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Minor psychiatric disorders and their associations in family caregivers of people with mental disorders

Transtornos psiquiátricos menores e suas associações em familiares cuidadores de pessoas com transtorno mental

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Abstract *This study aims to analyze the occurrence of minor psychiatric disorder and their associations in relatives of people with mental disorders. This is a cross-sectional study of 1164 relatives. For the tracking of minor psychiatric disorders the Self-Reporting Questionnaire Scale (SRQ20) was used, adopting 6/8 as cut-off point. Bivariate analyzes were conducted using Chi-squared test. Trends among strata of independent variables were investigated in relation to the outcome using nonparametric linear trend test. Statistic significance was defined as p-value < 0.05. Crude and adjusted binary logistic regressions were conducted using as a basis the hierarchical model developed through a systematic literature review. It was observed in the population a prevalence of 46.9% for minor psychiatric disorders. Higher prevalence of minor psychiatric disorders were strongly associated with the female gender, older age, first degree family ties, not having a paid work, lower education level, lower income, health problems, lower quality of life and feeling of burden. Many factors are related to the emotional and mental illness of family caregivers, demanding health services to be prepared to recognize and intervene in these situations.*

Key words *Minor psychiatric disorders, SRQ20, Relatives, Caregivers, Community mental health services*

Resumo *Este estudo tem por objetivo analisar a ocorrência de transtornos psiquiátricos menores e suas associações em familiares de pessoas com transtornos mentais. Estudo transversal realizado com 1.164 familiares. Para o rastreamento utilizou-se o Self-Reporting Questionnaire Scale (SRQ20). Análises bivariadas foram realizadas com uso do teste Qui-quadrado. Tendências entre os estratos foram investigados em relação ao desfecho por meio do teste não paramétrico de tendência linear. Significância estatística foi definida como p < 0,05. Regressões logísticas binárias brutas e ajustadas foram realizadas utilizando como base um modelo hierárquico desenvolvido através de uma revisão sistemática da literatura. Observou-se prevalência de 46,9% de transtornos psiquiátricos menores. Maior prevalência desses transtornos esteve fortemente associada ao sexo feminino, idade avançada, laços familiares de primeiro grau, não possuir trabalho remunerado, nível de educação mais baixo, menor renda, problemas de saúde, baixa qualidade de vida e sentimento de sobrecarga. Muitos fatores estão associados à doença emocional e mental dos cuidadores familiares, exigindo que serviços de saúde estejam preparados para reconhecer e intervir nessas situações.*

Palavras-chave *Transtornos psiquiátricos menores, SRQ20, Familiares, Cuidadores, Serviços comunitários de saúde mental*

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Introduction

With the advent of psychiatric deinstitutionalization processes experienced in Brazil in recent decades, several changes with respect to the care of people with mental disorders have been tensioned. Care actions previously restricted to hospital are now designed for the community, allowing the individual, previously segregated and excluded from social contact, to be reinserted in society[1].

With care actions designed to the community in which the individual is located, the way of perceiving the family, without doubt, is one of the major changes in this new scene. The family during the history of psychiatry was seen as an accomplice of the social isolation of the individual or even the cause of the illness, is now seen as one of the protagonists of care[2].

The rescue of the family as part of the care process proves itself as a valuable strategy for caring community basis. Since family members are, often, the bridge between users and the society. And care is only possible when the means and resources available to care for the patient are considered, including the family[3,4].

However, it should be considered that the family interferes in the health-disease process of its members, organizing, disorganizing and reorganizing itself continuously. Therefore the diagnosis of a psychiatric disorder can have a major impact on the family, which now has to live with the doubts that come with a mental disease[4]. It's also noteworthy that in this situation, a new role is assigned to some relatives, the caregiver role.

In the role of caregivers, family members start to experience multiple and challenging tasks for which they often are not prepared. And although they have positive feelings about their diseased relative, they sometimes cannot deal well with their emotions facing the reality of doubts and uncertainties[4].

A previous study[5] found that the tasks arising from the caregiver role as well as the changes that occur in their social and professional life, end up burdening the family which can often experience feelings of anxiety and depression, suffering negative consequences within the family and in social life and work environment.

Feelings of anxiety and depression involved in these situations can be classified as minor psychiatric disorders (MPD), which designate a scenario where the individual do not meet all the criteria of mental illness according to the International Classification of Diseases (ICD-10). Expanding this understanding, it can be said that the MPD refer to somatic problems involving non-psychotic psychiatric symptoms, including insomnia, fatigue, irritability, depression and anxiety feelings, forgetfulness and difficulty concentrating[6].

Given this reality and the need to explore the subject, this study aimed to analyze the occurrence of minor psychiatric disorders in the relatives of community-based mental health services' users in southern Brazil. Identifying associated factors, so new perspectives can be tensioned in order to solving this problem.

Methodology

This cross-sectional study, clipping of a community-based mental health service evaluation research held in 2011 in southern Brazil (CAPSUL II).

The population in the study consists of 1164 relatives of people with mental disorders, submitted to the application of a pre-structured form including variables about sociodemographic data, health, aspects related to the care, burden, quality of life, and for the tracking of minor psychiatric disorders, the Self-Reporting Questionnaire Scale (SRQ20) was used.

The SRQ20 scale was developed by Harding et al.[7] and validated in Brazil by Mari and Williams[8]. The scale consists of twenty questions with yes/no answers and according to Harding et al.[7], the cut-off point, number of positive issues that determine the presence of a minor psychiatric disorder, has a considerable variation from 5/6 to 10/11, depending on the cultural context in which it is applied, including location and temporal contexts. This study used as model the Brazilian validation, in which Mari and Williams[8] found a sensitivity and specificity of 83% and 80% respectively when used as cut-off point 6/8, being the first number the cut-off point for men and the second for women.

The study protocol was approved under technical opinion No. 176/2011, by the Ethics Committee of the Faculty of Nursing of the Federal University of Pelotas following the Standards and Guidelines for the Regulation of Research Involving Human Beings – CNS Resolution 196/96, the aspects of this study also conform to the CNS Resolution 466/2012. Ethical principles were assured by: informed consent; guarantee of right not to participate in the research and anonymity.

Data collection occurred in 40 Centers for Psychosocial Care (CAPS) – community-based

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psychiatric services – distributed in the three states of southern Brazil and was held for 40 independent interviewers previously selected and trained.

Quality control was carried out in the encoding of data collection instruments; the review conducted by supervisors to receive the questionnaires; replication 5% of interviews.

The data went through double entry in the software EPI-INFO, differences between information were compared and evaluated. The same database was used for necessary corrections.

Data analysis was performed using the software STATA 11 (Stata Corp., College Station, USA) and IBM SPSS Statistics.

Bivariate analyzes were conducted using the Chi-squared test, adopting as significant a p-value < 0.05. Trends among strata of independent variables were investigated in relation to the outcome using nonparametric linear trend test, using as significant values of *nptrend* < 0.05.

Crude and adjusted binary logistic regressions were conducted. For the adjusted analysis the hierarchical model, arranged in Figure 1 and prepared by literature review, was used. Same level variables were adjusted among each other and for the second level were kept in the analysis those who remained associated with the outcome (p-value < 0.2), in addition to those of the same level. For inclusion of variables in the adjusted model was used as criterion a p-value < 0.2, however, the statistical significance remained as a p-value < 0.05.

Results

In the population it was observed a prevalence of 46.9% of minor psychiatric disorders. Table 1 provides the prevalence of minor psychiatric disorders according to the profile of the relatives included in the study.

Similarly, Table 2 expresses the prevalence of MPD according to the health conditions of family members who made up the sample. It is possible to observe the variation in prevalence due to whether or not having a health problem, behavior in relation to alcohol and tobacco, number of medical appointments in the last 6 months and self-assessment of quality of life.

The relationship between the outcome and the aspects of care included in the study were also explored. The prevalence of minor psychiatric disorders in relation to variables that expressed these characteristics is arranged in Table 3.

Table 4 refers to the odds ratio found in the crude and adjusted analyzes for each variable, as well as confidence intervals and p-values to compare statistical significance.

Through the data presented it is possible to observe that some variables lost statistical significance in the adjusted analysis, they are: medical appointments in the last 6 months, alcohol intake and smoking. There were also variables that were removed from the model for not remaining associated with the outcome (presenting a p-value < 0.2). They are: marital status and sharing of care.

The adjusted analysis suggests that females are 70% more likely to have a positive outcome for minor psychiatric disorders. Similarly, in-

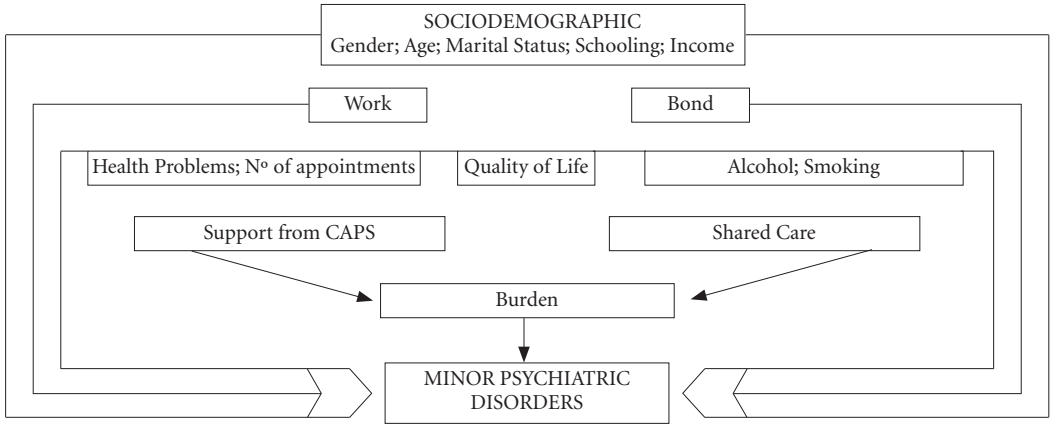

Figure 1. Theoretical Hierarchized Model.

Table 1. Profile of relatives of CAPS users included in the study according to the prevalence of minor psychiatric disorders.

Characteristics of relatives	Negative Screening for MPD	Positive Screening for MPD	P-value
Gender			
Masculine	62% (238)	38% (380)	< 0,001
Feminine	49% (146)	51% (400)	
Relationship with patient			
Others	69% (85)	31% (38)	< 0,001
Sibling	59% (112)	41% (79)	
Child	52% (90)	48% (83)	
Spouse	52% (148)	48% (137)	
Parent	47% (183)	53% (209)	
Marital Status			
Single	59% (116)	41% (81)	0,023
Married	54% (381)	46% (326)	
Separated/Divorced/Widowed	46% (119)	54% (138)	
Age			
14 to 25	63% (62)	37% (37)	0,006
26 to 45	58% (181)	42% (133)	
46 to 65	48% (266)	52% (288)	
66+	55% (108)	45% (87)	
Education			
High school or Higher education	67 (195)	33% (94)	< 0,001
Complete elementary school	49% (103)	51% (109)	
Incomplete elementary school	48% (320)	52% (341)	
Paid work			
Yes	59% (285)	41% (196)	< 0,001
No	49% (333)	51% (350)	
Family monthly income*			
5+ minimum wages	69% (91)	31% (40)	< 0,001
From 3 to 4 minimum wages	54% (69)	46% (59)	
From 2 to 3 minimum wages	52% (176)	48% (123)	
From 1 to 2 minimum wages	48% (176)	52% (190)	
Up to 1 minimum wage	47% (87)	53% (98)	
Did not answer	63% (61)	37% (36)	

Source: CAPSUL, 2011. * National minimum wage in the time of data collection: R$ 545,00.

dividuals with closer ties to the user were more likely to present this outcome. This idea is reinforced by the linear trend test that identified a significant value of $p \leq 0.001$.

Individuals aged from 46 to 65 years are the ones more likely to develop minor psychiatric disorders, the results indicate that the chance is 62% higher in this group. Even though in the subjects aged 66 or more the chances of developing minor psychiatric disorder decrease, the linear trend test points a significance of p=0.04 for the existence of a trend in which the higher the age the higher the prevalence of minor psychiatric disorders. The same applies to level of education ($p \leq 0.001$). It is possible to observe that individuals with lower education level are about 2 times more likely to develop a minor psychiatric disorder that individuals with higher education.

Having a paid work proved to be a protective factor against the outcome, as among individuals who reported not having a paid job the chances of developing a minor psychiatric disorder were 31% higher.

Family income showed a linear trend in relation to the outcome ($p = 0.01$) showing that the lower the income the higher the chances of pre-

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Table 2. Health conditions of relatives of CAPS users included in the study according to the prevalence of minor psychiatric disorders.

Health conditions	Negative screening for MPD	Positive screening for MPD	P-value
Health problem			
No	68% (373)	32% (179)	< 0,001
Yes	40% (245)	60% (367)	
Medical appointments in the last 6 months			
None	60% (230)	40% (154)	< 0,001
1 to 3	54% (315)	46% (266)	
4 or more	37% (67)	63% (112)	
Did not answer	30% (6)	70% (14)	
Alcohol intake			
Never	51% (471)	49% (463)	0,003
Once a month or less	65% (71)	35% (38)	
2 to 4 times a month	59% (40)	41% (28)	
More than twice a week	67% (34)	33% (17)	
Smoking			
No	55% (508)	45% (421)	0,026
Yes	47% (109)	53% (125)	
Quality of life			
Excellent	66% (273)	34% (142)	< 0,001
Good	58% (167)	42% (120)	
Regular	49% (121)	51% (128)	
Poor	25% (53)	75% (155)	

Source: CAPSUL, 2011.

Table 3. Aspects of care among relatives of CAPS users included in the study according to the prevalence of minor psychiatric disorders.

Aspects of Care	Negative Screening for MPD	Positive Screening for MPD	P-value
Shared Care			
Does not share	51% (402)	49% (386)	0,028
Shares with 1 other	57% (90)	43% (69)	
Shares with 2 others	52% (70)	48% (64)	
Shares with 3 others	67% (56)	33% (27)	
Feeling of Burden			
Does not feel burdened	69% (378)	31% (173)	< 0,001
Feels somewhat burdened	52% (51)	48% (48)	
Sometimes feels burdened	46% (96)	54% (113)	
Feels very burdened	30% (91)	70% (211)	
Support from CAPS when burdened			
Does not feel burdened	68% (375)	32% (177)	< 0,001
Receives support	40% (129)	60% (193)	
Does not receive support	38% (104)	62% (168)	
Did not answer	56% (10)	44% (8)	

Source: CAPSUL, 2011.

senting a disorder. It is observed that compared to individuals whose families earned more than five minimum wages, individuals who had lower family income had chances 54-70% higher to present minor psychiatric disorders.

Having a health problem was also associated with higher chances of presenting minor psychiatric disorders. Chances among individuals with health problems were 2.63 times greater than among healthy individuals. Similarly, the variable referring to the number of medical appointments in the past six months indicates a greater chance of presenting the outcome on those individuals with most appointments. However, in the adjusted analysis this variable lost statistical significance, and the confidence intervals suggest that, considering the event in the general population, the variable can be shown both as a protective and risk factor. The same applies to alcohol intake and smoking, that also lost statistical significance.

Quality of life had an association to outcome, confirmed by linear trend test ($p \leq 0.001$), in which the worse the evaluation of quality of life the greater the chance of presenting minor psychiatric disorders. It is observed that individuals who have the worst rating of quality of life are 5.16 times more likely to have a positive screening for minor psychiatric disorders.

The manifestation of feelings of burden also tended towards the outcome. According to the data of Table 4, the greater the feeling of burden, the greater is the chance of developing a minor psychi-

Table 4. Brute and adjusted analyzes of the effect of the independent variables on the positive outcome of minor psychiatric disorders.

Variables	Brute Analysis		Adjusted Analysis	
	OR CI 95%	P-value	OR CI 95%	P-value
Gender				
Male	1	0,0000	1	0,0000
Female	1,71 (1,34;2,20)		1,70 (1,31;2,21)	
Bond				
Other	1	< 0,001*	1	0,0002
Sibling	1,58 (0,98;2,54)	0,0002	1,51 (0,92;2,49)	
Spouse	2,07 (1,32;3,23)		2,36 (1,46;3,81)	
Child	2,06 (1,27;3,35)		2,56 (1,53;4,26)	
Parents	2,55 (1,66;3,93)		2,37 (1,51;3,72)	
Age				
14 to 25	1	0,0061	1	0,0318
26 to 45	1,23 (0,77;1,96)	0,04*	1,21 (0,74;1,96)	
46 to 65	1,81 (1,17;2,82)		1,62 (1,02;2,58)	
66+	1,34 (0,82;2,21)		1,12 (0,66;1,91)	
Education				
High School or Superior Education	1	0,0000	1	0,0000
Complete elementary school	2,19 (1,65;2,95)	< 0,001*	1,99 (1,44;2,75)	
Incomplete elementary school	2,21 (1,52;3,19)		2,03 (1,39;2;97)	
Paid work				
Yes	1	0,0004	1	0,0448
No	1,53 (1,20;1,93)		1,31 (1,0;1,72)	
Income				
5+ minimum wages	1	0,0001	1	0,0770
From 3 to 4 minimum wages	1,94 (1,17;3,23)	0,01*	1,54 (0,91;2,62)	
From 2 to 3 minimum wages	2,09 (1,34;3,25)		1,68 (1,05;2,67)	
From 1 to 2 minimum wages	2,46 (1,60;3,75)		1,70 (1,08;2,68)	
Up to 1 minimum wage	2,56 (1,60;4,10)		1,68 (1,01;2,78)	
Did not answer	1,34 (0,77;2,33)		1,03 (0,57;1,84)	
Health Problems				
No	1	0,0000	1	0,0000
Yes	3,12 (2,45;3,97)		2,63 (1,95;3;55)	

it continues

Table 4. continuation

Variables	Brute Analysis		Adjusted Analysis	
	OR CI 95%	P-value	OR CI 95%	P-value
Medical appointments in the last 6 months				
None	1	0,0000	1	0,0696
1 to 3	1,26 (0,97;1,63)		0,94 (0,69;1,28)	
4 or more	2,49 (1,73;3,59)		1,44 (0,93;2,21)	
Did not answer	3,48 (1,31;9,26)		2,51 (0,80;7,90)	
Alcohol intake				
Never	1	0,0030	1	0,1979
Once a month or less	0,54 (0,36;0,82)		0,71 (0,44;1,14)	
2 to 4 times a month	0,71 (0,43;1,17)		1,23 (0,68;2,20)	
More than twice a week	0,51 (0,28;0,92)		0,60 (0,30;1,22)	
Smoking				
No	1	0,0266	1	0,0683
Yes	1,38 (1,04;1,84)		1,36 (0,97;1,91)	
Quality of life				
Excellent	1	0,0000	1	0,0000
Good	1,38 (1,01;1,88)	< 0,001*	1,77 (1,25;2,50)	
Regular	2,03 (1,47;2,80)		2,49 (1,73;3,58)	
Poor	5,62 (3,87;8,15)		5,16 (3,45;7,72)	
Feeling of Burden				
Does not feel burdened	1	0,0000	1	0,0045
Feels somewhat burdened	2,05 (1,33;3,17)	< 0,001*	2,89 (0,88;9,44)	
Sometimes feels burdened	2,57 (1,85;3,56)		3,16 (1,00;10,00)	
Feels very burdened	5,06 (3,73;6,87)		5,16 (1,63;16,35)	
Support from CAPS when burdened				
Does not feel burdened	1	0,000	1	0,0000
Receives support	3,17 (2,38;4,21)		2,65 (1,92;3,65)	
Does not receive support	3,42 (2,52;4,63)		2,89 (2,06;4,07)	
Did not answer	1,69 (0,65;4,36)		1,93 (0,64;5,82)	

Source: CAPSUL, 2011. *p-value for linear trend test.

atric disorder. Among individuals who felt somewhat burdened, the odds were 2.89 times higher, while in individuals who sometimes felt overloaded with care were 3.16 times higher and those who felt very burdened were 5.16 times higher.

Caregiver's relatives that reported burden were asked about CAPS Support. So, the comparison was drawn between who did not report burden and those who received support; those who did not receive support; or those who did not answer. In this sense, relatives, who did not receive support when they felt burdened, demonstrated 2.89 times higher probability for MPD compared to those who did not report burden.

Discussion

The screening for psychiatric disorders in the population in study was positive in 46.9% of cases. This prevalence is close to that found in other studies that also applied SRQ20 scale to caregivers in mental health. Studies such as those of Quadros et al.[9] and Tomasi et al.[10] found a prevalence of 49% and 41% respectively.

The prevalence of minor psychiatric disorders in this population can be compared even with those found in other populations of caregivers who do not deal with mental health. Caregivers of patients who have been affected by stroke, for example, had a prevalence of 44.3% in a study

conducted by Morais et al.[11]. Similarly, Silva et al.[12] found a prevalence of 46.55% in caregivers of elderly with dementia.

These findings corroborate the idea that family caregivers are a risk group for development of these disorders. Since based on population-based studies conducted earlier in this country[13-15], the prevalence of minor psychiatric disorders among caregivers was higher when compared to the general population.

Although Gonçalves and Sena[16] point to the female gender as the one who finds it easier to deal with suffering, as well as Quadros et al.[9], this study found a higher prevalence of minor psychiatric disorders among women, with differences statistically significant between the averages presented ($p \leq 0.001$). The adjusted analysis measured that females were 70% more likely to have these disorders.

Following studies of Tunde-Ayinmode[17], Quadros et al.[9] and Silva et al.[12], higher prevalence of minor psychiatric disorders were also found in the strata covering older individuals, with a linear trend (0.04) on the chances of presenting a positive outcome according to the age of the individual.

Studies of Tunde-Ayinmode[17], Quadros et al.[9] and Silva et al.[12] also found higher prevalence of these disorders in individuals with lower education level, suggesting that education may be a protective factor. Thus, this study showed a linear trend (< 0.001) as to the chances of presenting positive outcome for minor psychiatric disorders due to a lower level of education. According to the adjusted analysis conducted in this study, individuals with incomplete primary education were 2.03 times more likely to have these disorders in relation to family members who had secondary or higher education.

Marital status seemed to establish a different relationship with the outcomes between studies tracked for comparison. In the study of Silva et al.[12] individuals with a partner had a higher prevalence of the outcome studied, whereas the study by Quadros et al.[9] highest prevalence rates were found among subjects without companions. The results of this study are closer to those found by Silva et al.[12] meaning that subjects in a relationship manifest higher prevalence of minor psychiatric disorders. However, this study also has a corresponding layer to individuals who have lost their partners or divorced them, whose subjects had higher prevalence of minor psychiatric disorders. The p-value for the difference of the average presented for marital status was $p = 0.023$, but when inserted in the model, this variable lost statistical significance.

Considering that the loss or separation of a spouse can be a stressor, it is assumed that the evaluation of these factors is relevant within the studied outcome. In this sense, the study of Quadros et al.[9] conducted this assessment and found a higher prevalence of minor psychiatric disorders among individuals who have been through such events. It is worth noting that in the same study, the prevalence of these disorders increased as increased the number of stressful events experimented by the individuals. Thus, it is considered as a limiting factor that this study did not rely on this information, suggesting their inclusion in future studies.

The increasing prevalence of minor psychiatric disorders related to the closeness of the familial bond evidenced in this study, follows the results found by Quadros et al.[9] and Silva et al.[12]. It can be observed that in relation to bonds other than first degree, parents, children and spouses showed 2.36 to 2.56 times more chance to have a minor psychiatric disorder. There was a linear trend for this factor due to the proximity of the bond ($p \leq 0.001$).

Being constantly exposed to the caregiver function also appeared to contribute to a higher prevalence of minor psychiatric disorders. This suggestion comes from the lower rates of these disorders in individuals who had paid work both in this study and those of Quadros et al.[9] and Silva et al.[12]. In the adjusted analysis, individuals who did not have paid work were 31% more likely to have minor psychiatric disorders.

Other studies conducted with family caregivers[11,12,18,19] have evaluated the influence of time devoted to the care, as well as the time of diagnosis and time as a caregiver in the care implications. In general, their results show greater impairment in individuals who care for longer and those who dedicated more or all of their time to these activities, suggesting that the impact of caring are also related to the chronification of care. It is considered as a limiting factor for this study that it did not rely on this information, suggesting the inclusion of these factors in future studies.

As in studies of Quadros et al.[9] and Silva et al.[12], the higher the income presented by the individuals, the lower the prevalence of minor psychiatric disorders, with a linear trend in this relationship ($p = 0.01$). It is suggested that income would be a protective factor for this outcome, since in comparison to individuals who were allocated in families earning 5 or more minimum

wages per month, the relatives whose families earned up to 4 minimum wages had 54% to 70% more chance to have these disorders.

Corroborating the idea that health problems could contribute to the presentation of minor psychiatric disorders, the results of this study indicated that the prevalence of these disorders was higher among individuals with health problems. The prevalence in these individuals was of 60%, while in the relatives who reported being healthy was of 32%. It stands out in the adjusted analysis that the chances of presenting minor psychiatric disorders were 2.63 times higher among subjects who reported having health problems.

Quadros et al.[9] found similar results. In their study, the prevalence of minor psychiatric disorders in individuals who had health problems was 61.7%, while in healthy individuals it was 43.9%. Other researches that have studied the implications of care in caregivers[11,12,18] also found associations between health problems and the outcome.

It was also found that individuals who had four or more medical appointments in the last 6 months had a higher prevalence of minor psychiatric disorders. The prevalence for these individuals was 63% while for individuals who did not consult with a doctor any time was 32%, with statistical difference between those averages ($p = < 0.001$). This reality within the adjusted analysis reflected in chances 44% higher of presenting disorders in family members who had consulted four or more times compared to those who did not have any appointment in the same period.

However, when the variable was inserted in the model, it has shown any statistical significance. Given the confidence interval (CI: 0.93; 2.21), it can be a chance association.

As in other study[20], lower quality of life evaluation was associate to emotional illness. A higher prevalence of minor psychiatric disorders was observed in individuals who worse evaluated their quality of life. The prevalence of the MPD increased when the strata assessment was worse. While in individuals who rated their quality of life as excellent the prevalence was 34%, in subjects who rated their quality of life as poor, the prevalence reached 75%. Similarly, the adjusted analysis showed that individuals who rated the worst their quality of life, were 5.16 times more likely to have disorders than those who rated their quality of life as excellent.

Other studies, such as Amendola et al.[21] and Amendola et al.[22,] have addressed the quality of life of family caregivers and found a number of factors that influence a worse assessment of quality of life. In the same sense, considering that this it is a cross-sectional study, it is necessary the reflection on the established causal relationship between the minor psychiatric disorders and quality of life. A poorer quality of life can contribute to the development of these disorders, as well as a worse assessment can also result from the presence of a minor psychiatric disorder. In this equation, it should also be considered the subjectivity attributed to the concept of quality of life for each individual.

Although there were statistically significant differences in the average prevalence of minor psychiatric disorders among individuals who used alcohol or tobacco, in the adjusted analysis these variables lost statistical significance. In the study by Silva et al.[12], a higher prevalence of minor psychiatric disorders was found among family caregivers who used these substances. In this study, though, while smoking followed the same results above mentioned, the use of alcohol was associated with a lower prevalence of these disorders.

Despite, Quadros et al.[9] found out a lower prevalence of minor psychiatric disorders in relatives who shared helping activities with others, in this study, the sharing care variable lost statistical significance when inserted in the model.

Although this study points that burden is not explanatory enough to determine the positive outcome of minor psychiatric disorders, its results suggest that this is an aggravating factor that deserves mention. It can be observed that in the studied sample, as the feeling of burden increased so did the prevalence of these disorders.

While among individuals who did not feel burdened the prevalence was 31%, for individuals who reported feeling very burdened it was 70%. It can also be noted that according to the adjusted analysis, the chances of presenting minor psychiatric disorders among very much burdened relatives were 5.16 times higher than those who did not manifest this feeling. Similarly, when conducting an adjusted analysis, Quadros et al.[9] found burdened individuals were 49% more likely to present these disorders when compared to non burdened relatives.

In previous studies, when working with the burden of family caregivers in mental health, other authors[10,23] pointed to the need of developing interventions within the community mental health services, in order to give support to these subjects. In this sense, the results of this study corroborate this view by indicating that individ-

uals who reported receiving CAPS support at the moment of burden showed lower prevalence and were less likely to develop minor psychiatric disorders than those who did not receive such help.

Conclusion

Considering studies conducted in the general population and the results of this study, it is concluded that there is a higher prevalence of minor psychiatric disorders among family caregivers, suggesting that the population that needs attention.

Higher prevalence of minor psychiatric disorders were strongly associated with female gender, older age, first degree family ties, not having a paid work, lower education level, lower income, health problems, worse evaluation of quality of life and feeling of burden. Therefore, it is concluded that several factors are related to the emotional and mental illness in family caregivers, demanding that health services are prepared to recognize and intervene in these situations through supportive measures and for carrying out the necessary referrals within the network services available in the health system.

For this study, some limitations were considered, such as not having information about the amount of time spend in the caregiver role, the amount of time spent on care, characteristics about the user in care and stressors. The inclusion of these features is suggested for future studies.

Collaborations

CAS Treichel, VMR Jardim and LP Kantorski worked on the design, conception, analysis and interpretation of data and writing of the manuscript. AS Neutzling worked in data analysis. MM Oliveira and VCC Coimbra worked on critic review.

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