

The prevalence of sleep disorder and its causes and effects on students residing in Jahrom University of Medical Sciences dormitories, 2008

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Received: 12/22/2010

Revised: 07/09/2011

Accepted: 08/14/2011

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Journal of Jahrom University of Medical Sciences, Vol. 9, No. 4, Winter 2012

Abstract

Introduction:

The students' academic life is one of the periods accompanied by entering a new social context, new educational assignments and change in the place of sleep, all causing sleep disorders and the related adverse outcomes. The present study was conducted aiming at investigating the prevalence of sleep disorders, its causes and related outcomes among the students living in Jahrom University of Medical Sciences dormitories in 2008.

Material and Methods:

In this cross-sectional study, the data were gathered from the students living in dormitories of Jahrom university of medical sciences (n=418), using a self-report questionnaire. The validity and reliability of the questionnaire were already determined. Census method was used for sampling. The data were analyzed in SPSS, version 14 using descriptive statistics and χ^2 .

Results:

The results showed that 88.9 % of the female student and 84.5 % of the male ones residing in Jahrom University of Medical Sciences dormitories suffered from sleep disorders. The most cause of sleep disorders in deferent majors was the existing poor physical condition in dormitories and the most outcomes of sleep disorders were feeling of fatigue and lack of good mood during the day (48.8).

Conclusion:

Based on the findings of this study, a survey of the causes of sleep disorders and devising strategies to decrease the adverse outcome of sleep disorders, which have a direct effect on the students' academic promotion and learning, are of great importance. This requires the authorities' attention followed by some effective measures.

Keywords: Sleep Disorders, Students, Causalities

Introduction:

One of the important elements in the human circadian cycle of sleep which plays an important role in human cognitive relaxation through reconstruction of physical and emotional forces (1) and the human cognitive functions such as information processing, learning and integration of intellectual records are all affected by (2). Sleep disorders include disturbances in regulation, quantity and quality of sleep that lead to imperfection in daily functioning of the individuals.

American Psychiatric Association has defined four categories for sleep disorders that include:

1) Difficulty in starting and maintaining sleep, and early awakening 2) excessive sleepiness 3) disturbances in sleep and waking schedule 4) sleep disorders known as parasomnia (3).

Sleep disorders can result from physical, psychological and environmental factors. Sleep disorders have often more than one cause, for example, factors such as age, sex, occupation, lifestyle, emotional stress

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and finally the physical environment in which the person sleeps, all can affect sleep disorders (4). Starting academic education and student life is one of the situations that can be associated with many factors affecting a person's sleeping habits. Being in a new social status, academic tasks, the change in sleeping environment, the influence of peer groups, participating in the Night Parties and etc. are some of the factors that can change the quantity and quality of sleep of the students and lead to adverse consequences (2).

The results of a study by Nabavi and Bahira'i on students from various colleges of Tehran Shahed University aiming to assess the prevalence of different sleep disorders and the associated factors showed high prevalence of insomnia (23.5%), night terror and fearful dreams (44%), sleep apnea, and morning headaches (20%) and daily sleepiness and napping (64.5%). Also significant relationship was observed between variables such as age, sex, marital status, occupation status, living place, life satisfaction and satisfaction with the field of study and sleep disorders among the students (5).

In a study by Pallos et al in 2002 to evaluate the prevalence of sleep disorders and the adverse effects following these disorders among the students at Kyoto University in Japan, fatigue, change in health status and absence from classes were expressed as the adverse consequences of sleep problems (6).

In the study by Veldi et al on medical students of University of Tartu in Estonia aiming to estimating the prevalence of sleep problems and their association with factors such as demographic variables, life pattern and academic achievements, higher prevalence of sleep problems was reported in medical students compared with non-students adult population. Students sleep quality in the morning was significantly associated with factors such as fatigue at mornings, daily sleepiness and academic achievement (7). In a research conducted

by Gau and Soong at the National Taiwan University, the findings indicated that with increased study pressure on the students, their sleep duration becomes shorter. Also shorter night sleep duration leads to drowsiness, fatigue and impatience during the day and leads to more difficult awakening of the students in the morning (8). Thus, considering the importance of quality and quantity of sleep and its effect on academic and non-academic performance of the students, the authors tried to conduct a study to assess the prevalence of sleep disorders and some of its causes and consequences among the medical students residing at dormitories of Jahrom University of Medical Sciences.

Material and methods:

This study was a descriptive cross-sectional study. The sampling method was census and the study sample consisted of 418 medical students living in dormitories of Jahrom University of Medical Sciences. Official residence in dormitories of Jahrom University of Medical Sciences was considered as inclusion criteria and incomplete filling of the questionnaire by the respondents as exclusion criteria. The data collection tool in this study was a researcher made questionnaire which was designed after a vast literature review, applying Petersburg sleep questionnaire (PSQI) and questionnaires used in similar studies and designing some new questions according to the research purposes by the researcher. The questionnaire included questions on sleeping and waking habits of the individual, frequency of disturbance in normal sleep schedule during the week, frequency of waking up at night, use of sleeping pills, the factors disrupting sleep beginning and continuity in a month and finally, the consequences of sleep disorders including absence from the class, sleepiness in the classroom and delayed arrival to the classroom. The validity of the questionnaire was approved using views of three experts and its reliability was confirmed by Cronbach's alpha test of

0.79. The identification point for sleep disorders and the factors disturbing quantity and quality of sleep was presence of these factors for at least one or two times per week according to the scales of the questionnaire which was set after a literature review by the researcher and regarding the scales of Petersburg questionnaire. After coordination with education and student affairs officials, the student were visited at classrooms and dormitories and provided with brief explanation on the study goals; any student who agreed to participate in the study would fill the questionnaire. The subjects were ensured about confidentiality of the responses and that the information would be used according to the research purposes only. The data were analyzed using SPSS software, version 14, by applying descriptive statistics and chi-square test. The significance level was set as 0.05.

Results:

Among the total of 418 students participating in the study with age range of

17-27 years old, 270 (64.4%) were females and 148 (35.4%) were males. Considering the distribution of students according to marital status and number of students in each room, 95.1% were single and 4.9% were married. Most of the students in the dormitories were living in double rooms (n=70), triple rooms (n=136), and quadruple rooms (n=133) with frequencies of 17%, 33% and 32.3%, respectively. The prevalence analysis of sleep disorders according to field of study showed that the Health Sciences students had the highest prevalence of sleep disorders (including awakening during the night, going to bed later than usual at night and use of sleeping pills) with frequency of 92.2% and the students of Operating-room Management were placed second in this regard with frequency of 89.9%. A significant relationship was observed between the field of study and sleep disorders ($P < 0.05$). Figure 1 shows the frequency of sleep disorders separately for each field of study.

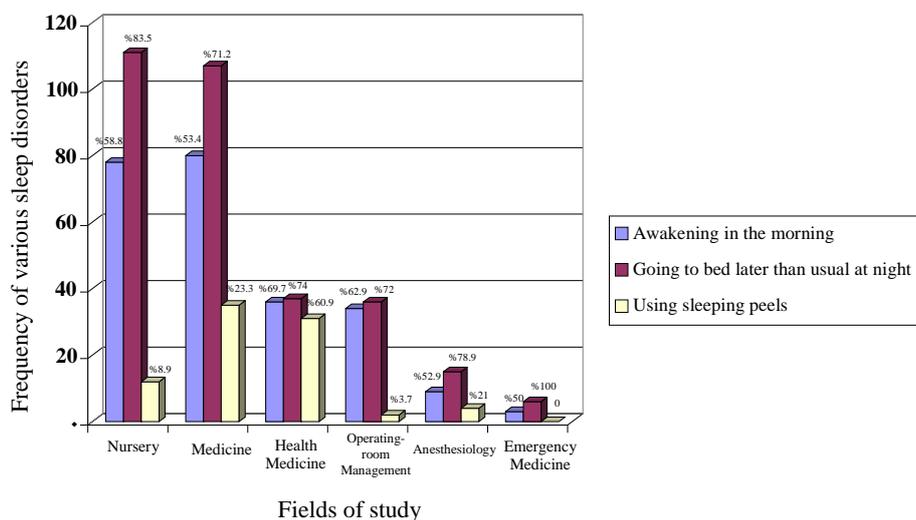


Figure 1: Comparison of the prevalence of sleep disorders among the medical students residing at the dormitories of Jahrom University of Medical Sciences separately for each field of study

A total of 88.9% of the female students and 84.5% of the male students were suffering sleep disorder. Considering the

number of students in each room, 100% of the students living in 1, 8, 9 and 10 person rooms were affected by sleep disorders

and the prevalence of sleep disorders in 2 to 7 person rooms was 80-90%. The highest frequency of causes of sleep disorders was found in Nursing Students including poor physical conditions such as heat, cold, disturbing light, poor ventilation and noise with frequency of 66.4%. In medicine students, inability to fall asleep within 30 minutes with frequency of 27.3% and poor physical condition with frequency of 27% were the most frequent causes. Other causes included awakening in the night or early in the morning with frequency of 62.9% in operating room management students, academic tasks, and leisure activities such as watching television, elective and extra studying, listening to music and etc. in Health students with frequency of 43.1%, inappropriate physical condition with frequency of 68.4% in Anesthesiology Students, and finally inappropriate physical condition and inability to fall asleep within 30 minutes, awakening in the night or early in the morning, having improper heavy meals high in fat before

bedtime or feeling hungry at night, night parties and ultimately leisure activities such as watching television with a total frequency of 50% in Emergency Medicine students.

The most frequent cause of sleep disorder according to sex among the students residing at dormitories of Jahrom University of Medical Sciences included inappropriate physical condition with frequency of 46.5% and night party with friends (soiree) with frequency of 45.9% in girls and inappropriate physical condition with frequency of 44.9% and academic tasks with frequency of 36% in boys.

Considering The consequences of sleep disorders in medical students residing at the dormitories of Jahrom University of Medical Sciences, the results suggest that 43.9% of the students were affected by the consequences of sleep disorders including fatigue and lack of vitality during the day (48.8%), excessive sleepiness during the classes (45.5%), delay in attending the classes (23%) and absenteeism (20.6%) (Figure 2).

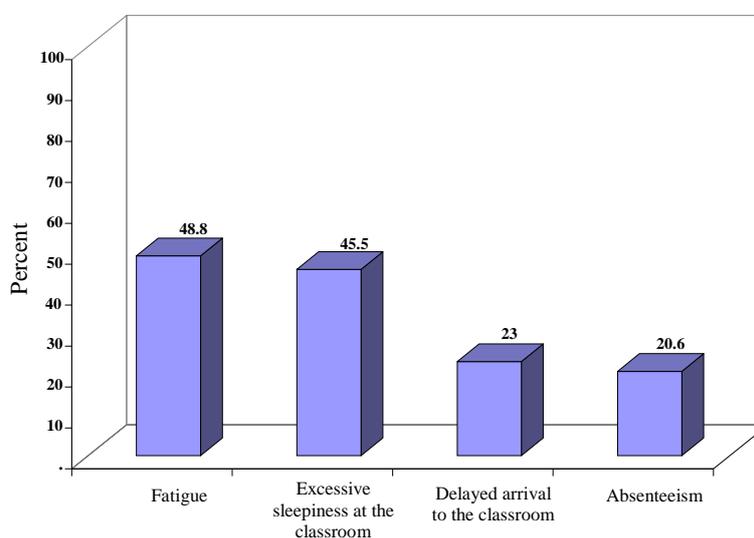


Figure 2: The frequency and consequences of sleep disorders in medical students residing at dormitories of Jahrom University of Medical Sciences in 2008

Discussion:

As the results show, more than 80% of the students living in dormitories of Jahrom University of Medical Sciences suffer from sleep disorders which is a high rate. The prevalence of this problem is almost

identical in male and female students as 88.9% of the female students and 84.5% of the male students had experienced sleep disorders. Comparing the results of the present study with other studies, show significant differences. In these studies, the

highest frequency of sleep disorders is 60% in the study by Hana et al which was conducted on 1125 students (age range: 17-24 years) of Midwestern University while Veldy, et al in University of Tartu in Estonia reported a frequency of 22% for sleep disorders in forms of difficulty in maintaining sleep and James et al expressed a frequency of 20% for sleep disorders in the Medical and Nursing students of his study which are all less than the prevalence reported in the present study in various fields of study (7, 9, 10).

As is seen, in relation to the various causes of sleep disorders among the students of Jahrom University of Medical Sciences the results suggest the presence of a variety of causes such as inappropriate physical condition in the dormitories, dealing with the academic tasks at nights, attending night parties with friends etc. among the students of different fields of study among which the most important cause was inappropriate physical condition in the dormitories. In a study by Veldy et al there was significant association between quality of sleep and living conditions and leisure activities of the students which indicate the effect of these factors on nighttime quality of the students (7).

In the present study, almost half of the students (43.9%) had experienced the consequences of sleep disorders. Lack of vitality during the day with a frequency of 48.8% and sleepiness in the classroom with a prevalence of 45.5% was the most frequent consequences of sleep disorders. The frequency of these consequences was less than the study by Nabavi and Bohiraie in which the frequency of sleepiness and napping was estimated as 64.5% (5). Comparing the results of the present study on the consequences of sleep disorders with a research by Pallos et al in Japan shows a remarkable difference. In the study by Pallos only 29.8% of the students have expressed fatigue as the adverse consequences of sleep disorders, followed by absenteeism and daily sleepiness with frequencies of 5% and 4.1%, respectively (6).

Conclusion: This study showed that sleep disorders and their consequences are much more frequent than the similar studies. This finding indicates the need to implement necessary reforms and adopt appropriate plans for causes of these disorders in order to reduce the adverse consequences which will directly affect the students' academic achievement and learning.

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