Prevalence and factors associated with the existence of caregivers of older people resident in a community

Prevalência e fatores associados à existência de cuidadores de idosos residentes em comunidade

Prevalencia y factores asociados a la existencia de cuidadores de personas mayores residentes en una comunidad

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ABSTRACT
To verify the prevalence and factors associated with the existence of caregivers for older people residing in a community. The research involved 230 elderly participants and their caregivers in an observational, cross-sectional, analytical investigation. The presence of a caregiver was the dependent variable, while the characteristics of the elderly were independent variables. 22% caregiver prevalence, mainly women aged ≥40, married, with ≤8 years of education, caregiving for ≥5 years, lacking training, and being the offspring of the elderly person. Factors associated with caregivers included age (≥80), pensioner status, reduced leisure engagement, impaired functional ability, multigenerational households, and not going out alone. In multivariate
analysis, having a multigenerational household and not going out alone remained significant. This study underscores the connection between a multigenerational living arrangement, not going out alone, and the presence of caregivers.

**Keywords:** aged, caregivers, family, national health strategies, health policy.

**RESUMO**
Verificar a prevalência e os fatores associados à existência de cuidadores de idosos residentes em uma comunidade. A pesquisa envolveu 230 idosos participantes e seus cuidadores em uma investigação observacional, transversal e analítica. A presença de cuidador foi a variável dependente, enquanto as características dos idosos foram variáveis independentes. Prevalência de 22% de cuidadores, principalmente mulheres com idade ≥40 anos, casadas, com ≤8 anos de escolaridade, cuidando há ≥5 anos, sem formação e sendo filho do idoso. Os fatores associados aos cuidadores incluíram a idade (≥80 anos), o estatuto de pensionista, a reduzida participação no lazer, a capacidade funcional diminuída, os agregados familiares multigeracionais e não sair sozinho. Na análise multivariada, ter um agregado familiar multigeracional e não sair sozinho permaneceram significativos. Este estudo sublinha a relação entre um agregado familiar multigeracional, não sair sozinho e a presença de cuidadores.

**Palavras-chave:** idosos, cuidadores, família, estratégias nacionais de saúde, política de saúde.

**RESUMEN**
Verificar la prevalencia y los factores asociados a la existencia de cuidadores de personas mayores residentes en una comunidad. La investigación contó con la participación de 230 ancianos y sus cuidadores en una investigación observacional, transversal y analítica. La presencia de un cuidador fue la variable dependiente, mientras que las características de los ancianos fueron variables independientes. Prevalencia de cuidadores del 22%, principalmente mujeres de ≥40 años, casadas, con ≤8 años de educación, que cuidan desde hace ≥5 años, que carecen de formación y que son descendientes del anciano. Entre los factores asociados a los cuidadores se incluyeron la edad (≥80 años), la condición de pensionista, la menor dedicación al ocio, la capacidad funcional deteriorada, los hogares multigeneracionales y no salir solo. En el análisis multivariante, tener un hogar multigeneracional y no salir solo siguieron siendo significativos. Este estudio subraya la relación entre la convivencia multigeneracional, el hecho de no salir solo y la presencia de cuidadores.

**Palabras clave:** ancianos, cuidadores, familia, estrategias nacionales de salud, política sanitaria.

**1 INTRODUCTION**
With the accelerated population aging in recent decades, the older people have become the target population of studies and policies that aim to identify the needs and think of strategies that promote better health care for this population (Ramos *et al*., 2019; Wong *et al*., 2019). In Brazil, assistance is provided especially by Primary Health Care, which was established from the
creation of a Public Health system for the population. Its implementation takes place mainly through the Family Health Strategy, which aims to reorient the service by directing actions for the health of the community and thus contributing to a guarantee of universal access (Brasil, 2017).

When dealing with the health of the older people, these actions developed at the community level are of great importance, as they promote the improvement of independence in basic and instrumental activities, quality of life and allow the practice of assistance focused on health and the environment of this population (Wong et al., 2019).

Although aging is a natural process, many social determinants of health are involved and may be important indicators and predictors of healthier aging, such as living conditions, housing and the existence of a support network and social protection (Rodrigues; Gonçalves, 2019). According to the National Policy for the Elderly in Brazil, due to the various consequences of aging, the older person must enjoy rights that ensure good conditions for autonomy, participation and social integration, and to guarantee such rights the Statute for the Elderly in Brazil attributes to the Public authorities, society and the family are responsible for providing them (Sanglard et al., 2019). This responsibility, in turn, in the care of the older person, is still being discussed, in order to understand what role each group (government, society and family) should play (Brasil, 2021).

In Brazil, most older people live with their families, which is often their main care network (Brasil, 2021). These caregivers, however, do not have adequate preparation for such a function and the uninterrupted work dedicated to the older people that, in some realities, still adds to external working hours and without adequate preparation, can lead to stressful and overloading situations, making with which the caregiver also needs assistance and presents a lack of conditions to take care of this older person (Cardoso et al., 2020; Jesus et al., 2018).

This overload and illness of the caregiver can be prevented and treated through care provided by a multidisciplinary team, which intervenes early in order to promote comprehensive care for the family (Silva; Silva; Sogame, 2022). And to better assist this population, new discussions and a better understanding of the reality of each family are needed, since, like aging, care is something broad and dependent on social, cultural, financial issues and, therefore, needs to be understood within each family (Silva et al., 2022).
In view of this, the objective of this study is to verify the prevalence and factors associated with the existence of caregivers of older people in a community, considering the sociodemographic and economic profile, lifestyle habits and health conditions of the older people.

2 RESEARCH DESIGN

This is an observational, cross-sectional and analytical study, which originated from a primary study entitled “Health conditions and functionality of elderly people assisted by the Family Health Strategy in Vitória”, carried out in 2018.

The primary research was approved by the Ethics and Research Committee (CEP) of Escola Superior de Ciências da Santa Casa de Misericórdia de Vitória (EMESCAM) under number 2,142,377.

2.1 SAMPLE AND PARTICIPANTS

It was carried out with older people residing in a community and their respective caregivers, when their existence was identified. Based on a sample calculation, 241 older people were interviewed. Older people aged 60 years or older, assisted by the Family Health Strategy and residents of the Jesus de Nazareth community in Vitória, Espírito Santo, Brazil, who agreed to sign the consent form were included. Those who had died or moved from their place of residence prior to the interviews, who did not have the cognitive conditions to answer the questionnaire and who had some incompleteness of data in the item “has a caregiver” were excluded. Thus, applying the appropriate inclusion and exclusion criteria, we obtained a final number of 230 older people for the present study.

2.2 DATA COLLECT

To characterize the profile of caregivers, the following variables were investigated: Age (up to 39 years old, 40 years old or more), gender (male, female, not informed), education (up to 8 years of study, 9 years or more, not informed), marital status (married, single, widowed, divorced, not informed), time acting as a caregiver (up to 4 years, 5 years or more, not informed), if you have training as a caregiver (no, yes, not informed), if family caregiver (no, yes) and what is the bond with the older person (daughter/son, partner, other, not informed).
As for the elderly, sociodemographic and economic profile variables were considered, such as: age (60-79 years, ≥80 years), gender (male, female), education (illiterate, between 1-8 years, ≥9 years), retired (no, yes), pensioner (no, yes), works (no, yes), individual income (Up to 1 minimum wage – equivalent to 263.9 dollars, Between 1.1 and 5 minimum wages – equivalent to 264 to 1,319.8 dollars, not informed), partner (no, yes), lives alone (no, yes) and multigenerational residence (no, yes).

For the description of lifestyle habits and health conditions, the following variables were used: leisure activity (no, yes), physical activity (no, yes, not informed), going out alone (no, yes), self-assessment of health (excellent/ good, reasonable, poor/terrible, not informed), multimorbidities (no, yes), polypharmacy (no, yes) and functional capacity (normal, altered), which was classified and quantified using the World Health Organization's Disability Assessment instrument. Health – WHODAS 2.0. The questionnaire is divided into six domains: cognition, mobility, self-care, interpersonal relationships, activity of life and participation. Answers can be none (1), mild (2), moderate (3), severe (4), extremely severe/can't do it (5). At the end of the summation, the older person who received an average score between 1 and 1.9 were considered normal, and those who received between 2 and 5 were considered altered (World Heath Organization, 2021).

2.3 DATA ANALYSIS

The descriptive analysis included absolute and relative frequency measures and the bivariate analysis was performed using Chi-square or Fisher's Exact in a 2x2 table (when one or more categories had an expected frequency lower than 5), for comparative analyzes of nominal variables. The existence or absence of a caregiver was considered the dependent variable, while the characteristics of the sociodemographic and economic profile, family arrangement, health conditions and life habits of the older people were the independent variables. The chi-square adjusted residue was also calculated for the variables that were statistically significant, considering values above 1.96.

Finally, a multivariate analysis was performed using the generalized linear model using Poisson regression with robust estimation to estimate the prevalence ratio in order to identify the factors associated with the existence of a caregiver. A 95% Confidence Interval (95%CI) was considered and all variables with a p value < 0.2 in the bivariate analysis were included in the
In all analyses, a significance level of \( p < 0.05 \) was adopted and all were performed using the IBM SPSS Statistics 2.0 program.

### 3 RESULTS

In the present study, of the 230 older people considered, 50 reported having caregivers, which represents a prevalence of 22\% of caregivers among the older people in this community.

Regarding the profile of caregivers, it was noticed that, for the most part, they were 40 years old or older (70\%), were female (54\%), studied for up to 8 years (50\%), were married (44\%), worked as caregivers for 5 years or more (48\%), however, they did not have training for this function (76\%), belonged to the family (92\%) and had the bond of son/daughter of the older person (46\%).

When considering the sociodemographic and economic profile of the older population, it was found that most are aged 60-79 years (87.5\%), are female (61\%), have between 1 and 8 years of study (70\%), are retired (63.5\%), are not pensioners (77\%), do not work (72.5\%), have an individual income of up to 263.9 dollars (52.5\%), have a partner (50.5\%), do not live alone (71.5\%) and in multigenerational residence (54\%).

In the present study, most of the population practiced some leisure activity (61.5\%), did not practice physical activities (68\%) and went out alone (78.5\%). Regarding health conditions, it was observed among older people that they self-assessed their health as "excellent/good" (54.5\%), have multimorbidities (65\%), do not have polypharmacy (62.5\%), have the ability to normal functional (74\%).

When carrying out the bivariate analysis, statistically significant (\( p < 0.05 \)) were demonstrated with the existence of a caregiver being \( \geq 80 \) years old, being a pensioner, not practicing leisure activities, having altered functional capacity, having a multigenerational residence and not going out alone.

Below, in table 1, only the variables that in the bivariate analysis presented \( p < 0.2 \) and, for this reason, entered the Poisson Regression model are presented.
A multivariate analysis was performed (Table 2) to estimate the prevalence ratio of the characteristics of the older person in the existence of the caregiver.
Table 2 – Poisson generalized linear regression for the existence of caregivers among older people living in a community.

<table>
<thead>
<tr>
<th>Variables included in the model</th>
<th>PR</th>
<th>IC95% for RP</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between 60-79 years old</td>
<td>1.03</td>
<td>0.608 1.744</td>
<td>0.914</td>
</tr>
<tr>
<td>Pensioner</td>
<td>0.86</td>
<td>0.474 1.561</td>
<td>0.620</td>
</tr>
<tr>
<td>Works at the moment</td>
<td>0.99</td>
<td>0.469 2.079</td>
<td>0.973</td>
</tr>
<tr>
<td>Individual Income</td>
<td>0.66</td>
<td>0.380 1.152</td>
<td>0.144</td>
</tr>
<tr>
<td>Multigenerational Residence</td>
<td>0.59</td>
<td>0.354 0.984</td>
<td>0.043</td>
</tr>
<tr>
<td>No go out alone</td>
<td>3.80</td>
<td>2.097 6.912</td>
<td>0.000</td>
</tr>
<tr>
<td>Functional capacity</td>
<td>0.81</td>
<td>0.464 1.429</td>
<td>0.474</td>
</tr>
<tr>
<td>Normal</td>
<td>1.46</td>
<td>0.906 2.366</td>
<td>0.120</td>
</tr>
<tr>
<td>Leisure Activity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-assessment of health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>great/good</td>
<td>0.78</td>
<td>0.436 1.386</td>
<td>0.393</td>
</tr>
<tr>
<td>Reasonable</td>
<td>0.77</td>
<td>0.444 1.342</td>
<td>0.359</td>
</tr>
<tr>
<td>polypharmacy</td>
<td>0.88</td>
<td>0.538 1.431</td>
<td>0.601</td>
</tr>
</tbody>
</table>

PR = Prevalence Ratio  
CI = Confidence Interval  
sm = Minimum Wage  
Source: Elaborated by the author.

4 DISCUSSION

A prevalence of caregivers was found in 22% of the evaluated population and, of these caregivers, most were 40 years old or older, were women, who studied up to 8 years, married, exercised the role of caregiver for 5 years or more, did not have training for this and are members of the family, usually sons or daughters.

When observing the results of the multivariate analysis, it is possible to notice that the variables multigenerational residence and going out alone remained statistically significant when associated with the existence of a caregiver. This result indicates that the existence of multigenerational residence (PR= 0.5) and the fact that the older person does not go out alone (PR= 3.8) are of great importance for the existence of the caregiver, even when considering other factors together.

The multigenerational residences in Brazil are very observed among the older population (Coco et al., 2019; Aguiar et al., 2018). Studies show that the older people, for the most part, live with family members, the most common being the division of housing with the spouse, children,
grandchildren and daughters-in-law or sons-in-law, and among them is the caregiver of this older person (Pilger et al., 2011). The cohabitation of the older person with other family members is discussed by different authors and identified as beneficial to the quality of life of this population, as in addition to emotional, social and psychic gains, it can promote improvement in family functionality (Herm et al., 2016; Huo et al., 2018).

These benefits may come from the source of support that the family represents for the care of these older people, especially in developing countries where the family provides support that is often not provided by the current system and policies (Oliveira et al., 2019). However, the cohabitation of the older person with other family members is also largely due to the fact that the older person is necessary or the reference person for the family's income. In Brazil, between 2001 and 2015, there was an increase of more than 50% in the percentage of older people who represent the main source of family income, demonstrating that this population plays an important role as a provider of the home (Brasil, 2021; Camarano, 2020).

When observing the less favored families, this reality is even more perceived due to current social inequalities. Families with lower incomes and educational levels are predisposed to greater social vulnerability, which in turn are related to worse health conditions and increased disabilities among the older people (Araújo et al., 2019). In order to alleviate social inequalities between families in caring for the older people, the Brazilian health system, through the Family Health Strategy, plays a fundamental role by facilitating access to the necessary services and, in this way, promoting the reduction of inequalities in health (Araújo et al., 2019).

Families, however, have unique characteristics and are often already in a situation of vulnerability when the older person starts to need care, which makes it difficult for caregivers to adequately prepare. This preparation should be offered through training and information, and the authors argue that the planning of these training and guidelines should be carried out even before the first care needs arise, aiming to reduce situations of unpreparedness and consequent overload among caregivers (Araújo et al., 2019; Song et al., 2018).

As aging takes place and limitations and disabilities tend to emerge, the older population tends to reduce or abandon activities such as going out alone (Dos Anjos et al., 2015).

In the present study, the fact that the older people did not go out alone proved to be statistically significant, with a prevalence ratio of 3.8 for the existence of a caregiver. One of the possible reasons is associated with the fear of suffering falls or health problems, which is
constantly found among older people, especially in the population that has already suffered a fall or has some functional impairment. It is noticed that this fear strongly influences the social participation of the older people, making them hostage to greater social isolation (Dos Anjos et al., 2015). Especially in the community where this study was carried out, this fear of suffering new falls may be greater due to the architecture of the neighborhood, which has many hills, stairs and unevenness, thus making access difficult for the older population.

This abandonment of activities, such as going out alone, however, can also come from a determination of the family and caregivers, who see the older person in a situation of dependence, placing them in a passive position of their care and limiting their actions. This limitation is harmful since it causes the elderly to lose decision-making power and to make their own decisions, resulting in a loss of autonomy among this population (Araújo et al., 2018).

Health policies in Brazil for the older people defend that functionality and autonomy are predictors of active aging and better quality (Brasil, 2006). However, it is clear that whether due to functional limitations, fear of falling or overprotection by the family, the older person can become dependent and lose autonomy and thus stop carrying out their daily activities. In this sense, it is necessary to elaborate guidance and training programs aimed at the older person and their caregivers in order to identify the challenges and burdens of care and reduce and prevent the disabilities and functional limitations of the older person and their caregiver (Silva et al., 2019).

The study has some limitations, such as its cross-sectional nature, which makes it impossible to establish a causal relationship between the variables studied and to be carried out in a community, which does not allow the generalization of the results.

It is worth mentioning that this result was obtained through a multivariate analysis and, in this sense, the association of the existence of the caregiver with the fact of not going out alone was also influenced by other factors, such as older age and changes in functional capacity, which can make the individual more fragile.

Despite the limitations, the study is considered to be of great value, as it will help to elucidate the influence of sociodemographic, economic, lifestyle and health conditions of older people on the existence of the caregiver, in addition to contributing to a greater knowledge of managers about the health of the population studied, allowing policies to be properly implemented and new actions to be developed to meet the demands and needs of this community.
5 CONCLUSIONS

The prevalence of caregivers in this community was 22% and the fact that they did not go out alone and the existence of a multigenerational residence were associated with the existence of a caregiver.

It is also possible to conclude that the family is the one who mostly cares for the older person, allowing their well-being even in the face of the absence or ineffectiveness of public policies and that, for this reason, it should be the subject of studies and programs that seek to meet their needs by promoting quality aging for the older person and their caregiver.

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