



Original Article

Factors associated with self-reported need for treatment of sleeping difficulties: a survey of the general Swedish population

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ABSTRACT

Objective: This study aims to investigate factors associated with the self-reported need for treatment of sleeping difficulties in the general population.

Methods: This study consisted of a cross-sectional telephone survey of 1550 people randomly selected from the total population of Sweden. The survey, conducted by the Swedish national statistics agency, Statistics Sweden, was completed by 1115 people aged 18–85 years. Participants were asked about sleep patterns, daytime symptoms, physical and mental health disorders, use of prescribed hypnotics, help-seeking behaviors, and sociodemographic characteristics. They were also asked whether they thought they needed treatment for sleeping difficulties.

Results: A total of 12.5% of the participants reported a need for treatment because of sleeping difficulties. Significantly more women than men reported such a need (OR 1.46, 95% CI 1.02–2.10). Additionally, in univariate analyses, older age (age 60–69), sick leave, retirement, and unemployment were associated with a self-reported need for treatment, as were several sleep complaints, daytime symptoms, and physical and mental health disorders. A logistic regression model showed that difficulty initiating sleep (OR 6.29, 95% CI 3.67–10.78) was the factor most strongly associated with a self-reported need for treatment for sleeping difficulties. Other important factors were nonrestorative sleep (OR 3.70, 95% CI 2.05–6.69), mental health disorders (OR 3.01, 95% CI 1.59–5.67), and fatigue (OR 2.95, 95% CI 1.53–5.68).

Conclusions: There was considerable self-reported need for treatment for sleeping difficulties in the population. Difficulty initiating sleep was the factor most strongly associated with this need, followed by nonrestorative sleep, mental health disorders, and fatigue.

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1. Introduction

Sleeping difficulties are a prevalent health concern. About 20–30% of the adult population worldwide report difficulty initiating or maintaining sleep [1–3]. Women are more likely to report such difficulties than men [4].

Sleeping difficulties increase the risk for several serious health conditions, including cardiovascular disease, diabetes, and mental health disorders [5–7]. People with sleep-related conditions have more frequent contact with healthcare providers for both somatic and mental health disorders than those without sleeping difficulties [2,8–12].

Although there is high prevalence of sleeping difficulties in the global population and effective treatments exist, a large number of

people do not seek treatment for these difficulties [2,13–16]. Possible barriers to seeking help include self-medication with over-the-counter drugs or alcohol and a lack of understanding of available treatments [13]. People also tend to perceive their sleep problems as benign and trivial, and something they should be able to cope with [17].

Previous studies have focused on the characteristics of those who seek help from healthcare providers for their sleeping problems. Few have examined sleeping difficulties in the population as a whole. Thus, little is known about the group of people who do not seek help for their sleeping difficulties and even less is known about their perceived need for treatment.

The unique Scandinavian system of population-level data, which covers all resident individuals in these countries, provided the opportunity to conduct a survey of sleeping difficulties in a random sample of the general Swedish population. This study aimed to investigate factors associated with self-reported need for treatment of sleeping difficulties. The characteristics and symptoms of people who said that they needed treatment for sleeping

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difficulties in the survey were compared with those who said they did not.

2. Methods

2.1. Data collection

This study analyzed data from a nationwide, randomized telephone survey that the Swedish Council on Health Technology Assessment initiated to investigate sleeping difficulties in the Swedish population. The survey was conducted in December 2008 by Statistics Sweden, the country's official government statistics agency. The agency selected a random representative sample of the Swedish population using the Swedish Population Register. The sample was proportionally stratified by sex. A week before the start of the survey, Statistics Sweden sent a letter with information about the content and aim of the survey to the participants. The phone numbers of the people in the sample were collected from a telecommunication agency and trained interviewers from Statistics Sweden performed computer-assisted phone calls to collect the data.

2.1.1. Sample

The sample consisted of 1550 randomly selected people aged 18–94 years from the Swedish population. 1128 people (72.8% of the sample) completed the telephone survey.

Of those who completed the survey, 1115 (98.8% of the 1128 participants) responded to the outcome question: “Do you think you need treatment of some kind for sleeping difficulties?” The answers to this question were used to construct the outcome variable in this study (see Section 2.1.2.1 below). All analyses were based on data from the 1115 people who responded to this question. The respondents were aged 18–84 years old; their mean age was 49.4 years (SD 17.7), 532 (47.7 %) were men, and 583 (52.3%) were women. The characteristics of the 1115 participants are presented in Table 1.

A total of 422 in the total sample (27.2%) did not participate in the telephone survey. Of those who did not participate, 233 (55.2%) were men and 189 (44.8%) were women, 217 (51.4%) were unreachable, 162 (38.4%) declined to participate, and 43 (10.2%) were not able to participate for unspecified reasons. Of the 13 participants who did not respond to the outcome question, eight were men and five were women; their mean age was 40.4 years (SD 11.8).

2.1.2. Material

The telephone survey included 39 questions about the need for treatment, sociodemographic characteristics, sleep patterns, daytime symptoms, physical and mental health disorders, help-seeking behavior, and use of prescribed hypnotics. The responses to the survey questions were used to construct the following variables:

2.1.2.1. Self-reported need for treatment. The outcome variable in this study was self-reported need for treatment of sleeping difficulties. The survey question to identify need for treatment was: “Do you think you need treatment of some kind for sleeping difficulties?” Possible responses were yes or no.

2.1.2.2. Sociodemographic characteristics. For the purposes of analysis, participants were divided by sex, age group in years [18–29, 30–39, 40–49, 50–59, 60–69, and 70–84], employment status (employed, student, on sick leave, retired, unemployed, on parental leave), and marital status (single/living alone and married/cohabiting).

2.1.2.3. Sleep complaints. Difficulty initiating sleep was assessed by asking: “How often do you have difficulty falling asleep?” Early morning awakening was assessed by asking: “How often have you woken up too early in the morning and were not able to go back to sleep?” Nonrestorative sleep was assessed by asking: “How often

does your sleep provide insufficient rest?” The recall period for these questions was the month prior to the study. Responses were given on a 5-point scale that ranged from 1 (never or less than once a month) to 5 (daily or almost daily). Responses were collapsed for the current analyses: responses between 1 and 3 (never to twice a week) were classified as indicating minor problems, and responses between 4 and 5 (three nights a week to daily) as major problems.

Difficulty maintaining sleep was assessed by asking: “How many times do you usually wake up at night?” Responses were provided on a 5-point scale that ranged from 1 (zero times) to 5 (at least five times). Responses between 1 and 3 (zero to two times) were classified as indicating minor problems, and responses between 4 and 5 (three or more times) as major problems.

A categorical variable was also created for analyzing sleep complaints. The categories were one sleep complaint, two sleep complaints, three sleep complaints, and four sleep complaints.

Sleeping difficulties of a more persistent nature were assessed by asking: “During adulthood, how has your sleep been in general?” Responses were provided on a scale of 1–5; higher scores indicated worse problems. Responses between 1 and 3 (very good to moderate) were classified as signifying minor problems, and responses between 4 and 5 (quite bad to very bad) as major problems.

2.1.2.4. Sleep duration and sleep onset latency. Sleep duration was assessed with questions about estimated total hours of sleep on weeknights and weekends. Sleep onset latency was assessed by asking: “How many minutes does it usually take to fall asleep?” Answers were treated as continuous variables.

2.1.2.5. Daytime symptoms. All the questions about daytime symptoms had a recall period of one month and were assessed by asking: ‘Have you had problems with daytime fatigue?’, ‘Have you had difficulty concentrating?’, ‘Have you had problems with becoming easily irritated?’, and ‘Have you had problems with depressed mood?’ Possible answers were yes or no. If the participant answered yes, he or she was asked about the severity of the problem. Responses to the question about severity were provided on a 4-point scale that ranged from 1 (minor problems) to 4 (very severe problems). Responses of 1–2 were classified as indicating minor problems, and responses of 3–4 as major problems.

2.1.2.6. Interference with daily life. To assess more comprehensive problems related to sleeping difficulties, the participants were asked two questions. The first was: ‘Have your sleeping difficulties interfered with your daily life during the last month?’ Possible answers were yes and no. If the participant answered yes, he or she was asked about the severity of the problem. Responses to the question about severity were provided on a 4-point scale that ranged from 1 (minor problems) to 4 (very severe problems). Responses of 1–2 were classified as indicating minor problems, and responses of 3–4 as major problems. The second question was: ‘To what extent are sleeping difficulties a problem in your life?’ Responses were provided on a scale of 1–5; higher scores indicated more severe problems. Responses between 1 and 3 were classified as signifying minor problems, and responses of 4–5 as major problems.

2.1.2.7. Insomnia disorder. Insomnia disorder (according to Diagnostic and Statistical Manual of Mental Disorders, 5th edition) is the presence, for at least 1 month or more, of at least one symptom of disturbed sleep combined with daytime symptoms [18]. For the purposes of the current analyses, insomnia disorder was defined as having major difficulty initiating sleep during the past month and/or maintaining sleep (score between four and five), and having moderate to severe sleeping difficulties that interfered with daily

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