Ciência & Saúde Coletiva

cienciaesaudecoletiva.com.br
ISSN 1413-8123. v.30, n.3

DOI: 10.1590/1413-81232025303.20762022

Common Mental Disorders and rural living conditions: analysis of vulnerabilities in farmers and fishermen

Transtornos Mentais Comuns e condições de vida rural: análise das vulnerabilidades em agricultores e pescadores

Trastornos Mentales Comunes y condiciones de vida rural: análisis de vulnerabilidades en agricultores y pescadores

Luis Lopes Sombra Neto (https://orcid.org/0000-0002-0204-1960) [1, 2]
Roberto Wagner Júnior Freire de Freitas (https://orcid.org/0000-0001-9295-1177) [1]
Magda Moura de Almeida (https://orcid.org/0000-0002-4806-2345) [2]
Fernando Ferreira Carneiro (https://orcid.org/0000-0002-6625-9715) [1]
Vanira Matos Pessoa (https://orcid.org/0000-0003-3676-9607) [1]

Resumo *O estudo relaciona as condições de vida com transtornos mentais comuns (TMC) em agricultores e pescadores em território rural. Os dados foram coletados em município rural por meio de estudo transversal com 152 agricultores familiares e/ou pescadores artesanais que responderam a formulário sobre suas condições de vida: demográfica, moradia, ambiente, modo de produção, renda, educação, lazer, transporte e alimentação, além de aplicação do Self-Reporting Questionnaire (SRQ-20) para triagem de TMC. Encontrou-se associação entre TMC e variáveis demográficas e alimentares: "sexo" [X2(1) = 9,786; p = 0,002], "preocupação com a comida acabar em casa" [X2(1) = 5,466; p = 0,019] e "limitação da comida preferida por falta de produção/dinheiro" [X2(1) = 8,953; p = 0,003]. Na análise de regressão ajustada, houve associação entre sexo feminino [RP = 2,20; 95%CI = 1,13-4,261; p = 0,019] com desfecho de TMC. As mulheres eram predominantemente responsáveis pelo trabalho doméstico concomitante com o trabalho na agricultura e/ou pesca (82,6% n = 57; p < 0,01). Essa relação entre TMC e condições de vida, principalmente referentes ao sexo feminino, precisa ser foco de ações de atenção à saúde rural.*
Palavras-chave *População rural, Saúde da população rural, Saúde mental, Vulnerabilidade em saúde, Atenção primária à saúde*

Abstract *This study relates the living conditions with common mental disorders (CMD) in farmers and fishermen in rural territory. Data were collected in rural municipality through cross-sectional study design with 152 family farmers and/or artisanal fishermen who responded form about their living conditions: demographic, housing, environment, production mode, income, education, leisure, transportation and nourishment, in addition to application of the Self-Reporting Questionnaire (SRQ-20) to screen for CMD. A association was found between CMD and demografic and nourishment variables: "sex" [X2(1) = 9.786; p = 0.002], "concern about food ending up at home" [X2(1) = 5.466; p = 0.019] and "limitation of favorite food due to lack of production/money" [X2(1) = 8.953; p = 0.003]. In the adjusted analysis of regression, there was association between females sex [PR = 2.20; 95%CI = 1.13-4.261; p = 0.019] with outcome of CMD. The women were predominantly responsible for domestic work concomitantly with work in agriculture and/or fishing (82.6% n = 57; p < 0,01) in this group. This relationship between CMD and living conditions, mainly related to the female sex, need to be focus of rural health care actions.*
Key words *Rural population, Rural health, Mental health, Health vulnerability, Primary health care*

Resumen *Este estudio relaciona las condiciones de vida con los trastornos mentales comunes (TMC) en agricultores y pescadores de zonas rurales. Los datos fueron recolectados en municipio rural mediante un estudio transversal con 152 agricultores familiares y/o pescadores artesanales que respondieron al formulario sobre sus condiciones de vida: demografía, vivienda, medio ambiente, modo de producción, ingresos, educación, ocio, transporte y alimentos, además de aplicar el Cuestionario de Autoinforme (SRQ-20) para detectar TMC. Se encontró asociación entre TMC y variables demográficas y dietéticas: "sexo" [X2(1) = 9,786; p = 0,002], "preocupación por quedarse sin comida en casa" [X2(1) = 5,466; p = 0,019] y "limitación de alimento preferido por falta de producción/dinero" [X2(1) = 8,953; p = 0,003]. En el análisis de regresión ajustado hubo asociación entre el género femenino [RP = 2,20; IC95% = 1,13- 4,261; p = 0,019] con resultado de TMC. Las mujeres eran predominantemente responsables del trabajo doméstico al mismo tiempo que el trabajo en agricultura y/o la pesca (82,6% n = 57; p < 0,01). Esta relación entre TMC y las condiciones de vida, especialmente aquellas relacionadas con las mujeres, debe ser el foco de acciones de atención de salud rural.*
Palabras clave *Población rural, Salud de la población rural, Salud mental, Vulnerabilidad en salud, Atención primaria de salud*

[1] Fundação Oswaldo Cruz Ceará. R. São José s/n, Precabura. 61773-270 Eusébio CE Brasil. luislopespsiq@gmail.com
[2] Universidade Federal do Ceará. Fortaleza CE Brasil.

Introduction

The concept of mental health is complex and influenced by the temporary context and by the health practices' evolution. Overpassing the idea of mental health as the "lack of madness" that has been disseminated during many years by the biomedical model, the new concepts, mainly influenced by the Sanitary Reform and the Psychiatric Reform in Brazil, are incorporated biopsychosocial aspects in health care, including the concept of social determination of health, which advocates a critical analysis of these multiple factors of biological structure, way of life and collective conditions that interact with each other in the construction of the health-disease-care process[1,2].

Given the high prevalence of mental disorders in the world, estimated at 970 million people by the World Health Organization (WHO, 2019)[3], culminating in significant suicide mortality rates, in which 800 thousand cases are reported per year, searches the overcoming of old prejudices and stigmas related to individuals with mental suffering and changes in care practices with the aim of replacing the model of hospitalization in a psychiatric hospital with the insertion of patients into the community[1].

This reality is also found in Brazil,, in which there is a high prevalence, for example, of common mental disorders (CMD) which, although still underdiagnosed, some studies show a prevalence between 28.7% and 35%. Individuals with CMD may have anxious, depressive or somatic symptoms, such as insomnia, forgetfulness, discouragement, tiredness, a feeling of worthlessness and diffuse pain throughout the body, which cause psychological distress and disturb the individual's normal functioning. Therefore, mental health needs to be effectively incorporated into Brazilian health policies[4].

Despite this reality, the contribution of multidimensional factors, such as living conditions, to the physical and mental illness of the population is still constantly neglected in health care[5-7]. This reality shows itself even more worrying in the rural territories, in which some of the health indicators are worse than those from compared urban areas. Examples of this can be analyzed in national studies which showed that farm workers have worse health self-perception as compared with non-farm workers[8,9,10].

The stigma itself and the marginalization that historically finds the rural population is one of the contributors associated with those worrying indicators. Factors such as social and environmental isolation; daily exposure to violence; violation of civil, cultural, political, and social rights; exclusion from opportunities for education and income, may manifest themselves through psychosomatic symptoms, licit and illicit substances use, or mental disorders. Unfortunately, the public health policies in charge is not being able to solve or approach the problems relating to mental health, which aggravates the vulnerability ocurrances[5,11].

Among these social determinants of health associated with mental disorders in the population, one to be highlighted is work, because workers are directly or indirectly influenced by environmental vulnerabilities, especially those associated with the psychosocial, biological and chemical[8]. In Brazil, between the period of 2006-2017, 8,474 cases of mental disorders related to work were registered in the System of Information for Notification Aggravation. The reaction to great stress and adaptation disorders were the most prominent diagnosis, followed by depressive episodes and anxiety disorders[12].

This reality must be analyzed in more specific way in farmers and fishermen who are routinely exposed to factors such as preoccupation with productivity, overload of activities and exploitation of work that contribute to development of mental disorders in these workers. According to a survey carried out in a rural Brazilian population, predominantly farmers, in the state of Santa Catarina, the most prevalent injuries were: muscle and joint problems (25.6%), spinal problems (23.2%), difficulty for lifting weight (12.2 %) and emotional problems (4.4%), in which more than half mentioned limitations in daily activities due to these comorbidities[13].

Despite this reality, there are still few studies specifically on the mental health of rural workers. In research carried out by Junqueira *et al.* (2018)[14] using the Scientific Electronic Library Online (SCIELO) database, 444 effective works on the health of the rural population were found. Among these studies found, 87% covered only 13 of the major areas of knowledge, not including mental health among them, proving the lack of publications on this approach.

Faced with the existing gap between the relevance of the theme and the reality of the lack of published studies, the motivating question of this research arises: what are the aspects of living conditions associated with CMD in farmers and fishermen in rural territory?

Methods

It's a cross-sectional study design with a quantitative approach provenient of interviews with family farmers and artisanal fishermen from the city of Novo Oriente, classified as rural adjacent[15], located in the Brazilian state of Ceará.

Study participants were individuals aged between 18 and 64; economically active and whose main source of income was family farming or artisanal fishing or both activities; lived in rural territory for at least two years; and belonged to an area covered by a family health team The following exclusive criteria was used: family farmers or artisanal fishermen that are currently away from working activities during the research period. Besides this, due to the coronavirus' pandemic in the year of 2020, it was added to the exclusion criteria: individuals with symptoms of flu syndromes or with body temperature measured higher than 37.8ºC.

The sample for this study was made up of 152 family farmers/artisanal fishermen living in rural areas. The choice of research participants was based on the action-research model, with an intentional non-probabilistic sample, following recommendations from members of the popular movements of the Colony of Artisanal Fishermen and Fisherwomen and the Association of Rural Workers who recognized family farmers and/or artisanal fishermen residing in the territory, being mobilized by community leaders to participate in the research, considering the inclusion and exclusion criteria. Rural workers spontaneously sought out researchers at the location announced by community leaders. There was no restriction on the number of interviewees during the research period and no farmer and/or fisherman refused to participate after explaining the study. This sampling was designed due to the adversities encountered for data collection and we recognize it as a limitation of the study. Among the difficulties we cite: geographic barriers, related to roads and transport, the isolation measures in force as a result of the coronavirus pandemic, the limitation of financial resources and the lack of official information on the quantity of the sample group.

The data collection happened between the months of September and October of 2020 through a form application that consisted of objective questions about living conditions: demographic, housing, environment, production mode, income, education, leisure, transportation and nourishment, besides the application of a tracking test for CMD: Self-Reporting Questionnaire (SRQ-20).

The SRQ-20 is an instrument developed by the World Health Organization (WHO) derived from international questionnaires. It's validated in many countries and has been translated and validated into Portuguese for tracking of CMD, including users of primary health care[16]. It has 62.9% to 90% of sensitivity and 44% to 95% of specificity. It's a 20 questions questionnaire with yes or no answers, which four are about physical symptoms and 16 are about psychoemotional symptoms. The standard cut point for positive tracking in most of the literature is 7/8 affirmative answers[17].

This questionnaire has already been used to track CMD in rural areas in different countries around the world, such as Uganda, Vietnam, Pakistan, China and Ethiopia. These studies demonstrated good sensitivity and specificity for application in specific conditions. In Brazil, comparative studies had similar results on the prevalence of CMD in the rural and urban population[18].

The form was elaborated after an eight hours long workshop with field and waters' popular movements representatives, health professionals from the Universal Health System (Sistema Universal de Saúde-SUS) and researchers. Afterwards, the form went through an initial pilot test and was applied by two researchers to four individuals, being two men and two women. Afterwards, the form went through a revision process based on the demands experienced by the researchers from the test pilot.

For the data collection method's standardization, the interviewers were trained and it was made a pilot study in August 2020 with an intentionally non-probabilistic sample of 31 workers from the city of Fortim, in the state of Ceará, Brazil, where the demographic data are similar to Novo Oriente, Ceará, besides both being classified as rural adjacent[13].

For the moment of the interview, mobile devices programmed with input masks were used, with the form contained in the ODK app (Open Data Kit). The inserted data in the ODK automatically generates a virtual table in a storage platform that was followed up virtually by researchers during the whole collection period. This table, with all collected data, was inserted in the statistical program SPSS (Statistical Package for the Social Sciences) for the development of descriptive statistical analysis, with estimates of absolute and relative frequencies, and of analytic statistical analysis.

Statistical analysis was performed using the program Statistical Package for the Social Sciences (SPSS). According to the guiding ques-

tion: "what are the aspects of living conditions associated with CMD in farmers and fishermen in rural territory ", used as null hypotheses (there is no relationship between the aspect of living conditions analyzed and CMD in rural workers) those associations with p-values greater than or equal to 0.05 in final model and as alternative hypotheses (living conditions analyzed that are related to common mental disorders in this group) those with p with statistical significance after final analysis.

Initially, an analysis was carried out bivariate test, using Pearson's chi-square test, in order to identify the association of each of the independent variables with the dichotomous dependent variable, generating the values of chi-square (X^2), degree of freedom (df) and p-value. Then, aiming for confounding control, the variables which had a p value < 0.20 in the previous stage of the bivariate analysis were selected to be included in the final model of the multivariate analysis performed with Poisson regression[19].

Finally, Poisson regression was performed with the independent variables selected in the previous steps, generating prevalence ratios (PR), 95% confidence intervals (95%CI) and p-values, adopting a 5% significance level. In this multivariate model, the presence of multicollinearity was verified by calculating the variance inflation factor (vif), where its presence was not detected.[18] Fisher's exact test was also applied to verify the significance of the association between "work" and "sex" categories.

This study was developed in full respect for the ethical aspects contained in the National Health Council's n. 446/12 and n. 510/2016 resolutions. The research project was submitted and approved in the Research Ethical Committee of Ceara School of Public Health under the Report number of 3372478. Preliminary characterization data of the researched population can be found in another article published by the researchers[20].

Results

Among the interviewed individuals, most were from the masculine sex (57.2%, n = 87) with the predominant age between 51 and 64 years old (36.2% n = 55), with the average of 43 years old. The most prevalent marital state was married/stabilized union (85.5%, n = 130). Regarding ethnicity, most self-declared as brown (67.1%, n = 102), followed by white (24.3%, n = 37) and black (5.3%, n = 8). About religion, most of the agricultors/fishermen belong to catholicism (82.9% n = 126).

The tracking for CMD in our sample, made with the SRQ-20 questionnaire (7 being the cut-off point), showed a positive result in 23% (n = 35) of the family farmers and/or artisanal fishermen/fisherwomen.

Table 1 presents the analysis of the relation between the CMD (dependent variable) of the workers with the independent variables regarding the living conditions data, grouped in the following axis: demographic, housing, environment, production mode, income, education, leisure, transportation, nourishment.

The chi-square test of independence showed a statistically significant existing association between CMD with the "sex" variable present on the demographic [X^2 (1) = 9.786; p = 0.002]. The feminine sex stands out (35.4%, n = 23) with positive tracking for CMD. In the nourishment axis, two independent variables showed statistically significant association: "preoccupation with food shortage in the last 12 months" [X^2(1) = 5.466; p = 0.019] and "couldn't afford favorite foods because of the lack of money/productivity in the last 12 months" [X^2(1) = 8.953; p = 0.003].

Regarding the housing, environment, production mode, income, education, leisure axis and transportation there were no independent variables with statistical relevance when crossed with the dependent variable.

Table 2 present the analysis of CMD with respectively living conditions data carried out with the multivariate regression of variables that showed p < 0.2 in bivariate analysis, being them "sex", "age group", "race/color", "preoccupation with food shortage in the last 12 months" and "couldn't afford favorite foods because of the lack of money/productivity in the last 12 months".

Among the analyzed factors, feminine sex presented as statistically significant both in the crude analysis model as well as in the adjusted analysis model, demonstrating by these the reason of 2.2 times the chance for women to present CMD than men [PR = 2.20; IC95% = 1.13-4.261; p = 0.019].

Both the nourishment-related variables "preoccupation with food shortage" [PR = 1.97; IC95% = 1.11-3.52; p = 0.021] and "couldn't eat favorite foods because of the lack of money/productivity" [PR = 2.36; IC95% = 1.34-4.16; p = 0.003] presented as positive predictors for CMD only in the logistic regression's crude analysis. The variables "age group" and "race/color" were not statistically relevant in this regression model.

Table 1. Relation of CMD with living conditions of family field agriculture and artisanal fishing workers from Novo Oriente, Ceará, Brasil, 2020.

Variables	CMD				X^2	df	p
	Yes		No				
	n	%	n	%			
Demographic							
Sex					9.786	1	**0.002** *
Feminine	23	35.4	42	64.6			
Masculine	12	13.8	75	86.2			
Age Group					5.222	3	**0.156**
18-30 years old	5	14.3	30	85.7			
31-40 years old	4	14.8	23	85.2			
41-50 years old	12	34.3	23	65.7			
51-64 years old	14	25.5	41	74.5			
Marital Status					0.001	1	0.971
Without partner	5	22.7	17	77.3			
With partner	30	23.1	100	76.9			
Race/Color					2.497	1	**0.114**
White	5	13.5	32	86.5			
Others race/color	30	26.1	85	73.9			
Religion					1.033	1	0.309
Catholic	31	24.6	95	75.4			
Non-catholic	4	15.4	22	84.6			
Housing							
Type of house (n = 152)					0.301	1	0.583
Masonry/brick houses	35	23.2	116	76.8			
Others	0	0	1	100			
Acquisition method (n = 152)					1.401	1	0.237
Proprietary/fully paid for	30	21.7	108	78.3			
Other	5	35.7	9	64.3			
Number of people living in the house (n = 152)					2.705	3	0.439
1 person	1	25	3	75			
2 to 3 people	19	22.1	67	77.9			
4 to 5 people	15	27.3	40	72.7			
Over 5 people	0	0	7	100			
Number of people per room in the house (n = 152)					0.009	2	0.995
1 to 2 people	28	23	94	77			
2 to 3 people	6	23.1	20	76.9			
Over 4 people	1	25	3	75			
Distance from the city (n = 117)					4.191	4	0.381
Up to 5 km	3	21.4	11	76.8			
6- 10 Km	8	27.6	21	72.4			
11-15 km	1	6.7	14	93.3			
16-20 km	6	14.6	35	85.4			
Over 20 km	5	27.8	13	72.2			
Like where they live (n = 152)					0.840	1	0.359
Yes	33	22.4	114	77.6			
No	2	40	3	60			
Environment							
Electricity (n=152)					-	-	-
Yes	35	23	117	77			
Sources of water for consumption (n = 152)					0.218	1	0.641
Plate cistern	31	23.7	100	76.3			
Others	4	19	17	81			

it continues

Table 1. Relation of CMD with living conditions of family field agriculture and artisanal fishing workers from Novo Oriente, Ceará, Brasil, 2020.

Variables	CMD				X^2	df	p
	Yes		No				
	n	%	n	%			
Water treatment (n = 149)					4.990	4	0.288
Filtered	13	18.4	57	81.4			
Treated with chlorine	4	23.5	13	76.5			
Mineral water (bought)	1	20	4	80			
More than one technique	11	39.3	17	60.7			
No treatment	6	20.7	23	79.3			
Running water (n = 152)					0.916	1	0.339
Yes	35	23.5	114	76.5			
No	0	0	3	100			
Evaluation of water quality (n = 152)					2.784	2	0.249
Great	12	30.8	27	69.2			
Good	22	19.8	89	80.2			
Bad	1	50	1	50			
Feces disposal (n = 152)					1.329	2	0.514
Pit system	33	23.4	108	76.6			
Bushes/backyard	2	28.6	5	71.4			
Others	0	0	4	100			
Environmental problems in the community (n = 152)					0.000	1	0.993
Yes	9	23.1	30	76.9			
No	26	23	87	77			
Production Mode							
How the family classifies work and productivity (n = 152)					1.060	2	0.589
Individual work and productivity	4	33.3	8	66.7			
Family economy regime	31	22.3	108	77.7			
Partnership regime	0	0	1	100			
Destination of produce and fish (n = 152)					0.472	2	0.790
Family consumption	6	27.3	16	72.7			
Selling	1	33.3	2	66.7			
Family consumption and selling	28	22	99	78			
Evaluation of product quality in the last 6 months (n = 152)					1.278	3	0.734
Bad	2	40	3	60			
Regular	9	25.7	26	74.3			
Good	21	22.1	74	77.9			
Great	3	17.6	14	82.4			
Income							
Family income source (n = 152)					1.237	4	0.872
Artisanal fishing	1	33.3	2	66.7			
Welfare benefits	1	16.7	5	83.3			
Welfare benefits and others	24	22	85	78			
Animal breeding and others	7	30.4	16	69.6			
Others	2	18.2	9	81.8			
Monthly family income value (n = 136)					0.652	4	0.884
Up to 500 reais	10	21.3	37	78.7			
501-1000	9	20	36	80			
1001-1500	7	28	18	72			
1501-2000	4	21.1	15	78.9			

it continues

Table 1. Relation of CMD with living conditions of family field agriculture and artisanal fishing workers from Novo Oriente, Ceará, Brasil, 2020.

Variables	CMD				X^2	df	p
	Yes		No				
	n	%	n	%			
Education							
School in the community (n = 152)					0.012	1	0.911
Yes	9	23.9	29	76.3			
No	26	22.8	88	77.2			
Daycare for children of 3 years old or less (n = 152)					0.466	1	0.495
Yes	3	16.7	15	83.3			
No	32	23.9	102	76.1			
Distance from house to school/daycare (n = 110)					2.193	4	0.700
Up to 5 km	11	20	44	80			
6- 10 Km	7	20.6	27	79.4			
11-15 km	1	7.1	13	92.9			
16-20 km	1	25	3	75			
Over 20 km	0	0	3	100			
Is there student transportation (n = 152)					0.916	1	0.339
Yes	35	23.5	114	76.3			
No	0	0	3	100			
Leisure							
Are there leisure options in the community (n = 152)					0.571	1	0.450
Yes	16	20.5	62	79.5			
No	19	25.7	55	74.3			
Participation in public program for physical exercise in the last 6 months (n = 152)					-	-	-
No	35	23	117	77			
Transportation							
Family owned means of transportation (n = 152)					1.190	1	0.275
Yes	31	22	110	78			
No	4	36.4	7	63.6			
Type of transportation (n = 152)					2.329	2	0.312
Without owned transportation means	4	36.4	7	63.6			
One type of transportation	21	19.8	85	80.2			
More than one type of transportation	10	28.6	25	71.4			
Nourishment							
Preoccupation with home's food shortage in the last 12 months (n = 152)					5.466	1	**0.019***
Yes	19	33.3	38	66.7			
No	16	16.8	79	83.2			
Couldn't afford favorite foods because of the lack of money/ productivity in the last 12 months (n = 152)					8.953	1	**0.003***
Yes	18	38.3	29	61.7			
No	17	16.2	88	83.8			
Limited the food variety because of the lack of money/ productivity in the last 12 months (n = 152)					0.613	1	0.434
Yes	11	27.5	29	72.5			
No	35	23	117	77			

N = absolute sample %: relative frequency; X^2: chi-square test df: degree of freedom. p: p-value *: $p < 0.05$; -: non-applicable statistical test.

Source: Authors.

Table 2. Crude and adjusted analysis of association between CMD and living conditions from family field agriculture and artisanal fishing workers from Novo Oriente, Ceará, Brasil, 2020 (n = 152).

Variables	Crude analysis		Adjusted analysis	
	PR (95%CI)	p Value	PR (95%CI)	p Value
Sex				
Feminine	2.56 (1.38 - 4.76)	0.003*	2.20 (1.13 - 4.26)	0.019*
Masculine	1		1	
Age group				
18-30 years old	1		1	
31-40 years old	1.03 (0.30 - 3.49)	0.953	0.95 (0.30 - 3.05)	0.942
41-50 years old	2.40 (0.94 - 6.09)	0.066	1.93 (0.77 - 4.84)	0.158
51-64 years old	1.78 (0.70 - 4.51)	0.233	2.20 (0.92 - 5.24)	0.075
Race/Color				
White	1		1	
Others race/color	1.93 (0.80 - 4.61)	0.139	1.52 (0.61 - 3.75)	0.363
Preoccupation with food shortage				
Yes	1.97 (1.11 - 3.52)	0.021*	1.32 (0.64 - 2.70)	0.446
No	1		1	
Couldn't afford favorite foods because of lack of money/productivity				
Yes	2.36 (1.34 – 4.16)	0.003*	1.65 (0.80 - 3.41)	0.175
No	1		1	

Poisson regression PR: prevalence ratio; 95%CI: 95% confidence interval *: p value < 0,05.

Source: Authors.

Regarding the type of work carried out by the group of interviewees, the following frequency was identified: 44.8% (n = 68) in agriculture, 41.4% (n = 63) in fishing and 13.8% (n = 21) in both. In addition to this work, there was a prevalence of 45.4% (n = 69) individuals who carried out domestic activities.

Furthermore, when relating this work variable to gender, a statistically proven association was found [p < 0.001], in which domestic work overlapping with other work activities predominated in the group of women, while isolated work in family farming, artisanal fishing or in both activities (farming artisanal fishing) were performed only by men, as shown in Table 3.

Discussion

The present study found associations between CMD and the female gender in family farmers and/or artisanal fishermen who were in full exercise of their work activities, being also statistically proven that women are predominantly responsible for domestic work, concomitantly with work in agriculture and/or fishing, which may be one of the factors associated with the higher prevalence of CMD in this group.

Some published studies converge with the data found in this present study, revealing the existing association between CMD and the feminine sex. A study[21] developed with 280 women with ages between 18 and 49 years old, living in the rural territory of the city of Uberaba (MG), described the prevalence of CMD in 35.7% of women, with a statistically significant relation between the symptoms of anxiety and/or depression and troublesome companionship with their male partners and a bigger number of children.

Another study, made with women in ages between 20 and 59 years old living in Minas Gerais' Forest Zone areas covered by the Family Health Strategy (ESF) policy, showed 19.7% prevalence for depression, with low education level, having, low income, using sleep medicine, being a tobacco user, having reached out to a Primary Health Care Unity (UAPS) in the last year, and having a previous mental disorders as statistically associated factors, while it was observed that being married or living with the partner, having social support from the family, and regular physical activity were protection factors[6].

This reality is also supported in world literature, as in a study carried out in China, with

Table 3. Relation between gender and work among family field agriculture and artisanal fishing works from Novo Oriente, Ceará, Brasil, 2020.

Variables	Sex		p
	Feminine n (%)	Masculine n (%)	
Work			**< 0.001** *
Family agriculture	0 (0%)	26 (100%)	
Artisanal fishing	8 (21.1%)	30 (78.9%)	
Family agriculture and artisanal fishing	0 (0%)	19 (100%)	
Domestic work and others	57 (82.6%)	12 (17.4%)	

n: absolute sample; %: relative Frequency; Fisher's exact test *: $p < 0.05$.

Source: Authors.

936 participants, aged over 60, who lived in rural territories with worse socioeconomic indicators. Multimorbidity and disease-causing poverty were highlighted as serious health problems in rural territories. There was a strong association between multimorbidity and mental health, stratified by gender. Women had higher scores for mental distress than men, particularly in women with three or more chronic illnesses[22].

A factor that might be associated with the biggest predisposition for CMD among women is the work overload. As the present research shows, the domestic work exercised in the rural environment presents a pattern of sex division of the work activities, in which the women tend to execute the domestic activities, besides working in rural activities, generating greater physical and mental exhaustion for females. In this sex perspective, men and women will experience emotions differently, defined mainly by experienced socio-cultural models. The literature identifies that women are most affected than men as a consequence of many factors: the caring of children, high workload, low gratification and lack of visibility in the domestic work exercise[23,24].

A study developed in established rural communities in Brazilian's Northeast, in which the same CMD tracking instrument was applied as in the present study, the SRQ-20, showed bigger incidence of CMD in the feminine sex, highlighting the association of CMD in women with domestic work overload and daily stressors, while for men farm work overload, disease, and lost of physical vitality stood out[25].

Furthermore, this reality seems to remain present at different stages of a woman's life, including older ages, as demonstrated by a study carried out with 565 rural women from Rajasthan in India. On average, women dedicated around 11 hours a day to physical activities related to domestic work. Older women (over 50) spent similar amounts of time in most physical activities compared to younger women. This reality, in addition to the emotional issues described above, are associated with physical diseases, such as musculoskeletal diseases, in which in the study sample 53.4% (n = 302) participants reported at least one chronic musculoskeletal disease and 16.99% (n = 302) participants reporting at least one chronic musculoskeletal disease and 16.99% (n = 302) 96) took medication for the same thing in the last year[26].

These mental disorders related to work in the rural territories are directly related to the environment and the living space. Many times, mental disorders is associated with the exhausting physical effort in the capitalist production context or to their own consumption, ineffective income guarantee policies in scarcity periods, preoccupation with family's needs, among others[27].

The nourishment of the family is inserted in this context, because many times it depends on the production or the income of the work, as identified in the crude analysis of the present study, which demonstrated an association between CMD with "worry about food running out at home" and "limitation of preferred food due to lack of production/money". According to Savassi *et al.* (2018)[7] epidemiological analysis stated that the population has worse food consumption patterns than the urban population: daily consumption of raw or cooked vegetables in salads (14%/86%), daily consumption of fruit juice (14%/86%), weekly use of chicken, fish or red meat (14%/86%).

A cross-sectional survey carried out with 265 informal working women with young children (0-3 years old) in South Africa found a significant number of food insecurity: mild (38/267; 14.3%), moderate (72/265; 27.2 %) and severe (43/265; 16%). And household food insecurity

was significantly associated with the risk of depression ($p < 0.001$)[25]. Similar to a study carried out with mothers in rural villages in India that identified food insecurity as one of the risk factors for CMD (1.13 CI 1.07-1.20) and as a protective factor the fact of being involved in agricultural work as the main occupation in relation to being a housewife" (0.18 CI 0.10-0.32)[28].

This reality is counterposed to the concept of food and nutritional safety, which is the right for every person to have access to quality foods in sufficient amounts without compromising other essential needs. Broad processes of decentralization, territorialization, and social management are necessary in order to reach that, so the insertion of public programs and policies in many sectors is fundamental[29].

Furthermore, families that use the production of rural work as a means of selling income and family support often have difficulty marketing their products, as highlighted by a study carried out with family farmers in the same state as our research (Ceara), which addresses the dynamics of supplying its products for school meals. This research includes that, although many Brazilian cities have the agricultural capacity to supply the school market, family farmers face difficulties in entering this market due to factors such as delays in payments, specific physical structures and lack of transportation[30].

In front of this Brazilian reality of high prevalence of chronic illness such as mental disorders, one of the main focus for approaching it has to be to health promotion, highlighting the detection of biopsychosocial components and determinants to mental disorders, elaborating a social therapeutic plan referenced and based in the rehabilitation and integration of patients with their family and community[31,32]. A study about artisanal fishing worker's vigilance in cities belonging to All Saints Bay (Baía de Todos os Santos) in Bahia, Brazil, described the measures taken that were responsible for improving the health approach of these workers, such as the diagnostic services' organization, the adaptation of the clinic protocol for problems caused by repetitive movements and the capacitation of the acting ESF in the fishing territories[33].

Another important fact is the stigma that still exists in relation to mental disorders. This stigma appears to have negative repercussions on the mental health of rural men, which is described by some authors as a "silent crisis". Rural men report lower levels of stress and depression and, paradoxically, much higher rates of suicide and consumption of alcohol and other drugs, as general global prevalences. In a Canadian study, male participants claimed they wanted to talk about their mental health and some participated in relationships to support "talking about it". However, they also identified competition, gossip and stigma around talking about mental health in community.[34] This reality demonstrates the importance of health education actions aimed at reducing stigma in relation to mental disorders and the organization of health services to be a space of freedom for men to also have their mental health problems identified and care[35].

With the intent of reducing the differences in the health of the workers, the Workers Health's National Policy (Política Nacional de Saúde do Trabalhador e da Trabalhadora – PNSTT) institutes the identification of needs, demands and health problems of the workers in the territory, prioritizing people and groups in a greater state of vulnerability, among other propositions[36]. This converge with the Field, Forest and Water Populations' Integral Health National Policy (Política Nacional de Saúde Integral das Populações do Campo, da Floresta e das Águas – PNSIPCFA) that provides visibility to the vulnerabilities experienced by the rural workers, instituting actions of health promotion for the reduction of risk factors and for aggravations consequential of the processes of rural work[37].

The PNSIPCFA is presented with the intention of improving the healthcare in the rural territory by the means of actions and initiatives that recognize the specificities of sex, generations, race/color, ethnicity and sexual orientation, including access to the health services and the reduction of health risks that are consequence of the work processes[28]. And the PNSTT indicates that the health network must be structured for the integral healthcare of workers, including individual actions of assistance and for aggravations' recovery, and collective actions of promotion, prevention and of environmental, processes, and work activities' vigilance, highlighting the intervention on the health determinants of the workers[37].

Therefore, the area of mental health must be a priority for health actions that guarantee access, promote integrality care and encourage professional preparation. Qualified and humanized mental health care is a basic need necessary to promote respect for the rights of people with mental suffering, especially in more vulnerable groups such as the rural population in low and middle income countries, in which there is a gap when considering the high prevalence of

mental disorders in the world population and the high burden of diseases caused by this disorders, while there is still a lack of financial investment and a low quantity of qualified human resources for care[38].

Despite the relevance of the present study because it is researched specifically with rural population, which is historically stigmatized and marginalized, it is necessary to show, in the face of adversities for collecting the detailed data in methods of this article, that there are inherent limitations to cross-sectional research carried out with an intentional sample and in a specific territory, which must be critically analyzed due to the diversity of rural realities existing in Brazil.

Conclusion

There is an association of CMD, as experienced by family farmers or artisanal fishermen and fisherwomen, with living conditions in rural territories, as presented in this study. The association is especially related to sex, which needs specific actions regarding health promotion and prevention; epidemiological vigilance; popular education and governmental investments, in order to guarantee quality-of-life for those individuals that live and survive in the rural environment.

These work activities practiced in the rural territories, specially the domestic work that is made mostly by women, should be highlighted in the public health, especially in the long-term and integral follow-ups developed by the rural Family Health Strategy (ESF) teams, aiming for the permanent education of the professionals and for matrix support in workers' health and mental health as means for improving the health assistance offered to family farmers and/or artisanal fishermen and fisherwomen.

Besides this, the mental healthcare of the farmers and fishermen must encompass the PNSIPCFA and PNSTT policies, in order to incorporate the work and environment determinants in the ESF practices. The articulation of these mental health care practices from the ESF with the Health Care Network is fundamental for the goal of mental health care guarantee in all levels: promotion, prevention, treatment, and rehabilitation.

Collaborations

Conception and/or design of study: LL Sombra Neto, FF Carneiro, VM Pessoa. Acquisition, analysis or interpretation of data: LL Sombra Neto, RWJF Freitas, VM Pessoa. Preliminary writing: LL Sombra Neto. All authors participated in critical review of the preliminary version and approved the final version.

References

1. Brasil. Ministério da Saúde (MS). Secretaria de Atenção Básica. *Cadernos de Atenção Básica. Saúde Mental. Número 34*. Brasília: MS; 2013.
2. Dantas CMB, Dimenstein M, Leite JF, Macedo JP, Belarmino VH. Território e determinação social da saúde mental em contextos rurais: cuidado integral às populações do campo. *ATHENEAD* 2020; 20(1):2169.
3. World Health Organization (WHO). *World mental health report: transforming mental health for all*. Geneva: WHO; 2022.
4. Sombra Neto LL, Forte MPN, Pessoa VM, Campos EM. Problemas de saúde mental na população rural brasileira: prevalência, fatores de risco e cuidados. *Rev Med UFC* 2022; 62(1):1-5.
5. Rotoli A, Silva MRS, Santos AM, Oliveira AMN, Gomes GC. Saúde Mental na atenção primária: desafios para a resolutividade das ações. *Esc Anna Nery* 2019; 23(2):e20180303.
6. Gonçalves AMC, Teixeira MTB, Gama JRA, Lopes CS, Silva GA, Gamarra CJ, Duque KCD, Machado MLSM. Prevalência de depressão e fatores associados em mulheres atendidas pela Estratégia de Saúde da Família. *J Bras Psiquiatr* 2018; 67(2):101-109.
7. Neto MCC, Dimenstein M. Cuidado psicossocial em saúde mental em contextos rurais. *Temas Psicol* 2017; 25(4):1653-1664.
8. Savassi LCM, Almeida MM, Floss M, Lima MC. Apresentação. In: Savassi LCM, Almeida MM, Floss M, Lima MC, organizadores. *Saúde no caminho da roça*. Rio de Janeiro: Editora Fiocruz; 2018.
9. Instituto Brasileiro de Geografia e Estatística (IBGE). *Pesquisa Nacional de Saúde*. Rio de Janeiro: IBGE; 2019.
10. Moreira JPL, Oliveira BLCA, Muzi CD, Cunha CLF, Brito AS, Luiz RR. A saúde dos trabalhadores da atividade rural no Brasil. *Cad Saude Publica* 2015; 31(8):1698-1708.
11. Souza S, Pappen M, Krug SBF, Renner JDP, Reuter CP, Pohl HH . Uma revisão narrativa associando a vulnerabilidade à saúde e os fatores ambientais de trabalhadores rurais. *Rev Bras Med Trab* 2018; 16(4):503-508.
12. Programa Integrado em Saúde Ambiental e do Trabalhador. Centro Colaborador de Vigilância dos Agravos de Saúde do Trabalhador. *Boletim Epidemiológico*. Transtornos mentais relacionados ao trabalho no Brasil, 2016-2017. Salvador; 2019.
13. Kessler M, Bertasi LM, Trindade LDL, Erdtmann BK, Soares RSA, Lima SBS de. Morbidities of the rural population and the use of health services. *Rev Enferm UFPI* 2016; 5(3):24.
14. Junqueira FM, Cabral ERM, Carneiro FF, Targa LV, Almeida MM, Rocha MCP, Pessora VM. A pesquisa brasileira em contextos rurais: instrumento de justiça social. In: Savassi LCM, Almeida MM, Floss M, Lima MC, organizadores. *Saúde no caminho da roça*. Rio de Janeiro: Editora Fiocruz; 2018.
15. Instituto Brasileiro de Geografia e Estatística (IBGE). *Classificação e caracterização dos espaços rurais e urbanos do Brasil: uma primeira aproximação*. Rio de Janeiro: IBGE; 2017.
16. Mari JJ, Williams P. Um estudo de validade de um questionário de triagem psiquiátrica (SRQ-20) na atenção primária na cidade de São Paulo. *Br J Psychiatry* 1986; 148:23-26.
17. Guirado GMP, Pereira NMP. Uso do Self-Reporting Questionnaire (SRQ-20) para determinação dos sintomas físicos e psicoemocionais em funcionários de uma indústria metalúrgica do Vale do Paraíba/SP. *Cad Saude Colet* 2016; 24(1):92-98.
18. Lima PJP. Prevalência de Transtornos Mentais Comuns em comunidades rurais em Atibaia/SP – Brasil. *Cad Bras Saude Mental* 2015; 7(15):101-121.
19. Corrar L, Paulo E, Filho JMD. *Análise multivariada*. São Paulo: Atlas; 2011.
20. Sombra Neto LL, Silva FVE, Barbosa ACM, Carneiro FF, Pessoa VM. Condições de vida e saúde de famílias rurais no sertão cearense: desafios para Agenda 2030. *Saude Debate* 2021; 46(132):148-162.
21. Parreira BDM, Goulart BF, Haas VJ, Silva SR, Monteiro JCS, Gomes-Sponholz FA. Common mental disorders and associated factors: a study of women from a rural area. *Rev Esc Enferm USP* 2017; 51:e03225.
22. Jiao C, Leng A, Nicholas S, Maitland E, Wang J, Zhao Q, Xu L, Gong C. Multimorbidity and Mental Health: The Role of Gender among Disease-Causing Poverty, Rural, Aged Households in China. *Int J Environ Res Public Health* 2020; 17(23):8855.
23. Zanello V, Fiuza G, Costa HS. Saúde mental e gênero: facetas gendradas do sofrimento psíquico. *Fractal Rev Psicol* 2015; 27(3):238-246.
24. Leite JF, Dimenstein M, Macedo JPS, Dantas CB, Silva EL, Sousa AP. Condições de vida, saúde mental e gênero em contextos rurais: um estudo a partir de assentamentos de reforma agrária do nordeste brasileiro. *Av Psicol Latinoam* 2017; 35(2):301.
25. Pastório IT, Roesler MRB, Plein C. Condições de trabalho e saúde mental do/a trabalhador/a rural: desafios e perspectivas no desenvolvimento rural. *Rev GeoPantanal* 2018; 13(24):129-146.
26. Jadhav AV. Measuring the Drudgery and Time-Poverty of Rural Women - A Pilot Study from Rural Rajasthan. *Indian J Occup Environ Med* 2020; 24(3):142-147.
27. Vasconcellos ABPA, Moura LBA. Segurança alimentar e nutricional: uma análise da situação da descentralização de sua política pública nacional. *Cad Saude Publica* 2018; 34(2):e00206816.
28. Horwood C, Haskins L, Hinton R, Connolly C, Luthuli S, Rollins N. Addressing the interaction between food insecurity, depression risk and informal work: findings of a cross-sectional survey among informal women workers with young children in South Africa. *BMC Womens Health* 2021; 21(1):2.

29. Scott S, Arrieta A, Kumar N, Menon P, Quisumbing A. Multidimensional predictors of common mental disorders among Indian mothers of 6- to 24-month--old children living in disadvantaged rural villages with women's self-help groups: A cross-sectional analysis. *PLoS One* 2020; 15(6):e0233418.
30. Marques AA, Fernandes MGM, Leite IN, Viana RT, Gonçalves MCR, Carvalho AT. Reflexões de agricultores familiares sobre a dinâmica de fornecimento de seus produtos para a alimentação escolar: o caso de Araripe, Ceará. *Saude Soc* 2014; 23(4):1329-1341.
31. Lopes IBS, Bezerra MGV, Silva LRC, Andrade NSM, Carneiro FF, Pessoa VM. Saúde das trabalhadoras da pesca artesanal: cenários desconhecidos do Sistema Único de Saúde (SUS). *Rev Bras Saude Ocup* 2021; 46:e5.
32. Skapinakis P, Bellos S, Koupidis S, Grammatikopoulos I, Theodorakis PN, Mavreas V. Prevalence and sociodemographic associations of common mental disorders in a nationally representative sample of the general population of Greece. *BMC Psychiatry* 2013; 13(1):163.
33. Rêgo RF, Müller JS, Falcão IR, Pena PGL. Vigilância em saúde do trabalhador da pesca artesanal na Baía de Todos os Santos: da invisibilidade à proposição de políticas públicas para o Sistema Único de Saúde (SUS). *Rev Bras Saude Ocup* 2018; 43(Suppl. 1):e10s.
34. Herron RV, Ahmadu M, Allan JA, Waddell CM, Roger K. "Talk about it:" changing masculinities and mental health in rural places? *Soc Sci Med* 2020; 258:113099.
35. Osinuga A, Janssen B, Fethke NB, Story WT, Imaledo JA, Baker KK. Understanding Rural Women's Domestic Work Experiences (DWE) in Ibadan, Nigeria: Development of a Measurement Tool Using Confirmatory Factor Analysis. *Int J Environ Res Public Health* 2021; 18(21):11043.
36. Brasil. Ministério da Saúde (MS). *Saúde do trabalhador e da trabalhadora*. Brasília: MS; 2018.
37. Brasil. Ministério da Saúde (MS). *Política Nacional de Saúde Integral das Populações do Campo, da Floresta e das Águas*. Brasília: MS; 2014.
38. World Health Organization (WHO). *Mental Health Gap Action Programme (mhGAP) guideline for mental, neurological and substance use disorders*. Geneva: WHO; 2023.

Article submitted 27/12/2022
Approved 18/01/2024
Final version submitted 20/01/2024

Chief editors: Maria Cecília de Souza Minayo, Romeu Gomes, Antônio Augusto Moura da Silva