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Original Research

Sleep habits of first year and final year female MBBS students

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Abstract

Introduction Medical education and training is taxing and may lead to different psychosocial stressors, behavioral problems, drug abuse and changes of lifestyles in medical students. Objectives: The present study was conducted in first year and final year female students to determine their sleep habits. Study Design: It was a cross- sectional study with one year (March 2010-March 2011) duration. Setting: Study was carried out in Islamic International Medical College Rawalpindi and IIMC-T Railway General Hospital Rawalpindi. Subjects and methods: A total number of 30 female MBBS students were randomly selected and were divided into two groups. Group ″A″ was comprised of 15 female students from first year and Group "B" was consisted of 15 female students from final year class. Their sleep habits were assessed by sleep questionnaire. Results: Most of the First year female students (93.33) reported normal duration of sleep as compared to final year female students but they experienced more sleep difficulties like increased number of awakenings at night ($P \leq 0.002$) as well as less dream remembering. Conclusions: This study indicates that the first year female medical students have decreased quality of sleep and have more sleep difficulties as compared to final year students.

INTRODUCTION

Sleep is an essential biological process, a periodic state of quiescence serenity in which there is least processing of sensory information and no interaction with conspecifices or the environment [1,2]. A daily sleep of 7 to 8.5 hrs in adults is considered to be effectual and restorative [3]. Sleep is not a mare absence of being awake rather it has prime importance in homeostasis and prolonged deficiency of it can threaten an individual's survival [1,2]. Sleep is essential for proper development of children and adolescents and proper functions of body. Sufficient quantity and quality of sleep is important to face the challenges that rapid changes demand during the rapid growth and physical development and neurological development of children [4].

Insufficiency of sleep defined as difference of 1 hour between self reports of sleep need and sleep length was 20% in a Finnish study with more than 12000 subjects [5]. 12% of the 600 randomly selected subjects fulfilled the criteria of persistent insufficient sleep in a Swedish study when a ratio between sleep length and subjective sleep need of less than 0.8 was used as a criterion [6].

Medical education and training may lead to depression in medical students and may also lead to behavioral problems and drug abuse [7]. During the earlier days of medical education students have significant change in daily habits [8]

Several studies in the past have shown that there are remarkable differences in the sleep habits with the increasing grades of students. The senior grade students tends to have more sleep difficulties [5]

This study was carried out in the students of First year and Final year Female students of MBBS of IIMC Rawalpindi with the objectives to determine their sleep habits.

SUBJECTS AND METHODS

Study was carried out in the Department of Physiology, Islamic International Medical College Rawalpindi and IIMC-T Railway General Hospital Rawalpindi. The duration of study was 1 year (March 2010 to March 2011). Efforts were made to fulfill the ethical considerations in accordance with the 'Ethical principles for medical research involving human subjects' of Helsinki Declaration [11] Ethical approval was sought from the ethical review committee of Riphah international University Islamabad. Written informed consent was taken from the subjects and confidentiality was maintained throughout the study.

It was a randomized cross sectional study in which two groups of female MBBS students of first year and final year were assessed regarding their sleep habits. A total of 30 students, 15 from first year MBBS (Group A) and 15 from final year MBBS (Group B) were randomly selected.

Inclusion criteria

- Female students of first year and final year MBBS
- Age range 18-24 years
- Apparently healthy female students with normal onset of menarche, well developed secondary sex characteristics and regular menstrual cycles.

Exclusion criteria

- Age less than 18 or more than 24 years.
- Presence of symptoms of acute or chronic medical illness, presence of abnormal chest signs or skeletal deformity, being on medical treatment.
- Acute stress such as death of relative or forthcoming professional examinations and psychiatric illness.
- Participants who were taking medicines like sedative, anticonvulsants, antidepressants, anxiolytics, antihistaminic and steroids.
- Subjects with history of trauma, recent surgery and road side accidents were also excluded from the study.

Data collection procedure

All the participants were briefed about the study and its objectives. They were instructed how to fill the questionnaire and all queries about questions and terms were entertained under the supervision of researcher. Data was analyzed through SPSS 17 (Statistical package for social sciences). Mean ± SEM was calculated and t-test was applied to see the differences in the sleep habits of the two groups. The p value of less than or equal to 0.05 was taken as statistically significant.

RESULTS

Table 1 show the comparison of time to go to bed at night, time of rise from the bed in the morning, number of naps per week and number of awakenings at night of first year and final year female subjects. The analysis was done by student's t-test. Regarding the time to go to bed the two categories of the subjects were formed. Category 1 included those subjects who went to bed before 11 pm and category 2 comprised those subjects who slept after 11 pm. The mean value of time to go to bed of female subjects of first year was 11:37±0.21. The mean time to go to bed of female subjects of final year was 7:50±1.33.The difference between the two

Table 1. Comparison of sleep habits of first year female and final year female MBBS students. (n=30)

Groups	Time to go to bed Mean ± SEM Category 1: before 11 pm Category 2: after 11 pm	Time of rise Mean ± SEM Category 1: before 6 am Category 2: after 6 am	No. of naps per week Mean ± SEM Category 1: no naps Category 2: < 2 naps Category 3: > 2 naps	No. of awakening at night Mean ± SEM Category 1: no awakenings Category 2:< 2 awakenings Category 3: > 2 awakenings
First year females n 1=15	11:37±0.21	6:09±0.05	2.60±0.19	1.80±0.11
Final year females n 2=15	7:5±1.33	6:37±0.12	2.73±0.15	1.27±0.12
p Value	0.008**	0.05*	0,5	0.002**

*p≤0.05
**p≤0.01

groups was statistically significant (p≤0.008). To evaluate the time of rise of the subjects they were again divided into two groups. Those who awoke before 6 am were included in category 1 and those who awoke after 6 am were included in category 2. The mean time of rise of the female subjects of first year was 6:09±0.05 while time of rise of female subjects of final year was 6:37±0.12. The difference between the two groups was statistically significant (p≤0.05) illustrating that final year female awoke late as compared to first year females. During evaluation it was found that the mean value for napping of first year female subjects was 2.60±0.19 and for final year female subjects it was 2.73±0.15. The number of naps per week showed statistically non significant difference (p≤0.5) between the two groups. The first year female subjects had a mean value of number of awakenings at night 1.80±0.11 with SEM while that of final year female subjects had a mean of 1.27±0.12 SEM. The difference between the two groups was statistically significant (p≤0.002).

Table 2 depicts the comparison of dream remembering, morning tiredness and mode of awakening of first year females and final year females MBBS students. The mean value of dream remembering of first year females was 1.47±0.19, while final year female was 1.73±0.18. The comparison of two groups was not statistically significant (p≤0.32). The mean value of first year female regarding morning tiredness was 1.27±0.11while those of final females was 1.47±0.13 The comparison of two groups was not statistically significant(p≤0.27).. The mode of awakening was assessed by giving category 1 to those students who awake naturally and category 2 to those students who awaked with an alarm. The results showed that first year female students used alarm to wake up as compared to final year female students who had more tendencies to wake up naturally.

Figure 1 illustrates the comparison of duration of sleep of first and final year female students. Three categories were made depending on the duration of sleep of the students. Category 1 includes those students with duration of sleep of less than 6 hours, category 2 those students with duration between 6 to 8 hours and category 3 the students with more than 8 hours of sleep. Among the first year female students 93.33% had 6 to 8 hours of duration of sleep while 46.66% of final year female students had 6 to 8 hours of sleep duration. 33.33% of the final year female students have less than 6 hours of sleep while 20% had more than 8 hours of sleep. Pearson Chi-Square analysis of the two groups showed statistically significant results (p≤0.01)

Figure 1.

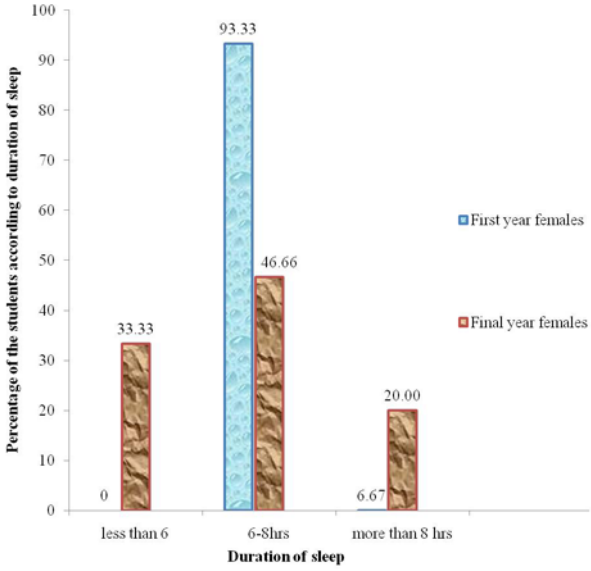

Figure 1 Comparison of duration of sleep of First year females and final year females students

Table 2. Comparison of sleep habits of first year females and final year females MBBS students. (n=30)

Groups	Dream Remembering Mean ± SEM Category 1: No dreams Category 2: Remembers dream	Morning Tiredness Mean ± SEM Category 1: No tiredness Category 2: Tiredness	Mode of Awakening Mean ± SEM Category 1: Natural Category 2: with an alarm
First year females n 1=15	1.47±0.19	1.27±0.11	1.33±0.12
Final year females n 2=15	1.73±0.18	1.47±0.13	1.20±0.10
p Value	0,32	0,27	0,42

*p≤0.05
**p≤0.01

DISCUSSION

During evaluation of different sleep habits of the female medical students it was found that female students of first year class had a tendency of going to bed late as compared to final year female students. This result is in contrast to a study carried out by CK Yang (2005) on sleep/wake patterns among Korean teenagers depicted that as the school year (grade) level increased, students went to bed later [5]. Review of literature did not demonstrate similar results in previous studies. This difference may be due to fact that students of first year MBBS class feel more stressed as they have entered into medical college and may have adjustment problems according to conditions of medical college. The female students of first year class awoke earlier than the final year students which may be due to the similar reasons as mentioned above.

Most of the first year female students had normal duration of sleep of 6-8 hours as compared to final year female students who had different sleep durations with some of them having less than 6 hours of sleep while others had more than 8 hours of sleep. These findings are in line with previous studies which illustrated that the number of students reporting insomnia appears to increase with increasing age and higher educational level [9]. Among Japanese adolescents, falling into sleep and lack of sleep progressively increased from 7th to 12th grade [10]. The comparisons of number of naps in the days per week of the students were also evaluated between the first year and final year female students. In this study it was also found that final year female students had more naps per week as compared to first year female students. This may be due the reason that most of the final year students had inconsistent duration of sleep.

While evaluating the number of awakenings it was assessed that first year female students had more number of awakenings than the final year female students. This result was in contrary to a Korean study which showed that the number of awakenings increased with the increasing grades, and the frequency increased across grades 9 to 12 from 51.3% to 56.3%, 63.0%, and 79.0%, respectively [5].

Dream remembering of dreams and morning tiredness of the female students was also compared. The final year female students had more remembering of dreams as compared to first year females. During the analysis of morning tiredness it was assessed that final year females feel more morning tiredness as compared to first year females. This may also be due to fact that the clinical workload of the final year female students is more than the first year female students so they have more working hours as compare to first year female students.

CONCLUSION

This study depicts that first year female students have more sleep difficulties as compared to final year female students. Further empirical studies with larger representation of the sample are recommended.

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