

A Cross-sectional Study on Quality of Sleep among College Students in Omar Al-Mukhtar University, El-beida, Libya

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Abstract

Objectives: The main aims of this current study were to assess the quality of sleep and to find the association between socio-demographic proforma and quality of sleep among college students.

Methods: The non-experimental cross-sectional study design was adopted. The study included 100 college students studying in two medical colleges in Omar Al-Mukhtar University, El-beida, Libya. The samples were selected by the stratified sampling technique. The data was collected using socio-demographic proforma and the quality of sleep scale prepared by the investigators.

Results: The study findings showed that 3% of college students had excellent sleep, 23% had good sleep, 73% had fairly bad sleep, and 1% had very poor sleep. There was an association between the number of siblings and the quality of sleep.

Conclusion: Based on the study results, it is concluded that the majority of college students had fairly bad sleep, and there is no significant association between socio-demographic proforma and quality of sleep except the number of siblings. The study helped in identifying the quality of sleep among college students. The study may help future investigators to adopt different methods to shape the truth.

Keywords: Quality of sleep, medical college students, socio-demographic proforma, El-beida, Libya.

I. INTRODUCTION

Sleep is a universal biological feature in all species and represents a global state of immobility with significantly reduced responsiveness to environmental stimuli, which can be distinguished from coma or anesthesia by its rapid reversibility. However, it is by no means a dormant state. As a basic need of humanity, sleep is important for health and life quality at all ages. When prevented from sleeping, the body tries to recover the lost sleep time^[1]. Sleep deprivation can lead to negative outcomes such as fatigue and even a compromised immune system^[2]. Poor sleep quality is associated with poor academic achievement and health. Sleep is food for the brain. According to the National Sleep Foundation (NSF), sleep is essential for a person's health and wellbeing. Several important body functions and brain

activities occur during sleep. According to Stanford University, the average sleep requirement for a college student is well over eight hours, and the majority of students fall asleep within the range of this value plus or minus one hour^[3]. The prevalence rate of poor sleep quality is high among undergraduate students worldwide^[4]. The progressive lack of sleep can diminish students' ability to function at work or in school, lead to dangerous behavior such as drowsy driving, contribute to weight gain, and deepen feelings of depression^[5]. National Sleep Foundation's recent Sleep Health Index revealed that as many as 27% of people take longer than 30 minutes, on average, to fall asleep. A case-control study was conducted among 165 male and female medical students at two Sudanese universities. Excellent (A) and pass (C) academic

groups were invited to respond to a self-administered questionnaire, using the Pittsburgh Sleep Quality Index (PSQI). Students also completed a diary detailing their sleep habits for two weeks to fill the entire questionnaire. Various parameters of sleep quality were then compared between the two groups. The result showed that a significant difference ($p<0.001$) was found between the excellent and average groups for overall sleep quality, subjective sleep rating, bedtime later than midnight, sleep latency and daytime dysfunction (during driving, preparing a meal, etc.). The mean sleeping hours was (7+1.9) and (6.3+1.9) for the excellent and pass groups, respectively ($p<0.05$). A significant difference ($p<0.001$) was found between the excellent and average groups for weekday and weekend bedtime, weekend wake-up time and weekend wake-up delay^[6].

College students are one of the most sleep-deprived populations. Research at Brown University has found that approximately 11% of students report good sleep, while 73% report sleep problems. 18% of college men and 30% of college women report insomnia in the past three months. To understand the consequences of sleepiness and sleep deprivation, knowledge of normal sleep and its impact on learning, memory, and performance are necessary. Equally important are potential interventions as they may offer an opportunity to improve health and educational outcomes for this demographic. This study aimed to understand the relation of quality of sleep with socio-demographic proforma^[7].

II. METHODS

The non-experimental cross-sectional study design was adopted in the present study with a study sample of 100 college students aged 18 and above studying in two medical colleges at the Omar Al-Mukhtar University selected by stratified sampling technique. The ethical clearance was obtained by the Institutional Review Board of the

University. The purpose of the study was explained to the subjects, and individual written informed consent was obtained before collecting the data from the subjects. Data for the study was collected using socio-demographic proforma and the quality of sleep scale developed by the investigators. The quality of sleep scale consists of 20 items classified under sleep and wake up habits, sleep timings, sleep disturbance factor, and sleep disturbance effect. The maximum score was 100, which was arbitrarily categorized and interpreted as <75 =very good, $51-75$ =good, $25-50$ =fairly bad, and <25 =very poor. Tools were validated and checked for reliability (Cronbach's alpha $r=0.7$). The time taken to complete the tool was 15 minutes.

III. RESULTS

In this study, around 55% of students were in the age group of 21-23 years, 40% were below 20 years, and 5% were between the ages of 24-26 years. It is evident from the findings that 86% of the respondents were females, and 14% were males. Among the total number of college students, 52% were B.Sc. Medicine students, and 48% were B.Sc. Pharmacy students. The results indicated that 30% of students were from the first year, 29% from the second year, 25% and 16% from the third and fourth year, respectively. The majority (88%) of respondents belong to nuclear families, 11% to joint families, and 1% to extended families. With respect to the number of siblings, the majority (52%) of the respondents have one sibling, 5% do not have any siblings, 31% have two siblings, and 12% have three or more siblings. Regarding the place of residence, 95% of them live in a hostel and 5% live with their families. Results revealed that 6% of the fathers were involved in government jobs, 33% in private jobs, 28% in business, and 33% were retired. According to the findings, 85% of the mothers were housewives, 2% were teachers, 12% worked for private jobs, and only 1% were retired.

Table 1. Description of samples (N=100) based on socio-demographic proforma.

Serial No.	Socio-Demographic Proforma	Category	Frequency	(%)
1	Age (years)	Below 20	40	40%
		21-23	55	55%
		24-26	5	5%

2	Gender	Male Female	14 86	14% 86%
3	College	Medicine Pharmacy	52 48	52% 48%
4	Year	1 st year 2 nd year 3 rd year 4 th year	30 29 25 16	30% 29% 25% 16%
5	Type of family	Nuclear Joint Extended	88 11 1	88% 11% 1%
6	Number of siblings	Nil One Two Three and above	5 52 31 12	5% 52% 31% 12%
7	Place of residence	With family Hostel	5 95	5% 95%
8	Father's occupations	Government job Private job Business Retired	6 33 28 33	6% 33% 28% 33%
9	Mother's occupations	Teacher Private job Retired Housewife	2 12 1 85	2% 12% 1% 85%

Table 2. Quality of sleep grading among college students.

Quality of Sleep Grading	Scores	Frequency	Percentage (%)	Cumulative Percentage (%)
Very good	75 and above	3	3.0	3.0
Good	51-75	23	23.0	26.0
Fairly bad	25-50	73	73.0	99.0
Very poor	Below 25	1	1.0	100.0
	Total	100	100	

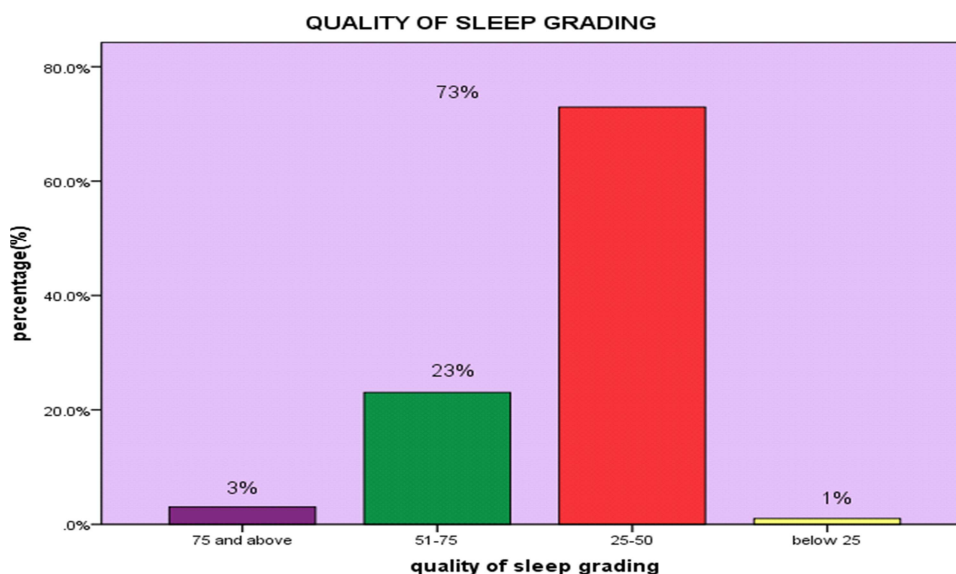


Figure 1. Bar diagram shows the quality of sleep grading. (Bar diagram indicates 73% of respondents with fairly bad sleep, 23% with good sleep, 3% with very good sleep, and only 1% with very poor sleep quality).

The data presented in Table 3 revealed that there is no significant association between sleep and socio-demographic proforma in terms of age, gender, course,

year, type of family, place of residence, father's and mother's occupations. However, it showed an association between number of siblings and quality of sleep.

Table 3. Association between quality of sleep and socio-demographic proforma.

Serial No.	Socio-Demographic Proforma	Adequate	Inadequate	χ^2	DF	P value	Inference
1	Age						
	Below 20	1	39	1.515	2	0.469	NS
	21-23	0	55				
	24-26	0	5				
2	Gender						
	Male	0	14	0.164	1	0.685	NS
	Female	1	85				

3	Course Medicine Pharmacy	1 0	51 48	0.932	1	0.334	NS
4	Year 1 st year 2 nd year 3 rd year 4 th year	0 1 0 0	30 28 25 16	2.473	3	0.480	NS
5	Type of family Nuclear Joint Extended	1 0 0	87 11 1	0.138	2	0.933	NS
6	Number of siblings Nil One Two Three and above	1 0 0 0	4 52 31 12	19.192	3	0.000	Sig.
7	Place of residence With family Hostel	0 1	5 94	0.053	1	0.818	NS
8	Father's occupations Government job Private job Business Retired	0 1 0 0	6 32 28 33	2.051	3	0.842	NS
9	Mother's occupations Teacher Private job Retired Housewife	0 1 0 0	2 11 1 85	7.407	3	0.060	NS

IV. DISCUSSION

The present study results showed that 3% of college students had very good sleep, 23% had good sleep, 73% had fairly bad sleep, and 1% had very poor sleep. A similar cross-sectional study was conducted on sleep habits and sleep problems among medical students of Pravara Institute of Medical Sciences in Loni, Western Maharashtra, India in 2011 October to December. A total of 150 medical students, including 50 undergraduates, 50 interns, and 50 postgraduates, were selected using a convenience sampling technique. The data was collected

through questionnaires. The Pittsburgh Sleep Quality Index and the Epworth Daytime Sleepiness Scale were used to assess the quality of sleep. The results showed that 26 out of 150 (17.33%) medical students had abdominal level of daytime sleepiness while 20 out of 150 (13.33%) were borderline. Sleep quality in females was better than in males ^[8].

In the current study, the majority of the students (55%) were in the age group of 21-23 years. Male and female students were 14% and 86%, respectively. There

were 52% and 48% medicine and pharmacy students, respectively. Most of the students belong to 1st year (30%). Most of the students are from nuclear families (88%). Most of the students have one sibling (52%). Majority (95%) of the students reside in a hostel. Most of the students' fathers (33%) held private jobs. Most of the students' mothers (85%) were housewives. According to the Karl Pearson correlation coefficient (r), there is no significant association between sleep and socio-demographic proforma in terms of age, gender, course, year, type of family, place of residence, father's and mother's occupations.

V. CONCLUSION

The study findings reveal a positive association between quality of sleep and socio-demographic proforma. Sleep is very important for maintaining a normal circadian rhythm and attaining good academic performance. So, it is evident that sleep is important for a healthy life.

RECOMMENDATIONS

An exploratory study can be conducted to identify the sleep quality disturbance and the factors affecting the quality of sleep. In future, research work can be done to rectify the relation between the number of siblings and quality of sleep.

CONFLICTS OF INTEREST

We hereby declare that there are no conflicts of interest regarding the publication of this cross-sectional study.

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