Homeless individuals and their vulnerability to pain, depression, and sleep: narrative review

Pessoas em situação de rua e sua vulnerabilidade à dor, depressão e sono: revisão narrativa

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ABSTRACT

BACKGROUND AND OBJECTIVES: This research stems from the scarcity of official data regarding the homeless population and the challenging realities faced by this group, such as social invisibility and precarious access to healthcare services. The main objective is to conduct a narrative review to understand the interconnection between chronic pain (CP), depression, and sleep disorders in this population, identifying key factors that play a role in these conditions.

CONTENTS: The study employs a qualitative narrative review, conducting a comprehensive search in the Web of Science and Scopus databases without temporal restrictions. It utilizes English descriptors related to homelessness, depression, and sleep disorders. Globally, over 100 million people are homeless, with Brazil particularly affected by this phenomenon due to the economic crisis. The prevalence of CP in this group is linked to precarious living conditions, discrimination, and exposure to violence. The impairment of sleep quality, depression, and the bidirectional relationship between CP and depressive disorders are highlighted. Social vulnerability, lack of access to health resources, and the adversities of living conditions contribute to the complexity of challenges faced by the homeless population, negatively impacting overall health.

CONCLUSION: Individuals experiencing homelessness face increased vulnerability to injuries, CP, depression, and sleep disorders. The bidirectional relationship between pain and depression is exacerbated by the adversities they endure. It is crucial to implement specific and effective health policies to improve living conditions, promoting equity and social justice for this vulnerable and marginalized population.

Keywords: Chronic pain, Depression, Ill-housed persons, Sleep.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A pesquisa se origina da escassez de dados oficiais sobre a população em situação de rua e das desafiadoras realidades enfrentadas por esse grupo, como a invisibilidade social e o acesso precário aos serviços de saúde. O objetivo principal foi conduzir uma revisão narrativa para compreender a interconexão entre a dor crônica (DC), a depressão e distúrbios do sono nessa população, identificando fatores-chave que desempenham um papel nessas condições.

CONTEÚDO: O estudo empregou uma revisão narrativa qualitativa, realizando uma busca abrangente nas bases de dados *Web of Science* e Scopus sem restrições temporais. Utilizou-se descritores em inglês relacionados à situação de rua, depressão e distúrbios do sono. Mais de 100 milhões de pessoas estão em situação de rua globalmente, sendo o Brasil especialmente impactado por esse fenômeno devido à crise econômica. A prevalência de DC nesse grupo está vinculada às condições precárias de vida, discriminação e exposição à violência. O prejuízo da qualidade do sono, a depressão e a relação bidirecional entre DC e transtornos depressivos são destacadas. A vulnerabilidade social, a falta de acesso a recursos de saúde e as adversidades das condições de vida contribuem para a complexidade dos desafios enfrentados por essa população em situação de rua, impactando negativamente na saúde geral.

CONCLUSÃO: Pessoas em situação de rua enfrentam maior vulnerabilidade a lesões, depressão e distúrbios do sono. A relação entre dor e depressão é bidirecional, agravada pelas adversidades vivenciadas. É crucial implementar políticas de saúde específicas e eficazes para melhorar as condições de vida, promovendo equidade e justiça social para essa população vulnerável e fragilizada.

Descritores: Depressão, Dor crônica, Pessoas mal alojadas, Sono.

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HIGHLIGHTS

- Although they are part of society, homeless people are often socially invisible.
- The high prevalence of chronic pain in these individuals is associated with frequent injuries and concomitant health problems resulting from poor living conditions.
- The relationship between depression, impaired sleep quality and chronic pain directly influences mental health.

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INTRODUCTION

Dictionaries define "street dweller" as a social stratum that includes economically disadvantaged individuals. The term characterizes those who live on the streets as an integral part of the street itself, transforming urban spaces and challenging social boundaries[1]. Life on the streets is governed by different codes of coexistence, shaping different ways in which individuals interact with the urban environment[2]. The homeless population, characterized by extreme poverty and broken family ties, gained global recognition around 1980. In Brazil, there was notable progress in 1992, with the first estimate of the homeless population in 2008, leading to the country's First National Census and Survey on the Homeless Population[3].

Since then, large Brazilian municipalities have made their own individual estimates. Between 2012 and March 2020 in Brazil, according to the technical note from the Institute for Applied Economic Research (IPEA) by Natalino (2020), the number of homeless people increased by 140%, reaching approximately 222 thousand individuals, but this does not constitute a National Census[4].

Also according to the IPEA published in February 2023, there was an alarming 38% increase in the homeless population between 2019 and 2022, with an estimated 281 thousand people in this condition in 2022[5]. This represents an increase of 211% over a decade, from 2012 to 2022[5].

Homelessness encompasses various housing conditions, with challenges such as social invisibility. The lack of official data in the Brazilian census ends up excluding this group without a family structure or fixed residence[4,6].

Homeless people are often concentrated in central areas of cities, facing architectural obstacles and dealing with adversities such as the lack of permanent housing. They suffer material deprivation, aging and illness on the streets, making it difficult for them to transition to stable housing or employment[7].

These individuals also experience other vulnerabilities, such as poor access to efficient health care, adverse weather conditions and family conflicts. Poor health conditions contribute to a misunderstanding or acceptance of chronic illnesses[8-11].

For those on the streets, health is intertwined with survival. Good health means resilience in the face of daily challenges, while illness means fragility, threatening work, income and, in extreme cases, survival[10,12].

Chronic pain (CP) among homeless people is aggravated by the lack of adequate structure, contributing to poor sleep quality due to rough surfaces and exposure to the weather. These precarious conditions not only interfere with adequate rest during the night, but also trigger mental disorders. Depression is prevalent as individuals face the lack of stable social structures and the constant struggle for survival[1,13].

Excluded from society, these individuals need a new vision for short- and medium-term measures that meet their specific demands, with a focus on depression, pain and associated vulnerabilities. This review aimed to synthesize the current scientific literature on the vulnerabilities of homeless people to chronic pain, depression and sleep disorders, identifying the main contributors, and understanding the interrelationships between these conditions.

CONTENTS

This study adopted a qualitative narrative review approach. To gather relevant information, a comprehensive search was carried out in the Web of Science and Scopus databases through CAPES Journals. A variety of descriptors and search terms in English were used, including "homeless", "homelessness", "homeless persons", "depression", "depressive", "sleep disorder", "restlessness". There were no restrictions as to year range, allowing for a broad analysis of the literature.

RESULTS

In 2021, more than 100 million people were estimated to be homeless, although this number is probably underestimated due to the lack of access to comprehensive care organizations[14]. In high-income countries, estimates have varied, such as 7.7% in the United Kingdom, 6.2% in the United States, 4% in Italy, 3.4% in Belgium and 2.4% in Germany. Nevertheless, in developing countries, there is a notable lack of information on the characteristics of people experiencing homelessness[11,15].

The Brazilian Ministry of Social Development and Fight against Hunger (MDF - *Ministério do Desenvolvimento Social e Combate à Fome*), in partnership with UNESCO, conducted the National Survey on the Homeless Population from August 2007 to March 2008, covering 71 municipalities. Interviews were carried out with people over the age of 18, revealing that 31922 individuals spent the night in public institutions or lived in precarious conditions. The research excluded São Paulo and Belo Horizonte, which had already carried out similar surveys[6].

According to the IPEA data, there has been a large increase in the homeless population in the country (figure 1). The document suggests that the more pronounced increase in large municipalities indicates that the economic crisis, especially the increase in unemployment and poverty, are significant factors in explaining this phenomenon.

Brazil does not have official data on the quantification of the homeless population, since the demographic census does not include the total number of individuals who have no homes in its population count, as they are counted on a family basis. Without housing and without a classic family arrangement, this group remains invisible to the state[6].

In 2018, the Brazilian Municipal Secretariat for Children and Social Assistance (SEMCAS - *Secretaria Municipal da Criança e Assistência Social*) in São Luís/MA registered 710 homeless adults. In March 2023, this number reached 1560 people (figure 1), according to updated data. The count is carried out at the city's POP Centers (*Centro de Referência Especializado para População em Situação de Rua* or Specialized Reference Center for Homeless People), excluding people who have been absent for more than two years. The significant increase in recent years is attributed to the global health crisis, caused by the SARS-CoV-2 coronavirus, and other factors, such as rising unemployment and difficulties in accessing resources in general.

According to the most recent United Nations Development Program (UNDP) report for 2021/2022, Brazil registered a Human

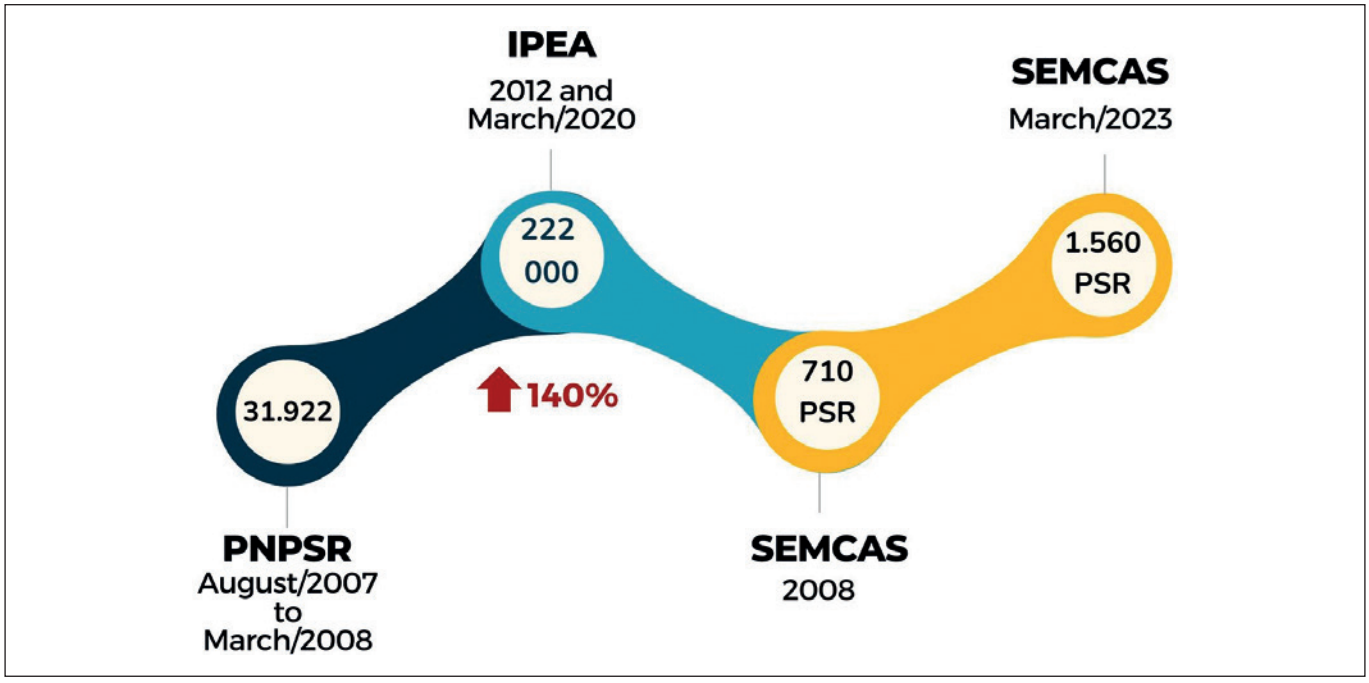

Figure 1. Representation of the estimated number of homeless people in Brazil and São Luís.
Institute of Applied Economic Research (IPEA), Municipal Secretariat for Children and Social Assistance (SEMCAS), National Survey on the Homeless Population (PNPSR), Homeless Population (PSR).

Development Index (HDI) of 0.754, ranking 87th out of 191 nations. In the national context, the state of Maranhão is in second-to-last place in the HDI, achieving a score of 0.674, according to the same UNDP report.

According to one study[16], the prevalence of chronic pain in the United States ranges from 11% to 40% in the general population and is more common in adults living in poverty and with low levels of schooling. In Canada, a study estimated a prevalence of chronic pain in adults over the age of 18 of 18.9%[17]. In China, the prevalence of chronic pain was 31.54%[18], while in India it was 19.3%[19].

A systematic review on the prevalence of chronic pain in Brazil analyzed 35 studies that met the inclusion and exclusion criteria[20]. According to this study, the region with the highest prevalence rate of chronic pain was the Midwest, with 56.25%. In the Northeast, the prevalence was 41.70%[20]. In São Luís, the prevalence of chronic pain is 42.3%[21].

The relationship between chronic pain and depressive disorders is bidirectional, as recent studies have shown. According to these studies[22-24], the presence of chronic pain significantly increases the likelihood of developing a depressive disorder, and vice versa. To illustrate, individuals facing chronic pain have a four times greater risk of developing depression compared to those who do not experience pain. Furthermore, when these two conditions coexist, the prognosis tends to be more challenging compared to each of them alone[23-26].

Quality of sleep is essential for promoting a healthy lifestyle[27]. The quality of sleep for homeless people is profoundly affected by a series of challenges they face due to the adverse conditions in which they live. Among these challenges is the need to remain in a constant state of alert for personal protection and survival. In addition, these people are subject to the risk of harassment, particularly women, and face exposure to climatic variations, continuous noise and a lack of adequate lighting. The absence of comfortable places, along with hunger and thirst, add additional difficulties[10,11].

DISCUSSION

HDI is made up of three main pillars that measure human development: health, income and education. For the health component, life expectancy is considered based on the longevity of the population. As for education and schooling, the indicator assesses the literacy rate, and in relation to income, HDI considers the standard of living based on *per capita* income and purchasing power. HDI plays a crucial role in understanding the socio-economic conditions that directly affect the health of homeless people. In developing countries such as Brazil, where the HDI reflects lower standards of living, the lack of access to financial resources, education and quality health services is accentuated. This combination of factors contributes to a high prevalence of chronic pain in vulnerable populations. Worsening quality of life, insufficient health resources and lack of knowledge about the impact of inadequate pain treatment can further aggravate the suffering of these individuals[28].

Chronic pain and homeless people

The Brazilian 1988 Constitution establish that health is a right for all, guaranteed by the State. According to the 8th National Health Conference in 1986 and reaffirmed in the Constitution, health is influenced by various factors, such as food, housing, education, income, the environment, work, transportation,

employment, leisure, freedom, access to and ownership of land, and access to health services. Health reflects the conditions resulting from political and social organization and can generate inequalities in living standards[4].

Despite the constitutional guarantee that health is a right for all, homeless people face obstacles when accessing health services, such as difficulties in transportation, lack of prospects for the future, fear of prejudice and stigma, and lack of training of health professionals[12].

This population often faces long journeys to access health services, which can aggravate pain and discomfort[19]. Stigmatizing characteristics, such as dirt, bad smell and the effects of drug use, often hinder the quality of care offered to homeless people in services, further compromising their health[29-33].

The definition of pain, as revised by the International Association for the Study of Pain (IASP), is the "unpleasant sensory and emotional experience associated, or similar to that associated, with an actual or potential tissue injury"[34]. CP is defined as pain persistent for more than three months[22,35], and the estimation is that approximately 60 million people suffer from CP, corresponding to around 10% of the world's population[20]. This condition is more prevalent in the homeless population when compared to the general population due to frequent injuries and concomitant health problems[11,30,31,36-39].

A homeless individual, often subjected to discrimination, faces poor health conditions, with CP being the main motive for seeking out public clinics[38,40]. The condition of living on the streets is considered by these people to be the main factor of discrimination, including aspects such as race, age and sexual orientation[40].

Studies indicate that the perception of being ill is largely influenced by cultural, socioeconomic and occupational reasons[12,41]. These factors contribute to homeless people showing symptoms of CP, even if they underestimate these signs due to their unfavorable socioeconomic conditions. This lack of knowledge about the disease often leads these individuals to fear that they are approaching death[12].

The challenging living conditions and habits of these homeless individuals worsen their pain, such as: exposure to urban violence, the weather, overcrowding in shelters, the need for long walks due to purposes of survival and poor personal hygiene[1,11,38].

Studies have established a connection between pain and substance use, suggesting that pain can motivate the daily use of these substances in the search for symptom relief[10,11,32,33,37]. This association between CP and substance-related problems has been identified as a significant risk factor for overdose deaths among homeless people[42].

The relationship between pain and substance use becomes even more complex when it coexists with a mental health condition, which can be attributed to the difficulties in obtaining medical prescriptions for controlled drugs, the complexity in administering them or the restrictions imposed by medical staff as a precautionary measure[32]. Also, there is a bidirectional relationship between pain and smoking: since tobacco use can intensify pain, and conversely, pain can influence tobacco use in a similar way[43]. Other factors that influence smoking in people who report CP include low schooling and belonging to the Caucasian race[44].

The association between pain and age is well known and reported, regardless of the population studied. It is known that the older a person is, the more likely they are to have CP[22,25,33,45].

Studies indicate an increase in the aging of the population in general, which is more pronounced among homeless people, often reaching 50 years of age[46]. This age range is equivalent to the geriatric conditions of a sheltered adult, usually between 70 and 80 years old. However, the seniors in these circumstances face additional barriers, such as geriatric syndromes, functional, visual and mobility impairments, frailty, depression and urinary incontinence[47]. In addition, they are more vulnerable to weather conditions and are more likely to develop comorbidities such as hypertension, diabetes and heart disease[31,37].

Depression and its relationship with chronic pain

The main mental health condition in the general population is depression, which is characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-esteem, sleep or appetite disturbances, fatigue and difficulty concentrating[48]. Depression is more prevalent in women[49-52].

There are several risk factors that can contribute to the development of depression, including biological aspects such as endocrinological, inflammatory or immunological conditions, as well as physical factors related to chronic disease management, functional limitations or chronic pain[49]. A comprehensive understanding of the physical and psychological aspects of pain as essential components in the treatment of this condition is fundamental, as this can not only improve patients' mental health, but also contribute to pain relief and reduce opioid dependency. Therefore, considering alternative approaches to drug analgesia, when appropriate, can be of great relevance[24].

Sleep disturbance is another important risk factor for depression. Insomnia, considered a type of sleep disorder, is more common with advancing age and affects around 25% of men and up to 40% of women aged 80 and over[49].

According to a 2002 study, stressful experiences throughout life, such as financial difficulties, bereavement, physical illness, disability and changes in living situation can aggravate depression[53]. These financial problems are common in the homeless population and can generate socio-economic disadvantage from an early age, which increases vulnerability to depression through poor nutrition, reduced educational opportunities and reduced access to health care[49,54]. According to researchers[52], the presence of depressive symptoms has been associated with a series of factors that negatively affect income and socioeconomic status, which are: decreased productivity, increased rates of absenteeism, reduced assertiveness in the search for employment, decreased ambitions in relation to job choice and lower educational levels, circumstances that can therefore affect people's lives[52].

According to some studies, it can be said that CP, being a prolonged stressor, can affect a person's mood[11,22,55-59]. This condition is capable of generating changes in other areas of

life, including social interactions, which in turn can be closely related to emotional distress. It is possible that these changes have a more significant impact on emotional health than the location or type of pain itself[25]. This emotional impairment can lead to suicide[48,60].

Sleep quality and its relationship with chronic pain

Any form of sleep deprivation or interference with sleep can trigger a series of health problems. These include cognitive impairment, cardiovascular and metabolic disorders, immune dysfunction, increased risk of cancer, type 2 diabetes, obesity and hypertension[61,62].

Even those who choose to seek shelter are not exempt from sleep disturbances. Shelter environments often feature constant noise, lack of privacy, security concerns, risk of theft of personal belongings and overcrowding, all of which contribute to sleep difficulties[1,63].

According to some studies[10,64], homeless people sleep less than the general population and are more likely to develop insomnia and daytime fatigue, impairing their ability to cope with daily activities. These conditions often lead them to resort to the use of substances in an attempt to improve their sleep[10,11,30].

These difficulties related to lack of adequate sleep have been associated with health problems, as well as reduced productivity and ability to cope with adversity, which adds another layer of challenges for homeless people seeking to overcome homelessness[63]. One study[37] identified poor sleeping conditions as one of the main barriers to pain management[37]. In another study on the subject[22], chronic pain was identified as a significant problem that affected the daily activities and sleep of 94% of the participants[22]. In addition, one study observed an association between the number of pain sites and sleep quality, which influenced daily life and psychological well-being[65].

Homeless people often face a series of difficulties that make up their life trajectories, often without choosing to be in this position[12]. Finding a safe and comfortable place to sleep is one of the adversities they face, which can aggravate the suffering caused by chronic pain[11,30]. The lack of a suitable environment for rest and recovery can trigger a harmful cycle of pain and insomnia, which has a significant negative impact on the mental and physical health of these individuals[30].

Homeless people and their vulnerabilities

Nowadays, there is an increase in the number of people facing the deprivation of fundamental social rights, including access to education, health, employment, housing, leisure, security and others. These groups tend to be systematically marginalized and are often relegated to invisibility. Within this category are homeless people[66].

Homeless people face significant vulnerability, resulting from a number of factors, such as lack of personal preparation, restrictions on access to information and transportation, medical and mental health needs, as well as dependence on social and government services. Their attributions in relation to disasters reveal the nature of their vulnerability and fragility[67].

Despite seeming similar concepts, social vulnerability and fragility are distinct, and the former can play a role as a risk factor for the latter. Social vulnerability, related to living conditions, comes before frailty and both are related to adverse health outcomes[68].

Social vulnerability not only increases the risk of facing health problems, but also profoundly affects a person's ability to receive adequate support after facing a health adversity[69]. It represents an accumulation of diverse social challenges that contribute to a greater risk of negative health impacts and deficiencies in healthcare provision[68].

Fragile family and emotional relationships, being marginalized in the conventional job market, having barriers to access health services, alcohol abuse, illicit drug use and food insecurity are some of the significant vulnerability factors affecting this homeless population[66,70,71].

CONCLUSION

Homeless individuals face a number of vulnerabilities, exposing them to a greater risk of injury, CP, depression and compromised quality of sleep. The relationship between pain and depression is bidirectional, and these people face sleep disturbances due to the adversities they are exposed to, which in turn contributes to the intensification of pre-existing CP or favors the emergence of new pain episodes.

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João Batista Santos Garcia

Conceptualization, Project Management, Methodology, Writing - Review and Editing, Supervision, Visualization

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