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The Epidemiology of Subjective Sleep Quality in the Citizens of Kermanshah, Iran

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About this report

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1 Original submission

1 comment · 11 Apr 2020

Associate Editor

MAJOR REVISION 11 Apr 2020

Esteemed Professor, Mr. Kakabaraei
Greetings,
Thank you for submitting your article entitled "An epidemiological study of sleep disorders among citizens of Kermanshah". We hereby inform you that the said article requires revision. The expert and editorial board comments are attached for your information. Please respond to the questions raised below within a maximum of two weeks and also add the necessary explanations to the text of the article. Be sure to mark the corrected items and changes as underline. The revised article will be reviewed again. Please note that if you do not respond by the deadline, your article will be removed from the agenda. Note - Please both E-mail the revised article and respond through the website. Please edit the references accurately and completely according to the journal format and PubMed. Correct the full names of the authors, their Affiliation along with the address, telephone and E-mail of the corresponding author according to the journal format (Persian and English).
First expert's comments:
1-Title:
Based on the content of the article, the title does not seem correct. This study assessed subjective sleep quality. Sleep disorders were not assessed.
2-Persian and English abstract (Note: the abstract contains the background, methods, results and conclusion sections and is a maximum of 250 words):
The Persian abstract is written without structure. The introduction and background, methods, ... sections need to be specified. In this abstract, no background for the study is given either, and the first sentence begins with the aim. The abstract lacks a conclusion and ends with the results.
Although the article will be translated if accepted, it is not written in fluent Persian.
3-Keywords:
The keywords are well chosen.
4- Introduction:
The introduction is very long, and in the last paragraph it has turned into a literature review in a thesis; in this literature review, only the student population is mentioned, and this has led the authors to argue that epidemiological studies are limited to the student population and to justify the necessity of their study in this way, whereas epidemiological studies also exist at the community level. It is suggested that the introduction refer to epidemiological studies of sleep such as... An
epidemiological survey of psychiatric disorders in Iran: Kermanshah

Prevalence of symptoms and risk of obstructive sleep apnea syndrome in the general population.

. On the other hand, epidemiological studies always have their place and are also repeatable. More importantly, no reference is made to the types of sleep disorders based on scientific sources such as DSM or ICSD.
5- Materials and Methods:
The main concern relates to the instrument. The Pittsburgh questionnaire does not measure sleep disorders but measures subjective sleep quality. It would have been better to use a checklist of sleep disorders based on DSM.
Whereas the Pittsburgh questionnaire is a valid questionnaire, what was the reason for performing a psychometric assessment of this questionnaire?

No reference is made to the cutoff, i.e., above what score sleep quality is impaired.
Unfamiliar words such as "domain" have been used: "This self-report scale has multiple domains."
It is also suggested that terms be chosen consistently in the text of the article; in one place questionnaire, in another scale, and in another index has been used.
6- Results:
In the results, it is better to report the results according to the objectives, i.e., first the prevalence of sleep disorder and then its association with demographic variables should be presented. The order of the tables should follow this. Also, the main point is that it is not stated what percentage have sleep disorder.
Does the study have ethics committee approval? Please state it.
7- Discussion:
The discussion is very short and superficial, while there is no reference to overall sleep quality, i.e., whether the citizen population of Kermanshah has a favorable status in terms of sleep quality or not. The use of hypnotic drugs, which was among the results, has not been discussed. The reason for more sleep disorders in women has also not been discussed.
In explaining the reason for poor sleep quality in married people, in the last sentence of the first paragraph of the discussion, "single" has mistakenly been written instead of "married".
8- Conclusion:
It is not based on the results, and a few superficial suggestions have been made.
9- References
Not according to the format. A clear example is reference number 13.
Second expert's comments:
1-Title
2-Persian and English abstract (Note: the abstract contains the background, methods, results and conclusion sections and is a maximum of 250 words):
The abstract should be structured and revised according to the journal format.
3-Keywords:
4- Introduction:
Epidemiological studies from Iran are not mentioned.
The introduction is long.
The major part of the introduction addresses the relationship between sleep and health (different aspects of health), which would be better summarized.
The necessity of conducting the present study is not well explained.
5- Materials and Methods:
The scoring method and the method of interpreting the questionnaire score should be explained.
If a statistical comparison was made between the sleep quality of men and women or other groups, the research is descriptive-analytical
6- Results:
It seems that the order of the means and standard deviations in parentheses is mixed up.
Specialized statistical terms, etc. should be footnoted for appropriate translation of the article (example: skewness and kurtosis in Table 2)
7- Discussion:
Should be re-read. In the thirteenth line, it seems that the word "single" has been written instead of "married".
The discussion is weak; it needs to be rewritten and the findings explained.
8- Conclusion:
There is none. It needs to be added according to the journal format.
9- References
Should be revised according to the journal format.
Third expert:

1-Title: Considering the ICSD-3 and DSM-5 criteria, it is better to use "sleep problems" instead of "sleep disorders" in the title. Also, the research instrument was a questionnaire, not a clinical interview; therefore, using "sleep problems" is better. Sleep problems
2- Materials and Methods: It is necessary to refer to the original Buysse article. Also, the article on the Persian version of the Pittsburgh questionnaire should be used.
Sleep Breath. 2012 Mar;16(1):79-82. doi: 10.1007/s11325-010-0478-5. Epub 2011 May 26

The word "participant" in the study is better than the word "subject". participants
3- Discussion:
In the discussion section, to scientifically explain the findings and results of the present study, it is essential to use scientific sources.
4- Conclusion: The framework of the article needs to be written according to the journal of the University of Medical Sciences.
Conclusions and Acknowledgements
5- References: Most references are not recent. Try to cite articles from the past 5 years.

[Translated from Persian by the Brieflands editorial office.]

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

With greetings and respect,
To the esteemed Editor of the journal,
As instructed, all of the points raised have been corrected. Thank you for your careful review. In addition, one of the co-authors has been removed from this article, but whatever I tried, the removal could not be made on the website. I kindly ask that you proceed according to the names listed in the manuscript. With thanks,
Dr. Keivan Kakabaraei

[Translated from Persian by the Brieflands editorial office.]

2 Revision 1

0 comments

No public comments in this round.

3

Revision 2

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Epidemiological Study of Subjective Sleep Quality among the Citizens of Kermanshah

Abstract

Background: Subjective sleep quality is of great importance for health, quality of life, and the efficient functioning of individuals. Objective: The present study was conducted to investigate the epidemiology of subjective sleep quality among the citizens of Kermanshah. Methods: This research was conducted using a descriptive cross-sectional method. The statistical population of the study comprised all citizens living in the city of Kermanshah in 1396 (Solar Hijri), from whom 450 people were selected as the sample using multistage random sampling; after the inclusion and exclusion criteria were applied, 416 people were assessed using a self-report demographic questionnaire and the Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989). Results: The mean total Pittsburgh sleep quality score among 79% of the participants was above the cut-off point (M = 6.64). In addition, analysis of the questionnaires showed that the highest frequency of sleep problems was, in order, in the components of subjective sleep quality from the individual's perspective, sleep latency, sleep disturbances, and daytime dysfunction. Furthermore, 10.6% of the participants used sleeping medications to a very large extent and 10.3% to a relatively large extent. The fewest problems were reported in sleep efficiency. Moreover, women had poorer sleep quality than men, and a significant relationship was observed between age and sleep latency, sleep duration, use of sleeping medication, and daytime dysfunction. Conclusion: This study reported the subjective sleep quality of the citizens of Kermanshah to be at an undesirable level; given the considerable effect of sleep quality on individuals' functioning and quality of life, it is necessary for health planners and managers to pay attention to this aspect of health.

Keywords: Epidemiology, Subjective Sleep Quality, Citizens, Kermanshah

Epidemiology of Subjective sleeps quality among Kermanshah citizens

Abstract

Background: Subjective quality of sleep is very important in health, quality of life and efficient performance of people. **Aim:** The present study aims to investigate the epidemiology of subjective quality of sleep among the citizens of Kermanshah. **Method:** This study was performed by descriptive-cross-sectional method. The statistical population of the study was all citizens living in Kermanshah in 2017, who were selected as a sample using 450 multi-stage random sampling, And after the criteria for entry and exit, 416 people were assessed using the self-report questionnaire of demographic characteristics and the Petersburg Sleep Quality Questionnaire (PSQI, Baisi et al., 1989). **Results:** The average score of Petersburg's sleep quality was higher among 79% participants above the cutting point (m=6.64),Also analysis of the questionnaire showed that the highest frequency of sleep problems were in the components of subjective quality of sleep from a person's point of view, delayed sleep, sleep disorders and daily functional disorders. Also, 10.6% of the subjects used a very high dose and 10.3% used a relatively high amount of sleeping pills. Minimal sleep problems have also been reported. Women have a lower adverse quality of sleep than men, and there is a significant relationship between age and sleep delay, sleep duration, use of sleeping pills, and daily functional disorders. **Conclusion:** This study reported the subjective quality of sleep of Kermanshah citizens in an undesirable level and considering the significant effect of sleep quality on performance and quality of life, it is necessary to pay attention to this aspect of health to planners and health managers.

Keywords: Epidemiology, subjective Sleep Quality, Citizens, Kermanshah

Introduction

Extensive research evidence on sleep has shown that sleep quality is of great importance in maintaining health, quality of life, and the efficient functioning of individuals during daily activities. The systems involved in regulating sleep-wakefulness overlap and interact with the centers regulating emotion, feeling, and other behaviors, and a disrupted sleep-wake cycle and poor sleep quality have a destructive effect on individuals' physical, mental, emotional, and cognitive health [1, 2, 3, 4]. Accordingly, problems of subjective sleep quality, as a biocognitive variable, are described and explained by the categories of sleep latency, reduced effective sleep duration and sleep efficiency, problems in daytime functioning resulting from nighttime sleep quality, use of sleeping medications, and various

sleep disorders. Poor sleep quality has harmful effects on physical health [5], including cardiovascular diseases [6], as well as cognitive-behavioral disorders, mood disorders such as anxiety and depression [7, 8], irritability, fatigue, reduced memory and concentration [1], reduced appetite, tension, aggression, and violence [9]; it also affects the functioning and progress of members of society [10] and .[12 ,11] leads to disruptions in their social and occupational activities

Given the importance of the subject and the effects of poor sleep quality on mental functioning and on mental and physical health, as well as the large number of people with subjective sleep quality problems referring to psychiatric clinics, many studies have been conducted in Iran and abroad on the epidemiology of sleep problems and subjective sleep quality, all of which have emphasized the necessity of examining subjective sleep quality and the distribution of sleep quality problems in order to inform citizens, implement preventive educational programs, and use effective strategies [3, 13, 14]. Research evidence has shown that 39.3% of adults suffer from insomnia and poor quality of the sleep cycle and feel tired during the day [15]; in another study, the prevalence of poor sleep quality was estimated at 62% [16]. Wang et al. [17], in a study entitled examining the prevalence of sleep quality and its associated factors, showed that the subjective sleep quality score was 3.72 and that disruption of the sleep cycle and poor sleep quality were highly prevalent; the results also showed that older age, female sex, being single, low educational level and income, depression, and alcohol and cigarette use can increase the odds of poor sleep quality. Nicolau et al. [18] also showed that women have poorer sleep quality than men and that, among women, those in the premenstrual period reported very poor sleep quality; consequently, hormonal changes in women influence their poor sleep quality. Guido et al. [19], in a study entitled examining sleep health in low- and middle-income countries, showed that, owing to cultural, demographic, geographical, and health factors in these countries, poor subjective sleep quality is highly prevalent. Shoichiro et al. [20] reported a mean subjective sleep quality of 3.3 and also showed that subjective sleep quality is associated with individuals' quality of life. Eller et al. [8] reported the sleep quality of 24% of students as relatively good, 6% as poor, and 1% as very poor. In their study, difficulty falling asleep, difficulty maintaining sleep, morning tiredness, daytime sleepiness, nightmares during nighttime sleep, and waking earlier than usual in the morning were highly frequent among students. In the study

by Marlit et al. [21], difficulty falling asleep, difficulty maintaining sleep, daytime sleepiness, and sleepiness in class were very common among students. Pagal and Kwaitkowski [22], examining the sleep-wake pattern of students, found that 69.7% of students with a low grade point average had difficulty falling asleep. Furthermore, 65.6% of the latter group reported that they constantly pace at night because they cannot fall asleep, and 72.7% of those with poor sleep quality had difficulty with concentration and attention during the day.

Studies on the prevalence of sleep-wake cycle disorders and subjective sleep quality have been conducted on Iranian samples. Shaygannejad et al. [23], in a study of 495 neurological patients with a mean age of 34.92, reported low subjective sleep quality. Papi et al. [24], in a study entitled the prevalence of sleep disorders in Ahvaz, showed that 13.8% reported poor sleep quality, 81.5% moderate sleep quality, and 4.6% severe sleep disturbance, and 86.1% were identified as having sleep disorders ranging from mild to severe. Chehri and Parsa [25] examined the epidemiology of sleep hygiene and its associated factors in adults; the results showed that 64.5% of adults reported poor sleep quality, and sleep quality was not significantly associated with the participants' sex, marital status, educational level, or occupation. In a study, Khazaie et al. [3] showed that 10% of the participants reported breathing pauses more than once a week and poor sleep quality. Mosavi et al. [2], in a study of medical students, showed that 9.1% of the participants reported very good sleep quality, 36.1% good sleep quality, 39.3% satisfactory sleep quality, and 13.5% poor sleep quality.

Considering the epidemiological studies reviewed and the high prevalence of subjective sleep quality problems in most of them, it is important to provide information about sleep health services in order to raise the awareness of individuals and health care providers, and to carry out interventions to reduce the likelihood of physical and psychological harm to citizens and to improve their occupational and social functioning. Therefore, the aim of the present study is an epidemiological investigation of subjective sleep quality among ordinary citizens of Kermanshah.

Methods

The present study was conducted using a descriptive-analytical method. To carry out the research, in coordination with the relevant officials, 416 citizens of Kermanshah with a mean age of 34.35 were selected by multistage random sampling and examined. It should be noted that the inclusion criteria were age over 16 years and the consent and awareness of the citizens, and the exclusion criteria were having specific diseases such as mental disorders, epilepsy, etc.; a history of using specific medications or narcotics; and having an occupation requiring night shifts.

To collect the data, a self-report questionnaire with two sections, the participants' demographic characteristics and the Pittsburgh Subjective Sleep Quality Index (PSTQ), was used. The first section included demographic characteristics such as age, sex, marital status, educational level, employment status, monthly income, daily consumption of caffeinated beverages, and cigarette and tobacco use, and the second section consisted of the items of the 18-item Pittsburgh Subjective Sleep Quality Index (PSTQ) of Buysse et al. [26]. In this study, the Persian version of the Pittsburgh Subjective Sleep Quality Index by Farrahi Moghaddam et al. [27] was used. This questionnaire is classified into seven subscales, namely subjective sleep quality, sleep latency, effective sleep duration, sleep efficiency, sleep disturbances, use of sleeping medications, and daytime dysfunction, and it assesses the participants' subjective sleep quality over the past month. Each item is scored on a Likert scale from 0 to 3. The total score of the Pittsburgh sleep quality scale is obtained by summing the scores of its seven components (0 to 21); a score of 0 to 5 indicates very good sleep quality, a score of 5 to 11 relatively good sleep quality, a score of 11 to 16 relatively poor sleep quality, and a score from 17 very poor sleep quality. Buysse et al. [26] reported the cut-off point of the Pittsburgh questionnaire as above 5, and Backhaus et al. [28] reported a cut-off point above 6. In this study, a cut-off point of 6 was used. The validity of this questionnaire has been reported as 0.8, and its reliability, examined by test-retest, as between 0.93 and 0.98 [26]. In Iran, the validity and reliability of this questionnaire have also been confirmed; in the study by Hasanzadeh et al., the Cronbach's alpha coefficient of this questionnaire was 0.78 to 0.82 [29]. For the Pittsburgh Sleep Quality Index, a Cronbach's alpha of 0.77 has been reported [27]. In the present study, the Cronbach's alpha coefficient was 0.81. The validity of the scale was also examined by confirmatory factor analysis, and the fit indices confirmed the validity of the

scale. The data extracted from the present study were analyzed in two parts, descriptive and inferential, using SPSS23 software.

In this study, the sample was selected by multistage random sampling, and no participant was compelled to take part in the research. The questionnaires were designed without names so that the identity of the individuals studied would not be revealed. In addition, during implementation, appropriate guidance on data collection was provided to both the interviewers and the participants. Moreover, the participants' information remained confidential, and the data were described and interpreted without bias.

Results

Examination of the questionnaires of the 416 participants showed that 42.3% of the participants were male and 57.2% female, 44.7% were single or divorced and 55.3% married, and 16.59% were under 50 years of age and 83.4% over 50 years of age. The mean age of the participants was 64.4, with a standard deviation of 4.65. Table (1) shows the frequency distribution of the scores of the Pittsburgh sleep quality components among the citizens of Kermanshah.

Table 1: Frequency distribution (percentage) of the Pittsburgh sleep quality components for all participants (n=416)

Very poor	Relatively poor	Relatively good	Very good	Variables
17.5	58.5	15.2	8.7	**Subjective sleep quality from the individual's perspective**
14.9	25.5	32.7	26.9	**Sleep latency**
5.7	12.2	45.2	37	**Effective sleep duration**
3.5	7.2	7.2	82.1	**Sleep efficiency**
4.3	30.3	53.8	11.5	**Sleep disturbances**
10.6	10.3	13	66.1	**Use of sleeping medication**
10.9	16.2	28.1	44.8	**Daytime dysfunction**

According to the results presented in Table (1), the greatest problems were found, in order, in the components of subjective sleep quality from the individual's perspective (58.5% relatively poor and 17.5% very poor), sleep latency (25.5% relatively poor and 14.9% very poor), sleep disturbances (30.3% relatively poor and 4.3% very poor), and daytime dysfunction (16.2% relatively poor and 10.9% very poor). In addition, 10.6% used sleeping medications to a very large extent and

10.3% to a relatively large extent. The fewest problems were reported in sleep efficiency, with 7.2% relatively poor and 3.5% very poor. Table (2) shows the .descriptive indices of Pittsburgh sleep quality and its components

Table 3: Descriptive indices of Pittsburgh sleep quality and its components for all participants (n=416)

Kurtosis	Skewness	Standard deviation	Mean score	Variables
1.15	0.68-	0.68	1.95	**Subjective sleep quality from the individual's perspective**
0.81-	0.27	0.93	1.21	**Sleep latency**
1.21	0.87	0.71	0.77	**Effective sleep duration**
0.29	0.50	0.36	0.09	**Sleep efficiency**
0.05	0.21	0.60	1.31	**Sleep disturbance**
1.78	1.77	0.94	0.51	**Use of sleeping medication**
0.62-	0.62-	0.98	0.89	**Daytime dysfunction**
0.49	0.49	2.21	6.64	**Total Pittsburgh sleep quality score**

According to the results of Table (2), the mean total Pittsburgh sleep quality score was 6.64, with a standard deviation of 2.21. Among the components of Pittsburgh sleep quality, the order of prevalence was as follows: subjective sleep quality from the individual's perspective, with a mean of 1.95 and a standard deviation of 0.68; sleep disturbance, with a mean of 1.31 and a standard deviation of 0.60; sleep latency, with a mean of 1.21 and a standard deviation of 0.93; daytime dysfunction, with a mean of 0.89 and a standard deviation of 0.98; effective sleep duration, with a mean of 0.77 and a standard deviation of 0.71; use of sleeping medications, with a mean of 0.51 and a standard deviation of 0.94; and sleep efficiency, with a mean of 0.09 and a standard deviation of 0.36. In other words, the highest prevalence was reported in subjective sleep quality from the individual's perspective and the lowest prevalence in sleep efficiency. Table (3) below shows the results of the comparison of sleep .quality based on the participants' sex, marital status, and age

Table 3: Comparison of Pittsburgh sleep quality based on sex, marital status, and age group (n=416)

P	df	t	Mean sleep	Percentag	Frequency	Sleep

			quality	e		disturbance
0.001	412	4.023				**Sex**
			7.91	57.2	238	Women
			6.61	42.3	176	Men
0.001	414	4.18				**Marital status**
			6.60	44.7	186	Single or divorced
			7.93	55.3	230	Married
						Age group
0.01	414	3.13	6.59	16.59	69	Under 50 years
			7.98	83.41	347	years and 50 above

The results of Table (3) regarding subjective sleep quality in women and men showed that women (7.91 ± 3.33) had poorer sleep quality than men (6.64 ± 3.10). In addition, the analyses showed a significant relationship between age and some components of Pittsburgh sleep quality, including sleep latency ($r = -0.16$, $p < 0.01$), sleep duration ($r = 0.19$, $p < 0.01$), use of sleeping medication ($r = 0.18$, $p < 0.01$), and daytime dysfunction ($r = -0.12$, $p < 0.05$). In terms of marital status, 176 people (42.3%) were single, 230 people (55.3%) were married, and 10 people (2.4%) were divorced. The mean sleep quality score of single individuals (6.60 ± 2.92) was lower than that of married individuals (7.93 ± 3.45), indicating better sleep quality in .single individuals than in married individuals

Discussion

This study was conducted with the aim of an epidemiological investigation of subjective sleep quality among the citizens of Kermanshah in 1396 (Solar Hijri). The results of the present study showed that 8.7% of the participants reported very good subjective sleep quality, 15.2% relatively good, 58.5% relatively poor, and 17.5% very poor; these results indicate a high prevalence of poor sleep quality among the participants. The mean total Pittsburgh sleep quality score of 79% of the participants was reported to be above the cut-off point (M = 6.64). These results are consistent with many studies [15, 16, 17, 23, 24, 25]. However, they are inconsistent with the study by Mosavi et al. [26], which reported the prevalence of poor sleep quality as 2%. The results also showed that, among the components of Pittsburgh sleep quality, subjective sleep quality from the individual's perspective, sleep latency, and sleep disturbances were highly prevalent, which is consistent

with the results of the studies by Frang et al. [15] and Wang et al. [17]. The results of the present study indicate a statistically significant relationship between age, sex, and marital status and the participants' sleep quality. In the present study, the sleep quality of women was reported to be poorer than that of men, which is consistent with the results of the study by Wang et al. [17]. In explaining this difference, the physiological characteristics of women, the secretion of female hormones, and hormonal changes related to menstruation can be considered the most important cause; studies have shown that one of the most common symptoms of premenstrual syndrome in women is poor sleep quality, and that with increasing age, the occurrence of physical and hormonal changes in women's bodies, and menopause, the decrease in estrogen levels makes their sleep lighter [18]. Studies have also shown that women experience poor sleep quality because of their multiple roles as wife, mother, and employee; another reason for the prevalence of sleep disorders among women is the higher prevalence of depression and anxiety in women than in men [17]. Contrary to the results of the present study, Chehri and Parsa [25] showed in a study that sleep quality is not significantly associated with the participants' sex, marital status, educational level, or occupation.

The results of the present study also showed that increasing age is significantly associated with poor sleep quality. In this regard, and consistent with the present study, many studies have shown that increasing age leads to changes in the quality and structure of sleep, which are associated with the occurrence of sleep-cycle abnormalities and poor sleep quality [17, 22, 23, 25]. It is difficult to determine which changes in sleep are due to increasing age. With increasing age, slow-wave sleep decreases, sleep becomes fragmented and discontinuous with a long latency period, and the disruption of circadian sleep patterns leads to poor sleep quality in older individuals [3]. In addition, the presence of physical and mental illnesses in older individuals increases their sleep disorders [4]. The results of the present study also indicate a statistically significant relationship between marital status and good sleep quality, such that the sleep quality of single individuals was reported to be better than that of married individuals. The results of the present study are consistent with the results of the studies by Wang et al. [17] and Parvizifard et al. [25]. In explaining this difference between single and married participants, it can be stated that the lower sleep quality of married individuals results from their

greater responsibilities in life towards their spouse and children, and the stress of such responsibilities affects sleep quality. It should be noted that, as in any research, the present study also had limitations. One limitation of the present study is the self-report questionnaire, which has low validity in estimating the level of sleep quality; furthermore, the present study was cross-sectional and was conducted over a very short period, which is another limitation of the present study. In this regard, it is suggested that structured questionnaires and clinical interviews be used alongside the self-report questionnaire for greater validity of the results, and prospective and longitudinal studies over a period of one year or more could be useful for .obtaining more valid results

Conclusion

Given the results of the present study and the relatively high prevalence of poor sleep quality among the citizens of Kermanshah, it can be stated that further studies in the field of sleep, increasing citizens' awareness of sleep hygiene and good sleep quality, sleep hygiene education and the provision of counseling services to individuals with poor sleep quality, and attention to the diagnosis and treatment of sleep disorders and other related factors are necessary as suggested strategies for improving sleep quality; and, to achieve good sleep quality, greater attention by specialists and researchers to the subject of sleep, coherent and targeted basic and clinical research, and education on solutions for improving the sleep quality of citizens .are necessary

Acknowledgments: We hereby express our sincere gratitude to Kermanshah University of Medical Sciences, which provided the conditions for conducting this research, and we also thank all the .participants who took part in this research

Authors' contributions: The title, problem, and research design were proposed and developed by [name removed] and [name removed]. The instruments and data collection were handled by [name removed] and [name removed], and finally the report of the findings was prepared by [name .removed]

Conflict of interest: This research was conducted for the Sleep Disorders .Center, and no individual or institution has a conflict of interest

Ethics code: IRKUMS.REC.1396.38367333

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[.*Translated from Persian by the Brieflands editorial office*]

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3 Revision 2

0 comments

No public comments in this round.