessary care?* (yes x no); To evaluate the support and visits of family members, the question was: *Do you receive visits from family or friends on a regular basis?* (yes x no); To evaluate the interaction with the community, the question inserted was: *Do you participate in any extra-domiciliary or community activity or social network, such as work, family, church, community group, etc.?* (yes x no).

Data analysis sought to identify variables associated with frailty initially from bivariate analyses, using Pearson's chi-square test, and then binary logistic regression analysis was performed including all variables with a discriminatory level of up to 20% ($p<0.20$) in a hierarchical analysis, according to the model presented in Figure 1. In this process, the variables were evaluated in blocks and those that were statistically associated in the more distal hierarchical levels were maintained for the more proximal blocks. For the

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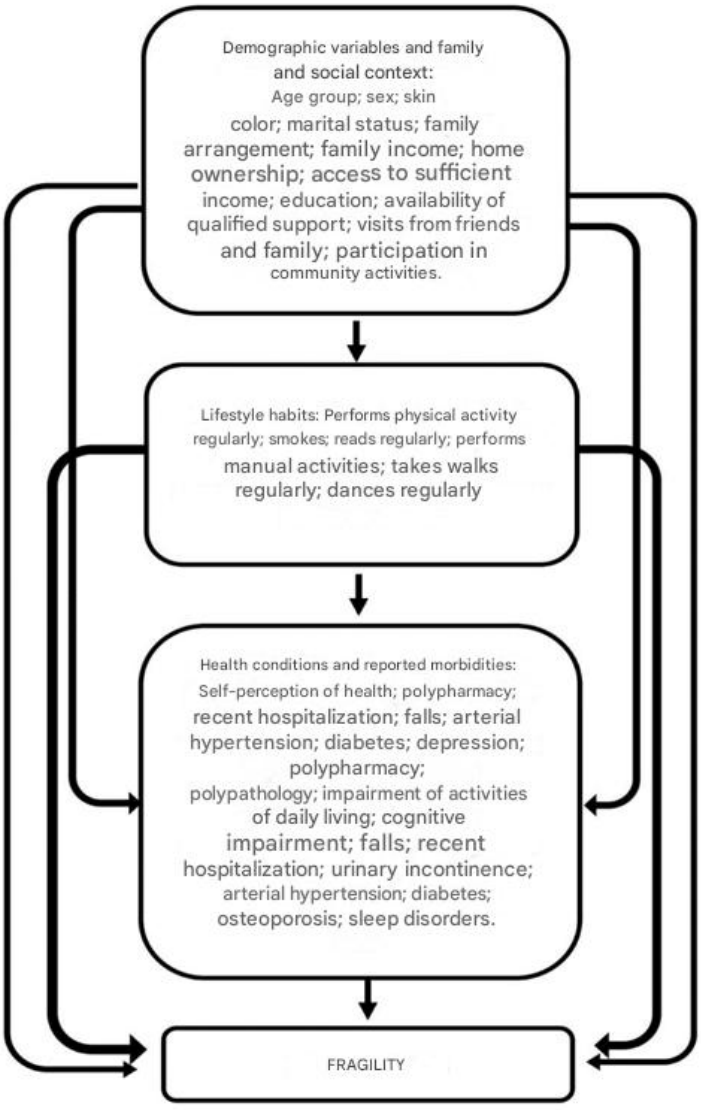
final model, only the variables associated with Frailty were maintained up to the level of 5% ($p<0.05$), recording the *Odds Ratios* and respective 95% confidence intervals. The option for the use of hierarchical analysis was used as a strategy for valuing intermediate and distal variables, in the context of the event studied. Thus, the frailty of the elderly will not be evaluated independently of their personal, family and social context.

Figure 1. Structure of the hierarchical block model for variables associated with frailty in the elderly



The independent variables were arranged in hierarchical levels. The first level (level 1) consisted of demographic variables and variables of the social-family context, namely: sex (female x male), age group (60-79 years x ≥80 years), skin color (white x non-white), marital status (no partner x partner), family arrangement (lives without family members x

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lives with relatives), family income (≤ 3 minimum wages x > 3 minimum wages), financial sufficiency, measured by access to one's own income or that of close family members sufficient to guarantee one's own subsistence (yes x no), schooling (less than four years of schooling x four years or more), record of social activity in groups (yes x no), family support, measured by the presence of family members or friends available to assist them, in case of need or presence of a caregiver (yes x no); visiting friends and family regularly (yes vs. no).

The second level (level 2) consisted of variables that denote lifestyle habits, namely: physical activity (yes x no), smoking (yes x no), reading habit as a leisure activity (yes x no), habit of performing manual work as a leisure activity (yes x no), habit of walking (yes x no) and habit of dancing as a leisure activity (yes x no).

The third level (level 3) was composed of the record of health conditions and reported morbidities (depression, urinary incontinence, hypertension, diabetes, osteoporosis, insomnia); polypharmacy (yes vs. no), self-perception of health (positive vs. negative), record of falls in the last year (yes vs. no), hospitalization in the last six months (yes vs. no), impairment of some activity of daily living (yes vs. no), and impairment in cognition measured by the Mini Mental State Examination (MMSE) (with cognitive impairment vs. no cognitive impairment).

The research was carried out in accordance with resolution 466/12 of the National Health Council, all participants registered the signature or registration of the fingerprint (for those who did not know how to sign) in a Free and Informed Consent Form, the research was approved by the Research Ethics Committee of the State University of Montes Claros under opinion number 1,628,652

RESULTS

The study included 673 elderly people, aged between 61 and 99 years, of whom 279 (41.5%) were aged 69 years or less and 141 were older There was a prevalence of females (n=425; 63.2%). Regarding the social and family context, 499 (66.7) elderly people reported living with other family members, while 137 (24.8%) lived only with their spouse. When verifying the level of education, it was observed that 297 of the elderly evaluated had less than four years of schooling (44.1%). The performance of activities outside the home was also evaluated, and it was noted that 259 of the interviewees (38.5%) did not perform

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activities outside the home. These and other demographic characteristics and the social and family context of the group are presented in Table 1.

Table 1: Demographic characterization and family and social context of community-dwelling older adults in Montes Claros, Minas Gerais; 2018/2019.

Variables evaluated	(n)	(%)
Demographic characteristics		
Sex		
Female	425	63,2
Male	248	36,8
Age		
60-69	279	41,5
70-79	253	37,6
80-99	141	21,0
Race/color		
White	250	37,1
Black	84	12,5
Browns	329	48,9
Yellow/Indigenous	10	1,5
Marital status*		
Single	49	7,3
Married/Common-law	372	55,4
Divorced/Separated	40	5,9
Widower	211	31,4
Family and social context		
Schooling		
< 4 years	297	44,1
4-8 years	249	37,0
> 8 years	127	18,9
Family income (in minimum wages)*		
≤ 1.0	61	9,1
1,1-3,0	396	59,1
> 3.1	213	31,8
Family arrangement		
Lives alone or with a caregiver	57	8,5
Lives only with her spouse	137	24,8
Lives with other family members	449	66,7
Availability of family or friends for qualified support		
No	33	4,9
Yes	640	95,1
Visits from friends and family on a regular basis		
No	81	12,0
Yes	592	88,0
Carrying out activities outside the home		
No	259	38,5
Yes	414	61,5
Access to income to ensure one's own subsistence		
No	68	10,1
Yes	605	89,9
Lives in their own or their family's home		
No	38	5,6

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Yes	635	94,4

(*) Variables with missing data.

Regarding lifestyle habits and health conditions, it is noteworthy that most of the elderly (n = 435) interviewed do not practice physical activity. Negative self-perception of health (poor/very poor) was reported by 215 (31.9%) of the interviewees. Hospitalization in the last six months was reported by 72 older adults (10.7%). Regarding the morbidities mentioned, it is observed that systemic arterial hypertension has the highest prevalence, with 72.7%. These and other characteristics of the group's lifestyle habits and health conditions are shown in Table 2.

Table 2: Characterization of life habits and health conditions of community-dwelling older adults in Montes Claros, Minas Gerais; 2018/2019.

Variables evaluated	(n)	(%)
Habits and lifestyle		
Physical activity*		
Yes	237	35,3
No	435	64,7
Smoking*		
Currently smokes	49	7,3
Smoked but already stopped	243	36,2
Never smoked	379	56,5
Have the habit of reading*		
Yes	323	48,2
No	347	51,8
Have the habit of doing some manual activity*		
Yes	297	44,7
No	367	55,3
Have a habit of hiking*		
Yes	195	29,3
No	417	70,7
She has the habit of dancing for leisure*		
Yes	51	7,6
No	317	92,4
Health conditions		
Self-perception of health		
Great/Good	458	68,1
Poor/Very Poor	215	31,9
Polypharmacy*		
Yes	238	35,4
No	434	64,6
Hospitalization in the last six months		
Yes	72	10,7
No	601	89,3
Declines in the last twelve months		
Yes	203	30,2
No	470	69,8
Mini Mental State Examination*		
Changed	78	11,6
Unchanged	593	88,1
Number of activities of daily living engaged*		
4 or more	193	28,7

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1 to 3	183	27,2
No	296	44,0
Reported morbidities**		
Depression	131	19,5
Urinary incontinence	175	26,0
Systemic Arterial Hypertension	489	72,7
Diabetes	160	23,8
Osteoporosis	174	25,9
Insomnia	251	37,3

(*) Variables with missing data. (**) The sum exceeds the sample size because some respondents reported having more than one morbidity.

The stratification of clinical-functional vulnerability, according to the IVCF-20, revealed that 143 (21.2%) of the elderly were considered frail, 209 (31.3%) at risk of frailty, and 321 (47.7%) categorized as robust.

Table 3 presents the results of the bivariate analyses at each of the levels of the hierarchical analyses. Variables that were associated with frailty up to the level of 20% were considered for multiple analysis.

Table 3 – Demographic and socio-family variables, lifestyle habits, health conditions, and reported morbidities associated with frailty in community-dwelling older adults in Montes Claros, Minas Gerais; 2018/2019. Bivariate analysis.

Variables	**Fragility**					
	Yes		**No**			
	n	**%**	**n**	**%**	**Gross OR (95%CI)**	**p-value**
Age group						<0.001
≥ 80 years	60	42,6	81	57,4	4,00 (2,67-6,02)	
60 to 79 years old	83	15,6	449	84,4		
Sex						0,001
Female	107	25,2	318	74,8	1,98 (1,31-3,00)	
Male	36	14,5	212	85,5		
Skin color						0,034
Non-white	79	18,7	344	81,3	0,67 (0,46-0,97)	
White	64	25,6	186	74,4		
Physical activity						<0.001
No	117	26,9	318	73,1	2,99 (1,89-4,72)	
Yes	26	11,0	211	89,0		
Household income						0,977
≤ 3.0 SM	97	21,2	360	78,8	1,01 (0,68-1,50)	
> 3.0 SM	45	21,1	168	78,9		
Marital status						0,001
Without a partner	81	27,0	219	73,0	1,85 (1,27-2,69)	
With partner	62	16,7	310	83,3		
Family arrangement						0,475
Lives without family members	10	17,5	47	82,5	0,77 (0,38-1,57)	
Lives with family members	133	21,6	483	78,4		
Extra-domiciliary activity						0,001
No	73	28,2	186	71,8	1,93 (1,33-2,80)	
Yes	70	16,9	344	83,1		
Access to income to ensure one's own subsistence						<0.001
No	28	41,2	40	58,8	2,98 (1,77-5,04)	
Yes	115	19,0	490	81,0		
Schooling						<0.001

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< 4 years	86	29,0	211	71,0	2,28 (1,56-3,33)	
≥ 4 years	57	15,2	319	84,8		
Regular visits from friends and/or family						0,951
No	17	21,0	64	79,0	0,98 (0,56-1,74)	
Yes	126	21,3	466	78,8		
Presence of caregiver/family member for support						0,666
No	8	24,2	25	75,8	1,20 (0,53-2,72)	
Yes	135	21,1	505	78,9		
Depression						<0.001
Yes	52	39,7	79	60,3	3,26 (2,15-4,95)	
No	91	16,8	451	83,2		
Self-perception of health						<0.001
Negative	76	35,3	139	64,7	3,19 (2,18-4,67)	
Positive	67	14,6	391	85,4		
Polypharmacy						<0.001
Yes	86	36,1	152	63,9	3,82 (2,60-5,62)	
No	56	12,9	378	87,1		
Recent hospitalization						0,410
Yes	18	25,0	54	75,0	1,27 (0,72-2,24)	
No	125	20,8	476	79,2		
Declines in the last 12 months						<0.001
Yes	69	34,0	134	66,0	2,76 (1,88-4,04)	
No	74	15,7	396	84,3		
Urinary incontinence						<0.001
Yes	68	38,9	107	61,1	3,58 (2,43-5,29)	
No	75	15,1	423	84,9		
Systemic arterial hypertension						0,054
Yes	113	23,1	376	76,9	1,54 (0,99-2,40)	
No	30	16,3	154	83,7		
Diabetes						0,015
Yes	45	28,1	115	71,9	1,66 (1,10-2,49)	
No	98	19,1	415	80,9		
Osteoporosis						0,001
Yes	52	29,9	122	70,1	1,91 (1,29-2,84)	
No	91	18,2	408	81,8		
Sleep disorders						<0.001
Yes	73	29,1	178	70,9	2,06 (1,42-2,99)	
No	70	16,6	352	83,4		
Smoking						0,840
Yes	11	22,4	38	77,6	1,08 (0,54-2,16)	
No	132	21,2	490	78,8		
Reading habit						<0.001
No	93	26,8	254	73,2	2,05 (1,39-3,01)	
Yes	49	15,2	274	84,8		
Habit of manual work						<0.001
No	101	27,5	266	72,5	2,51 (1,67-3,77)	
Yes	39	13,1	258	86,9		
Habit of hiking						<0.001
No	125	26,5	346	73,5	3,79 (2,21-6,49)	
Yes	17	8,7	178	91,3		
Habit of dancing						0,015
No	138	22,4	479	77,6	3,39 (1,20-9,52)	
Yes	4	7,8	47	92,2		
Compromised ADL						<0.001
Yes	131	34,8	245	65,2	12,65 (6,84-23,41)	
No	12	4,1	284	95,9		
MMSE						<0.001

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Changed	48	61,5	30	38,5	8,39 (5,06-13,91)
Unchanged	95	16,0	498	84,0	

Table 4 presents the results of the multiple analysis. The variables that remained statistically associated with frailty after multiple analysis were: age, gender, access to own income, activity outside the home, education, habit of performing manual work as a leisure activity, impairment of at least one of the activities of daily living, cognitive impairment, falls in the last year, urinary incontinence, polypharmacy, depression, and self-perception of health.

Table 4 – Demographic and socio-family variables, life habits, health conditions, and reported morbidities associated with frailty in community-dwelling older adults in Montes Claros, Minas Gerais; 2018/2019. Multiple analysis (Binary logistic regression).

Variables	Fragility		
	Adjusted OR	95%CI	p-value
Age			<0.001
≥ 80 years	3,42	2,23-5,27	
60 to 79 years old	1,00		
Sex			<0.001
Female	2,34	1,50-3,65	
Male	1,00		
Access to income to ensure one's own subsistence			0,005
No	2,27	1,28-4,00	
Yes	1,00		
Extra-domiciliary activity			0,004
No	1,82	1,21-2,72	
Yes	1,00		
Schooling			<0.001
< 4 years	1,96	1,31-2,93	
≥ 4 years	1,00		
Manual work habit			<0.001
No	2,31	1,47-3,61	
Yes	1,00		
Functional dependence for activities of daily living			<0.001
Yes	5,46	2,71-10,96	
No	1,00		
Cognitive impairment (Minimental)			<0.001
Yes	4,70	2,43-9,09	
No	1,00		
Declines in the last year			0,005
Yes	2,08	1,25-3,45	
No	1,00		
Urinary incontinence			0,096
Yes	1,55	0,93-2,59	
No	1,00		
Polypharmacy			<0.001
Yes	2,37	1,41-3,81	
No	1,00		
Depression			0,002
Yes	2,42	1,37-4,28	
No	1,00		
Self-perception of health			<0.001
Negative	2,86	1,71- 4,77	

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	Positive	1,00

DISCUSSION

The research revealed that frailty was present in a considerable percentage of elderly people assisted by the FHS teams. In research carried out in Brazil, the proportion of frail elderly people in analyzed samples varied: 11.4% (Torres and Lustosa, 2024), 29% (Carvalho Mello *et al*., 2020) and up to 35.1% (Bezerra, Rocha and Monteiro, 2023). The international literature also records different values, with percentages ranging from 19.5% (Urrunaga *et al*., 2024) to 35.7% (Góngora *et al*., 2024). The diversity of the data may be due to the variation in the context and in the instruments used to measure frailty in each study (Ofori *et al*., 2019).

Among the demographic variables, this study identified an association between frailty and age, 80 years or older, and female gender. It is observed that, as age increases, the risk of frailty also increases, as observed in other studies, indicating the existence of a robust association between frailty and age (Melo Filho *et al*., 2020). Frailty is often classified as a clinical condition of aging, due to the decline in physiological and cognitive functions, thus evidencing the increased risk of negative health outcomes in long-lived older adults (Dent *et al*., 2023).

The association of frailty with female gender is also found in several studies (Melo Filho *et al*., 2020; Paz *et al*., 2024; Acosta *et al*., 2024). Older women are more affected by chronic diseases and loss of muscle mass. These characteristics can contribute to the process of frailty related to sex. In addition, the phenomenon of feminization observed in the population aging process should also be considered (Gusmão *et al*., 2022; Guedes *et al*., 2020; Hoogendijk and Dent, 2023). The growth of this female population is possibly associated with an increased risk of frailty, which requires a specialized approach to health policies aimed at this group.

Regarding the variables of the family and social context, the following variables remained statistically associated with frailty: not having access to income to guarantee one's own subsistence; not practicing extra-home activities, such as work, participation in the family, church and community groups; and having a low level of education, that is, less than four years of schooling.

Deprivation or the perception of not having access to one's own income to ensure subsistence was associated with frailty in the elderly in the final model of the analysis. Compromised financial condition is recognized as a stress factor, which can increase the

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risk of developing frailty. On the other hand, financial autonomy is related to positive health outcomes in the elderly (Peek *et al*., 2012; Pimentel and Loch, 2020). In the study carried out in Minas Gerais with 854 elderly people in a community context, an association was also observed between socioeconomic factors, such as income, and frailty in the elderly (Chini *et al*., 2021). The literature shows that elderly people without access to income tend to have difficulties in controlling or treating their morbidities, restricted access to promotion and prevention measures, and consequent impairment in health and active aging, which favors the development of frailty (Faller *et al*., 2019).

The participation of the elderly in activities outside the home and its relationship with frailty are little addressed in the literature. In the study carried out in Colombia, it was observed that the elderly mainly attend religious social groups and that the environment provided by these groups can contribute to the reduction of frailty, acting to prevent comorbidities among the elderly (Moncayo-Hernández, Dueñas-Suarez and Reyes-Ortiz, 2024). Thus, it is noted that the need to establish social bonds is an essential characteristic of human nature, being directly related to interpersonal bonds. Older adults who do not participate in activities outside the home tend to be lonely and are at higher risk of developing frailty, due to the lack of social and physical stimuli (Santini *et al*., 2020; Moncayo-Hernández, Dueñas-Suarez and Reyes-Ortiz, 2024).

Low education has also been shown to be associated with frailty in other studies (Gusmão *et al*., 2022; Guedes *et al*., 2020; Hoogendijk and Dent, 2022). Schooling is considered a modifiable factor and a reduction in the risk of frailty for the elderly is expected as the number of years of schooling increases, since elderly people with low schooling have difficulty accessing health information and health care in general, with a higher risk of hospitalization. increasing the risk for negative health outcomes (Torres *et al*., 2023).

The practice of manual work, such as a hobby or leisure activity, was the only variable among the lifestyle habits that was associated with frailty in the final model. The practice of manual work stimulates tactile perception, muscle work, posture and the ability to express and plan, demonstrating the influence on motor coordination and mental stimulation (Guedes, Guedes and Almeida, 2011). Thus, it is possible to consider the hypothesis of relating the absence of manual activities, such as leisure practice, to the reduction of cognitive and motor functions in the elderly and to the increased risk of frailty. However, the researchers of this study did not find other studies that prove the relationship

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between the practice of manual activities and frailty. Thus, it is important to study this variable to understand how it can effectively contribute to the development of frailty.

Among the variables of health conditions, the present study showed an association between frailty and depression, similar to what was pointed out in the study carried out in India (Nagarka and Kulkarni 2024). In other international studies, a systematic review stands out, indicating an association between depression and frailty, suggesting that these conditions interact mutually (Soysal *et al*., 2017). Depression contributes to the reduction of functional capacity and the reduction of the practice of activities, thus providing a negative outcome for the health of the elderly (Matos *et al*., 2018; Nascimento *et al*., 2022).

In this investigation, the variable fall in the last year was also associated with frailty, remaining in the final model, after adjusted analysis. Another study conducted in India, conducted with 26,058 community-dwelling older adults in rural and urban areas, also evidenced this association (Nagarka and Kulkarni, 2024). Falls are a serious problem for the elderly (Soares *et al*., 2019). Muscle weakness, postural instability, and loss of mobility are predominant factors in the process of falls in the elderly, which makes them more susceptible to the development of frailty (Taguchi *et al*., 2022; Dias *et al*., 2023). On the other hand, even robust elderly people can become frail after falls occur that result in fractures.

Impairment in at least one of the activities of daily living (ADL) was also shown to be a variable associated with frailty. Functional dependence in ADLs is associated with loss of autonomy, and older adults with difficulties in performing common daily tasks have compromised quality of life, in addition to being at higher risk of dependence, institutionalization, and premature death (Semprebom, Batista and Almeida, 2024; Barbosa *et al*., 2022; Maia *et al*., 2020; Ma *et al*., 2018). Frailty, in turn, is related to the reduction of the functionality of the elderly, further aggravating these risks (Fhon *et al*., 2018). This result highlights that it is relevant to consider the impairment of any of the ADLs as a marker or warning sign for frailty in the elderly. In a cross-sectional cohort analysis conducted with older adults in a community setting, a higher frequency of dependence for ADLs was also observed among older adults with frailty (Gomes *et al*., 2023).

The simultaneous use of five or more medications, or polypharmacy, is a frequent event among the elderly. It can be a marker of multiple morbidities or imply risks of inappropriate drug interactions, both conditions being closely related to the state of frailty in the elderly (Licoviski *et al*., 2025; Sousa *et al*., 2021). In a cross-sectional study conducted

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in northern Brazil, it was shown that, in addition to the association between polypharmacy and frailty, potentially inappropriate medications for the elderly are also associated with this condition, due in part to the physiological mechanism of aging itself (Andrade *et al*., 2024). Another study, carried out in southern Brazil, with elderly people living in rural areas, revealed that polypharmacy among these residents is also associated with frailty (Spekalski *et al*., 2021).

Other common health conditions in older people were also maintained in the final model of this study, such as urinary incontinence and cognitive impairment. Urinary incontinence has already been identified as a variable associated with frailty in other studies (Gomes *et al*., 2023; Lenardt *et al*., 2020; Maia *et al*., 2020). The study by Lenardt *et al*. (2020) reinforces the need for elderly people with urinary incontinence to undergo evaluation with multiprofessional teams to avoid negative repercussions on health. Cognitive impairment was also associated with frailty, in line with another study (Nascimento *et al*., 2021). The discussion in the literature about this association centers on the idea that frailty can be a predictor of mild cognitive impairment, dementia, and cognitive decline over time (Miyamura *et al*., 2019).

Regarding negative self-perception of health, this variable was also associated with frailty. In another study, the authors highlight that negative health assessment is directly linked, in a bidirectional way, to continuous adverse events and progressive weakening of the elderly, in addition to the high risk of vulnerability among frail individuals (Maia *et al*., 2020). Little is discussed in the literature about this association. However, it is important to consider this subjective perception of the individual, which is often related to the presence of chronic diseases, which can negatively affect the autonomy and independence of the elderly (Rocha *et al*., 2021).

It is relevant to highlight that, in the context of family and social support, only variables related to the aspects of the social life of the elderly remained in the final model. Although the authors initially had the perspective that the absence of family support was associated with frailty, the results did not confirm this relationship. Considering the nature of the study, this finding can be explained by the phenomenon of reverse causality. Thus, the record of frailty, instead of being a consequence of the lack of family support, was a variable that demanded this support from the family. In other words, the analysis was conducted with elderly people classified as frail, who already receive family support. While this support is critical, its measurement is challenging.

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There are still few studies on the social participation of the elderly; however, it is important to consider the role of social activities in directly or indirectly attenuating frailty in this population (Moncayo-Hernández, Dueñas-Suarez, and Reyes-Ortiz, 2024). National and international research highlights the need for scientific discussions on the value of social and family support in the frailty of the elderly. There is a notable lack of validated instruments for collecting data on social and family support, which represents a significant limitation for studies in the area.

The results observed should be considered in the light of some limitations. Because this is a sample restricted to users of the Unified Health System, assisted by the FHS, the magnitude of some variables is limited, especially those related to the economic context. In addition, as this is a cross-sectional study, it is not possible to establish causal relationships. The information was provided by the elderly themselves, making it necessary to consider the limitations of human memory.

Despite the limitations presented, this study has the merit of recording the importance that social support variables have in the process of frailty of elderly people. The variables identified here portray important aspects of the aging process and care aimed at the health and well-being of the elderly. These variables should be considered in the formulation of public policies to promote the health of the elderly population, focusing on actions that can be socially supported as measures to prevent frailty syndrome.

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