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Mental health stigma and mental health knowledge in Porto Metropolitan Area population: a cross-sectional study

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Abstract

Background: The community's stigma associated with mental illness has been linked to low mental health literacy, lack of information or understanding of mental illness, and its inherent symptoms. In Portugal, this population targets prejudice and discrimination in the different contexts where it is inserted.

Objective: To assess the stigma and discrimination against people with lived experience of mental illness residing in the Metropolitan Area of Porto, Portugal.

Methods: In this analytical observational study, we surveyed 3980 individuals living in the metropolitan area of Porto and aged between 18 and 96 years, using the Portuguese version of the Mental health knowledge schedule (MAKS).

Results: The questionnaire dimensions with the highest mean scores were employment and psychotherapy, followed by support and pharmacologic treatment. Seeking help and recovery were the dimensions with the lowest mean scores. Depression, schizophrenia, and bipolar disorder were the conditions most recognized as mental disorders. Grief was the condition least recognized by the participants. These results suggest that the participants present correct representations and perceptions about mental illnesses, indicating that negative beliefs and stereotypes are not significantly rooted in this sample.

Conclusion: The study sample representative of the Portuguese population of the metropolitan area of Porto reveals moderate levels of mental health literacy. However, the scores of seeking help and recovery may reflect the need for public anti-stigma campaigns that discuss these factors, given the progressive reduction of social stigma.

Keywords: social stigma, mental illness, mental health literacy

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1. Introduction

According to the Mental Health National Epidemiological Studies carried out in 2013 and 2017, more than a fifth of the Portuguese population has psychiatric disorders. Portugal is the second European country with the highest prevalence of psychiatric illnesses. [1–4] At the same time, several studies have pointed out that mental illness is one of the leading causes of disability, morbidity, premature mortality, and reduced quality of life worldwide. [5–7]

Mental illness is defined as a diverse group of specific and diagnosable health conditions that involve changes in cognition, behavior, and emotions. [5,8,9]

It is known that individuals with mental illness, in addition to having to deal with their illness and the disabilities inherent to psychiatric symptoms, simultaneously have to deal with the stigma associated with their pathology. [10] Sometimes, individuals consider that the consequences of stigma have a more negative impact than the experience of mental illness. [11] The stigma and discrimination associated with mental illness is a multifaceted global social problem currently experienced and is present in different age groups, religions, ethnic origins, and socioeconomic statuses. [11–15]

In the literature, stigma has been defined as a complex social process that consists of labeling, altering, devaluing, and discriminating against a specific group of individuals with different characteristics. [16–20] It involves a moralized execution of social stratification and normative judgments regarding divergent/deviant behavior through cognitive, emotional and behavioral components. [16–20]

Several studies in mental health indicate that stigma can present itself in three different dimensions of an inter or intrapersonal nature, which are interrelated, namely, the social stigma, the structural stigma, and the self-stigma/internalized stigma. [14–16,20] These dimensions are considered interconnected. Negative attitudes maintained by society towards devalued people can lead the stigmatized individual to internalize these attitudes resulting in self-stigma. [12,15,21]

Structural stigma is directly linked to social stigma and is still related to institutional practices, cultural norms, and social conditions. It is important to emphasize that although stigma is universal, the experience of the stigmatized individual is affected by culture. [12,14] Furthermore, as mentioned above, stigma can be described as three conceptual levels: cognitive, emotional, and behavioral, which allows us to distinguish stereotype, prejudice, and discrimination, which are considered the central elements of stigma. [12,22] It is also highlighted that this population often suffers from significant human rights abuses and lack of freedom that act as barriers to social

inclusion. [12,23–25] In society, they are synonymous with danger, unpredictability, and lack of reliability. [12,23–25]

Stigma is one of the main causes of discrimination and social exclusion and affects the self-esteem of individuals, disturbs family relationships, limits individual access to work, education, health, and housing opportunities. [10,11,21,26–29] This population is frequently in occupational deprivation and simultaneously experiencing occupational injustice, resulting in occupational dysfunction. [10,11,21,26–29]

Several studies have verified a negative correlation between stigma and self-esteem, self-efficacy, self-concept, quality of life, the meaning of life, hope, empowerment, help-seeking behavior and health care, and the recovery process. [11,12,15,17,23,26,29–34] Under extreme conditions, self-stigma is associated with high suicide rates, often related to emotional distress and social isolation previously experienced by the discriminated individual. [15,29,35]

In the last years, studies on this topic have been carried out in several countries. However, in Portugal, although there are studies that have focused on this theme, they are scarce and aimed at assessing the levels of stigma against a specific mental illness (for example, schizophrenia) or assessing stigma present in mental illness, but in a sample with identical characteristics being impossible to generalize. [36–42]

Despite the evolution of mental health policies in Portugal, stigma remains very present in society, persisting the prejudice to this population in different contexts. [43] Furthermore, studies have shown that stigma can be related to low health literacy, lack of information or understanding regarding mental illness and behaviors and symptoms inherent to it, and society. [16,18]

Thus, it was considered pertinent as the study objective to assess the stigma and discrimination against people with lived experience of mental illness residing in the Metropolitan Area of Porto, Portugal.

2. Materials and method

This study presents a quantitative methodology with a cross-sectional analytical observational design. A questionnaire survey was carried out for data collection, consisting of a group of socio-demographic characteristics and administration of the Portuguese version of the assessment instrument: Mental health knowledge schedule (MAKS). [44,45]

The Mental Health Knowledge Schedule (MAKS) is an instrument that has been validated for the Portuguese population. [46] It allows assessing and tracking mental health knowledge related to

stigma in a brief and viable way. [47] It is divided into 2 parts, each consisting of 6 questions, each question is rated from 1 to 5 points. Score 1 corresponds to "strongly disagree", and score 5 corresponds to "strongly agree" with a correct statement. Questions 6, 8, and 12 are scored inversely since they are inverted questions. The total score ranges from 12 to 60 points, corresponding to lesser knowledge and greater knowledge, respectively, being quoted by the sum of the points obtained for each of the 12 items. Part I presents questions addressing 6 areas of knowledge about factors associated with mental health, such as employment, seeking help, recognition, support, treatment, and recovery, and is related to stigma. Part II focuses on questions that test the scores assigned to different psychiatric conditions, allowing the establishment of recognition levels and familiarity with these conditions. [47]

3. Participants

Through the non-probabilistic convenience technique, as individuals voluntarily agreed to participate in the study, they were selected according to our inclusion criteria and to the more accessible contact by disseminating the online questionnaire in social networks and personal contacts. (48) Inclusion criteria to participate in the study were individuals residing in the Metropolitan Area of Porto and aged 18 years or over. In addition, exclusion criteria were not being fluent in Portuguese or not having the cognitive ability to answer the questionnaire. Thus, after criteria verification, the sample consisted of 3980 individuals living in the metropolitan area of Porto, aged between 18 and 96 years, of both sexes.

4. Procedure

This study was carried out at the School of Health, Polytechnic of Porto School of Health, Polytechnic of Porto at the Psychosocial Rehabilitation Laboratory (LabRP), between March 2021 and May 2021. The research protocol was approved by the Ethics Committee of the School of Health, Polytechnic of Porto. The participation of individuals in the study was formalized by completing the informed consent according to the Helsinki Declaration. [49]

Collected data were analyzed using the IBM Statistical Package for Social Sciences (SPSS) 27 software. Inferential statistical analysis procedures were used to respond to the study's objective, assuming a significance level (α) of 0.05 for all statistical tests performed. [50,51] Furthermore, the Central Limit Theorem was considered, which defends that in samples whose n>30, the normality of its variables can be assumed. [50,51] Descriptive statistics and comparative

analyses were conducted using T-test for independent samples, one-way analysis of variance (ANOVA), and Pearson's correlation coefficient. [50,51]

5. Results

The sample studied is composed of 3980 individuals, with the majority of the participants being female (77.3%), single (43.2%), or married (41.7%), with a mean age of around 37 years (37.42 ± 14.44), with qualifications at the secondary level (38.8%) or bachelor's degree (33.8%). Also, it can be seen that most of the individuals in the sample live in urban areas (72.6%) in the municipalities of Maia (11.5%), Vila Nova de Gaia (10.6%), and Santo Tirso (10.2%).

Concerning mental health literacy levels, the MAKS assessment instrument, ranging from 12 to 60, illustrates a level of 45.05 ± 3.80. Thus, the sample presents a moderate level of mental health literacy (MHL).

Comparative analyses revealed statistically significant differences in the mean score of the MAKS according to socio-demographic variables (p=0,000) (Table 1). Higher values of the instrument's score are concentrated in women (45.24 ±3,837) and in individuals who live in an urban environment (45.24±3,848). Table 1 shows the lowest scores in the 1st cycle group (41.64± 3.899) and the highest score in participants with master's degree (46.43±3.718) and doctoral degree (46.74± 3.543). Individuals aged 18-29 showed higher scores (45.70±3.964), whereas individuals aged 65-100 presented lower scores (43.18±3.835).

Regarding the municipalities, Paredes (45.66±4.126), Espinho (45.65±3.489), and Gondomar (45.63±4.012) were the councils with the highest MAKS score, being Vale de Cambra (43.36±4.335) the county with the lowest score.

Table 1 – Comparison of means score of MAKS according to sex and means of residence, age group, civil status, education level, and municipalities of the Porto metropolitan area

		n	Mean	p
MAKS Score	Female	3077	45,24	0,000*
	Male	903	44,42	
	Rural area	1091	44,57	0,000*
	Urban area	2889	45,24	

		Min	Max	n	Mean	SD	p
MAKS Score	18–29	34	59	1538	45,70	3,964	0,000*
	30–49	31	58	1624	45,08	3,459	
	50–64	26	56	606	44,02	3,793	
	65–100	35	53	212	43,18	3,835	
	Total	26	59	3980	45,06	3,799	
MAKS Score	Married	26	56	1658	44,49	3,499	0,000*
	Single	32	59	1720	45,71	3,924	
	widowed	37	51	72	43,32	3,575	
	Consensual union	31	58	302	45,13	4,023	
	Divorced	31	55	228	44,77	3,857	
	Total	26	59	3980	45,06	3,799	
MAKS Score	1st grade	33	51	94	41,64	3,899	0,000*
	2nd grade	36	51	176	42,82	3,031	
	3rd grade	31	55	349	43,59	3,395	
	High School	26	57	1544	44,66	3,619	
	Bachelor's degree	31	59	1347	45,93	3,741	
	Master's degree	36	56	424	46,43	3,718	
	Doctoral degree	41	55	46	46,74	3,543	
	Total	26	59	3980	45,06	3,543	
MAKS Score	Arouca	37	53	77	44,19	3,216	0,000*
	Espinho	35	53	115	45,65	3,489	
	Gondomar	32	58	194	45,63	4,012	
	Maia	34	56	458	45,41	4,059	
	Matosinhos	31	59	352	45,43	4,117	

Oliveira de Azeméis	34	55	301	44,55	3,749
Paredes	37	59	191	45,66	4,126
Porto	34	56	335	45,36	4,006
Póvoa de Varzim	36	57	155	45,09	4,337
Santa Maria da Feira	36	56	205	44,77	4,235
Santo Tirso	37	56	404	44,57	2,626
São João da Madeira	31	57	63	44,92	4,213
Trofa	36	55	39	44,85	3,822
Vale de Cambra	26	54	132	43,36	4,335
Valongo	35	58	382	44,82	3,023
Vila do Conde	36	54	154	45,41	3,560
Vila Nova de Gaia	36	57	423	45,19	3,766
Total	26	59	3980	45,06	3,799

Max = maximum; Min = minimum; SD = standard deviation; *$p < 0.050$*

Table 2 shows the significant correlation between the MAKS score and participants' education and age (p= 0.000). However, the correlation is positive (r=0.289) between the MAKS score and the education level. On the contrary, it shows a negative correlation (r= -0.186) with the age group variable. In both correlations, the correlation coefficient suggests a weak correlation (r<0.3).

Table 2 – Correlation between MAKS score and participants' education and age group (Pearson coefficient)

		Correlation coefficient (r)	p
MAKS Score	Education level	0,289	0,000*
	Age group	-0,186	0,000*

*p < 0.01

Mean and frequency results obtained for each item/affirmation comprising the MAKS are presented in Tables 3 and 4. Employment, support, medication effectiveness, and psychotherapy were the factors associated with mental health with the highest agreement within the sample with the attribution of the classification "I agree" (45.4%, 50.0%, 48.8%, and 47.0%) respectively. In the item related to recovery, namely, "People with severe mental health problems can fully recover", the answers were disparate, with 39.3% of the individuals answering "Neither agree nor disagree/Don't know", 26.8% answering "Agree" and 26.1% answering "Disagree". Item 6 about seeking professional help, 44.7% of the sample disagreed with the statement.

Among the conditions presented in the MAKS, the ones most recognized as a mental illness were depression, schizophrenia, and bipolar disorder, where 58,3%, 69,0%, 66,7% of the individuals, respectively, answering "strongly agreed". Also, 31.4% and 30.4% of the sample recognized stress and drug addiction, respectively, as mental illness with a majority rating of "agree". Only the condition bereavement generated disparity of answers in the sample, with 28,6% of the individuals agreeing and 23,7% disagreeing that it is considered a mental illness.

Table 3 – Means obtained in MAKS items

Items	Min	Max	Mean	SD
Most people with mental health problems want to have paid employment	1	5	4,09	0,825
If a friend had a mental health problem, I know what advice to give them to get professional help	1	5	3,94	0,861
Medication can be an effective treatment for people with mental health problems	1	5	3,97	0,858
Psychotherapy (for example, talking therapy or counseling) can be an effective treatment for people with mental health problems	1	5	4,37	0,653
People with severe mental health problems can fully recover	1	5	3,07	0,913
Most people with mental health problems go to a health care professional to get help	1	5	3,20	1,019
Depression	1	5	4,42	0,844

Stress	1	5	2,49	1,189
Schizophrenia	1	5	4,61	0,657
Bipolar disorder	1	5	4,60	0,642
Drug addiction	1	5	3,62	1,163
Grief	1	5	2,68	1,201

Max = maximum; Min = minimum; SD = standard deviation.

Table 4 – Frequencies obtained in MAKS items

Items	Points	N(%)
Most people with mental health problems want to have paid employment	Disagree strongly	22(0,6%)
	Disagree slightly	131(3,3%)
	Neither agree nor disagree/ Don't know	667(16,8%)
	Agree slightl	1808 (45,4%)
	Agree strongly	1352(34,0%)
If a friend had a mental health problem, I know what advice to give them to get professional help	Disagree strongly	27(0,7%)
	Disagree slightly	253(6,4%)
	Neither agree nor disagree/ Don't know	679(17,1%)
	Agree slightl	1990(50,0%)
	Agree strongly	1031(25,9%)
Medication can be an effective treatment for people with mental health problems	Disagree strongly	28(0,7%)
	Disagree slightly	225(5,7%)
	Neither agree nor disagree/ Don't know	691(17,4%)
	Agree slightl	1943(48,8%)
	Agree strongly	1093(27,5%)
Psychotherapy (for example, talking therapy or counseling) can be an effective treatment for	Disagree strongly	3(0,1%)
	Disagree slightly	33(0,8%)
	Neither agree nor disagree/ Don't know	270(6,8%)
	Agree slightl	1870(47,0%)

people with mental health problems	Agree strongly	1804(45,3%)
People with severe mental health problems can fully recover	Disagree strongly	78(2,0%)
	Disagree slightly	1067(26,8%)
	Neither agree nor disagree/ Don't know	1565(39,3%)
	Agree slightl	1040(26,1%)
	Agree strongly	230(5,8%)
Most people with mental health problems go to a health care professional to get help*	Agree strongly	188(4,7%)
	Agree slightl	997(25,1%)
	Neither agree nor disagree/ Don't know	826(20,8%)
	Disagree slightly	1780(44,7%)
	Disagree strongly	189(4,7%)
Depression	Disagree strongly	32(0,8%)
	Disagree slightly	191(4,8%)
	Neither agree nor disagree/ Don't know	166(4,2%)
	Agree slightl	1271(31,9%)
	Agree strongly	2320(58,3%)
Stress*	Agree strongly	982(24,7%)
	Agree slightl	1249(31,4%)
	Neither agree nor disagree/ Don't know	708(17,8%)
	Disagree slightly	895(22,5%)
	Disagree strongly	146(3,7%)
Schizophrenia	Disagree strongly	4 (0,1%)
	Disagree slightly	40 (1,0%)
	Neither agree nor disagree/ Don't know	241(6,1%)
	Agree slightl	948(23,8%)

	Agree strongly	2747(69,0%)
Bipolar disorder	Disagree strongly	5(0,1%)
	Disagree slightly	34(0,9%)
	Neither agree nor disagree/ Don't know	212(5,3%)
	Agree slightl	1035(26,0%)
	Agree strongly	2694(67,7%)
Drug addiction	Disagree strongly	141(3,5%)
	Disagree slightly	685(17,2%)
	Neither agree nor disagree/ Don't know	827(20,8%)
	Agree slightl	1210(30,4%)
	Agree strongly	1117(28,1%)
Grief*	Agree strongly	774(19,4%)
	Agree slightl	1140(28,6%)
	Neither agree nor disagree/ Don't know	883(22,2%)
	Disagree slightly	942(23,7%)
	Disagree strongly	241(6,1%)

*inverted questions;

6. Discussion

The present study aimed to assess the stigma and discrimination against people with lived experience of mental illness residing in the Metropolitan Area of Porto. Through the application of the MAKS, it was possible to verify that the results obtained point to moderate levels of mental health literacy in the study sample.

It is currently known that mental health literacy integrates four components: understand how to obtain and maintain good mental health, understand mental disorders and their treatments, decrease the stigma related to mental disorders, and improve help-seeking efficiency. [52–54]

Several studies have focused on predictors of mental health literacy, especially socio-demographic factors. [55–57] In the present study, we found that these variables seem to influence mental health literacy levels.

This study indicates that women have higher levels of mental health literacy than men, and this result is consistent with findings in other studies. [58–62] Furthermore, some studies show that women have lower levels of mental health stigma than men due to having greater knowledge about mental health. [61]

Previous studies point that there are disparities in mental health literacy levels between rural and urban settings. Golboni et al. (2017). Wang et al. (2020) found that lower levels of health literacy were concentrated in individuals living in rural areas than urban areas. [63,64] These results are in line with the findings observed in the present study. Several barriers limit access to and use of reliable health information in rural residents, including lack of financial resources, low educational attainment, lack of access to specialized health care services and health care providers, geographic location, and minority race/ethnicity. [63,65–69] These data may explain why Vale de Cambra was the municipality with the lowest MHL level since it is a municipality located in a more inland region of the metropolitan area of Porto and with a significant number of individuals aged 65 years or more. [70] In contrast, Espinho and Gondomar are located in the central area of Greater Porto, and the preferential population is between 25-64 years old. [70] Paredes is one of the municipalities in the North region highlighted as having the lowest aging index, with values of around 60 elderly people for every 100 young people. [70] It belongs to a sub-region also referred to as having aging indexes below 100, meaning that the number of elderly people is lower than the number of young people in the municipality. [70]

When analyzing the correlations between the MAKS score and education level, and age group, a significant correlation could be observed between MHL level and the two variables. MAKS score and the education level are directly proportional, which is in line with the literature that indicates that the higher the educational levels of a population, the higher levels of literacy can be expected. [71–74] According to Piper et al. (2018) study, lower levels of MHL are associated with older age, which also supports the negative correlation between MAKS score and age group. [62] Lower education levels have been associated with more negative attitudes towards mental illness in Singapore, the UK, and China. [56,75,76]

Based on the four components of MHL, individuals with higher levels of MHL are more likely to recognize mental illness, identify appropriate treatment resources and develop behaviors that promote good mental health. [77,78] On the other hand, individuals with lower mental health literacy are more reluctant to seek help and display more stigmatizing behaviors towards psychiatric disorders.[71,78] They are more likely to engage in risky behaviors. [71,78]

Other studies have shown gaps in understanding the meaning of psychiatric terms and the correct recognition of mental disorders by society, which often attribute and associate mental disorders to psychosocial stress. [79] Furthermore, it is known that society relies on the media as a critical source of information about mental illness. [80] However, it's important to note that the mass media tend to reinforce and emphasize negative aspects of mental illness, contributing to the development of public stigma and the creation of stereotypes towards this population. [81]

Depression, schizophrenia, and bipolar disorder were the conditions most recognized as mental disorders by the study sample. Several studies have concluded that depression is one of the mental illnesses better recognized by the population, as observed in the present study. [82,83] On the contrary, the data obtained for schizophrenia aren't in line with some findings of recent studies, which point that this disorder has a low recognition by the public compared to other mental disorders.[79,82,83] Few studies have included bipolar disorder in the conditions to be recognized, and it is also a psychiatric disorder little covered by the media. [84] In a recent study by Vovou et al. (2020), bipolar disorder was the least recognized condition, which can be justified by the low exposure to information about this pathology in society. [84]

Also, stress and drug abuse were conditions recognized as a mental illnesses by the sample, indicating some familiarity with these mental disorders. However, this wasn't expected since stress is a general adaptive response resulting from stimuli that disturb homeostasis, being common in daily life, and it's recognized as motivating and stimulating by society.[85,86] Nevertheless, chronic stress has negative effects on the body and can predict psychiatric illnesses such as depression and anxiety.[85,86] In addition, several studies have shown that people with substance use disorders are subject to various stereotypes and stigmatizing beliefs and attitudes by society and even by health care providers due to low mental health literacy. [87–91] Social stigma towards this population results in social segregation and decreased sense of self-efficacy in these individuals. [87]

Grief was the condition least recognized as a mental illness, and this result can be explained by the fact that grief to be defined as the emotional and natural process of reacting to the loss of a loved one. [92,93] It seems to occur in 50% to 85% of people. [92,93] However, when individuals are in a severe and prolonged grieving process, they are considered to have pathological grief, designated as persistent complex bereavement disorder according to DSM-V, negatively impacting several occupations with mental and physical health changes. [92–94]

In a study by Jacob et al. (2017), the recovery process was defined as a multidimensional process, which may include the remission of symptoms related to alternative pharmacological and non-pharmacological treatments and constructing a new self with new beliefs and values. [95] These results may explain the dispersion of the answers given by the sample regarding the recovery process. Obtaining and keeping a job in this population has been associated with the remission of negative symptoms, improvements in well-being, greater social inclusion, reduction in hospital admissions, identity reconstruction, an increase in self-esteem and self-efficacy, and a decrease in stigma and self-stigma regarding mental illness. [96–98] Thus, getting and keeping a job has been considered a good indicator of recovery in this population. [96,99] Although the unemployment rate is significantly higher in individuals with mental illness than individuals without mental illness, it is known that this population generally desires to have meaningful work. [100,101] However, there are barriers to the employability of these individuals, such as the presence of positive symptomatology, workplace stigma (structural stigma), history of criminal justice involvement, inadequate training opportunities, and lack of government recommendations to integrate this population. [97,102] Thus, the evidence mentioned above corroborates the results of this study regarding the factor "employment" in individuals diagnosed with mental illness.

There are also barriers to seeking help from mental health professionals, such as attitudinal, cultural, low perception of needs, structural barriers, and individuals often reluctant to seek professional treatment. [103–105] The study sample has the perception that most people with mental illness don't seek help from health professionals as described in the literature. In contrast, the study sample recognizes being able to advise a friend with a psychiatric problem to seek professional help, which may be justified by the sample's moderate level of mental health literacy. Consequently, it may suggest that the participants of this study can identify symptoms and recognize mental disorders, these components being an integral part of the concept of mental health literacy. [83,106]

The literature reports that both pharmacological and non-pharmacological treatment applied individually are effective in this population. [107–109] However, it reinforces that combining these two treatments is even more effective in treating mental illness in symptom reduction, improved outcomes, quality of life, and functionality. [107–109] These data help to understand that the study sample has knowledge of the existence of both treatments and their effectiveness in psychiatric disorders.

This way, MHL has been considered a significant mental health component, given its potential to contribute to improved individual and public health, since improved knowledge about mental health and mental disorders can improve early identification of mental disorders, mental health outcomes, and mental health outcomes treatment-seeking habits. [52,54,78,110] Thus, it is crucial to assess and characterize mental health literacy in the general population to identify knowledge gaps and ingrained false beliefs regarding mental health. [52,53,78]

7. Conclusion

The present study used the MAKS to assess the stigma and discrimination against people with lived experience of mental illness residing in the Metropolitan Area of Porto. It revealed that the study sample presents moderate levels of MHL. However, the lowest scores of seeking help and recovery may reflect the need for public anti-stigma campaigns that discuss these factors.

Some limitations of the present study deserve to be mentioned, such as the discrepancy between the number of females and males and the participation of few individuals aged 65 and over and living in rural areas.

This way, further research in this thematic is suggested to build stronger evidence in mental health through a more heterogeneous sample at the level of age, sex, and residence environment. Furthermore, it would be pertinent to explore the correlation between the use of the mass media as a source of obtaining health information and the levels of stigma towards mental illness by the Portuguese population.

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