# Violence against older adults treated in hospital institutions: a comparative study of two cities in Paraíba

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## Abstract

*Objective:* To report the prevalence of and identify sociodemographic and economic factors associated with physical and psychological abuse among hospitalized older individuals. *Method:* A cross-sectional analytical study was conducted at two hospitals in the state of Paraiba, Brazil. Data collection took place between 2019 and 2020 for a sample of 323 older individuals. Brazil Old Age Schedule instruments were used to collect sociodemographic characteristics and the Conflict Tactics Scales Form R were used to identify abuse. Descriptive analysis (relative and absolute frequency) and inferential analysis (Pearson's chi-square test, Spearman's Correlation, and logistic regression) were performed. *Results:* There was a significant association between physical abuse and the variables income ≤1 minimum wage (p=0.048), other sources of income (p=0.019), ≥6 people dependent on income (p=0.016) and total income that "falls a little short" of meeting needs (p=0.010). Concomitant physical and psychological abuse was associated with other sources of income (p=0.015) and "falls a little short" of meeting needs (p=0.005). Other sources of income (p=0.049; OR=3.134), income score (p=0.000; 0.999), and disease score (p=0.014; OR=1.393) remained in the logistic regression model for physical abuse, whereas only disease score remained (p=0.006; OR=1.286) in the model for psychological abuse. *Conclusion:* Physical abuse was more prevalent among individuals with lower income or higher number of diseases, while psychological abuse predominated among participants reporting more diseases. Additionally, individuals with alternative sources of income had a three-fold higher chance of experiencing physical abuse.

**Keywords:** Aged. Health of the Elderly. Elder Abuse. Violence.

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## INTRODUCTION

Aging is accompanied by a reduction in biochemical processes, resulting in progressive decline in physical and cognitive capacities. These changes are specific to each individual and can be influenced by both intrinsic and extrinsic factors. The Major Geriatric Syndromes, such as cognitive impairment, postural instability, loss of mobility and communication deficit, do not constitute diseases *per se*, but are highly prevalent. These conditions contribute to increased vulnerability in older individuals, who require more care and are exposed to greater risks, such as abuse[1,2].

Frailty and dependence for activities of daily living further exacerbate the vulnerability of the individual and facilitate the action of perpetrators of abuse who are often within the domestic environment. Figures on violence against older adults are often hard to estimate because many cases go unreported, being suppressed by the victim and family members in a bid to protect the perpetrator[3,4].

Acts of abuse lead to irreparable distress and trauma for victims. Hence, abuse is considered a crime, and includes deprivation of care of older individuals. Types of abuse of older adults can include physical, psychological and financial. Physical abuse denotes situations which coerce the individual by use of physical force or threats, and can result in injuries, trauma and even death. Psychological abuse can take the form of humiliation, emotional blackmail among other aspects, and negatively impacts self-esteem and distorts decisions to fit the view of the perpetrator. Financial abuse refers any type of manipulation, blackmail or exploitation involving money or coercion to make financial operations, take out loans or misuse assets [3,5].

Given this scenario, Brazilian public policy measures, such as the Plan for Combating Violence Against Elders, and laws making it obligatory to report situations of abuse under the terms of the Statute for Elders, represent important strides toward securing the rights of older individuals to live with dignity[6]. Although the overall number of reported incidents of violence against older people has risen over the past decade (8,891 in 2012 versus 31,341 in 2022), the number of cases notified within the hospital and outpatient settings for this age group has fallen over the same period from 5,129 to 698 notifications, indicating a pattern of underreporting[7-9].

Advances in policies and interventions need to be implemented because situations of abuse can have serious mental, social, physical and financial repercussions, increasing dependence of victims for activities of daily living and, in extreme cases, resulting in disability or death. Therefore, identifying violence against older individuals is of the utmost importance[5,9]. Health services should be prepared to identify and deal with cases of abuse in all health settings, including in-hospital care[8,9]. Thus, the objective of the present study was to report the prevalence of physical and psychological abuse among hospitalized older adults and determine the associated sociodemographic and economic factors.

## METHOD

A cross-sectional, quantitative study was performed, guided by the recommendations of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement. The study participants were older adults treated at 2 university hospitals in the State of Paraíba, Brasil, namely, Lauro Wanderley (HULW/UFPB), located in the city of João Pessoa, and Alcides Carneiro (HUAC/UFCG), in the city of Campina Grande. Data collection was carried out between October 2019 and February 2020 at the HUAC/UFCG, and between July and September 2019 at the HULW/UFPB.

The total study population comprised 1,259 older adults. The sample size was calculated according to the overall number of individuals of all age groups admitted to each sector between July and September 2018 at the HULW (n=774) and between October and December 2018 at the HUAC (n=385). Based on this estimated population, a 5% error rate, 95% confidence interval and 60% expected prevalence were adopted, considering the reported prevalence of violence against older individuals[3].

Data collection was carried in the sectors of the hospital with fastest patient turnaround times. At the HULW/UFPB, collection took place within the

geriatrics outpatient clinic, psychogeriatric outpatient clinic, surgery clinic, medical clinic and infectious-contagious disease and parasites unit. At the HUAC/UFCG, data were gathered from Surgery Ward A, Pulmonary Ward B, Female Clinic Ward C, and Male Clinic Ward D. The ICU was excluded due to the complexity of the service and the higher risk of infection or emotional distress.

Patient inclusion criteria were individuals aged ≥60 years hospitalized in the above-mentioned sectors. Exclusion criteria were patients who were terminal, unable to communicate, seriously ill or exhibiting severe cognitive impairment. Cognitive status was assessed by the professionals from the sector in question and by trained researchers. All data collectors underwent 3 training sessions of 4 hours each. The research team comprised 24 undergraduate students, 9 graduate students and 5 professionals affiliated to the Study and Research Group in Forensic Nursing. Regarding study composition, the sample comprised 193 older adults from the HULW/UFPB and 120 from the HUAC/UFCG, for a total of 323 participants, based on an estimated sample size of 285 patients plus 10% to allow for potential losses. Non-probability quota sampling was employed, whereby the number of participants were distributed proportionally across the sectors included, as depicted in Chart 1.

**Chart 1.** Sample distribution by sector and service. João Pessoa/Campina Grande, Paraíba state, Brazil, 2019-2020. (N=323).

| Sector | N (%) |
|---|---|
| HULW | |
| Medical clinic | 39 (12.1) |
| Surgery clinic | 39 (12.1) |
| Psychogeriatric outpatient clinic | 27 (8.4) |
| Geriatric outpatient clinic | 97 (30.0) |
| Infectious-contagious disease/parasites unit | 7 (2.2) |
| HUAC | |
| Ward A | 45 (13.9) |
| Ward B | 21 (6.5) |
| Wards C & D | 48 (14.8) |
| Total | 323 (100.0) |

**Source:** data from study, 2019

Participants were approached at the sectors where they were hospitalized or treated, and the Free and Informed Consent Form was read. After participants had agreed to and signed the form, interviews were conducted in suitable rooms so as to ensure confidentiality and privacy of respondents. In the case of bedridden individuals, companions were asked to leave in order to prevent them from influencing answers and to avoid any awkwardness, thereby allowing more reliable responses with regard to any abuse experienced by the patient. The instrument took an average of 36 minutes to apply individually.

Data on sociodemographic characteristics were collected using a section of the Brazil Old Age Schedule (BOAS)[10]. Variables probed were literacy, education (years), marital status, age, number of children, monthly income, sex, and pre-existing diseases (diabetes mellitus, systemic arterial hypertension, arthritis, arthrosis and other comorbidities)[11]. The Conflict Tactics Scales Form R (CTS-1) was also applied, a 19-item scale that assesses approaches to coping with conflict. The questions have the following response options: never happened: happened a few times in the past 12 months: and

happened various times in the past 12 months. These issues are split into 3 dimensions: negotiation, verbal aggression and physical aggression[12].

Items categorized as verbal aggression were classified as psychological abuse, while physical aggression was associated with acts such as pushing, slapping or punching, throwing something, slamming against the wall, using a knife or gun, among others. The division between these types of aggression is enabled by the fact that the instrument assesses acts of physical and psychological aggression without measuring intensity and, hence, a positive response implies an act of aggression[12].

The study adopted physical and psychological abuse as the dependent variable. Data referring to sociodemographic and economic characteristics (sex, age, marital status, education, income and current employment) were the independent variables.

Data were keyed in and analyzed using statistical software packages. For data analysis, descriptive statistics (absolute and relative frequency) and inferential statistics (Pearson's chi-square, Spearman's correlation test and adjusted logistic regression) were used. The Kolmogorov-Smirnov test for normality was applied and confirmed that the variables adhered to a normal distribution. A 5% ($p<0.05$) level of significance was adopted for all analyses.

The criteria for entry of the variables into the logistic regression model was determined for $p<0.2$ based on the result of the test of association. A value of ≤0.05 was deemed significant.

The present study was a part of the project *"Instrumentalização da Enfermagem Forense diante do cuidado ao idoso hospitalizado" (Instrumentalization of Forensic Nursing involving care of hospitalized older adults)*. The study was submitted to and approved by the Research Ethics Committee of both the Lauro Wanderley University Hospital under permit no. 3.709.600/2019 (CAAE. 10179719.9.0000.5183) and the Alcides Carneiro University Hospital, under permit no. 3.594.339/2019 (CAAE: 10179719.9.3001.5182), and complied with Resolution no. 466/12 of the National Board of Health.

## DATA AVAILABILITY

The complete dataset underpinning the results of the present study is available upon request from the corresponding author.

## RESULTS

The results revealed that most of the hospitalized participants had experienced some kind of violence. Participants had a mean age of 70.8 (±7.7) years (range 60-93 years). For sociodemographics of the sample, 60.7% were female (n=196), 51.7% were married or in a de facto union (n=167), 67.8% were able to read and write (n=219) and 63.4% had >3 years education (n=204). With regard to income, 57.9% received ≤1 minimum wage (n=187) and 78.3% were not in paid employment (n=253).

The results of the abuse assessment showed a higher prevalence among participants who were aged 60-70 years (58,2%), able to read and write (56.2%), with >3 years of education (56.9%), without a partner (56.8%), living alone (60.0%), reporting >3 comorbidities (72.7%), engaging in paid work (60.0%), receiving income >1 minimum wage (59.6%) and female (55.1%).

The association of sociodemographic and economic variables, and presence of comorbidities with physical abuse, psychological abuse and both physical and psychological abuse, is presented in Table 1. The results show a significant association between cases of physical abuse and income ≤1 minimum wage (p=0.048).

The association of income-related aspects with physical and psychological abuse and both physical and psychological abuse is shown in Table 2. The results revealed a statistically significant association of physical abuse with the variables other sources of income (p=0.019), >6 people dependent on income (p=0.016) and income "falls a little short" of meeting needs (p=0.010). There was an association of physical plus psychological abuse with other sources of income

(p=0.015) and income "falls a little short" of meeting needs (p=0.005). The term "other sources of income" refers to forms cited by only a few participants and not classifiable under any of the main categories, e.g. sporadic sales or financial help from neighbors in exchange for small favors.

**Table 1.** Association of variables sociodemographic and economic characteristics, and presence of comorbidities with physical abuse, psychological abuse, and both physical and psychological abuse. João Pessoa/Campina Grande, Paraíba state, Brazil, 2019-2020. (N=323).

| Variables | Physical abuse | | Psychological abuse | | Physical and psychological abuse | |
|---|---|---|---|---|---|---|
| | With n (%) | Without n (%) | With n (%) | Without n (%) | With n (%) | Without n (%) |
| Sex | | | | | | |
| Male | 11 (8.7) | 116 (91.3) | 70 (55.1) | 57 (44,9) | 11 (8,7) | 116 (91,3) |
| Female | 26 (13.3) | 108 (86.7) | 108 (55.1) | 88 (86,7) | 25 (12,8) | 171 (87,2) |
| *p*-value* | 0.204 | | 0.998 | | 0.253 | |
| Age in years | | | | | | |
| 60-70 | 22 (12.9) | 99 (87.1) | 99 (58.2) | 71 (41,8) | 22 (12,9) | 148 (87,1) |
| >70 | 15 (9.8) | 79 (90.2) | 79 (51.6) | 74 (48,4) | 14 (9,2) | 139 (90,8) |
| *p*-value* | 0.377 | | 0.234 | | 0.280 | |
| Can read and write | | | | | | |
| Yes | 24 (11.0) | 123 (89.0) | 123 (56.2) | 96 (43,8) | 24 (11,0) | 195 (89,0) |
| No | 13 (12.3) | 55 (87.5) | 55 (52.9) | 49 (47,1) | 12 (11,5) | 92 (88,5) |
| *p*-value* | 0.684 | | 0.580 | | 0.877 | |
| Education in years | | | | | | |
| ≤ 3 | 12 (10.3) | 105 (89.7) | 62 (53.0) | 55 (47,0) | 11 (9,4) | 106 (90,6) |
| > 4 | 25 (12.3) | 179 (87.7) | 116 (56.9) | 88 (43,1) | 25 (12,3) | 179 (87,7) |
| *p*-value* | 0.589 | | 0.502 | | 0.436 | |
| Marital status | | | | | | |
| Without partner | 15 (9.0) | 152 (91.0) | 90 (53.9) | 77 (46,1) | 21 (13,5) | 134 (86,5) |
| With partner | 22 (14.2) | 133 (85.8) | 88 (56.8) | 67 (43,2) | 15 (9,0) | 152 (91,0) |
| *p*-value* | 0.143 | | 0.603 | | 0.194 | |
| Living arrangement | | | | | | |
| Lives alone | 5 (14.3) | 30 (85.7) | 14 (40.0) | 5 (14,3) | 5 (14,3) | 30 (85,7) |
| Lives with others | 32 (11.1) | 256 (88.9) | 131 (45.5) | 32 (11,1) | 31 (10,8) | 257 (89,2) |
| *p*-value* | 0.578 | | 0.538 | | 0.532 | |
| Pre-existing diseases | | | | | | |
| 0-3 | 33 (11.0) | 267 (89.0) | 161 (53.7) | 139 (46,3) | 32 (10,7) | 268 (89,3) |
| >3 | 4 (18.2) | 18 (81.8) | 16 (72.7) | 6 (27,3) | 4 (18,2) | 18 (81,8) |
| *p*-value* | 0.308 | | 0.083 | | 0.280 | |
| Paid employment | | | | | | |
| Yes | 7 (10.0) | 63 (90.0) | 42 (60.0) | 90 (40,0) | 7 (10,0) | 63 (90,0) |
| No | 30 (11.9) | 223 (88.1) | 136 (53.8) | 55 (46,2) | 29 (11,5) | 224 (88,5) |
| *p*-value* | 0.666 | | 0.353 | | 0.179 | |
| Income | | | | | | |
| ≤1 MW | 27 (14.4) | 160 (85.6) | 97 (51.9) | 90 (48,1) | 26 (13,9) | 161 (86,1) |
| >1 MW | 10 (7.4) | 126 (92.6) | 81 (59.6) | 55 (40,4) | 10 (7,4) | 126 (92,6) |
| *p*-value* | 0.048 | | 0.170 | | 0.065 | |

Source: Author elaboration, 2024.MW= Minimum Wage; *Pearson´s chi-square.

**Table 2.** Association of characteristics of income with variables physical abuse, psychological abuse, and both physical and psychological abuse, among participants experiencing abuse. João Pessoa/Campina Grande, Paraíba state, Brazil, 2019-2020. (N=323).

| Variables | Physical abuse | | Psychological abuse | | Physical and psychological abuse | |
|---|---|---|---|---|---|---|
| | With n (%) | Without n (%) | With n (%) | Without n (%) | With n (%) | Without n (%) |
| Source of income | | | | | | |
| Work | 3 (5.8) | 49 (94.2) | 31 (59.6) | 21 (40,4) | 3 (5,8) | 49 (94,2) |
| p-value* | 0.160 | | 0.476 | | 0.179 | |
| Retirement benefit | 26 (11.1) | 208 (88.9) | 129 (55.1) | 105 (44,9) | 25 (10,7) | 209 (89,3) |
| p-value* | 0.753 | | 0.991 | | 0.694 | |
| Pension benefits | 9 (16.1) | 47 (83.9) | 32 (57.1) | 24 (42,9) | 9 (16,1) | 47 (83,9) |
| p-value* | 0.233 | | 0.736 | | 0.198 | |
| Help from relatives | 3 (17.6) | 14 (82.4) | 7 (41.2) | 10 (58,8) | 3 (17,6) | 14 (82,4) |
| p-value* | 0.410 | | 0.235 | | 0.381 | |
| Rents and investments | 2 (22.2) | 7 (77.8) | 7 (77.8) | 2 (22,2) | 2 (22,2) | 7 (77,8) |
| p-value* | 0.304 | | 0.166 | | 0.284 | |
| Other sources | 5 ( 22.7) | 17 (72.3) | 14 (60.9) | 9 (39,1) | 5 (21,7) | 18 (78,3) |
| p-value* | 0.019 | | 0.452 | | 0.015 | |
| Number of people dependent on income | | | | | | |
| ≤ 2 | 17 (9.7) | 159 (90.3) | 94 (53.4) | 82 (46,6) | 17 (9,7) | 159 (90,3) |
| 3-5 | 14 (10.9) | 115 (89.1) | 76 (58.9) | 53 (41,1) | 14 (10,9) | 115 (89,1) |
| >6 | 6 (35.3) | 11 (64.7) | 7 (41.2) | 10 (58,8) | 5 (29,4) | 12 (70,6) |
| p-value* | 0.016 | | 0.375 | | 0.100 | |
| Dwelling status | | | | | | |
| Sole ownership | 30 (12.5) | 210 (87.5) | 140 (58.3) | 100 (41,7) | 29 (12,1) | 211 (87,9) |
| Couple ownership | 1 (11.1) | 8 (88.9) | 5 (55.6) | 4 (44,4) | 1 (11,1) | 8 (88,9) |
| Rented | 3 (8.3) | 33 (91.7) | 13 (36.1) | 23 (63,9) | 3 (8,3) | 33 (91,7) |
| Loaned | 3 (10.3) | 23 (89.7) | 17 (58.6) | 12 (41,4) | 3 (10,3) | 26 (89,7) |
| Others | 0 (0.0) | 7 (100.0) | 2 (28.6) | 5 (71,4) | 0 (0,0) | 7 (0,0) |
| p-value* | 0.893 | | 0.087 | | 0.911 | |
| Meeting needs | | | | | | |
| Yes, some leftover | 4 (10.8) | 33 (89.2) | 18 (48.6) | 19 (51,4) | 4 (10,8) | 33 (89,2) |
| Yes, none leftover | 8 (5.8) | 131 (94.2) | 75 (54.0) | 64 (46,0) | 7 (5,0) | 132 (95,0) |
| Falls a little short | 17 (20.7) | 65 (79.3) | 54 (65.9) | 28 (34,1) | 17 (20,7) | 65 (79,3) |
| Falls long way short | 8 (12.9) | 54 (87.1) | 30 (48.4) | 32 (51,6) | 8 (12,9) | 54 (87,1) |
| p-value* | 0.010 | | 0.130 | | 0.005 | |

Source: Author elaboration, 2024. *Pearson´s chi-square test.

Correlations between the abuse variables and socioeconomic determinants are shown in Table 3. Physical abuse was found to correlate with number of diseases (p=0.005) and with income (p=0.006). There was a significant association of psychological abuse with number of diseases (p=0.004). Regarding both physical and psychological abuse, there was a significant correlation with number of diseases (p=0.004).

The bivariate analysis yielded two regression models, one for physical abuse and the other for psychological abuse (Table 4). The variables sex, marital status, income score, income sources (paid work and other sources), number of people living off the income, diseases score and need for money were entered into the logistic regression model. The final model for physical abuse shows that participants with other sources of income and high diseases score had 3.139 and 1.393 times greater chance of being subjected to physical abuse, respectively, whereas the higher the income (OR = 0.999), the lower the chances of physical abuse.

The variables pre-existing diseases, income, income sources (pension), age, years of education and diseases score were incorporated into the model for psychological abuse. Only the variable number of diseases was retained in the final model, showing that these individuals had a 1,286 times greater chance of being victims of psychological abuse.

**Table 3.** Correlation of age, years of education, number of children, number sharing household, number of diseases and income with scores for physical abuse, psychological abuse and physical and psychological abuse among participants experiencing abuse. João Pessoa/Campina Grande, Paraíba state, Brazil, 2019-2020. (N=323).

| Variables | Physical abuse score | | Psychological abuse score | | Physical and psychological score | |
|---|---|---|---|---|---|---|
| | CC | $p$-value* | CC | $p$-value* | CC | $p$-value* |
| Age | -0.061 | 0.278 | -0.094 | 0.090 | -0.095 | 0.089 |
| Years of education | 0.003 | 0.961 | 0.104 | 0.064 | 0.093 | 0.095 |
| Number of children | 0.022 | 0.705 | -0.025 | 0.666 | -0.017 | 0.783 |
| Number sharing household | 0.079 | 0.180 | 0.040 | 0.498 | 0.045 | 0.447 |
| Disease score | 0.155 | 0.005 | 0.160 | 0.004 | 0.161 | 0.004 |
| Income score | -0.155 | 0.006 | 0.004 | 0.946 | -0.013 | 0.813 |

Source: Author elaboration, 2024. CC=Coefficient of Correlation; *Spearman´s correlation test

**Table 4**. Variables associated with physical abuse and with psychological abuse on adjusted logistic regression. João Pessoa, Paraiba state, Brazil, 2019-2020.

| Physical abuse | β | OR | CI | $p$-value* |
|---|---|---|---|---|
| Other income sources | | | | |
| No | - | 1.000 | - | - |
| Yes | 1.142 | 3.134 | 1.003 - 9.789 | 0.049 |
| Income score | - 0.001 | 0.999 | 0.998 – 1.000 | 0.000 |
| Diseases score | 0.332 | 1.393 | 1.069 – 1.816 | 0.014 |
| **Psychological abuse** | **β** | **OR** | **CI** | **$p$-value*** |
| Diseases score | 0.252 | 1.286 | 1.075 – 1538 | 0.006 |

Source: Author elaboration, 2024. Adjusted $R^2$ : 0.032; OR: Odds Ratio; CI: Confidence Interval; *Pearson´s chi-square test.

## DISCUSSION

Violence against older adults is considered an affront to human dignity. According to Brazilian Law no. 10.741/2003, not only physical acts of violence, but also any behavior which poses a risk to the life or health of an older adult through degrading conditions, or deprivation of food or essential care, is regarded as a crime[11].

In the present study, a high prevalence of physical and/or both physical and psychological abuse was found among the women assessed. Violence against females is the perpetuation of a historical patriarchal construct, in which men impose their will and restrict women´s autonomy. This scenario persists and exacerbates in later life, becoming hidden from the public eye. These acts of abuse, seen connection in with stage of life and gender, are sometimes associated with a historical-social-patriarchal construct which holds women as subservient, where their will and voice are not valorized[13].

With regard to age and abuse, the physical, psychological and both these forms of abuse together, occurred predominantly in participants aged 60-70 years. The autonomy of young older adults is typically preserved, placing this group in a better position to report situations of abuse. However, this finding contradicts some studies reporting higher prevalence of abuse among individuals that are older, supporting the notion that the older the age, the greater the vulnerability[1,14].

With regard to education, the results showed a higher number of cases of physical abuse, as well as physical and psychological abuse combined, in participants who could not read or write. However, the prevalence of variables connected to higher educational level, such as the ability to read and write and >3 years of formal study, were higher for all types of abuse. Level of education is directly related to access to information and understanding of one´s rights, conducive for notifying cases of abuse. These data corroborate the findings of a study analyzing 10 years of notifications of violence against older adults in a Brazilian city, which showed a greater prevalence of reports of abuse by high-educated older individuals[15].

In terms of living arrangements, physical abuse was more prevalent among participants who lived alone. Nevertheless, the different types of abuse were associated with participants who lived with others, i.e., the majority of cases of abuse were reported by participants who had a partner or were not living alone. This finding is consistent with other studies showing that violence against older adults occurs, in most cases, within the domestic setting[15,16].

All types of abuse studied were more common in participants harboring >3 diseases, especially systemic arterial hypertension, diabetes, arthritis and arthrosis. Advancing age is accompanied by a decline in functioning, which can make the individual more prone to developing diseases such as arterial hypertension, diabetes and bone conditions. Development of diseases can lead to greater dependence for activities of daily living, and higher health expenditure may require financial assistance from family members, increasing the risk of abuse[3,17].

The participants receiving 1 minimum wage or less were more affected by physical and psychological abuse, where the association with physical abuse was statistically significant. However, when the older individual receives welfare benefits, they may become the main provider of the household and, in some cases, subjected to acts of aggression for not handing money over to family members. However, psychological abuse was greater in participants with higher income, possibly explained by pressure from relatives for financial help, a situation which in many cases forces them to take out loans[18,19].

The analysis of the income characteristics of study participants shows a statistically significant association of the variable "other sources of income' with physical abuse and with physical plus psychological abuse. Older individuals that have different sources of income invariably seek to supplement their income through activities such as seasonal selling. This situation of seeking alternative forms of income raises several questions, such as the fact that these individuals might be living on less than a minimum wage. One of the reasons income might be below the minimum wage is deduction of loan installments. Financial difficulties can lead the

perpetrator to force the victim to take out loans, where this abuse can escalate to physical or psychological aggression. Evidence in the literature suggests that low income is a risk factor for abuse[15,19,20].

Income is a relevant factor for exposure to situations involving aggression. The present study found physical abuse among participants with more than 6 people dependent on their income. Financial abuse is a predictor of physical abuse, an increasingly common phenomenon characterized by lack of financial independence of the older adult, who becomes unable to keep their own finances under control because they are obliged to cover the costs of the whole family[21].

With respect to income and needs, the results showed that all forms of abuse were more common among participants reporting "income falls a little short of making ends meet". Being short of money to cover basic needs may characterize financial dependence of relatives, leading to humiliations and physical or psychological abuse. Another notable aspect is being unable to acquire products and services for promoting health and wellbeing, negatively impacting both quality of life and health, while rendering individuals more vulnerable[16].

All of the types of abuse exhibited a positive significant correlation with number of diseases reported by participants. This result indicates that the higher the number of comorbidities, the greater the likelihood of being subjected to severe abuse, albeit physical or psychological. Frailty and the dependence caused by development of diseases in later life fosters a feeling of worthlessness which, coupled with a loss of social circle and fear of death, can lead to social isolation[16].

There was a significant negative correlation of income with physical abuse, demonstrating an inversely proportionate relationship between these variables, where the higher the income, the greater the physical abuse score, suggesting violence is more common among participants with lower economic level. The economically-disadvantaged population tends to have fewer opportunities to access information and to enjoy personal growth, and so younger generations may turn to older generations for financial support[22].

The present study has some limitations, such as the cross-sectional design, with data collected at a specific timepoint, precluding any meaningful inferences on causality relationships. Another factor limiting a more comprehensive study was a lack of instruments validated for use in Brazil and that measure other types of abuse. Lastly, the low quality of the available studies investigating abuse among hospitalized older adults hampered the comparison of results.

## CONCLUSION

The study results revealed a higher prevalence of physical than psychological abuse among hospitalized older adults that received one minimum wage or less, had income from other sources, and reported income falling a little short of meeting needs.

Inferential analyses showed an association between both types of abuse and variables related to income and presence of comorbidities. Results showed that participants who drew on other sources of income had a 3-fold greater chance of suffering from physical abuse. Thus, the higher the income, the greater the likelihood of experiencing this type of abuse. Participants that had diseases were more likely to be victims of both physical and psychological abuse.

These results underscore the importance of screening and early detection of violence against older individuals in health services, calling for the development and implementation of a mechanism of protocols and specialized services, such as Forensic Nursing.

The study adds to the debate on the adoption of instruments and establishing of specialized services for screening violence against elders. Also, these results provide a theoretical basis for future studies investigating different aspects of abuse and violence against older adults.

## AUTHORSHIP

- Jefferson da Silva Soares - conception and design; analysis and interpretation of data; critical review; article writing.

- Luiza Maria de Oliveira - data analysis and interpretation; critical review.

- Rafael da Costa Santos - design or analysis; critical review.

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