

Prevalence of psychiatric disorders in homeless people in a large urban center in Brazil

Prevalência de transtornos psiquiátricos de pessoas em situação de rua em um grande centro urbano no Brasil

Prevalencia de trastornos psiquiátricos en personas sin hogar en un gran centro urbano de Brasil

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Abstract

Introduction: The present study aims to describe the most prevalent mental health conditions in the homeless population in a large Brazilian urban center. **Objective:** To describe the most prevalent mental health conditions in the population of homeless people in a large Brazilian urban center. **Methods:** This is a cross-sectional study carried out in the central and periphery regions of São Paulo, state of São Paulo, Brazil. For the description of psychiatric disorders, the following instruments were used: Patient Health Questionnaire-9 (PHQ-9) for depressive symptoms, item 9 of the Beck Depression Inventory for suicidal ideation, the self-reported question for the use of alcohol and illicit drugs, and item 3 of the PHQ-9 for sleep quality. **Results:** The mean age of participants was 44.54 (Standard Deviation=12.63) years, and most were men (n=342; 75%). Regarding the frequency of the identified psychiatric disorders, 49.6% (n=226) of the participants had depressive symptoms, 29.8% (n=136) had suicidal ideation, 55.7% (n=254) reported weekly alcohol use, 34.2% (n=156) reported using illicit drugs weekly, and 62.3% (n=284) had sleep problems. **Conclusions:** The prevalence of conditions that affect mental health among participants is high. These results may help health professionals to develop prevention and treatment strategies for this understudied population.

Keywords: Ill-housed persons; Mental disorders; Cross-Sectional studies.

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Resumo

Introdução: O presente estudo visa descrever as condições de saúde mental mais prevalentes na população de rua em um grande centro urbano brasileiro. **Objetivo:** Descrever as condições de saúde mental mais prevalentes na população de moradores de rua em um grande centro urbano brasileiro. **Métodos:** Este é um estudo transversal realizado nas regiões centrais e periferias da cidade de São Paulo (SP), Brasil. Para a descrição dos transtornos psiquiátricos utilizamos o *Patient Health Questionnaire-9* (PHQ-9) para sintomas depressivos, item 9 do Inventário de Depressão de Beck para ideação suicida, pergunta autorreferida para uso de álcool e drogas ilícitas e item 3 do PHQ-9 para qualidade do sono. **Resultados:** A média de idade dos participantes foi de 44,54 (desvio padrão — DP=12,63) anos, e a maioria era do sexo masculino (n=342; 75%). Quanto à frequência de transtornos psiquiátricos identificados, 49,6% (n=226) dos participantes apresentaram sintomas depressivos, 29,8% (n=136) exibiram ideação suicida, 55,7% (n=254) informaram uso de álcool semanalmente, 34,2% (n=156) informaram usar drogas ilícitas semanalmente e 62,3% (n=284) tinham problemas com sono. **Conclusões:** A prevalência de condições que afetam a saúde mental entre os participantes é alta. Estes resultados poderão auxiliar profissionais de saúde na elaboração de estratégias de prevenção e tratamento nessa população, pouco estudada. **Palavras-chave:** Pessoas mal alojadas; Transtornos mentais; Estudos transversais.

Resumen

Introducción: El presente estudio tiene como objetivo describir las condiciones de salud mental más prevalentes en la población sin hogar en un gran centro urbano brasileño. **Objetivo:** Describir las condiciones de salud mental más prevalentes en la población de personas sin hogar en un gran centro urbano brasileño. **Métodos:** Se trata de un estudio transversal realizado en las regiones central y periférica de São Paulo, SP, Brasil. Para la descripción de los trastornos psiquiátricos se utilizó el Cuestionario de Salud del Paciente - 9 (PHQ-9) para síntomas depresivos, el ítem 9 del Inventario de Depresión de Beck para ideación suicida, la pregunta autorreportada para uso de alcohol y drogas ilícitas y ítem 3 del PHQ-9 para la calidad del sueño. **Resultados:** La edad media de los participantes fue de 44,54 (DE=12,63) años, y la mayoría eran hombres (n=342; 75%). En cuanto a la frecuencia de los trastornos psiquiátricos identificados, el 49,6% (n=226) de los participantes presentaba síntomas depresivos, el 29,8% (n=136) tenía ideación suicida, el 55,7% (n=254) refería consumo semanal de alcohol, el 34,2% (n=156) refirió consumir drogas ilícitas semanalmente y el 62,3% (n=284) presentaba problemas de sueño. **Conclusiones:** La prevalencia de condiciones que afectan la salud mental entre los participantes es alta. Estos resultados pueden ayudar a los profesionales de la salud a desarrollar estrategias de prevención y tratamiento para esta población poco estudiada. **Palabras clave:** Personas con mala vivienda; Trastornos mentales; Estudios transversales.

INTRODUCTION

In recent years, several pieces of evidence reinforce the significant increase in the number of homeless people in developed and developing countries such as Brazil.¹ These people are exposed to factors that negatively impact their physical health² and especially their mental health.³ When compared to the general population, this population has a high prevalence of mental disorders. This prevalence is intrinsically linked to a combination of exposure to environmental and behavioral factors as well as history of previous diagnoses. Individuals with a history of mental health problems have a significantly increased risk, estimated at 10 to 20 times greater, of experiencing homelessness.⁴ The most common mental health disorders among the homeless population include depressive symptoms, suicidal ideation, and alcohol and illicit drug abuse.³ Considering their extremely vulnerable condition, these individuals often face significant barriers in accessing health services, resulting in a prevalence of undiagnosed, unprevented, and untreated mental disorders.⁵ This reality highlights the invisibility and systematic neglect of this population both by citizens and by health services and policies.

The National Policy on the Homeless Population defines the homeless population as a group that shares family disorganization, social and economic vulnerability, which use public spaces and areas that are often without adequate conditions for housing or designated spaces aimed at welcoming people without a suitable place to live.⁶ According to the Institute of Applied Economic Research (*Instituto de Pesquisa Econômica Aplicada* – IPEA), it is estimated that the homeless population accounts for more than

110 thousand Brazilians, with an increase of more than 140% from 2012 to 2020.⁷ It is worth highlighting that this number, although representative, may underestimate the real dimension of the issue, considering the limitations inherent in the registration and identification mechanisms of this population. Therefore, most of them remain without adequate access to public policy services such as health, social assistance, and education. These more than 110 thousand Brazilians are the homeless people that the government is able to evaluate by the unified registry, an instrument in which people register and which allows them to identify low-income Brazilians, which may underestimate the actual number of homeless people.⁷

Authors of a systematic review of international studies identified that 76.2% of homeless people had some mental health issue.³ The main problems were alcohol abuse (36.7%), use of illicit drugs (21.7%), and schizophrenia (12.4%).³ Regarding depression, there is strong evidence that this disease is the most prevalent (46.7%) among homeless people.⁸ More serious aspects, such as suicidal ideation, are also prevalent in this population (17.8 to 41.6%).⁹ Compared to the general population, authors of a cohort study found that suicide rates are ten times higher among the homeless population.¹⁰

According to IPEA, in Brazil, the most common profile of homeless people is composed of men, young, people of African descent, with low level of education, and concentrated in large urban centers.⁷ The challenge of getting to know homeless Brazilians extends to their health conditions. It is estimated that, in Brazil, around 30% have a health issue, with mental health being the second most prevalent type, behind hypertension.⁷ Authors of a cross-sectional study carried out with homeless men in Belo Horizonte (state of Minas Gerais) identified that 56.3% of participants had some level of depressive symptoms.¹¹ Researchers of another cross-sectional study with homeless people, carried out in João Pessoa (state of Paraíba), found that 61.2% of participants slept poorly, 71.4% felt sad, and 71.4% had some mental disorder.¹² However, when thinking about specific information on the prevalence of the main causes that compromise the mental health of homeless people in Brazil, data are scarce. With the purpose of filling this gap, in the present study we aimed to describe the most prevalent mental health conditions in the homeless population in a large Brazilian urban center. The results of this research may contribute to actions carried out by the Brazilian Unified Health System and Civil Society Organizations (*Sociedades Civis Organizadas* – SCO) regarding the prevention, diagnosis, treatment, and rehabilitation of mental health disorders that afflict this population.

METHODS

Study design

This cross-sectional, descriptive study is part of a multidimensional research project carried out with homeless people in the city of São Paulo, Brazil.⁹ The project was approved by the Research Ethics Committee of the Faculdade de Medicina de Itajubá – FMIT, Minas Gerais, Brazil (Protocol No. 3,152,988). All participants were informed about the study objectives and signed the Informed Consent Form.

Location, population and sample

The research was carried out in Praça da Sé, in Cracolândia (both located in the central region of the city of São Paulo), and in the Itaquera neighborhood, located in the eastern region of the city of São Paulo. These are places with a high concentration of homeless people. The city of São Paulo is considered the largest

in South America. According to the Brazilian Institute of Geography and Statistics (IBGE), it is estimated that in 2019 the city had 11 million inhabitants and approximately 25 thousand homeless people.⁷ A total of 482 participants were invited to participate in the study; after carrying out purposeful sampling, 456 (94.6%) of them agreed to participate and completed all questionnaires. The present research is part of a primary study that used multivariate logistic regression to evaluate the association between religiosity and spirituality and suicidal ideation among homeless people. The parameters used were $\alpha=0.05$ and $1-\text{Beta}=0.80$ (two-tailed) and a prevalence of 11.4% of suicidal ideation, with a minimum sample of 401 participants.⁹

Data collection

Data were collected between May and June 2019. The interviews, which lasted an average of 25 minutes, were carried out in squares and streets during SCO Médicos do Mundo [SCO World Doctors] actions. The interviewers intentionally approached potential research participants. Considering the vulnerable situation of the target population of the research and in order to seek better adherence to the study, the researchers monitored and collected data during the actions of the aforementioned SCO (electronic address: <https://www.medicosdomundo.org.br/>). This SCO is located in the city of São Paulo and several cities across Brazil, and it aims to serve people in situations of social vulnerability and homeless individuals, promoting health recovery and treating clinical, mental, and social conditions, in addition to ensuring social insertion and promotion. The data were collected by three fifth-year medical students and a nurse who has a doctorate degree and clinical experience in Primary Health Care (PHC). The students were trained by the main researcher. This training consisted of four hours of theoretical classes and two hours of a “role-playing” experience, in addition to a pilot application of the questionnaires to a real participant. The students were also accompanied by the coordinator of SCO Médicos do Mundo, who is a neurologist and researcher. As low level of education was expected in the described population, the interviewers read the questionnaire items without interpretation and marked the items that best corresponded to the obtained answers. In case of doubt about the participants’ ability to answer the questionnaire, the supervisors were called by the students and had the final decision on the inclusion or exclusion of the participant in the research.

Inclusion and exclusion criteria

People aged 18 years and over participated in the research, who had been homeless for at least six months, able to understand and answer the questions in Portuguese, and sign the Informed Consent Form. People with any serious physical or mental health condition, who were under the influence of psychotropic substances in a way that could compromise understanding or answering the questions, or any other factor that suggested that the answers would be unreliable, did not participate in the research.

Outcomes

Depressive symptoms

The Patient Health Questionnaire-9 (PHQ-9) instrument was used to assess depressive symptoms.^{13,14} The PHQ-9 is an instrument validated for Brazilian Portuguese.¹⁴ It is a self-reported scale useful for screening depression. This instrument allows the screening of individuals at high risk for major depression. The PHQ-9 contains nine items that assess the frequency of depressive symptoms in the last two weeks,

ranging from 0 to 3 corresponding to the answers “not at all,” “several days,” “more than half the days,” and “nearly every day.” The score varies between 0 and 27 points; the higher the score, the higher the levels of depressive symptoms. We adopted the cutoff point ≥ 10 points to indicate the presence of depressive symptoms.¹³ In the present study, the PHQ-9 showed excellent reliability ($\alpha=0.870$).

Suicidal ideation

Item 9 of the Beck Depression Inventory (BDI) was used to assess suicidal ideation.¹⁵ The BDI was validated in Brazil in 1996. It assesses depressive symptoms and consists of 21 items. Item 9 of the BDI assesses suicidality in the last two weeks and it varies between: “0 – I do not have thoughts of killing myself; 1 – I have thoughts of killing myself, but I would not carry them out; 2 – I would like to kill myself; and 3 – I would kill myself if I had the chance.” For the present study, a score other than 0 was considered as indicative of suicidal ideation. This single item has already been used both for the risk of suicidal ideation and for repeated suicide attempts and death by this means.^{9,16}

Alcohol consumption

This question was used in a survey variable developed by the GBD 2016 Alcohol Collaborators researchers.¹⁷ The question was asked as follows: “*Did you drink alcohol at least once a week in the last 30 days?*”, with a “yes” or “no” answer.

Illicit drug use

This question was developed by the authors of this research and followed the same structure as the question for alcohol use. It was asked as follows: “*Did you use any illicit drug (such as marijuana, cocaine, crack) at least once a week in the last 30 days?*”, with a “yes” or “no” answer.

Sleep quality

Sleep quality was investigated using item 3 of the PHQ-9.¹³ “I had trouble falling or staying asleep, or I slept too much,” with the following possible answers: 0 — not at all; 1 — several days, 2 — more than half the days; and 3 — nearly every day. Any score other than 0 was considered to indicate a sleep problem.¹³

Statistical analysis

The data were managed using the Statistical Package for the Social Sciences — SPSS®, version 25. A descriptive analysis was carried out using mean, standard deviation, absolute and relative values of sociodemographic information, and frequency of psychiatric disorders of the participants.

RESULTS

Altogether, 482 homeless people were invited to participate in this study, of which 456 (94.6%) accepted and responded to all items in the questionnaires. Among these, 128 (26.6%) were residents of the Itaquera

region, São Paulo, while the remainder were distributed between the Sé region and Cracolândia, also in São Paulo. In Table 1 we show the sociodemographic characteristics of the participants. The average age was 44.54 (Standard Deviation [SD]=12.63) years, the majority were men (n=342; 75%), single (never been married; n=271; 59.4%), had children (n=245; 53.7%), and had a religion (n=230; 50.4%).

Table 1. Participants' sociodemographic information (N=456).

Variables	Mean	SD
Age	44.54	12.63
	n	%
Sex		
Men	342	75.0
Women	114	25.0
Marital status		
Single	271	59.4
Married	39	8.6
Separated/Widowed	146	32.1
Have children		
Yes	245	53.7
Place of origin		
São Paulo (capital)	122	26.8
São Paulo (countryside)	90	19.7
Other states	237	52.0
Other countries	7	1.5
Chronic disease		
Yes	172	37.7
Religion		
Yes	230	50.4

SD: Standard deviation.

Regarding the frequency of the psychiatric disorders identified, 49.6% (n=226) of participants presented depressive symptoms (PHQ-9 \geq 10 points), 29.8% (n=136) presented suicidal ideation, 55.7% (n =254) reported weekly alcohol use, 34.2% (n=156) of participants reported using illicit drugs weekly, and 62.3% (n=284) had sleep problems (Table 2).

Table 2. Frequency of psychiatric disorders among homeless people (N=456).

Variables	Yes	No
	n (%)	n (%)
Depressive symptoms (PHQ-9 \geq 10 points)	226 (49.6)	230 (50.4)
Suicidal ideation	136 (29.8)	320 (70.2)
Use of alcohol (weekly)	254 (55.7)	202 (44.3)
Use of illicit drugs (weekly)	156 (34.2)	300 (65.8)
Sleep problems	284 (62.3)	172 (37.7)

PHQ-9: Patient Health Questionnaire-9.

DISCUSSION

Among the most prevalent mental health conditions found in the homeless population of São Paulo, our data draw attention to depression, the use of illicit drugs, and suicidal ideation. Our findings regarding insomnia are consistent with the literature:^{3,18} approximately 60% of patients have sleep disorders. As for depression, almost half of the interviewed patients met the criteria for major depression. In a systematic review,³ after sensitivity analysis with studies with low risk of bias, the general prevalence found was around 13%.

Regarding suicidal ideation, approximately 30% of participants reported having thought about taking their own life. Authors of a meta-analysis with 20 studies (n=27,497) identified that 40% of homeless people will have suicidal ideation throughout their lives.¹⁹ Another fact that draws attention is the use of illicit drugs: around 1/3 of the participants reported using them at least once a week.¹⁹ Despite the high heterogeneity of the studies,¹⁹ the review results were close to 20%; São Paulo has a prevalence three times higher.²⁰ Regarding alcohol use, the data do not differ from the literature — in a systematic review, alcohol use is found to be 36.9%, within the range of the 34% found in our study.³

To face the reality of the high prevalence of mental disorders in the homeless population, the gateway to the health system is PHC. However, the integration between the National Primary Care Policy and care for homeless people is quite recent.²¹ Only in 2011 was there greater detail on the different models of street clinics.²² Its systematization throughout the national territory is still a challenge, and PHC as a gateway for this population is still a long way off.

The present study has some limitations that must be highlighted. Firstly, it is important to acknowledge the limitation inherent in cross-sectional designs, which do not allow for causal relationships to be established and are subject to possible measurement biases. Secondly, when interviewing homeless people there is the possibility of selection bias given the difficulty of ensuring complete representation of this group due to the nature of their lives and the difficulty in accessing some individuals. This may affect the generalization of the results. Thirdly, it should be noted that the sample of homeless people was recruited in a single location in Brazil, which makes it difficult to generalize the findings to a country of continental proportions like ours. Finally, it is worth highlighting that the considered outcomes, such as suicidal ideation, alcohol consumption, use of illicit substances, and sleep disorders, were assessed using a single question. In the context of future research, we suggest considering the use of validated instruments, similar to those employed to measure depressive symptoms, such as the PHQ-9, in order to ensure the reliability and precision of the measurements. Although there are limitations, our findings allow for a local diagnosis, broadening the perspective to define health policies for specific diseases such as depression.

For Borysow and Furtado,²³ it is common for social assistance services to assume the role of network articulators when dealing with homeless people, and the lack of coordination between health and social assistance, especially in relation to psychological suffering, promotes chronicization and institutionalization of people in vulnerable situations. To this end, these services propose the development and strengthening of an intersectoral care network for homeless people. Our results allow us to infer that programs to manage suicidal ideation among homeless people are necessary, in addition to the expansion of integrated strategies, with greater coordination and partnerships between the street clinic (which would operate in primary care) and medical-humanitarian organizations (which would help to spread care in places that are difficult to access and where there is currently no street clinic service), Psychosocial Care Centers (*Centros de Atenção Psicossocial – CAPS*), and Reference Centers for Alcohol, Tobacco and Other Drugs (*Centros de Referência de Álcool, Tabaco e Outras Drogas – CRATOD*). In addition, specialized hospital

units are needed to greater effectiveness in combating alcohol abuse as well as other licit and illicit drugs.²⁴ Montiel et al.²⁴ observed that mental health services still encounter difficulties in providing care to the homeless population on-site, as well as in linking them to institutions, due to the difficulties in adapting and making their operating strategies more flexible.

The Brazilian homeless population has shown large population growth, as well as growth in its geographic distribution, especially in the last 20 years.^{25,26} Authors of similar studies highlighted the greater presence of homeless adult men, generally with low level of education, a large proportion of whom have been away from home for more than five years.^{27,28} Everyone has used at least one type of drug,^{27,28} a datum that probably differs from that found in our population due to the characteristics of São Paulo compared to other smaller capitals or cities. This is because São Paulo has a large migratory flow and a large homeless population in a family nucleus (structured families with children) due to the rural exodus and economic bankruptcy^{29,30}, while in smaller cities there is a greater proportion of the homeless population as a result of alcohol and drug abuse and mental disorders^{27,31,32}. Alcohol is the most consumed drug, followed by tobacco, cocaine, *crack*, and marijuana^{27,28}.

The results of the present study show that half of the participants had a religion, which contrasts with the Brazilian reality, in which the vast majority of Brazilians report having a religion. This difference can be attributed to the loss of religious ties as a result of traumatic experiences, conditions of social vulnerability, and survival challenges faced by homeless people.³³ Furthermore, the homeless population is diverse and heterogeneous, and the reasons for the lack of religious affiliation may vary from one individual to another.^{9,33} This difference highlights the importance of addressing the specific needs of this population in health and social assistance programs, considering their diversity and the particularities of their life trajectories.

The homeless population still needs more studies aimed at a better qualitative and quantitative understanding of the state of their mental health, as well as greater follow-up of these patients and greater monitoring of those with the disorders previously addressed. Through qualitative and quantitative studies, we will be able to improve our situational diagnoses and, in this way, devise intervention actions, as well as develop public health strategies focused on health prevention and promotion, aiming to reduce the incidence and prevalence of mental disorders and substance abuse. Moreover, it will be possible to promote an increase in primary care, screening, and health education, especially in the area of mental health.

CONCLUSION

The research participants showed a high prevalence of conditions that compromise mental health, such as: depressive symptoms, suicidal ideation, abusive use of alcohol and illicit drugs, in addition to sleep disorders. These results can help researchers and health professionals to develop prevention and treatment strategies as well as those aimed at the mental health rehabilitation of this vulnerable and marginalized population.

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CONFLICT OF INTERESTS

Nothing to declare.

AUTHORS' CONTRIBUTIONS

LMV: Conceptualization, Data curation, Formal analysis, Methodology, Project administration, Supervision, Writing – original draft, Writing – review & editing. RRV: Project administration, Supervision, Validation, Writing – original draft, Writing – review & editing. MVCG: Conceptualization, Methodology, Supervision, Validation, Writing – review & editing.

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