Factors contributing to poor satisfaction with sleep and healthcare seeking behavior in older adults

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A B S T R A C T

Objective: To identify factors influencing older adults’ poor satisfaction with sleep and their current healthcare seeking behaviors.

Design: Cross-sectional study.

Setting: Pittsburgh Claude D. Pepper Older Americans Independence Center Community Registry.

Participants: Individuals aged 60 or older enrolled in the registry that completed a cross-sectional mailed survey (N = 1026).

Measurements: Participant demographics (age, gender, marital status, race, education), overall health (self-rated health, pain, and comorbidities), and health behaviors (physical activity, smoking, drinking behaviors) were collected from the registry database. A mail survey was used to collect self-report on sleep problems and their current healthcare seeking behaviors. Simple and multiple logistic regression models were used to evaluate associations between variables.

Results: A total of 19.3% of participants reported being “dissatisfied” or “very dissatisfied” with their overall sleep quality. Participants who reported poor sleep satisfaction were more likely to be single and report poorer overall health compared to participants who were satisfied with their sleep quality. They were also more likely to report using over-the-counter (OTC) and prescription sleep medications, discuss sleep problems with a healthcare provider, and use strategies to improve their sleep (P < .05). A higher proportion of participants with trouble sleeping throughout the night reported they had discussions with a healthcare provider (47.2%), and used OTC (38.6%) or prescription (20.1%) sleep aids.

Conclusions: These results underscore the possible linkage between poor satisfaction with sleep and older adults’ current healthcare seeking behaviors and self-treatment methods, particularly using OTC medications to cope with sleep problems without consulting a healthcare provider.

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Introduction

Sleep is an integral part of maintaining physical, cognitive, and emotional health and well-being; however, poor sleep health is a common problem among the elderly in the United States. The National Sleep Foundation recommends that older adults (aged 65 and older) obtain 7 to 8 hours of sleep each night to avoid compromising their health. Despite this recommendation, 25% to 32% of older adults in the United States get fewer than 7 hours of sleep. Furthermore, 15% to 50% of older adults reported that they have experienced sleep difficulties. Potential contributing factors to decreased sleep quality in the elderly include changes in chronic conditions, medication use, circadian rhythms, and sleep patterns. Additionally, older adult women in particular report significantly more sleep problems than men. Many older adults often have one or multiple chronic diseases or comorbidities, which may further increase the risk for adverse health effects and symptoms associated with sleep difficulties. Poor sleep health may impact several domains in older adults such as difficulty sustaining attention, slowed response time, impairments in memory and concentration, increased risk of falls, and decreased ability to accomplish daily tasks. In order to improve sleep quality in older adults, there must be a better understanding of the multitude of factors impacting their sleep satisfaction.

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Despite the growing literature on sleep disturbance and prevalence in the elderly population, sleep difficulties in older adults are under-recognized and undertreated; one study found that many elderly patients often do not disclose sleep difficulties to their healthcare providers. Untreated sleep problems in older adults may result in decreased health-related quality of life, loss of independence due to functional limitations, multiple chronic conditions, cardiovascular disease, obesity, and diabetes. Further study is needed to better understand the association between sleep satisfaction and healthcare seeking behaviors in older adults. With a greater awareness and establishment of these issues, healthcare providers, older adults in the general public, and researchers can begin to treat satisfaction with sleep as an indicator of overall health, alongside other standard indicators such as blood pressure and quality of life.

Hence, the objective of this study was to elucidate factors including demographics, overall health, and health behaviors that may be associated to poor satisfaction with sleep in older adults. The associations between satisfaction with sleep, reported sleep problems, and healthcare seeking behaviors were also explored. We hypothesized that individual characteristics, such as being a female and self-rated poorer overall health are associated with poor satisfaction with sleep. In addition, poor satisfaction with sleep is associated with increasing underlying sleep problems and healthcare seeking behaviors.

**Participants and methods**

**Study participants**

Study participants were members of the Pittsburgh Claude D. Pepper Older Americans Independence Center Community Registry of community-dwelling persons in the Pittsburgh, Pennsylvania region aged 60 or older. Registry members previously consented to being contacted for participation in Pepper-approved research studies, and are followed yearly to update their contact and basic health information.

**Data collection**

Survey packets containing an introduction to the study, consent form, mail survey, and a pre-addressed stamped return envelope were sent via the United States Postal Service (USPS) to 2064 Pepper registrants in February 2015. The survey was created based upon prior research and the objectives of this study using investigator developed questions and adapted items from validated sleep health questionnaires. Survey questions were designed to collect information on older adults’ perceptions of sleep quality, satisfaction with sleep, and approaches used to alleviate sleep problems. Survey questions were vetted by the research team and piloted with multiple older adults in the community to ensure they were clear to study participants. Follow-up reminder postcards were sent out after the initial survey packet mailing and surveys were returned through April 2015. Surveys were returned by 1026 participants with a response rate of 49.7%. Eleven of the returned surveys were excluded from analyses due to missing information regarding sleep satisfaction, resulting in a final sample of 1015 participants. This study was approved by the Institutional Review Board at the University of Pittsburgh.

**Measures**

**Overall satisfaction with sleep.** Overall satisfaction with sleep quality was measured on a 5-point Likert scale (1 = very dissatisfied to 5 = very satisfied) with the following survey item: “please rate your overall satisfaction with your sleep quality.” We classified participants into two groups based on their reported overall satisfaction with sleep quality. A participant was defined as “satisfied or neutral” (Group 1) if he/she reported being very satisfied, satisfied, or neutral (neither satisfied nor dissatisfied) with sleep quality. Participants that reported being “dissatisfied” or “very dissatisfied” were classified as “dissatisfied” (Group 2).

**Participant characteristics: Demographics, overall health, and health behaviors.** Participant characteristics that were potentially associated with poor satisfaction with sleep, which included demographics, overall health, and health behaviors, were collected by the Pepper registry database and linked to survey responses. Participant demographics included age, gender, marital status, race, and educational attainment. To assess overall health, participants’ self-rated health (excellent, very good, good, fair/poor), pain (never, sometimes, or often/always have pain), and number of reported comorbidities were used from the registry database. Health behaviors were assessed by participants’ reported participation in physical activity (daily, >3 times a week, <3 times a week, or none), and smoking (not at all, some days, and every day) and drinking (not at all or yes) behaviors in the past 30 days.

**Sleep problems.** Problems with sleep were assessed with three survey items. To assess sleep problems, participants were asked “how often do you have trouble sleeping at night?” Responses included a range from 1 to 3 nights per week to 1 to 2 nights per year, or never. Participants were asked to select troublesome aspects of sleep, with responses such as trouble falling asleep, excessively sleepy during the day, or other with the request to specify if not listed. To assess the potential causes of sleep problems, participants were asked “do any of the following cause you difficulty initiating sleep more than 4 times a month for at least 2 consecutive months?” Participants were asked to select from responses that included work hours and/or demands of work, emotional stress from work-related activities, family commitments, changing circadian rhythms, or another specified reason.

**Healthcare seeking behaviors.** Participants’ healthcare seeking behaviors and coping strategies to address sleep problems were assessed using five survey items. Participants were asked to answer yes or no to the following questions to assess healthcare seeking behaviors regarding sleep problems: “have you ever been diagnosed with a sleep condition by a doctor”; “have you ever discussed sleep problems with a health care provider?” “have you ever used OTC sleep aid medication?” “have you ever used prescription sleep aid medication?” To assess coping strategies for sleep problems, participants were asked “do you use any of the following methods regularly to help you fall sleep?” Examples of responses included reading, watching TV, or taking an over-the-counter (OTC) or prescription medication.

**Statistical data analysis**

Based on findings from previous research and our study objectives, we hypothesized that participants less satisfied with sleep would report poorer overall health, unfavorable health behavior, more sleep problems, and healthcare seeking behaviors such as consulting a healthcare provider or using various strategies (eg, OTC or prescription medications, reading before bed) to help improve sleep. We also investigated gender differences in poor satisfaction with sleep, sleep disturbances, and healthcare seeking behaviors.

In order to provide meaningful comparison and to identify factors associated with poor satisfaction with sleep, the responses to the question of sleep quality were collapsed into two groups: Group 1 - Satisfied or neutral about their sleep quality, included very satisfied, satisfied, and neutral (neither satisfied nor dissatisfied); and Group 2 – Dissatisfied, included dissatisfied and very dissatisfied (see Table 1). To test our first hypothesis, descriptive and bivariate analyses were used to describe the characteristics of the sample in the two groups. Multiple logistic regression models were used to
مقدمه
مقاله مقایسه‌ای انتشار مقالات علمی پزشکی تحقیقاتی جهانی و ایران، به صورت به‌صورتی با توجه به این که کیفیت و کمیت مقالات ایران در مقایسه با سایر کشورها کاهش یافته است، در این پژوهش با جستجوی داده‌های مربوط به امکان انتشار مقالات در ایران، تلاش کرده‌ایم که این خدمات را بهبود بخشی. در این مقاله، می‌توان از مواردی مانند تعداد انتشار مقالات، شاخص‌های کیفیت مقالات، شاخص‌های کمیت مقالات، و شاخص‌های اثر مقالات استفاده کرد. در این پژوهش، با استفاده از داده‌های جمع‌آوری شده از سایت‌های علمی جهانی و ایران، در این مقاله، می‌توان از شاخص‌های کیفیت مقالات پزشکی جهانی و ایران استفاده کرد.

نتایج
استنتاج اصلی این مقاله، کاهش کیفیت و کمیت مقالات علمی پزشکی جهانی و ایران است. در این مقاله، با توجه به کاهش شاخص‌های کیفیت و کمیت مقالات، کاهش تعداد انتشار مقالات و کاهش اثر مقالات در ایران مشاهده شده است. در این مقاله، با استفاده از داده‌های جمع‌آوری شده از سایت‌های علمی جهانی و ایران، شاخص‌های کیفیت و کمیت مقالات در ایران مورد بررسی قرار گرفته است. در این مقاله، با توجه به کاهش شاخص‌های کیفیت و کمیت مقالات، کاهش تعداد انتشار مقالات و کاهش اثر مقالات در ایران مشاهده شده است.

بحث
واضح است که کاهش کیفیت و کمیت مقالات علمی پزشکی جهانی و ایران است. در این مقاله، با توجه به کاهش شاخص‌های کیفیت و کمیت مقالات، کاهش تعداد انتشار مقالات و کاهش اثر مقالات در ایران مشاهده شده است. در این مقاله، با استفاده از داده‌های جمع‌آوری شده از سایت‌های علمی جهانی و ایران، شاخص‌های کیفیت و کمیت مقالات در ایران مورد بررسی قرار گرفته است. در این مقاله، با توجه به کاهش شاخص‌های کیفیت و کمیت مقالات، کاهش تعداد انتشار مقالات و کاهش اثر مقالات در ایران مشاهده شده است.

درخواست‌های پژوهش
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