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The informal caregiver's socioeconomic prism and its implications on state of mind

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KEYWORDS
Caregivers;
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Abstract
Introduction: The act of caring for a dependent elderly victim of cerebrovascular accident exerts different impacts on caregivers. Knowledge of their socioeconomic level by health professionals supports the planning and implementation of actions appropriate to the reality of the elderly and their caregivers.
Objective: To determine whether socioeconomic status predicts informal caregivers' state of mind (depression).
Design: Cross-sectional, descriptive study in the Dão Lafões sub-region.
Participants: Non-probabilistic sample of 636 informal caregivers, aged 17-85 years (mean = 50.19 ± 14.30).
Measuring instruments: The Beck Depression Inventory and the Graffar Socioeconomic Level Scale.
Results: We found class III (middle class family/reasonable socioeconomic status) was the most common (40.4%), class IV (upper lower class family/low socioeconomic level) with 37.7%.
A majority of the sample (62.9%) does not have depressive symptoms, with their presence observed in 37.1% of informal caregivers, in which 24.3% are men and 39.6% women.
The results sustain that socioeconomic level ($P = .004$) in the total sample predicts state of mind, inferring that caregivers with poorer socioeconomic status have a worse state of mind.
Conclusions: The evidence found from the research show that informal caregivers with depressive symptoms have a poorer socioeconomic status, so that it is compulsory to consider these variables when planning interventions whose primary focus of attention is aimed at caregivers and elderly cerebrovascular accident victims experiencing situations of transition.
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Introduction

Cerebrovascular accident (CVA) as a nosological entity justifies the relevance of studying the state of mind of informal caregivers of dependent post-stroke elderly people, because the consequences vary and are devastating for the elderly and their families, affecting all aspects of life daily, such as motor skills, speech, emotions, memory and the lack of security that comes from not having the material resources for everyday expenses.

It is also justified because, although the rates of stroke mortality have been declining in Portugal, we are still one of the countries in the European Union with one of the highest mortality rates for this cause of death.[1] On the other hand, the trend towards ever earlier hospital discharges pressures the family to provide care, which it is not often prepared to do or does not feel prepared to do, with consequent physical, psychological and financial overload. This, in turn, endangers the mental health of informal caregivers.

It is known that the family's process of psychologically adapting to the elderly dependent member is complex and generates psychological distress. The sudden or gradual introduction of dependence, the prognosis of the elderly's disease and the resources available for the caregiver to carry out their tasks burdens their physical and psychological endurance.[2]

Therefore, depression emerges as one of the main negative consequences of the informal caregiver's role.[3]

Consequently, the general research question emerged as follows: to what extent does socio-economic level predict the state of mind of informal caregivers?

Thus, assuming the informal caregiver as an integrating part of the family system and the family as a systemic unit with social functions, a privileged space to support life and its members' mental health, determining whether socio-economic status predicts informal caregivers' state of mind (depression) was the aim of this study.

Material and methods

Investigating the state of mind of informal caregivers of dependent elderly members of the household after stroke is justified to the extent that emotional, psychological and physical overload they are subject to has implications for their mental health.

Design

Descriptive and correlational study with cross-sectional data collected in the Dão Lafões Sub-Region integrated in the NUTS III Statistical Territorial Unit in Portugal.

Participants

The sample was based on a total sample of 636 informal caregivers, obtained by a non-probabilistic network sampling technique, also known as snow-ball or chain.[4] The first members of the sample were asked to indicate others who met the eligibility criteria

Inclusion criteria: were defined as: being the main caregiver for over 6 months; cohabiting with the dependent elderly stroke victim; having no previous history of mental illness (depression or other). There was an exclusion criterion defined as: the elderly person having other highly disabling chronic diseases, unless they were secondary problems and/or complications of the CVA.

Formal and ethical procedures

Participation was voluntary with caregivers and the data collection instruments completed by the participants themselves, with the assistance of the researchers, whenever their assistance was requested for this purpose. The ethical principles on which standards of ethical conduct in research are based including the principle of respect for human dignity, the principles of justice and beneficence were taken into consideration. Anonymity and confidentiality were guaranteed in publishing results.[5]

Measuring instruments

The study protocol allowed relevant information to be collected to characterise informal caregivers in relation to personal, social-familial and psychological data. It also allowed us to assess the elderly victim's functional capacity.

We used validated measurement instruments namely, the Graffar Socioeconomic Level Scale[6] and the Beck Depression Inventory.[7]

Each of the 21 items of the Beck Depression Inventory represents a value (0, 1, 2 or 3), the total sum of the 21 statements varying within a range from 0 to 63, allowing depression levels to be differentiated from "absent" to "severe." A score of 12 was considered the cut-off point dividing individuals into depressed and not depressed.

In the study we consider the authors' values as the reference. There are no depressive symptoms when the aggregate of the Beck Depression Inventory is less than 12; there is a mildly depressed state, if values fall between 12 and 17; there is a moderate depressed state, if the score is between 18 and 23; there is a severely depressed state, if the score is greater than or equal to 24.

The mean of the Beck Depression Inventory indices are well centred and accepted as good because all of the items are greater than 0.20, correlating above 0.20 with the overall score when it does not contain the item.[8]

The Cronbach's alpha indices for all items indicated a very good consistency to ranging between 0.919 and 0.926. With reliability index calculated by the halves method, the value was also found to be quite good for the first and second half of the Split-half index (0.89 and 0.867 respectively) and the scale's overall alpha (alpha = 0.926).

The Graffar Scale is a widely used instrument for demographic characteristics in the human and social sciences.[9] The Portuguese version is one of the most widely used social assessment instruments in our country.[6] This scale allows us to measure the socioeconomic status variable in five classes:

- Class I — High upper class family, with a very good socioeconomic level (total score between 5 and 9 points).
- Class II — Lower upper class family, with a good socio-economic level (total score between 10 and 13 points).
- Class III — Middle-class family, with a reasonable socioeconomic level (total score between 14 and 17 points).

— Class IV — Upper lower class family, with a reduced socioeconomic level (total score between 18 and 21 points).
— Class V — Lower lower class family, with a poor socioeconomic level (total score between 22 and 25 points).

From the above, it also refers to the fact that as the Graffar Scale score increases, the socioeconomic status corresponds to it worsens.'

The psychometric study of the Graffar Scale revealed a Cronbach alpha index of 0.725 for the total scale, which is considered reasonable, and the values of consistency range between 0.611 and 0.716.

Results

The sample of informal caregivers consists mainly of women (83.8%), men only representing 16.2% of the total sample.

The caregivers' ages were between 17 and 85, with an average of 50.19 years (SD = 14.300). Men's mean age is higher than that of women with statistically significant differences (Student's t = 2.307; $P = .018$).

Most of the informal caregivers are married (74.7%) whose kinship to the victim is children or sons/daughters-in-law (47.6%), followed by the husband/wife (26.6%). Among the male caregivers, the most common degree of kinship is husband (42.7%). Females, on the other hand, are daughters or daughters-in-law are the most highly represented (50.7%).

As for occupation, 33.3 % of the caregivers are students, retirees and housewives, which is the predominant employment status for males and females (35.9% vs. 32.8%, with no differences in relation to sex (chi-square $\chi^2 = 7.062$; $P = .070$).

Recoding of the occupational status variable into two groups: unemployed and employed, revealed that 55.7% of informal caregivers do not have a job.

Socioeconomic level

Categorizing the socioeconomic level by the Graffar Scale, revealed that the middle-class families with a reasonable socioeconomic status were the most common (40.4%) followed by upper lower class families with a low socioeconomic status with 37.7% of the sample. The differences between men and women are quite significant, that is ($\chi^2 = 16.289$; $P = .003$). On average, men have a better socioeconomic status (mean rank = 262.31) than women (mean rank = 329.36) (Mann-Whitney U test: U = 21 661.5; Z = −3.342; $P = .001$) (Tables 1 and 2).

Studying the socioeconomic level as a function of certain socioeconomic variables by the Mann-Whitney U test showed that employed informal caregivers without a partner and residing in urban areas have a higher socioeconomic status, Marital status: U = 30 990.5; Z = −2550; $P = .011$; Employment status: U = 35 376.0; Z = −6355; $P = .000$; Area of residence: U = 25 731.0; Z = −6566; $P = .000$) (Table 3).

Depressive symptomatology

The mean score in depressive symptomatology presented by caregivers was 10.20 (SD = 10.266), with a minimum of 0 and a maximum of 55.

Table 1 Characterisation of socioeconomic level as a function of gender

	Gender				Total	
	Male		Female			
	n	%	n	%	n	%
Socioeconomic level (SEL)						
Class I. High upper class: very good SEL	10	9.7	19	3.6	29	4.6
Class II. Lower upper class: good SEL	21	20.4	61	11.4	82	12.9
Class III. Middle class: reasonable SEL	39	37.9	218	40.9	257	40.4
Class IV. Upper lower class: reduced SEL	31	30.1	209	39.2	240	37.7
Class V. Lower class: poor SEL	2	1.9	26	4.9	28	4.4
Total	103	100.0	533	100.0	636	100

SEL ($\chi^2 = 16.289$; $P = .003$).

Table 2 Statistics on the socioeconomic level of informal caregivers

	n	Min	Max	$\bar{x}$	DP	Sk/error	K/error	CV (%)	Mean rank
Male	103	5	23	15.17	3.889	−1.933	−0.934	25.64	262.31
Female	533	5	25	16.63	3.129	−7.142	3.479	18.82	329.36
Total	636	5	25	16.39	3.305	−7.732	2.659	20.16	

Mann-Whitney U test: U = 21 661.5; Z = −3,3412; $P = .001$.

Table 3 Mann-Whitney U test between marital status, employment status and area of residence by socioeconomic level

Socio-demographic variables	Mean rank	Mann-Whitney U test		
		U	Z	*P*
Classes of marital status				
No companion	284.82	30 990.5	−2.550	.011
With companion	328.62			
Classes of employment status				
Unemployed	359.57	35 376.0	−6.355	.000
Employed	266.95			
Area of residence				
Rural	346.75	25 731.0	−6.566	.000
Urban	238.51			

Depressive symptomatology is more severe in female caregivers than in males (mean rank = 325.23 vs. mean rank = 280.67), (Mann-Whitney U test = 423 553.0; Z = −2263; *P* = .024), accepting that women have worse scores with regard to depressive symptoms, therefore, a worse state of mind compared to men.

With the variable, State of mind (depression), recoded in accordance with the author's criteria,[7] the severity of depression is obtained. What stands out for the total sample is that 62.8% of caregivers did not experience depression, 16.1% had mild depression and only 9.1% manifested severe depression. The analysis by gender reveals that 75.7% of men do not experience depression, and 10.7% had severe depression. Moreover, 60.4% of the women did not have depression and 8.9% manifested severe depression, with significant differences ($\chi^2 = 14.262$; $P = .003$) (Table 4).

To supplement the study of severity of depression caregivers were grouped into two classes: the first relates to caregivers who obtained a score less than or equal to 12, i.e., "no depression." It consisted of a majority of the sample (62.9%); and the second, consisted of caregivers whose score was greater than 12 and were therefore "depressed," representing 37.1% of the informal caregivers.

Analysing by gender, we found that 24.3% of the men and 39.6% of the women experience depressive symptoms (Table 5). The chi-square and residual values revealed that the differences between men and women are significant ($\chi^2 = 61.275$; $P = .003$).

Multiple linear regression was also performed to test the predictive value of the independent variable, depressive symptomatology, on the dependent variable state of mind (Table 6) thereby investigating whether it is a predictor of informal caregivers' state of mind.

The stepwise (step by step) estimation method was used.

The values shown in Table 9 allow socioeconomic status to be considered, predicting informal caregivers' state of mind (depression) and explaining 34.2% of the variance.

Discussion

If the state of mind often arises as a component to be included in addressing the caregiver's mental functioning, the impact socio-demographic variables can exert over them deserves careful consideration and is undoubtedly one of the main points of discussion. From this perspective, one

Table 4 Severity state of mind by gender (total sample)

	Gender				Total	
	Male		Female			
	n	%	n	%	n	%
Absence of depression	78	75.7	322	60.4	400	62.8
Res		3.0		−3.0		
Mild depression	5	4.9	97	18.2	102	16.1
Res		−3.4		3.4		
Moderate depression	9	8.7	66	12.6	75	12.0
Res		−1.1		1.1		
Severe depression	11	10.7	48	8.9	59	9.1
Res		0.6		−0.6		
Total	103	100.0	533	100.0	636	100.0

Degree of depression ($\chi^2 = 14.262$; $P = .003$).

Table 5 Presence of depressive symptomatology by gender (total sample)

Classes	Without depression		With depression		Total	
	n	%	n	%	n	%
Gender						
Male	78	75.7	25	24.3	103	16.2
Res		2.9		−2.9		
Female	322	60.4	211	39.6	533	83.8
Res		−2.9		2.9		
Total	400	62.9	236	37.1	636	100

Gender ($\chi^2 = 61.275$; $P = .003$) —Chi-square test—.

Table 6 Multiple linear regression using the stepwise method, with the variable state of mind (depression) (total sample)

Dependent variable = State of mind (depression)

R multiple = 0.584
$R^2 = 0.342$
R^2 adjusted = 0,337
Standard estimation error = 8.363
F = 7.694
P = .006

Regression summary

Independent variables	Standardized coefficient	Regression coefficient	R^2 increment	t	*P*	VIF co-linearity
Constant	—	−9.708	—	−2.371	.018	
Socioeconomic level	0.098	0.304	0.011	2.876	.004	1.106

Analysis of variance

Fonte	Sum of squares	gl	Mean of squares	F	*P*
Regression	22 833.548	5	4.566.710	65.298	.000
Residual	43 919.860	628	69.936		
Total	66 753.409	633			

of the points of discussion relates to the socio-demographic variables of the caregivers of dependent elderly people after CVA.

The socio-demographic profile of the informal caregiver was found to be female (83.8%), approximately 50 years old, married (74.7%), with the degree of kinship of daughter or daughter-in-law (47.6%), unemployed (55.7%), living in a rural area (73.9%) and with reasonable socioeconomic status (40.4%).

This profile is rooted in cultural references and the profile of Portuguese family caregivers does not differ much from caregiver profiles in other countries. Females who are about 50 years old stands out as caregivers. This data is reported in other studies[10-14] emphasising the role of women as caregivers in the Portuguese culture as well as other cultures. It is important to know them in their role as primary caregivers for the elderly, because they are in closest contact with the elderly and is the health team's strongest link.

It is immediate family members, who provide the most care. This fact is also documented in other studies.[12,15,16] The closer to the familial relationship, the more conducive it is for the relative to become the person responsible for providing care. Today, the family is an important structure in providing care. It is the children who are the parents' caregivers with a feeling of obligation, retribution of care, in addition to love. Hidden from the eyes of society, caregivers are only known when we enter their space and their care. Thus, the importance of the Primary Health Care activities and the Portuguese National Network of Integrated Continuous Care, allowing the difficulties faced in the daily and the relationship between its components care to be identified and, therefore, to establish more appropriate plans of action for the reality of the family and the needs of the elderly.

With respect to employment status, 55.7% of caregivers did not have a job. And 57% of the unemployed are females. This data helps corroborate the previous data since it can

mean that women had far fewer opportunities to have a professional occupation, a fact accentuated by the fact of 76.4% of female caregivers residing in a rural area.

Regarding the caregivers' socioeconomic level, middle class families with a reasonable socioeconomic level was the most common (40.4%), followed by 37.7%upper lower class families with a reduced socioeconomic level. Knowing this profile is relevant and useful to health professionals to plan and implement actions aimed at the reality of older people and their caregivers in a situation of prolonged illness, in which the support offered and consequently the expenses are almost the exclusive responsibility of the families. And the well-being required for good physical and mental health is based on a sense of security that comes from having material resources for daily expenses, having easy access to health care, if needed, to be integrated into an active family and social network. In any of these areas, for example, the Spanish enjoy more benefits. As for integrating active social networks, some recent studies show that Spanish society enjoys a particularly important type of old age capital: solidarity between families and neighbors.[17] In our study, informal caregivers without a partner, with a job and residing in urban areas have a higher socioeconomic status. This may indicate that in terms of lifestyles, the rural-urban dichotomy may be significant in many aspects such as having the knowledge, culture and access to health care.

To sum up, the results sustain that the socioeconomic variable predicts state of mind. Thus, the essentially factual nature of knowledge resulting from the study can be recognized, insofar as it was supported in the informal caregivers' evaluation as an object of nursing practices centred "on mental health promotion, prevention, diagnosis and intervention facing maladaptive or dysfunctional human responses to transition processes, causing suffering, changes or mental illness."[18] Thus, the following guidelines for practice emerge: the need to plan interventions focused on the psychological needs of the caregiver, providing support for the practice of home care that will provide better education, support and services to family caregivers. It is also important to reform nursing courses and syllabi and include the issue informal caregivers' experiences, including the bio-psychosocial implications they are subjected to.

What we known about the theme

Scientific evidence shows that CVA presents dependency with consequent physical, psychological and financial burdens that endanger the positive state of mind and the mental health of informal caregivers of elderly dependents.

What we get out the study

Families' socioeconomic conditions proved predictive of the state of mind of informal caregivers, so that considering these variables in strategic planning family nursing is a way to develop personalized care, focused on the uniqueness of patients and caregivers to experience transitions.

Future lines of research should give priority as their focus of attention the gains in mental health from nursing care provided by these professionals to informal caregivers of elderly dependents.

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Conflicts of interest

The authors declare that there are no conflicts of interest.

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