Association between Sociodemographic Variables and Health Literacy Levels among İndividuals with Mental Disorders in Brazil

ABSTRACT

Background and Objectives: Health literacy refers to individuals' abilities to find, understand, and use information to make informed decisions, crucial for the general population and particularly for those with mental disorders. To analyze the influence of sociodemographic characteristics of individuals living with mental disorders on their ability to find good health information and understand health information well enough to know what to do.

Materials and Methods: A cross-sectional study conducted at a Psychosocial Care Center in southern Brazil between April and October 2023, involving individuals with severe, chronic, and persistent mental disorders. The Sociodemographic and Health Conditions Questionnaire and questions from the Brazilian version of the Health Literacy Questionnaire (HLQ), specifically scales 8 and 9, were administered. The HLQ, tested for reliability in this population, showed satisfactory internal consistency using Omega and Cronbach's Alpha. Descriptive and inferential analyses were performed.

Results: The evaluated scales showed strengths for the investigated group. Scale 8 – Ability to find good health information – obtained a mean score of 3.51 (±0.82), and Scale 9 – Understanding health information well and knowing what to do – obtained a mean score of 3.57 (±0.75). Scale 8 showed statistical differences in age group ($p<0.001$), race/ethnicity ($p=0.013$), user's education level ($p<0.001$), mother's education level ($p=0.003$), father's education level ($p<0.001$), and duration of service follow-up ($p=0.012$). Scale 9 showed statistical differences in age group ($p=0.008$), race/ethnicity ($p=0.048$), user's education level ($p<0.001$), mother's education level ($p=0.001$), father's education level ($p<0.001$), and duration of service follow-up ($p<0.001$).

Conclusion: The evidence suggests that the evaluated scales were considered strengths, influenced by age, race/ethnicity, user's education level, mother's and father's education levels, and duration of service follow-up, contributing to the advancement of knowledge on the topic.

Paper Type: Research Article

Keywords: Understanding, Health Communication, Health Literacy, Mental Disorders.

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Introduction

Mental disorders (MDs) are among the most common illnesses in the world population, accounting for approximately 12% of illnesses and around 1% of mortality rates. It is estimated that 400 million people worldwide have diagnostic criteria for mental and behavioral disorders, representing approximately 30% of the adult population (1, 2). In the Brazilian context, there are an estimated 23 million people, of whom around 5 million have moderate to severe conditions, corresponding to 3% of the population with severe and persistent MDs and 6% with MDs related to the use of alcohol and/or other drugs (1, 2, 3).

In this scenario, MDs have produced a significant impact on the lives of people, families and society, evidenced by the morbidity, functional impairments, reduced quality of life (QoL) and mortality, associated with the degree of dependence, chronicity and disability they cause, resulting in substantial economic costs, both at the individual and collective level, thus becoming a public health issue (3, 4).

To meet the needs of people with mental disorders, it is essential that professionals working in the mental health context are prepared to foster autonomy and responsibility, as well as to value the uniqueness and subjectivity of each person. This should be based on an approach that recognizes the importance of empowering them to take an active role in their own lives and treatment (2, 5). These competencies align with the concept of Health Literacy, which encompasses the individual's ability to acquire, understand, and apply health information effectively, influenced by daily experiences, social interactions, and cultural factors (6).

This concept encompasses access to resources and organizational structures that facilitate the understanding and use of health information for decision-making and actions aimed at promoting both one's own health and that of others. It includes the critical ability to evaluate information, interact effectively, and express needs to promote health, which is essential for making informed decisions about personal health and engaging collectively in health promotion actions (6-7). More broadly, the user's autonomy and empowerment in terms of making decisions related to health depend on the ability to understand and use the information received or provided in the health care process (8) and are directly related to the level of Health Literacy (HL) from the subject, the family member and also the health professionals (9).

Few studies, both national and international, have been conducted to assess the levels of health literacy in individuals with mental disorders. International studies that evaluated Functional Health Literacy (FHL) have shown that people with mental disorders exhibit low levels of literacy (10, 11). In Australia, a study using the HLQ (12) instrument for the population with mental disorders obtained a satisfactory evaluation regarding its applicability and as evidence of a scientific innovation (13).

This instrument was also used to assess health literacy in individuals with substance use disorders (14). In Denmark, a study evaluated two scales of the HLQ: D9 - Understanding health information well enough to know what to do, and D6 - Ability to actively engage with healthcare providers

(15-16). Its application to individuals with some chronic conditions, including mental disorders, showed greater weaknesses in these scales compared to the general population. Other studies conducted in Canada found greater weaknesses in the scale "Understanding health information well enough to know what to do" in individuals with mental disorders compared to the general population (17).

In the Brazilian context, we found a study that analyzed the relationship between FHL conditions and adherence to antidepressant treatment. Similarly, an international study evaluated the health literacy conditions of individuals with severe mental disorders but did not present comparisons regarding the influence of sociodemographic characteristics and health literacy (18). Based on the above, we highlight that studies on health literacy are incipient and, when related to individuals with mental disorders, are scarce, constituting a gap in knowledge and justifying the conduct of this research (19).

From the above, we highlight that studies on HL are incipient and, when related to individuals with MDs, are scarce, constituting a knowledge gap justifying this research.

Therefore, the objective of this study is to analyze the influence of sociodemographic characteristics of individuals living with mental disorders on their ability to find good health information and to understand health information well enough to know what to do.

Materials and Methods

Cross-sectional study conducted at a Psychosocial Care Center (CAPS), a specialized public health service for mental health, in a municipality in southern Brazil, exclusively serving individuals with chronic, severe, and persistent mental disorders who are users of the Brazilian Unified Health System (SUS).

Participants included individuals aged 18 years or older, diagnosed with severe mental disorder as recorded in their medical charts, receiving ongoing care at the center, and in a stable psychological state at the time of data collection. Diagnosis was based on the International Classification of Diseases and Related Health Problems (ICD-10) used by medical and psychological professionals for all service users. Psychological stability was assessed by the service team prior to data collection. Exclusion criteria included individuals with a concomitant diagnosis of intellectual or mental disability recorded in their medical charts, as well as those under judicial interdiction.

This study is part of a matrix project that performed a sample calculation for psychometric validation of the instrument for use in individuals with mental disorders. For sample size determination, it was considered that factor loadings for scale validation could reach estimates close to 0.62 (standard deviation = 0.12). Additionally, a significance level of 5% (α=0.05), sample power (1-β) of 90%, and a margin of error of 9.5% were considered, based on a population of 720 users, resulting in a minimum sample size of 432 participants. Invitations were extended to 512 eligible individuals, of whom 68 declined, resulting in 444 participants and a response rate of 87%.

Participants were selected using convenience sampling, as data collection was conducted with individuals attending scheduled health appointments or seeking services on demand.

Despite convenience sampling, it is important to note the robustness of the sample, representing 66.66% of the population under care at the center.

Participants were selected by convenience sampling. Data collection took place between April and October 2023, by scientific initiation fellows previously trained by the first author, by reading and explaining the items on the instruments, as well as resolving doubts to ensure uniformity in the collection. Although the instrument could be self-administered, it was decided that the filling out would be done by the scholarship holders, allowing illiterate or low literacy individuals to participate in the research. The study author is a nurse and works within the service team where the research was conducted, and therefore did not participate in data collection to minimize potential biases.

People were invited to participate in the study when they attended the health service. After accepting and signing the Free and Informed Consent Form (FICF), in two copies of equal content, the instruments continued to be applied, ensuring the preservation of privacy.

The instruments used were: the Sociodemographic and Health Conditions Questionnaire, developed by the researchers, and scales 8 - Ability to find good health information and 9 - Understanding health information well enough to know what to do, from the Brazilian version of the Health Literacy Questionnaire (HLQ-Br)8,12, psychometrically validated for the population with mental illness (20).

The Sociodemographic and Health Conditions Questionnaire collected user identification data such as age, gender, race, marital status, cohabitation, individual's level of education, mother's level of education, father's level of education, and income. Additionally, it included data related to the user's diagnosis (recorded in medical charts), duration of follow-up, and treatment modality.

The HLQ had its structure confirmed through Confirmatory Factor Analysis, and all coefficients were satisfactory and adequate, maintaining the original model structure for the studied population. Internal consistency was satisfactory, measured by Cronbach's alpha 0,893 e 0,788 from both parties (20). The instrument was developed in Australia12 and validated for use in Brazil with the general population (8) and specifically with individuals with mental disorders (20). This instrument, with nine scales12, allows for the assessment of health literacy (HL) in the general population and specific (or thematic) groups, addressing criteria to classify literacy levels as basic/functional, which relates to the individual's ability regarding reading and writing information; communicative/interactive, where individuals develop skills to actively participate in decisions about their health based on information reading; and finally, critical/interactive, where individuals use information to transform health conditions and gain greater control over their own lives and communities (21).

It is a multidimensional instrument that allows evaluating the nine scales of the health literacy construct and the health literacy conditions of the population. It comprises 44 items, distributed into two parts. Scales 1 to 5 form the first part of the instrument and consist of questions scored on a Likert scale from (1) strongly disagree to (4) strongly

agree, while scales 6 to 9 form the second part and are scored on a Likert scale from (1) "always difficult" to (5) "always easy". The scoring indicates strengths and weaknesses of each individual regarding their health literacy. The calculation is performed by summing the scores of each item within the scales and dividing this total by the number of items in the scale. The result corresponds to the average score (8, 12).

In this article, scales 8 - Ability to find good health information and 9 - Understanding health information well enough to know what to do were presented, enabling analysis of the skills and difficulties that Brazilians with mental disorders (TMs) have in finding, understanding, and using information to make health decisions, and their relationship with sociodemographic characteristics.

Data were tabulated, organized, and analyzed using SPSS® (Statistical Package for the Social Sciences, Chicago, IL, USA) version 25 for Windows®. Descriptive statistics included absolute frequencies (n) and relative frequencies (%), as well as measures of central tendency and variability, with the study of data distribution normality using the Kolmogorov-Smirnov test.

The comparison of scores for the dimensions of HLQ named D8 and D9 occurred through Analysis of Variance (One Way) – Bonferroni Post Hoc. For statistical decision criteria, a significance level of 5% was adopted.

This project approved by the Research Ethics Committee under Opinion number 5,966,864/2022. The use of the Health Literacy Questionnaire – HLQ was previously authorized by the authors via email (hl-info@swin.edu.au).

Results

A total of 444 people with MDs participated in the study. The sociodemographic characteristics and health conditions are presented in Table 1. The majority were female (337; 75.9%), white (340; 76.5%), not married or without a stable union (258; 58%), with up to 9 years of education (256; 55.4%) and still, out of these 8, 1.80% were illiterate, and aged between 18 and 54 years (298; 67.1%). Moreover, 370 (83.3%) lived with other people, including a partner, children or people with other ties, and the income that prevailed was up to 2 minimum wages (344; 77.4%).

There were no missing data, since the questionnaires were collected in a Google Forms form that did not allow moving on to the next question without the answer being completed. The form was filled out by the scholarship holders, considering that in the studied population, there were illiterate individuals and participants unable to comprehend the questionnaire and respond accurately to the questions. It is important to emphasize that illiterate participants were grouped under the variable "education up to 4 years," as individually they did not show statistically significant differences.

When analyzing health conditions, it was found that the majority had been followed-up in the service for more than 5 years (215; 48.4%). The most prevalent mental disorders can be seen in Figure 1: depressive disorders (271; 61%), followed by anxiety disorders (67; 15.1%), psychotic disorders (schizophrenia, schizotypal and delusional) (51; 11.5%), bipolar disorders (41; 9.2%), personality and behavioral disorders (8; 1.8%) and other disorders (6; 1.4%).

Table 1. Characterization of the profile of the investigated patients for the total sample according to age group, Ijuí/RS, Brazil. 2023

Variables		Total sample	
		n (444)	%
Gender	Male	106	23.9
	Female	337	75.9
	Non-binary	1	0.2
Age	18 to 34 years	80	18.0
	35 to 44 years	101	22.7
	45 to 54 years	117	26.4
	Over 55 years	146	32.9
Race/color	White	340	76.6
	Non-white*	104	23.4
Marital status	Married/stable union	186	41.9
	Single	170	38.3
	Separated/divorced	65	14.6
	Widowed	23	5.2
Literacy	Up to 4 years	121	27.3
	5 to 9 years	125	28.2
	10 to 12 years	140	31.5
	More than 12 years	58	13.1
Mother's literacy	None	55	12.4
	1 to 4 years	141	31.8
	5 to 9 years	54	12.2
	10 to 12 years	37	8.3
	More than 12 years	13	2.9
	Unknown	144	32.4
Coexistence	Living alone	74	16.7
	Living with other people	370	83.3
Average family income**	No income to less than 1 minimum wage	57	12.8
	1 to 2 minimum wages	287	64.6
	More than 2 minimum wages	100	22.5
Length of follow-up in the CAPS	Less than 6 months	72	16.2
	6 months to 1 year	41	9.2
	1 to 2 years	36	8.1
	2 to 5 years	80	18.0
	More than 5 years	215	48.4
Diagnosis**	Depressive disorders	273	61
	Anxiety disorders	68	15
	Bipolar mood disorder	44	10
	Psychotic disorders***	51	11
	Personality and behavioral disorders	4	1
	Other disorders	4	1

Percentages obtained from the total sample. *Non-whites: those who identify themselves as yellow, brown or black. **According to ICD-10 recorded in medical charts. ***Psychotic disorders: schizophrenia, schizotypal disorders, delusional disorders.

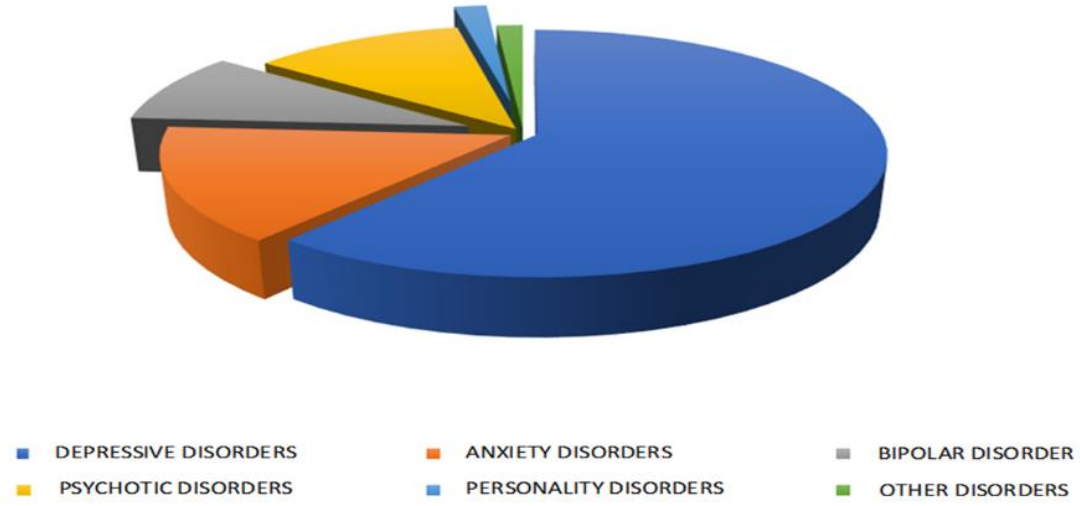

Figure 1. Most prevalent mental disorders for the total sample. Ijuí/RS, Brazil. 2023

The average evidenced in scale D8 – Ability to find good health information – was 3.51 (±0.82) and that of D9 – To understand health information well and know what to do – was 3.57 (±0.75), both considered as users' strengths.

When comparing scales 8 and 9 with the variable sex, we did not obtain statistical differences (p=0.546 and p=0.843, respectively). We identified statistical differences for the age group variable (p<0.001). Users in the age group of 18 to 34 years concentrated significantly higher average scores compared to older age groups, represented by those aged 45 years and above.

Similar results were found when comparing the scores from the scale D9 (p=0.008), where once again the group of people aged between 18 and 34 had a higher average score when compared to the group of people aged over 45.

Color was also relevant to the average scores achieved in scales D8 (p=0.013) and D9 (p=0.048). People who declared themselves as white had significantly higher average scores.

The level of literacy had a significant impact on the scores. The significant differences observed in the scores of dimension D8 (p<0.001) indicated that people with education above 12 years had a significantly higher average score when compared to other levels of lower education, mainly when compared to the group with education up to 4 years of study. A similar result occurred in the scores of dimension D9 (p<0.001).

When evaluating the mother's literacy, it was identified that, regarding the scores of scales D8 (p=0.003), mothers with education above 12 years (3.92±0.83) showed a significantly higher average compared to those mothers with lower levels of education.

In the same sense, when the scores of dimension D9 (p=0.001) were compared to the mother's literacy, there is evidence that mothers without education had the lowest average score when compared to other levels of education.

With regard to the father's literacy, the significant results when comparing the scores

of dimension D8 (p<0.001) indicated that fathers with more than 12 years of education and 5 to 9 years of study showed significantly higher average scores when compared to those fathers who declared that they did not have education. The same occurred when comparing the scores of scales D9 (p<0.001).

Moreover, when evaluating the length of follow-up in the health service, it was found that people with shorter length of follow-up had significantly higher average scores in scales D8 (p=0.012) when compared to those with more than 5 years of follow-up (3.38 ±0.84).

With regard to the analysis involving the scores of scales D9 (p<0.001), the highlight was those participants with more than 5 years of follow-up (3.43±0.77), a significantly lower average compared to the times of follow-up up to 5 years.

Table 2 shows the comparison between averages for scales D8 – Ability to find good health information and D9 – To understanding health information well and know what to do, belonging to the HLQ, according to the characteristics of the sample.

Discussion

Studies that evaluate HL in people with DMs are incipient, which is why this is an innovative study in the Brazilian context, as no other studies were found that evaluated HL in people with DMs, especially using a multidimensional instrument. Moreover, the study provides evidence of which variables influence HL. This study aimed to analyze the influence of sociodemographic characteristics on the ability of individuals living with mental disorders to find good health information and understand health information well enough to know what to do. We had significant participation from women, considering that they have taken on many roles in contemporary society and seek help more readily than most men.

HL enables people to find, understand and use health information to actively make decisions, providing greater autonomy in the management of care10. Our results corroborate international studies (13, 14, 17, 19); conducted, and despite the distinctions observed, we can verify the need to qualify care to enable individuals with mental disorders to enhance their health literacy conditions.

Strengths in the levels of HL of this population were found in D8 – Ability to find good health information and D9 – To understanding health information well and know what to do, with average scores of 3.51 (±0.82) and 3.57 (±0.75), respectively, as well as statistical differences between these groups according to age, color, person's own literacy, mother's literacy, father's literacy and the length of follow-up in the CAPS. This evidence contradicts the hypothesis that individuals living with mental disorders have limitations in health literacy that could impair the health literacy of this population.

An international study carried out in Australia used the HLQ instrument to evaluate multidimensional HL with people with MDs and related the dimensions to the participants' sociodemographic characteristics (13). This same study pointed out that the potential of using a multidimensional approach is due to the possibility of identifying the individual's ability to understand the received information in order to know what to do with

it, i.e., to make decisions based on it, considering the highlighted weaknesses, represented as strengths of HL and, evaluate the health services (13).

Table 2.Comparison between averages of scales D8 – Ability to find good health information and D9 – To understanding health information well and know what to do, belonging to the HLQ, with characteristics of the sample. Ijuí/RS, Brazil. 2023

Characteristics of the sample		n	Scales of HLQ			
			Ability to find good health information		To understanding health information well and know what to do	
			Average	SD	Average	SD
Age group (years)	18 to 34	80	3.81a	0.72	3.75a	0.62
	35 to 44	101	3.61ab	0.86	3.66ab	0.69
	45 to 54	117	3.28c	0.81	3.41b	0.79
	Over 55	146	3.44bc	0.79	3.53b	0.78
	p (value)A		<0.001		0.008	
Color	White	340	3.56	0.81	3.61	0.75
	Non-white*	104	3.33	0.82	3.44	0.72
	p (value) D		0.013		0.048	
Pacient's literacy	Up to 4 years	121	3.17c	0.89	3.28c	0.79
	5 to 9 years	125	3.54b	0.73	3.62b	0.64
	10 to 12 years	140	3.62b	0.76	3.63b	0.71
	More than 12 years	58	3.87a	0.76	3.94ª	0.73
	p (value) A		<0.001		<0.001	
Mother's literacy	None	55	3.21c	0.83	3.28b	0.73
	1 to 4 years	141	3.61b	0.74	3.73ª	0.68
	5 to 9 years	54	3.67ab	0.84	3.74ª	0.72
	10 to 12 years	37	3.71ab	0.77	3.69ª	0.61
	More than 12 years	13	3.92a	0.83	3.84ª	0.79
	p (value) A		0.003		0.001	
Father's literacy	None	57	3.19c	0.79	3.31c	0.73
	1 to 4 years	117	3.69ab	0.72	3.72b	0.69
	5 to 9 years	37	3.79a	0.70	3.89ª	0.46
	10 to 12 years	26	3.65ab	0.73	3.76ab	0.80
	More than 12 years	19	3,98a	0.75	4.03ª	0.72
	p (value) A		<0.001		<0.001	
Length of follow-up	Less than 6 years	72	3.61b	0.89	3.72ab	0.69
	6 months to 1 year	41	3.72ab	0.63	3.78ª	0.59
	1 to 2 years	36	3.77a	0.79	3.87ª	0.67
	2 to 5 years	80	3.50bc	0.73	3.59b	0.73
	More than 5 years	215	3.38c	0.84	3.43c	0.77
	p (value) A		0.012		<0.001	

*Non-whites: those who identify themselves as yellow, brown or black.
A: Analysis of Variance Test (One Way) – Bonferroni Post Hoc, where averages followed by equal letters do not differ at a significance level of 5%; SD = Standard Deviation; a: average score significantly higher than the averages classified with the letters "b" and "c"; b: average score significantly lower than the average classified with the letter "a" and significantly higher than the average classified with the letter "c"; c: average score significantly lower than the averages classified with the letters "a" and "b". D: Student's t-test for independent groups assuming homogeneity of variance.
E: Kolmogorov-Smirnov test [Ability to find good health information: Test statistic = 2.743; p=0.233; Understanding health information well enough to know what to do: Test statistic = 2.056; p=0.156].

When the scales were analyzed, the study showed similar averages to the study carried out in Australia with people with MDs, being higher in D8 (3.41) and lower in D9 (3.62), but both considered strengths13. Another study carried out in France with the same audience showed higher averages in D8 (3.64) and D9 (3.84) than the current study17. Moreover, a study carried out in Canada with people with severe and persistent MDs showed averages of 3.50 and 3.63, respectively, for D8 and D923, thus showing similarities with this study.

Conversely, when comparing the scales of this study with others carried out with the general population, it was found that people with DMs showed more weaknesses of HL (13, 22, 23), but higher average scores than those shown when compared with people with chronic kidney diseases in D8 (2.90) and D9 (3.19) (24).

In this context, having strengths in health literacy in these two components indicates that individuals with mental disorders do not have difficulties understanding most of the information provided by healthcare professionals (12). However, it is worth noting patients with more severe disorders, considering neurological impairments, such as those diagnosed with schizophrenia (25, 26).To that end, understanding health information is fundamental, as it plays an important role in adherence to treatment, as well as understanding its benefits and side effects increases adherence (17).

Given the lack of previous studies evaluating HL in people with MDs, there is a need to compare it with other population groups. In line with our study, the sociodemographic characteristics are similar to those of other studies (8, 12, 13, 22), highlighting the importance of the topic and its measurement (27), especially when addressing specific population groups, such as those with health conditions represented in the sample (13). It should be noted that, in order to validate the original instrument, part of the sample was made up of people with mental disorders (12).

A study carried out in Australia with people who use substances did not show an association between the evaluated sociodemographic characteristics (age, gender, literacy and housing situation, among others) and HL (14). The current study showed that people who declared themselves as white had better levels of HL than non-white people, which may be related to the difficulty in terms of accessing health goods and services and education, which is historically common for this population.

The variable “gender” did not show a significant association in D8 and D9, corroborating other studies (15, 22, 28-32), while the variable “age group” showed that people under 45 years old tended to have better levels of HL (15, 22, 31). Moreover, it was found that the lower the level of literacy, the weaker the concept of HL, as in studies of the general population (22, 30, 32).

Other relevant variables in this study were the association between mother’s literacy and father’s literacy and D8 and D9, where it was found that, because they had a mother or father with more than 12 years of education, people with MDs had better strengths of HL than those with lower levels. This evidence suggests that a higher level of literacy on the part of mothers and fathers may have an impact on the HL of people with

MDs, by influencing access to resources, encouraging healthy behaviors, facilitating understanding and communication in the search for better health-related information. Although, in this study, these variables were significant when associated with the dimensions in question, no studies were found where this association occurred.

Moreover, it was found that people with shorter length of follow-up in the service had better scores of HL in the studied dimensions, a fact that may be related to the severity and commitment of patients with longer length of follow-up, as well as to changes in the team's work process, which has intensified guidance on treatment and service operation. It is therefore worth adding a qualitative evaluation with service users in order to better understand these results.

Despite the existing weaknesses in mental health care in the various services of the Psychosocial Care Network (RAPS, as per its Portuguese acronym), it should be considered that the longitudinal follow-up offered at the CAPS contributes to better results in the studied dimensions for people with MDs when compared to the general population or people with other clinical conditions.

This study made it possible to associate sociodemographic and clinical variables with D8 – Ability to find good health information – and D9 – To understand health information well and know what to do – of people with DMs. It corroborates previous studies and points to the potential of HL in this population, especially when compared to other studies that have evaluated the general population or those with different clinical conditions. It is worth underlining that, although the study hypothesized that people with MDs would have more weaknesses of HL than the general population, it was found that international studies have shown lower scores.

It was recognized that the variables "age", "person's own literacy", mother's literacy", "father's literacy", "color" and "length of follow-up in the service" have influenced HL, especially in terms of understanding health information and making decisions for his/her health and that of the community where he/she lives. Moreover, the results can corroborate other studies, especially when one analyzes the incipient scenario of studies evaluating sociodemographic variables and health conditions with a multidimensional instrument of HL with people with MDs, both in the Brazilian and international context. The information from this study can be used to improve the care offered to people with MDs at individual, professional and management levels.

In this sense, it is important to recognize the inherent limitations of cross-sectional studies, which present a diagnosis of reality and identify associations, but do not establish cause and effect relationships. Another limitation refers to the convenience sample, which, while allowing greater access to a larger number of participants, may not adequately represent the expected population and, consequently, make it difficult to generalize the results. Moreover, the lack of studies associating these variables with the levels of HL of people with MDs can make it difficult to interpret and discuss the results found here.

Future research with well-representative samples of the population, as well as

qualitative, longitudinal and interventional studies, are needed to further understand the interactions between sociodemographic variables, health conditions and levels of HL in people with DMs.

Conclusion

These findings highlight the need to develop unique intervention strategies that take into account not only the specific needs of each individual, but also the socio-cultural context where they live. Qualifying the care offered to this population, taking into account social and demographic diversity, as well as the individual's cognitive abilities and vulnerability, can play a crucial role in terms of promoting HL, fostering equity and improving the health outcomes of this population. It should be highlighted the contribution of the multidimensional instrument used in this study, which made it possible to analyze the levels of functional and communicative literacy of this population. It is hoped that the results found and introduced here will enable interventions in practice and that further studies to be carried out.

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