

## Patterns of abuse of elderly people in Brazil: analysis of notifications

Padrões de abuso de idosos no Brasil:  
uma análise de notificações

Patrones de maltrato a las personas mayores  
en Brasil: análisis de las notificaciones

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### Abstract

*This study aimed to describe the characteristics of elderly people abuse notifications by gender and to assess notification patterns according to gender. We analyzed data from the Brazilian Information System for Notifiable Diseases (SINAN) in 2017. We carried out a descriptive analysis of victim characteristics, violence, and the probable perpetrator according to gender. Pearson's  $\chi^2$  test was used to assess the significance between groups. Then, we verified the main relationships between the studied characteristics and the victim's gender by simple correspondence analysis (SCA). Thus, 17,311 cases/suspicions of elderly people abuse were notified, corresponding to 7.2% of the total number of violence notifications. Of these victims, 50.4% were white, 42.3% were married, and 17.2% had a disability/disorder; 76.9% occurred at home, 62.8% included physical violence, and 49.5% were cases of repeated violence. Most perpetrators were men (62%), and violence by two or more perpetrators was observed in 62.8% of the cases. SCA evidenced inequalities in older adults' gender, which proved to be higher among women. Physical violence was the most common among younger and old individuals, whereas neglect/abandonment tended to occur more frequently among the oldest individuals, and was most often committed by daughters. In sum, this study demonstrated evidence of gender-based violence, especially among older adults. Disability proved to be an essential characteristic for neglect/abandonment in older adults. In this context, policies are needed to reduce gender inequalities and implement a care network for older adults who are victims of violence.*

*Elder Abuse; Domestic Violence; Aging; Information Systems; Epidemiology*

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## Introduction

Abuse of elderly people is widely recognized for its numerous social and public health repercussions. It is defined as a “single or repeated act, or lack of appropriate action, occurring in any relationship in which an expectation of trust causes harm or distress to an elderly person”<sup>1</sup> (p. 126-7). In older adults, its effects can be especially severe due to greater vulnerability and health conditions<sup>1,2</sup>. The main consequences include a high risk of morbidity and mortality<sup>1,2,3</sup>, an increase in chronic diseases, physical injuries, as well as mental and behavioral disorders<sup>1,2</sup>.

Population aging is one of the most significant challenges today<sup>4</sup>, and it is believed that the problems arising from this process and the occurrence of violence will increase<sup>1,2,3</sup>. Geriatric syndromes such as frailty, common in older adults, can favor events of violence<sup>3</sup>. Furthermore, studies have shown a relationship between violence, social inequalities<sup>5,6</sup>, and factors related to perpetrators, such as financial dependence, mental disorders, and substance abuse<sup>7</sup>.

The occurrence of elderly people abuse changes between countries. A systematic review and meta-analysis carried out in 2016, data from 28 countries worldwide, obtained a combined prevalence of 15.7% of elderly people abuse<sup>8</sup>. In Norway, a high-income country, the prevalence was 9.2%, and proved to be higher among women<sup>9</sup>. In Colombia, a country with an upper middle-class income, 15.1% of older adults, most aged 60-69 years, female, with a low schooling level, poor socioeconomic status, and living alone or with their children, reported some form of violence<sup>10</sup>. In Brazil, elderly people abuse accounted for 5.7% of all reported cases in the period from 2009 to 2013, and was higher among women<sup>11</sup>.

Although several studies have been found in the literature, authors claim that the visibility of the issue is still insufficient<sup>11,12</sup>. Information regarding the nature and extent of the violence is scarce, especially in low-income countries<sup>7,11</sup>. Furthermore, the accelerated aging of the population, the impact of violence, and the inequalities of the country make it essential for different studies and approaches to monitor this issue. This information can expand knowledge, support the development of public policies, provide greater visibility to violence, enable comparisons with other countries, and guarantee the rights of older adults.

Therefore, this study aims: (1) to describe the characteristics of elderly people abuse notifications carried out in the Brazilian Information System for Notifiable Diseases (SINAN) according to the perpetrator's gender and (2) to assess notification patterns made to SINAN according to the victim's gender.

## Methods

### Study design and data source

This is a cross-sectional, exploratory study carried out by analyzing data from the SINAN component of the Violence and Accident Surveillance System (VIVA) for 2017.

### Population

All notifications of elderly people abuse in SINAN for Brazil were included in the study, except self-harm. An older adult was considered to be any person aged 60 and older, according to the *Brazilian Statute of the Elderly*<sup>13</sup>.

### Variables

This study included the following sociodemographic characteristics: (a) age groups (years): 60-64, 65-69, 70-79,  $\geq 80$ ; (b) gender: male, female; (c) race/skin color: white, mixed-race/black, yellow/indigenous; (d) marital status: single, married, widowed; and (e) regarding health, it was studied if the elderly people had either a disability or a disorder: yes, no.

The characteristics of violence included in this study were: (a) type of violence: physical, financial, psychological, neglect/abandonment, other types of violence (sexual, torture, human trafficking, legal intervention); (b) means of aggression: force/beating, sharp object, blunt object, threat, others (firearm, substance/hot object, poisoning/intoxication, others); (c) location: household, public road, other places (school, sports venue, industries/construction, collective housing, bar, or similar commerce/services); and (d) repeat violence: yes, no.

The following perpetrator characteristics were also studied: (a) probable perpetrator: family member (father, mother, stepfather, stepmother, sibling), partner (spouse, ex-spouse, companion, ex-companion), older adults' children, friend/acquaintance, unknown, caregiver, others (boss, person with institutional relationship, police, others); (b) probable perpetrator's gender: male, female, both; (c) if the perpetrator is an elderly person: yes, no; (d) number of people involved: one, two, or more; and (e) suspected alcohol use by the perpetrator: yes, no.

### **Statistical analysis**

The frequencies of characteristics of the victim, violence, and probable perpetrator were stratified by gender. Pearson's  $\chi^2$  test was performed to verify the differences among the groups, with a 5% significance level.

Then, the relationship between the studied characteristics was assessed by the simple correspondence analysis (SCA), which is a statistical technique of multivariate analysis, commonly indicated to analyze categorical data<sup>14</sup>, enabling visualization through graphs, in which each category is presented as a point. These points indicate the relationship levels between the categories<sup>14</sup>; smaller distances indicate more significant association and larger distances indicate dissociations<sup>15</sup>. The categories furthest from the point of origin in the graph present the most significant influence<sup>16</sup>.

All variables studied in SCA were considered, except for variables with a p-value  $\geq 0.20$  in the analyses obtained by the chi-square test. The caregiver as the probable perpetrator was not excluded, as they are greatly relevant to studies with older adults<sup>17,18</sup>.

SCA was stratified by the victim's gender and considered the structure of a contingency table. The top row included violence and perpetrator's characteristics (location, type of violence, repeated violence, perpetrator, older adult, probable perpetrator, and means of aggression), whereas the columns included victim's characteristics (age group, marital status, and presence of disability/disorder). After processing, all categories with a mass  $\leq 0.025$  and those with similar contributions in the dimensions were excluded.

The data are presented in table and graph forms. In the graph, the characteristics with smaller distances from each other were grouped in each quadrant of the graph and were called a "pattern". Data were compiled in the TabWin software (<http://siab.datasus.gov.br/DATASUS/index.php?area=060805&item=3>), and processing was performed in Stata, version 14 (<https://www.stata.com>).

### **Ethical aspects**

This study used secondary data in the public domain, not requiring approval by the Research Ethics Committee. However, all ethical aspects involved in scientific research were respected.

## Results

### Descriptive

In 2017, 17,311 (7.2%) cases of suspected/confirmed domestic/interpersonal elderly people abuse were reported in SINAN. Among these, 55.5% were women, 30.7% were 70-79 years old, 50.4% were white, 42.3% were married, and 17.2% had a disability/disorder. Most occurred at home (76.9%); the main type was physical violence (68.4%), followed by neglect/abandonment (31.4%). The main form of violence was force/beatings, and 49.5% reported being victims of repeat violence. Regarding perpetrators' gender, 62% were men, and 62.8% of the occurrences were committed by two or more perpetrators (Table 1).

**Table 1**

Notification characteristics for elderly people abuse according to gender. Brazil, 2017.

Characteristics	Total (N = 17,311 *)		Women (N = 9,612 )		Men (N = 7,696)		p-value **
	n	%	n	%	n	%	
Age group (years)							
60-64	4,823	27.87	2,557	26.60	2,266	29.44	0.00
65-69	3,662	21.16	1,909	19.86	1,753	22.78	
70-79	5,314	30.70	2,958	30.77	2,356	30.61	
≥ 80	3,509	20.27	2,188	22.76	1,321	17.16	
Race/Skin color							
White	7,624	50.39	4,448	52.73	3,176	47.44	0.00
Black/Mixed-race	7,235	47.82	3,850	45.64	3,385	50.56	
Yellow/Indigenous	272	1.80	138	1.64	134	2.00	
Marital status							
Single	5,711	46.35	3,749	54.24	1,962	36.27	0.00
Married	5,211	42.29	2,472	35.76	2,739	50.63	
Widowed	1,400	11.36	691	10.00	709	13.11	
Disability/Disorder							
Yes	2,287	17.22	1,417	18.81	870	15.14	0.00
Location							
Home	11,534	76.87	7,371	86.03	4,163	64.67	0.00
Public road	1,985	13.23	625	7.29	1,360	21.13	
Other places	1,486	9.90	572	6.68	914	14.20	
Type of violence ***							
Physical	10,834	63.86	5,385	57.32	5,449	71.98	0.00
Psychological	4,751	28.44	3,368	36.23	1,383	18.66	0.00
Negligence	5,269	31.14	3,192	33.90	2,077	27.67	0.00
Financial	1,086	6.53	725	7.86	361	4.87	0.00
Other violence	1,315	7.83	858	9.20	457	6.13	0.00
Means of aggression							
Force/Beating	8,429	51.09	4,492	49.16	3,937	53.50	0.00
Blunt object	933	5.74	323	3.58	610	8.43	0.00
Sharp object	1,145	7.02	393	4.35	752	10.36	0.00
Threat	2,564	15.79	1,889	20.94	675	9.35	0.00
Others	4,653	28.20	2,608	28.51	2,045	27.82	0.33

(continues)

Table 1 (continued)

Characteristics	Total (N = 17,311 *)		Women (N = 9,612 )		Men (N = 7,696)		p-value **
	n	%	n	%	n	%	
Repeat violence							
Yes	6,067	49.46	4,110	58.00	1,957	37.88	0.00
Perpetrator's gender							
Female	3,073	21.69	1,984	24.22	1,089	18.24	0.00
Male	8,787	62.03	4,821	58.84	3,966	66.41	
Both	2,305	16.27	1,388	16.94	917	15.35	
Elderly perpetrator							
Yes	1,856	15.13	1,259	17.55	597	11.71	0.00
Perpetrator suspicious of alcohol use							
Yes	3,705	34.78	2,151	34.72	1,554	34.87	0.87
Number of people involved							
1	5,369	37.22	2,838	34.19	2,531	41.33	0.00
2 or more	9,055	62.78	5,462	65.81	3,593	58.67	
Probable perpetrator							
Family member	757	4.91	420	4.79	337	5.06	0.43
Partner	2,151	13.97	1,548	17.67	603	9.09	0.00
Children	5,944	38.64	3,885	44.28	2,059	31.14	0.00
Unknown	2,277	14.83	672	7.69	1,605	24.29	0.00
Friend or acquaintance	1,818	11.87	783	8.97	1,035	15.72	0.00
Caregiver	392	2.56	244	2.80	148	2.25	0.33
Other links	2,550	16.50	1,540	17.51	1,010	15.17	0.00

Source: Brazilian Information System for Notifiable Diseases (SINAN) in 2017.

\* Three respondents ignored victim's sex;

\*\* Pearson's  $\chi^2$  test;

\*\*\* Variable that allows more than one answer.

Elderly women of white skin color and widows reported the most events of violence. Household occurrences (86%), through physical violence (57.3%), by means of aggression, force/beatings, threats, and repeat violence (58%) were more frequent. Regarding perpetrators, 58.8% were men; and 65.8% of elderly women have suffered violence by two or more perpetrators. The main perpetrator were their children (44.3%), with no significant difference between genders,  $p$ -value  $> 0.05$ . Among elderly men, violence occurred mainly among those of black/mixed-race skin color (50.6%) and married (50.6%). Household was the main location (64.7%), followed by public roads (21.1%), whereas physical violence was present in 72% of cases. A total of 34.9% of the perpetrators were suspicious of alcohol consumption, with no difference between genders ( $p$ -value  $> 0.05$ ). The main perpetrators were older adults' children (31.1%) and unknown (24.3%) (Table 1).

### Simple correspondence analysis

For presenting  $p$ -value  $< 0.20$  in the descriptive analysis, the following characteristics were excluded: elderly women, public roads and other location; financial violence and other types of violence; perpetrator's gender; caregiver, friend/acquaintance, and unknown as probable perpetrators; and the use of blunt and sharp objects as a means of aggression. Two dimensions were needed to explain the joint variance of column and row profiles. The contribution of Dimension 1 to inertia was 87.1%, whereas Dimension 2 was 9.5%, totaling 96.6% of the explanation. We verified a major association between variables,  $\chi^2$  test = 6,025.50 and  $p$ -value  $< 0.01$ . Among the relative contributions of each dimension to total inertia, age groups  $\geq 80$  (28.4%) and 60-64 years (21.1%), and married individuals (21.7%) stood out. For the other characteristics, neglect/abandonment (32.5%), as well as partner (22.4%) and children as probable perpetrators (13.2%) stood out.

Dimension 1 received more significant contributions from sociodemographic variables, with emphasis on the age groups  $\geq 80$  (31%) and 60-64 years (23.5%), and victim's married marital status (20.2%). For the other characteristics, neglect/abandonment (35.1%), as well as partner (18.8%) and children (14.1%) as probable perpetrators stood out. For Dimension 2, the main contributions were being married (41.1%), widowhood (26.3%), having a partner as a probable perpetrator (63.1%), and neglect/abandonment (15.5%) (Table 2).

For elderly men, the following categories ( $p$ -value  $< 0.20$ ) were excluded: other places of occurrence; financial violence and different types of violence; perpetrator's gender; caregiver, friend/acquaintance, and partner as probable perpetrators; use of blunt and sharp objects; and threats as a means of aggression. Two dimensions explained 96.8% of the profiles' joint variance. The association between variables was high,  $\chi^2$  test = 3,343.47 and  $p$ -value = 0.01. Among the relative contributions of each dimension and the sociodemographic variables, individuals aged  $\geq 80$  (25.9%) and 60-64 years (25.3%), and the presence of disability/disorder (25.2%) stood out.

For Dimension 1, age groups of 60-64 and  $\geq 80$  years stood out, totaling 53.3%, in addition to disability/disorder (25.5%). Among the other characteristics, neglect/abandonment (31.9%), children as the probable perpetrator (14.6%), and physical violence (12.7%) stood out. Regarding Dimension 2, marital status contributed (80.7%), in addition to negligence/abandonment (54.1%) and children as probable perpetrator (14.6%) (Table 3).

**Table 2**

Coordinates and contributions of sociodemographic characteristics of victim, type of violence, and perpetrator for elderly women. Brazil, 2017.

Characteristics	Category	Total		Dimension 1		Dimension 2	
		Mass	Inertia (%)	Coordinates	Contribution	Coordinates	Contribution
<b>Column</b>							
Age group (years)	60-64	0.146	0.211	-0.611	0.235	-0.148	0.042
	65-69	0.106	0.040	-0.294	0.039	-0.179	0.044
	70-79	0.156	0.040	0.251	0.042	-0.008	0.000
	$\geq 80$	0.107	0.284	0.818	0.310	0.277	0.107
Marital status	Single	0.098	0.021	-0.141	0.008	-0.224	0.064
	Married	0.152	0.217	-0.553	0.202	0.455	0.411
	Widowed	0.155	0.094	0.325	0.070	-0.361	0.263
Presence of disability	Disability/Disorder	0.080	0.094	0.519	0.093	0.258	0.070
<b>Row</b>							
Location	Home	0.148	0.014	0.152	0.015	0.053	0.005
Repeat violence	Repeat violence	0.087	0.014	0.119	0.005	0.027	0.001
Type of violence	Physical	0.103	0.070	-0.402	0.071	-0.173	0.040
	Psychological	0.068	0.017	-0.240	0.017	-0.119	0.013
	Negligence/ Abandonment	0.061	0.325	1.157	0.351	0.443	0.155
Means of aggression	Force/Beating	0.086	0.066	-0.429	0.069	-0.214	0.052
	Threat	0.039	0.022	-0.355	0.021	-0.213	0.023
Perpetrator's gender	Male	0.097	0.035	-0.309	0.040	0.008	0.000
	Female	0.039	0.024	0.356	0.021	-0.263	0.035
Number of people involved	1	0.056	0.045	0.454	0.050	0.122	0.011
	2 or more	0.108	0.012	-0.152	0.011	-0.091	0.012
Probable perpetrator	Partner	0.032	0.224	-1.164	0.188	1.228	0.631
	Children	0.076	0.132	0.655	0.141	-0.149	0.022

Source: Brazilian Information System for Notifiable Diseases (SINAN) in 2017.

**Table 3**

Coordinates and contributions of sociodemographic characteristics of victim, violence and perpetrator for elderly men. Brazil, 2017.

Characteristics	Category	Total		Dimension 1		Dimension 2	
		Mass	Inertia (%)	Coordinates	Contribution	Coordinates	Contribution
<b>Column</b>							
Age group (years)	60-64	0.155	0.253	-0.611	0.265	-0.09	0.035
	65-69	0.120	0.062	-0.338	0.063	-0.093	0.029
	70-79	0.163	0.035	0.208	0.032	-0.109	0.054
	≥ 80	0.092	0.259	0.799	0.268	-0.169	0.074
Marital status	Single	0.126	0.026	-0.172	0.017	-0.18	0.115
	Married	0.210	0.046	-0.195	0.037	0.262	0.407
	Widowed	0.071	0.068	0.436	0.062	0.377	0.285
Presence of disability	Disability/Disorder	0.064	0.252	0.932	0.255	-0.018	0.001
<b>Row</b>							
Location	Home	0.122	0.062	0.337	0.064	0.088	0.027
	Public road	0.037	0.086	-0.721	0.089	-0.212	0.047
Repeat violence	Repeat violence	0.061	0.062	0.436	0.053	0.107	0.019
Type of violence	Physical	0.147	0.123	-0.434	0.127	-0.105	0.046
	Psychological	0.040	0.004	0.11	0.002	0.178	0.036
	Negligence/ Abandonment	0.058	0.315	1.09	0.319	-0.574	0.541
Means of aggression	Force/Beating	0.107	0.070	-0.383	0.072	-0.072	0.016
Perpetrator's gender	Male	0.114	0.046	-0.298	0.046	0.117	0.044
	Female	0.032	0.013	0.274	0.011	0.206	0.038
Number of people involved	1	0.074	0.011	0.171	0.010	0.05	0.005
	2 or more	0.102	0.008	-0.126	0.007	0.055	0.009
Probable perpetrator	Son/Daughter	0.060	0.147	0.727	0.146	0.294	0.146
	Unknown	0.045	0.053	-0.508	0.053	-0.149	0.028

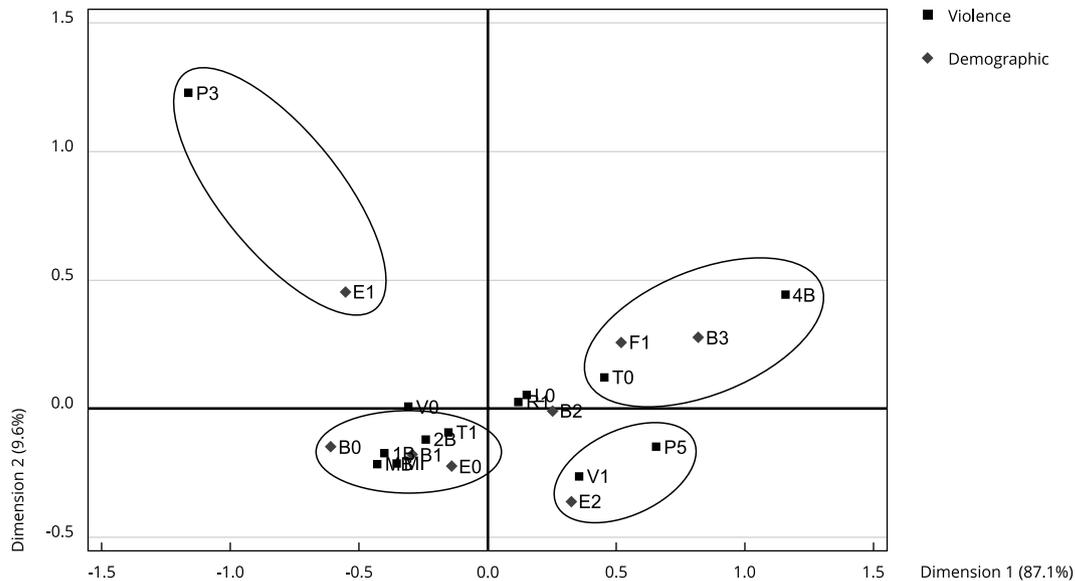
### Correspondence graph

Pattern A consisted of married women and partners as probable perpetrators of violence. Pattern B corresponds to elderly women aged  $\geq 80$  years with disabilities/disorders, who were assaulted at home, with the presence of a perpetrator, and who suffered negligence/abandonment and repeat violence. Pattern C includes older adults, aged 60-69 years, single, who suffered psychological and physical violence by threat and force/beatings. In Pattern D, widowhood, children as probable perpetrators, and female perpetrators stood out (Figure 1).

Pattern A consists of married men, attacked by male perpetrators, with two or more individuals involved in the elderly person abuse. Pattern B consists of widowers and children as the probable perpetrator; it also consists of women who have suffered psychological violence and repeat violence, at home, and with only one person involved. Pattern C includes older adults, aged 60-69 years, single, who most commonly suffered violence on public roads, with the means of aggression being force/beatings, performed by an unknown probable perpetrator. Finally, Pattern D included older adults, aged  $\geq 80$  years and victims of neglect/abandonment (Figure 2).

**Figure 1**

Graphic of correspondence analysis biplot for elderly women.



Note: coordinates in symmetric normalization.

Demographic characteristics: B0: 60-64 years; B1: 65-69 years; B2: 70-79 years; B3:  $\geq 80$ ; E0: single; E1: married; E2: widowed;

F1: presence of disability/disorder.

Characteristics of violence and the aggressor: L0: location (home); R1: repeat violence; 1B: physical violence; 2B: psychological violence;

4B: negligence/abandonment; MB: force/beating; M1: threat; V0: perpetrator's gender (male); V1: perpetrator's gender (female);

T0: 1 person involved; T1: 2 and more persons involved; P3: probable perpetrator (partner); P5: probable perpetrator (children).

## Discussion

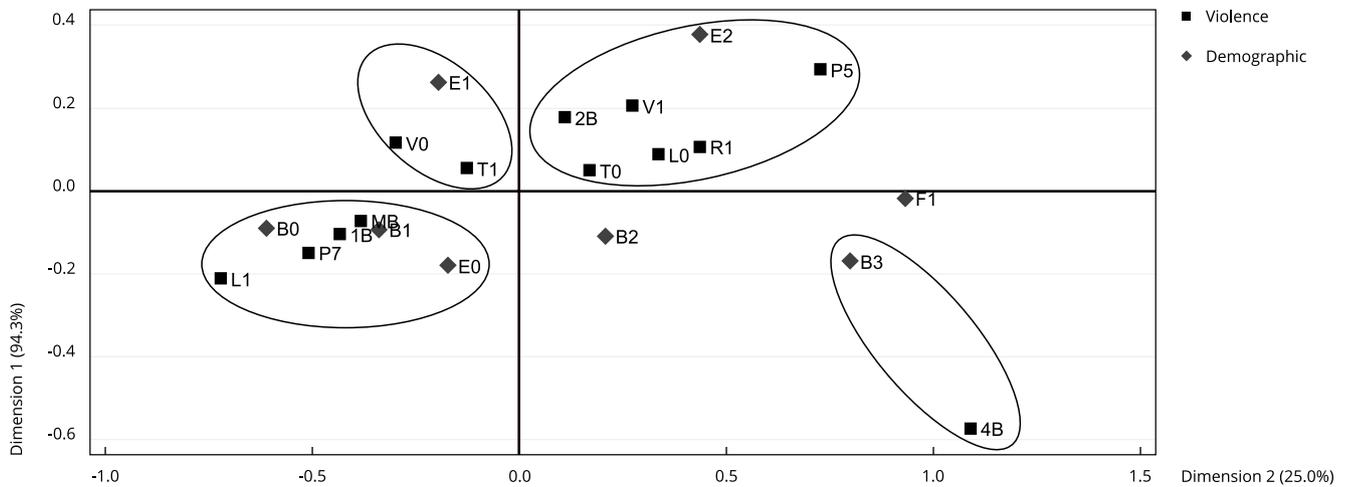
This study assessed the main characteristics and patterns of elderly people abuse registered in SINAN. Most victims were women, aged 70-79 years, white, married, and approximately one fifth with a disability/disorder. The main type of violence was physical, followed by neglect/abandonment, emphasizing the use of force/beatings. The most common location was the household, and repeat violence occurred in half of the analyzed population. Men were the most common perpetrator of elderly people abuse and, when known, the main perpetrator were the older adults' children. Alcohol consumption was reported for about one third of the perpetrators.

We noted essential differences when considering the victim's gender in the studied notifications. Women were the primary victims, mostly white and widows, and the place of occurrence was mainly at home with repeated reports. Male victims are mostly black/mixed-race and married, and the violence occurred primarily on public roads. Regarding age, violence committed by the children and repeat violence were more common among older adults – an unknown perpetrator with suspected alcohol use, was the most common among young-old individuals.

The differences in this study characteristics regarding gender refer to the attributions constructed historically and culturally for men and women. Discrepancy and hierarchy mark these attributions, which are present in the social imagination and tend to be daily repeated<sup>19</sup>. In this study, the significant number of notifications for elderly women stood out. However, this number may be even higher, as they may find it more challenging to seek help due to health conditions and dependence on the perpetrator<sup>20</sup>. Moreover, the consequences in the most dependent group can be even more severe,

Figure 2

Graphic of correspondence analysis biplot for elderly men.



Note: coordinates in symmetric normalization.

Demographic characteristics: B0: 60-64 years; B1: 65-69 years; B2: 70-79 years; B3:  $\geq 80$ ; E0: single; E1: married; E2: widowed;

F1: presence of disability/disorder.

Characteristics of violence and the aggressor: L0: location (home); L1: location (public road); R1: repeat violence; 1B: physical violence; 2B: psychological violence; 4B: negligence/abandonment; MB: force/beatings; V0: perpetrator's gender (male); V1: perpetrator's gender (female); T0: 1 person involved; T1: 2 and more persons involved; P5: probable perpetrator (children); P7: probable perpetrator (unknown).

with psychological and health impacts, which is often accentuated depending on the duration and exposure to violence <sup>20</sup>.

The findings of this study are similar to those obtained in Europe, which found more violence against women. However, it was concluded that abuse in elderly men often goes unrecognized, even if it is frequent <sup>21</sup>. Elderly men can be just as exposed to violence as women, demystifying the belief that elderly people abuse only occurs against women <sup>21</sup>. One Brazilian study, with notification data from 2009 to 2013, found 45.7% of violence among elderly men <sup>11</sup>, which proved to be similar to our study (44.5%).

Different patterns were observed in the occurrence of elderly women abuse. Pattern A shows married women and partners as probable perpetrators. This profile is consistent with the literature, which shows a high prevalence of intimate partner violence (IPV) against women, ranging from 16.5% to 54.5% <sup>20</sup>. In a study conducted in Spain <sup>22</sup>, approximately 16% of the women surveyed suffered IPV; however, when compared to younger women, the frequency among elderly women was lower. In Brazil, few studies describe IPV in elderly women, most covering the younger age group, as it is the most commonly affected population <sup>23,24,25</sup>.

Pattern B shows elderly women, aged 80 years and older, with disability/disorder and repeat negligence/abandonment violence in their own homes. The disability results from a complex and dynamic process, mainly defined by difficulties in executing activities of daily living (ADL) <sup>26</sup>, and is responsible for a reduced quality of life and loss of autonomy. In a situation of dependency, older adults need care, which, in most cases, is provided by family members exposed to conditions of stress, tension, and conflict. Generally, only one person is responsible for the care <sup>10</sup>, favoring violence <sup>1,2,27</sup>. Furthermore, studies show that dependence on ADLs or instrumental ADLs increases the likelihood of violence, especially among women <sup>10,27</sup>.

This pattern is consistent with other studies that show a predominance of neglect/abandonment in women, aged 70 years and over, which occurred at home and repeatedly <sup>28,29</sup>. One study showed

that neglect/abandonment was more frequent among older adults aged 80 years and older when compared to those aged 60-69 years, and among those with disabilities/disorders<sup>30</sup>. Another survey showed that the victim's home was considered a place of risk for older adults, especially dependent individuals<sup>10</sup>, as found in our study.

Pattern C included elderly women, aged 60-69 years, single, and who suffered psychological and physical violence through threats and force/beatings. This pattern is also consistent with the literature. Another study<sup>29</sup>, carried out with notifications from the state of Minas Gerais (Brazil), highlighted the association of physical and psychological violence among elderly women. That same study showed that only physical violence is more significant in elderly men when compared to elderly women<sup>29</sup>, which differs from the pattern observed in our study. In another study, physical violence figured prominently, followed by psychological violence, use of force/beatings, and threats. Notably, psychological violence was more frequent among elderly women<sup>28</sup>.

The final pattern observed for elderly women was being a widow and having children who were a probable perpetrator. One study showed that single women suffer more violations than married women; however, the study grouped single, widowed, and separated women together, totaling 65.3% of the notifications<sup>28</sup>. Analysis with data from notifications from the city of Recife (state of Pernambuco, Brazil) also showed that widows suffered more violence than married/single women<sup>30</sup>. Furthermore, daughters stood out as the main perpetrators, which contrasts with findings in the literature, where the occurrence of violence is more common in sons<sup>28,31</sup>.

Violence presents itself with different configurations among older adults. Pattern A shows married male perpetrators with two or more perpetrators involved. The literature shows that the most common is that married men depend on their partners for care; therefore, marriage is considered a protective factor against illnesses and injuries<sup>32</sup>. However, in this study, married older adults suffered more violence than the others. Note that this study does not allow for the identification of risk or protective factors for violence. A study carried out in Brazil with notification data showed a similar frequency of violence between single and married people, and most aggressors were also male (72.1%)<sup>28</sup>.

Pattern B includes widows, with a daughter as the probable perpetrator, psychological violence, repeat violence at home, and only one perpetrator involved. One study shows that the chance of an elderly man suffering psychological violence is lower when compared to elderly women, and, in general, this violence occurs mainly among elderly men<sup>28</sup>. In another international study, men suffered more psychological violence (20%) than women (18.9%)<sup>21</sup>. Thus, as for elderly women, daughters appear as the main perpetrators. We emphasize that women, in general, are the main caregivers of the elderly people in a situation of dependency<sup>33</sup>; therefore, actions and strategies aimed at supporting elderly women and ensuring gender equity are needed.

Pattern C consists of older adults, aged 60-69 years, single, who suffered violence on public roads, through force/beatings, and by unknown probable perpetrator. A Brazilian study<sup>29</sup>, also with notification data, showed that 87.5% of older adults suffered physical violence by an unknown perpetrator, whereas about 18% occurred on public roads, which corroborates the pattern observed in our present study. Another study conducted with elderly Mexicans<sup>34</sup> shows that young-old individuals suffered physical violence mainly on public roads. Results from the *Brazilian National Health Survey*<sup>35</sup> show that young-old adults, aged 60-69 years, suffered twice as much violence committed by unknown people compared to oldest adults, which is in accordance with our study.

The final pattern includes older adults, aged  $\geq 80$  years, with violence by negligence/abandonment. As for elderly women, this type of violence mainly occurs due to the fragile conditions presented by these people<sup>36</sup>. Although studies show that neglect/abandonment among elderly women is more prevalent<sup>28,30</sup>, it is essential to pay attention to this type of violence, as disability is considered a risk factor, since it occurs in both genders<sup>37</sup>.

Among our study limitations, the use of notification data carried out by healthcare services stands out, which prevents the attribution of causality in events of violence. Another important aspect is the high incompleteness of the data, especially for the schooling level and alcohol consumption variables, thus limiting the overall analysis. Furthermore, it is believed that underreporting exists and that available data do not reveal the real frequency of violence<sup>11,12</sup>. Another important aspect is the lack of knowledge about how to fill out the Individual Notification Form (FNI). As observed in this study, the sum of the variable type of violence is greater than 100%, which occurs because it is possible to

mark more than one option on the FNI; in the same case, more than one type of violence could be present. However, for the purposes of reporting in SINAN, only the main types of violence should be marked. If any secondary violence is committed by the same perpetrator, the information should be reported in the additional comments field<sup>38</sup>. In this sense, it is essential that the professionals are trained to properly fill out the FNI. This study is relevant since it deals with notifications of elderly people abuse in Brazil and it contributes to better strategies, adequacy of actions, and healthcare services for victims of violence.

In summary, the results showed differences when considering older adults' gender. Elderly women were the main victims, mostly white and widowed, and the place of occurrence was mainly at home with repeated reports. By contrast, elderly men were mostly black/mixed-race and married, and the violence occurred mainly on public roads. IPV in elderly women was also shown, and disability is a characteristic of violence among older adults, mainly through negligence/abandonment. In this sense, the differences in patterns of elderly people abuse indicate that health must consider characteristics such as gender, age, and the presence of disabilities in events of violence.

Actions to combat violence against elderly individuals can be carried out through policies that ensure better material and social conditions and structural changes in order to reduce inequalities and end discrimination, especially gender inequalities. Therefore, we consider imperative to advance public policies, promote a culture of peace, prevent and control violence at all ages, and structure and implement an effective care network for elderly people that are victims of violence.

## Contributors

F. M. D. Andrade participated in the study conception and planning, statistical analyses, data interpretation, and writing; and approved the final version of the manuscript. I. E. Machado participated in data design, planning and interpretation, and review; and approved the final version of the manuscript. M. I. F. Freitas participated in the review; and approved the final version of the manuscript. M. F. M. Souza participated in the review; and approved the final version of the manuscript. D. C. Malta participated in data design, planning and interpretation, and review; and approved the final version of the manuscript.

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## Resumo

*Este estudo teve como objetivo descrever as características das notificações de abuso de idosos por sexo e avaliar os padrões de notificação de acordo com o sexo. Foram analisados dados do Sistema de Informação de Agravos de Notificação de 2017. A análise descritiva das características da vítima, da violência e do provável agressor foi feita de acordo com o sexo. O teste do  $\chi^2$  de Pearson foi utilizado para avaliar a significância entre os grupos. Em seguida, as principais relações entre as características estudadas e o sexo da vítima foram verificadas por meio da análise de correspondência simples (ACS). Assim, 17.311 casos ou suspeitas de abuso de idosos foram notificados, correspondendo a 7,2% do total de notificações de violência. Dessas vítimas, 50,4% são brancas, 42,3% casadas e 17,2% têm uma deficiência ou um transtorno. Dos casos, 76,9% ocorreram em casa, sendo 62,8% por violência física e 49,5% por violência recorrente. A maioria dos perpetradores é do sexo masculino (62%), e observamos violência por dois ou mais perpetradores em 62,8%. A ACS evidenciou desigualdades no sexo dos idosos, em que o número de mulheres era maior. A violência física mais comum entre adultos, mais jovens e mais velhos, é a negligência ou o abandono dos mais frágeis e mais idosos, mais frequentemente praticada pela filha. Em suma, o estudo evidenciou a violência de gênero, especialmente entre os idosos, e a debilidade como característica essencial para a negligência ou abandono dessa população. Nesse contexto, são necessárias políticas para reduzir as desigualdades, especialmente as de gênero, e implementar uma rede de cuidado aos idosos vítimas de violência.*

*Abuso de Idosos; Violência Doméstica; Envelhecimento; Sistemas de Informação; Epidemiologia*

## Resumen

*El objetivo del presente estudio es describir las características de las notificaciones de malos tratos a personas mayores por sexo y evaluar los patrones de notificación en función del sexo. Se analizaron los datos del Sistema Brasileño de Información de Enfermedades de Notificación (SINAN) de 2017. Se realizó un análisis descriptivo de las características de la víctima, la violencia y el probable agresor según el sexo. Se utilizó la prueba  $\chi^2$  de Pearson para evaluar la significación entre grupos. A continuación, se verificaron las principales relaciones entre las características estudiadas y el sexo de la víctima mediante análisis de correspondencias simples (ACS). Así, se notificaron 17.311 casos/sospechas de malos tratos a personas mayores, lo que corresponde al 7,2% del número total de notificaciones de violencia. De estas víctimas, el 50,4% son de raza blanca, el 42,3% están casadas y el 17,2% tienen una discapacidad/transtorno. El 76,9% ocurrieron en el hogar, el 62,8% se debieron a violencia física y el 49,5% fueron violencia recorrente. La mayoría de los agresores son hombres (62%), y la violencia ejercida por dos o más agresores se observó en el 62,8%. El ACS evidenció desigualdades en el sexo de los adultos mayores, observándose una mayor incidencia entre las mujeres. La violencia física más común entre los adultos más jóvenes y mayores, es la negligencia/abandono entre los adultos más frágiles y mayores, cometida con mayor frecuencia por la hija. En resumen, el estudio evidenció la violencia basada en el sexo, especialmente entre adultos mayores, y la fragilidad como característica esencial para la ocurrencia de negligencia/abandono en adultos mayores. En este contexto, son necesarias políticas que reduzcan las desigualdades, especialmente las de sexo, e implementen una red de atención a los adultos mayores víctimas de violencia.*

*Abuso de Ancianos; Violencia Doméstica; Envejecimiento; Sistemas de Información; Epidemiología*

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