

Sleeping Patterns among Arabian Gulf University Medical Students

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ABSTRACT

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Introduction: Good sleeping patterns have a positive effect on students' performance and their mental and physical abilities. However, some students do not give themselves the proper rest with many not getting the proper eight hours of sleep at night. A recent study on the Arabian Gulf University (AGU) pre-clerkship medical students indicated that they had insufficient hours of sleep and late sleeping hours. The aim of this study was to provide baseline data of all AGU medical students' sleeping patterns. Methods: A 50% sample of students registered during the academic year 2009-2010 was chosen proportional to medical year, gender and nationality by multistage stratified sampling technique. A self-administered questionnaire designed for the purpose of this study was used. Results: The study results indicate that AGU medical students' sleeping patterns are not good as 42% of the students viewed their sleeping quality as "good", and their sleeping hours are suboptimal. The majority (75%) of the students reported that their sleep is affected particularly by examination and assignments. over one fourth of the students attended AGU or AGU related outside activities without sleeping at night for at least once per week, with year 4 students having the highest proportion. Conclusion: The results of this study indicate that AGU medical students do not adopt a good sleeping pattern. Intervention for improving these habits would be mainly through The Student Affairs Office, Counseling Unit and advisory system. Emphasis on good sleeping habits and time management should start during the orientation week for year 1 and throughout the year for year 4 medical students.

KEYWORDS

Medical Students, Sleeping Patterns, Sleeping Behavior, Sleeping Habits, Arabian Gulf University

أنماط النوم بين طلاب كلية الطب في جامعة الخليج العربي

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المُستخلص

المقدمة: أنماط النوم الجيدة لها تأثير إيجابي على أداء الطلاب وقدراتهم العقلية والبدنية لكن رغم ذلك لا يعطي بعض الطلاب أنفسهم القدر الكافي من الراحة، حيث أن الكثير منهم لا يحصلون على الثماني ساعات من النوم ليلاً. أشارت دراسة أجريت مؤخراً في جامعة الخليج العربي على طلاب كلية الطب بالمرحلة ما قبل الإكلينيكية بأنهم لا ينامون الساعات الكافية ويتأخرون في الخلود إلى النوم. هدفت هذه الدراسة إلى توفير قاعدة بيانات أساسية لأنماط النوم لجميع طلاب كلية الطب في جامعة الخليج العربي. الأساليب: تم أخذ (50%) من الطلاب باستخدام العينة الطبقية المتعددة المراحل من الطلاب المسجلين خلال العام الأكاديمي 2009-2010 حسب السنة الطبية والجنس والجنسية، كما استخدم استبيان صمم خصيصاً لهذه الدراسة. النتائج: أشارت نتائج الدراسة بأن أنماط النوم لدى طلاب كلية الطب في جامعة الخليج العربي ليست جيدة حيث أن (42%) منهم فقط اعتبروا بأن نوعية نومهم جيدة، وعدد ساعات نومهم دون الأمتل. أفادت النسبة الغالبة من الطلاب (75%) بأن نومهم يتأثر خاصة بالامتحانات والواجبات الدراسية. كما وجدت الدراسة بأن أكثر من ربع الطلاب حضر أنشطة بجامعة الخليج العربي أو أنشطة ذات الصلة خارج الجامعة دون النوم ليلاً مرة واحدة على الأقل في الأسبوع، كما سجل طلاب السنة الرابعة أكبر نسبة. الخلاصة: تشير نتائج هذه الدراسة بأن طلاب كلية الطب في جامعة الخليج العربي لا يمارسون نمط نوم جيد، وعليه أن التدخل لتحسين هذه العادات يجب أن يكون في الدرجة الأولى من خلال مكتب الرعاية الطلابية ووحدة الإرشاد الطلابي والإرشاد الأكاديمي. وينبغي التركيز على عادات نوم جيدة وحسن إدارة الوقت والبدء بها منذ الأسبوع التمهيدي للسنة الأولى وعلى مدار السنة لطلاب السنة الرابعة.

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الكلمات الدالة

طلاب الطب، أنماط النوم، سلوكيات النوم
عادات النوم، جامعة الخليج العربي

Introduction

University students are exposed to a lot of pressures due to academic demands (Lima *et al.*, 2002). With fluctuating schedules, it could be hard for students to stay on track between examinations, projects, work and social life (Tsai and Li, 2004). Good sleeping patterns have a positive effect on students' performance and their mental and physical abilities (Ghanizadeh *et al.*, 2008). Most sleep professionals, as well as the National Sleep Foundation (NSF), recommend that adults obtain 8 hours of sleep per night (NSF, 2002). However, some students do not give themselves the proper rest with many not getting the proper eight hours of sleep at night. Studies show that short sleep duration is associated with increased body weight and adiposity and poor academic performance (Chaput *et al.*, 2007); (Al-Hazzaa *et al.*, 2012). A study indicated that medical students experienced the highest impact of poor sleep on the quality of sleep. Students studying before going to sleep, spending more time studying and having less leisure time had the worst quality of sleep (Preisegolaviciute, 2010).

The Arabian Gulf University (AGU) is an educational and cultural joint accomplishment based in the Kingdom of Bahrain that is managed as a multinational consortium of the Gulf Cooperation Council (GCC) countries (Saudi Arabia, United Arab Emirates, Kuwait, Oman, Qatar, and Bahrain). The university has two colleges; the College of Medicine and Medical Sciences (CMMS) and the College of Graduate Studies. AGU students are GCC citizens with allocated seats to Arabs residing in GCC countries. CMMS follows a problem-based learning (PBL), student-centered and community-oriented curriculum. Emphasis is placed upon critical thinking and reasoning as well as problem solving (Hamdy and Anderson, 2006). The medical program is six-year with years 2-4 the preclinical years and years 5 and 6 being the clerkship. A recent study on the lifestyle of AGU years 1 to 4 medical students indicated that they had insufficient hours of sleep and late sleeping hours (Al-Zayani, 2010). The objectives of this study were to determine the sleeping patterns among AGU medical students, their sleeping quality and factors affecting their sleeping patterns.

Methods

This study was a cross sectional study of CMMS students during the academic year 2009-2010. The sampling frame of all medical students during that academic year was obtained from the Registrar's office. By multistage stratified sampling, a 50% sample (300 students) of the total population was chosen proportional to medical year, gender and nationality. Students were then selected using the table of random numbers. A self-administered questionnaire was designed for the purpose of this study. It included questions on sociodemographic, sleeping patterns, and factors affecting them.

Data collection was conducted from 19 May to 3 June 2010. One or two researchers were assigned to be responsible for distributing the questionnaires for each medical year. Each researcher allocated the selected students in the assigned year and gave them the questionnaires. Each completed questionnaire was put inside a sealed envelope to ensure confidentiality. SPSS version 16 was used for data entry and analysis. Descriptive statistics and cross tabulations by academic years for the variables were done.

Results

The medical students included in the study were 300, of whom 41.7% were Saudi, 29.3% Bahraini, 23.0% Kuwaiti and 6.0% from other nationalities. About two thirds (64.7%) of the students were females and 35.3%, males. Table 1 shows that 64% of the students lived outside the university accommodation; mostly years 3 (78%) and 5 (76%) followed by years 2 (67%) and 4 (65%).

Table 1: (%) Socio-demographic Characteristics of AGU Medical Students, Academic Year 2009-2010

Variable		Medical Year	Yr.1 (n=66)	Yr.2 (n=55)	Yr.3 (n=45)	Yr.4 (n=43)	Yr.5 (n=47)	Yr. 6 (n=44)	All years (n=300)
Gender	Female		47%	67%	71%	74%	68%	68%	65%
	Male		53%	33%	29%	26%	32%	32%	35%
Nationality	Bahraini		15%	38%	33%	37%	28%	30%	29%
	Kuwaiti		24%	27%	24%	23%	19%	18%	23%
	Saudi		58%	31%	36%	33%	45%	43%	42%
	Others		3%	4%	7%	9%	9%	9%	6%
Residence	Bahrain		91%	93%	93%	100%	89%	93%	93%
	KSA		9%	7%	7%	0%	11%	7%	7%
Accommodation	University		55%	33%	22%	35%	24%	38%	36%
	Others		45%	67%	78%	65%	76%	62%	64%

Over half of those who lived in the university accommodation, were year 1 students (55%) followed by year 6 (39%). 41.7% of the students rated their sleep as “good”, 44.0% “fair” and 14.3 % “poor”. The median time for going to bed, waking up and total sleeping hours during week days and examination periods are shown in figure 1.

The average time years 3 and 5 students slept was at 2:00 am, while students of the other years slept at 1:00 am on the week days. Students of years 1, 2 and 4 slept at later time (2:00am) in the examination periods. However, the sleeping patterns of years 3, 5 and 6 medical students did not change during the examination periods.

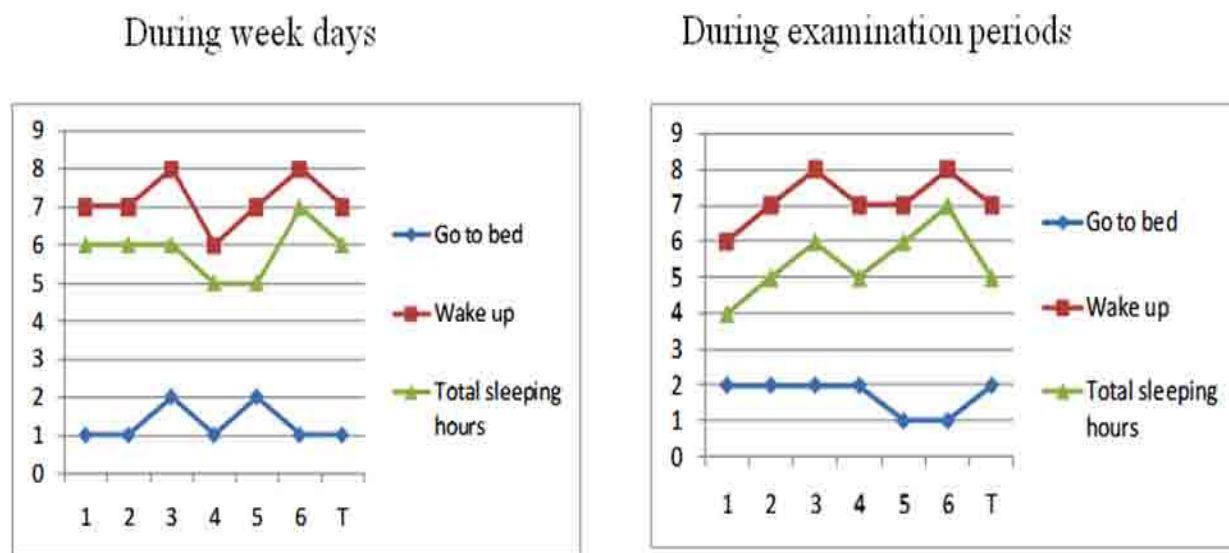


Figure 1: Median Hour of Going to Bed, Waking up & Total Sleeping Hours by Medical Year during Week Days & Examination Periods

The lowest recorded hours of sleep were 4 hours for year 1 students during the examination periods. Only 1.9% of the students reported that nothing affected their sleep. The main factors that affected students sleeping patterns were examinations and assignments (74.6%) followed by personal matters (19.2%). Transport (2.3%), calls on duty (2.0%), internet and entertainment were 1.9%.

Twenty eight percent of the students went to the university without sleeping at night at least once per week. Of those, 18% did not sleep at night for once per week, 7.7% for twice per week, and 2.0% for 3 to 5 nights per week. Figure 2 shows that the percentage of students who attended the college without sleeping at night by medical year and gender.

Year 4 students had the highest percentage (41.9%), followed by years 1 (34.8%), year 2 (34.5%), years 6 (18.2%) and 5 (10.6%). For years 2 and 4 the percentages of students who attended the college without sleeping at night was highest among males, while it was higher in females in years 3, 5 and 6. Forty six percent of the students did something to keep them awake while 54.0% did not, with stimulant drinks being the most common method used. The main causes for not sleeping were assignments and studying (75%), personal issues (21%) and other reasons (4%). Fifty five percent of the students of all years combined had a nap during the day and 45% did not.

In comparison to the previous academic year

(34.7%) of the students reported sleeping fewer hours, 44.3% no change, and 21% slept more. 46.2% of the students had sleeping problems and with marked variation between medical years with years 1 (47%) and 2 (44%) being the most, followed by years 2 and 3 (40%) year 6 (30%) and year 5 (15%).

Insomnia was the commonest reported sleeping problem among students particularly in year 3. Of the students who reported sleeping problems, 55% did not do anything about it while the rest did something to induce sleep. Reading was the commonest practice (47%) followed by taking a shower (39%), taking sleeping pills (20%) and drinking hot drinks (20%).

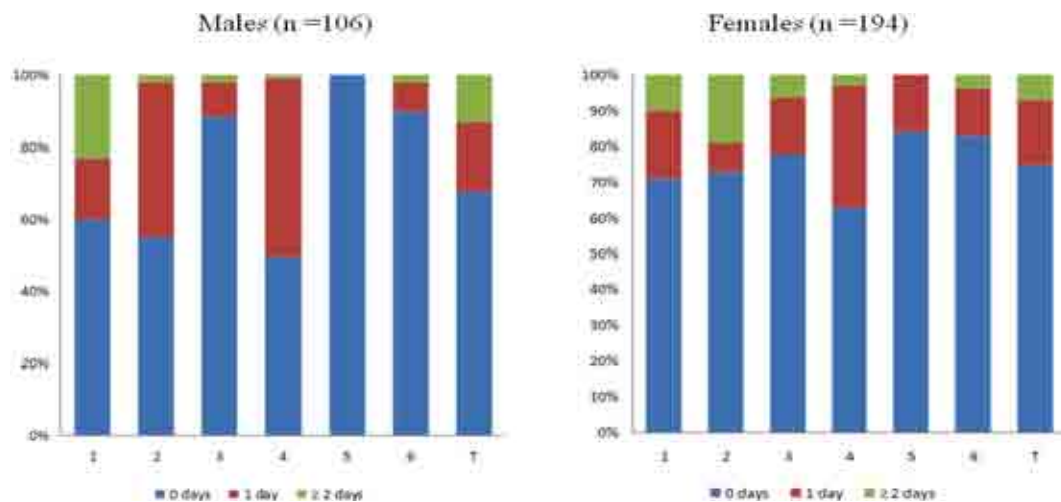


Figure 2: Frequency of Weekly College Attendance without Sleeping at Night at all by Medical Year among Males & Female Students

Discussion

The study results indicate that AGU medical students generally have bad sleeping patterns and their sleeping hours are suboptimal. This is similar to the findings of the Nigerian study on medical students (James *et al.*, 2011). Only 42% of the students viewed their sleeping quality as “good”. This finding supports previous studies conducted on medical students and the recent study done on CMMS pre-clerkship students in 2009 (Al-Zayani, 2010); (Lima *et al.* 2002). Two third of the students reported that their sleep was affected particularly by examinations and assignments.

A study in Pakistan showed that the majority of medical students had reduced sleep in examination

days and the reason was due to studying late at night (Kazim and Abrar, 2011). Over one fourth of the students attended AGU or AGU related outside activities without sleeping at night for at least once per week, with year 4 students having the highest proportion, probably due to the difficult units in that medical year requiring more study time than other years. In addition, the Bachelor of Science examination is at the end of year 4. (Arne *et al.* 2010) reported that the time of sleep and waking up correlated more closely with academic performance than total sleep time and other relevant factors. They concluded that these findings are important to consider for the improvement of students’ academic performance.

Table 2: Common Sleeping Problems Affecting AGU Medical Students

Medical Year Sleeping Problems	Yr.1		Yr.2		Yr.3		Yr.4		Yr.5		Yr.6		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Insomnia	15	40.5	12	36.4	14	53.8	9	42.9	3	42.9	8	38.1	61	2.1
Nightmares	7	18.9	6	18.2	2	7.7	0	0.0	0	0.0	3	14.3	18	12.4
Snoring	0	0.0	3	9.1	0	0.0	2	9.5	1	14.3	1	4.8	7	4.8
Interrupted sleep	15	40.5	12	36.4	10	38.5	10	47.6	3	42.9	9	42.9	59	40.7
Total	37	100.0	33	100.0	26	100.0	21	100.0	7	100.0	21	100.0	145	100.0

Conclusion

The results of this study indicate that AGU medical students do not adopt a good sleeping pattern. Intervention for improving these habits would be through counseling students and emphasizing the importance of adequate sleep. The Student Affairs Office, Counseling Unit and advisory system should play the major role in improving the students' sleeping habits and modifying their behavior. Special attention should be given to year 1 students with emphasis on good sleeping habits and time management during the orientation week. As for year 4 students PBL tutors can play a role in identifying students attending tutorials without good sleeping habits during the tutorial and through student-tutor meetings.

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