

Insomnia and the use of hypnotic drugs in the State of Mato Grosso do Sul, Brazil

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Abstract

Background and objective: Insomnia, the most frequent sleep disorder, significantly affects quality of life. The purpose of this study was to determine the prevalence of insomnia in the general population of adults in the State of Mato Grosso do Sul, Brazil.

Methods: A representative random sample of the population of 77 counties in the State of Mato Grosso do Sul (n = 569) was stratified by gender, age and socioeconomic status. Insomnia was classified as difficulty in initiating sleep, difficulty in maintaining sleep or early morning awakening. A structured questionnaire was used to collect data after informed consent from participants. Statistical analysis was conducted using the chi-square and Fisher's exact tests, and inferences based on the binomial prevalence of insomnia.

Results: Prevalence of insomnia was 19.93% in the study population, 25.17% among women and 14.86% among men. The mean age of the participants was 40.69 ± 14.18. The prevalence of insomnia was higher among separated people (31.11%). Hypnotic drugs were used by 7.90% of the participants and by 43.48% of those with insomnia in the preceding month.

Conclusion: The State of Mato Grosso do Sul, Brazil, has high prevalence rates of insomnia and the use of hypnotic drugs among the general population, despite the good predictors of quality of life and socioeconomic growth.

Keywords: insomnia, sleep disorders, hypnotic drugs, cross-sectional study, Mato Grosso do Sul, Brazil.

Introduction

Insomnia affects quality of life, and is the most prevalent sleep disorder in the general population (1-3). Studies have found prevalence rates ranging from 12 to 76.3%, depending on the criteria adopted for its definition (3-6). Insomnia afflicts mainly women, those who are separated, widowed or unemployed, individuals with

lower educational levels and socioeconomic status and the elderly (3,7-15).

Sociodemographic factors affecting insomnia should be studied to encourage the design and introduction of preventive programs and interventions around such an important public health problem.

The present study is the continuation of epidemiological investigations such as the study carried out in Campo Grande, the capi-

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tal of the State of Mato Grosso do Sul, Brazil (3). The purpose of this study was to determine the prevalence of insomnia and the use of hypnotic drugs in the general adult population of a Brazilian mid-western state, Mato Grosso do Sul.

Materials and Methods

This descriptive, analytical, epidemiological cross-sectional study was conducted in urban areas of the State of Mato Grosso do Sul, Brazil. According to the Instituto Brasileiro de Geografia e Estatística (IBGE – Brazilian Geography and Statistics Institute), the state of Mato Grosso do Sul has 2,078,001 inhabitants, 1,747,000 of whom live in urban areas (16). A representative sample of the population of 77 counties in the state of Mato Grosso do Sul ($n = 569$) was collected and stratified by gender, age and socioeconomic status. Data were collected by means of a questionnaire adapted from Del Giglio (17) and Souza et al. (3) and classified according to the insomnia diagnostic criteria from the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (18). In this study, insomnia was classified into three subtypes: difficulty in falling asleep (30 minutes or longer), referred to as initial insomnia or difficulty in initiating sleep (DIS); two or more awakenings during the night (30 or more minutes after falling asleep), referred to as intermediate insomnia or difficulty in maintaining sleep (DMS); and awakening earlier than desired without falling asleep again, referred to as terminal insomnia or early morning awakening (EMA). Insomnia was also classified as acute, when onset occurred in the preceding month, or chronic, when lasting for more than one month. Its frequency, classified according to more rigorous operational criteria, was three or more times a week. Insomnia should result in some degree of discomfort or impairment of daily activities on the following day, classified as mild discomfort (mild insomnia), moderate discomfort (moderate insomnia), or intense discomfort (severe insomnia). This study also aimed to investigate the correlation between insomnia subtypes – DIS, DMS and EMA – and the use of hypnotic drugs and alternative sleep-enhancing methods, regardless of etiology and cause and effect associations.

Data were collected by a company that specialized in population-based surveys (Coordenação de Estudo, Pesquisa, Assessoria e Consultoria Empresariais - CEPACE). Respondents were required to be aged 18 years or older, and interviews were undertaken at each household by one coordinator and four trained interviewers, using individuals who were home at the moment of the interview. A free and informed consent was obtained from all interviewees by signature or by fingerprint in cases of illiterate subjects. None of the individuals approached refused to be interviewed. The chi-square and Fisher's exact tests and odds ratio were used for descriptive statistical analysis and to calculate means, medians, standard deviations and variance.

Results

The prevalence of insomnia in the population of this sample was 19.93%; it was 25.17% among women and 14.86% among

men, with a statistically significant difference between genders ($p < 0.01$). Of the individuals with insomnia, 14.29% were single, 20.88% were married, 31.11% were separated and 21.14% were widowed ($p = 0.636$). Moreover, 26.71% had completed elementary school and 24.77% were illiterate or had not completed elementary school ($p < 0.01$). With regard to socioeconomic status, 29.63% were in the lowest class (class E) and 23.10% were in class D ($p = 0.05$). Finally, 66.67% had no permanent job and 35.11% were housekeepers ($p < 0.01$). Severe and chronic early morning awakening insomnia was the most prevalent type of insomnia recorded (9.62%).

The use of hypnotic drugs was reported by 7.90% of the respondents ($p < 0.01$) and by 43.38% of those who had insomnia. Of those who reported hypnotic drug use, 48.48% reported use three or more times a week in the preceding month, and 47.22% had been using hypnotics for 1 year or longer. Most users of hypnotic drugs had medical prescriptions (82.86%), but 11.43% were self-medicated. Additionally, 25.40% of the participants with insomnia used other sleep-enhancing drugs ($p < 0.01$), and 25.82% made use of alternative sleep-enhancing methods, such as taking a bath (33.33%) or using herbal teas (23.81%).

Discussion

Epidemiological studies have used different criteria to define insomnia. This explains the discrepancy in the prevalence rates reported, which range from 12 to 76.3% (3,6,19). This study found a prevalence for insomnia of 19.93% in the general population, with a significant difference between the mean ages of people with and without insomnia. Most people with insomnia were separated, widowed and/or had a low educational level, which is consistent with findings of other studies (3,10,20). A significant difference between genders was found, which has also been reported in several studies carried out in other countries (1,3,17). Hohagen et al. (21), however, conducted a study with the general population of Mannheim, Germany, using the same criteria used in our study. They found a prevalence of 31% of insomnia without any significant differences regarding age or gender.

Approximately 35% of the adult population in the United States has one episode of insomnia per year (22). Simon & Vonkorff (23) and Rocha (6) showed an increasing prevalence of insomnia among the elderly. Leger et al. (24) studied 12,778 French people aged 18 years or older using the same diagnostic criteria employed in the present study, and found a 19% prevalence of insomnia, with no significant age-related increase after 35 years of age. They did, however, describe an increase between the ages 25-34 years, regardless of gender. Other studies did not find any increase in the prevalence of insomnia related to age (25,26).

Yeo et al. (25) did not find any significant differences regarding educational level in their study of the population of Singapore. Other studies in several countries, however, have shown that insomnia is more prevalent among unemployed people (1,5,19,27-30).

In Campo Grande, there was a prevalence of chronic progression from difficulty in initiating sleep to difficulty in maintaining sleep and early morning awakening (3). In the United States, 10 to 15%

of the adults were found to have chronic or severe insomnia (14), and Mitchell & Woods (31) and Roth (32) found a 19% prevalence rate for chronic insomnia. Hohagen et al. (33) found a rate of 18% for severe insomnia. Weyerer & Dilling (34) reported a rate of 13.5% for moderate to severe insomnia. In Switzerland, Angst et al. (35) found chronic insomnia in 8% of individuals aged 20 to 21 years, and in 10% of those aged 27 to 28 years. In France, Leger et al. (24) found a rate of 9%. Kim et al. (30) described that difficulty in maintaining sleep was the most prevalent subtype in Japan. Mniszek (36) and Welstein et al. (37) found that difficulty in initiating sleep was the most prevalent subtype in their population, similar to our findings for the population in Campo Grande (3).

In Campo Grande, the prevalence of hypnotic drug use was 6.9%; this was more frequent among people with insomnia than in those that did not experience insomnia. A total of 70.3% of these users had taken these drugs in the preceding two years (3). Ohayon et al. (19) found that hypnotic drugs were used by 3.8% of the population in Canada. Hohagen et al. (33) reported a rate of 23.9% of hypnotic drug use among people with severe insomnia. In the United States, Mellinger et al. (38) reported a rate of 2.6% of use of hypnotic drugs prescribed by doctors, and 11% of users took the drug for one year or longer. In the San Francisco Bay area, Welstein et al. (37) reported that 17% of the population was self-medicated with hypnotic drugs.

In Campo Grande, 36.80% of the population made use of alternative sleep-enhancing methods (3). Rocha (6) found a rate of 31.30% in Bambuí, Minas Gerais, Brazil, and showed that the alternative chosen by 53.30% was alcoholic beverages. In their population, only 31.30% used baths (6). Welstein et al. (37) also found that, in the San Francisco Bay area, the most frequently used sleep-enhancing method among the general population was alcoholic beverages (18.70%).

The State of Mato Grosso do Sul, Brazil, has high prevalence rates of insomnia and use of hypnotic drugs among the general population, despite good predictors of quality of life and socio-economic growth. The most important predictor of insomnia was the female gender.

There was a high rate of medical prescriptions for hypnotic drugs, which does not rule out the importance of further studies investigating the significant rate of 11.43% of individuals with insomnia who are self-medicated.

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