

Sleeping Pattern of Medical Students Preceding Viva Examination and Their Performance

Mukhtar Ansari¹

¹Department of Clinical Pharmacy, College of Pharmacy, University of Hail, Saudi Arabia.

ABSTRACT

Introduction: Sleep is an important determinant of keeping healthy physically and mentally. Deviation in sleep is a common problem among students during examinations. The purpose of this study is to determine students' sleep pattern during night preceding viva examination and its correlation with performance.

Methods: This was a cross-sectional prospective study conducted between January and February 2014 among 1st and 2nd year MBBS students of National Medical College, Birgunj, Nepal who appeared in University's final practical examinations. Based on simple random sampling approach, each of the 280 participants was allowed to pick out five pieces of lottery papers and they were asked the five questions resembling the number in the list of questions.

Results: Among the total 280 students, 74.6% were from India and 25.4% were from Nepal, and majorities (63%) of them were males. Fifty two percent of the students either could not sleep at all or slept just for 1 to 1.5 hours while 12% slept for 5 to 6.5 hours. Two-third (66%) of the students was able enough to achieve one to two scores, and only 1.8% could succeed to get the maximum score of five. The correlation between hours of sleep preceding examination and the score achieved was positively ($r=0.701$) and statistically significantly correlated ($p<0.001$).

Conclusions: There is a trend among the medical students either not to sleep or sleep only for few hours preceding viva examination that result in poor performance in examinations.

Keywords: *medical; Nepal; performance; sleep deprivation; students.*

INTRODUCTION

Sleep is an important determinant of keeping healthy physically and mentally. Duration, quality and timing of sleep are the critical issues directly linked with the performance.^{1,2}

About 82-90% of the students sleep less during examination days due to fear of examinations.^{3,4} Furthermore, first year medical students face more academic stress due to newer environment of medical

education.⁵ Though examination in any form is a method of evaluating the students, theoretical paper examination and viva examinations are different. In theory examinations, questions are of different types and students have choice for solving easy questions

Correspondence: Dr. Mukhtar Ansari, Assistant Professor & Coordinator of Research, Department of Clinical Pharmacy, College of Pharmacy, University of Hail, Saudi Arabia. E-mail: mukhtaransari@hotmail.com, Phone: +966578115136.

first and think for answers.⁶ But, the scenario is just opposite in viva examinations. Additionally, examiner may ask a simple question in a difficult way or many questions from a single topic based on questions arising from the answers and so forth.⁷⁻⁹

Thus, the author devised this study to determine students' sleep pattern during night preceding viva examination and its correlation with performance.

METHODS

This was a cross-sectional prospective study conducted among 1st and 2nd year MBBS students of National Medical College (NMC), Birgunj, Nepal who appeared in Tribhuvan University's final practical examinations. The study was carried out between January and February 2014.

National Medical College is a 1050 bedded private medical school located in central Terai (plain) region of Nepal adjoining Indian border. The target was to enroll all of the 290 students however only 280 students were included based on inclusion criteria of the study. Two sets of questions related to clinical pharmacology from the syllabus of first and second year MBBS curriculum of Tribhuvan University were prepared. Each of the two sets contained 50 carefully selected lists of questions from the syllabus of 1st year and 2nd year MBBS courses.

All of the students were kept in a big hall and based on their roll numbers, one student at a time was called for the interview. Number one to 50 were written in small uniform sized square piece of papers, folded and kept in a vessel. Each of the students was asked to pick randomly five pieces of the lottery paper from the vessel and they were asked the five questions from the list according to the lottery numbers. One score was allocated for each correct response. Out of a maximum of five scores allocated for five questions, scores obtained by the students based on their performance in VIVA were noted. After the interview was over, the interviewed student was not allowed to meet the remaining students to avoid sharing of the questions asked. Informed consent was taken from all of the participants and the students agreed to participate in the study were only enrolled. This study was approved by the Institution Review Board (IRB) of the National Medical College.

Regarding the data on sleep habit, every student was asked about the time they slept in preceding night and woke up and the hours of sleep was calculated. Due to annual final examination system, students have to tackle with larger contents of the subjects. On the other hand, unlike theory examinations, viva or practical examinations are conducted every day without any

gap and students have to appear in viva examination of different subjects each day. As a result, students hardly get time to sleep in daytime or even at night during practical examinations. Therefore, the students who did not sleep at daytime were only included in the study. Similarly, students with a habit of drinking alcohol and smoking were excluded from the study. But, the students who consumed either coffee or tea were included because it is quite common among the students to have coffee or tea during examination days.

Data were entered in IBM SPSS Statistics 21 and analyzed for descriptive and inferential statistics. The results were expressed as counts and percentages. Associations were tested using the chi-square test. Pearson correlation test was used to see the correlation between the students' hours of sleep preceding viva examination and the scores achieved. A priori p value <0.05 was considered statistically significant throughout the analyses.

RESULTS

Among the total 280 students, 176 (63%) were males followed by female 104 (37%). The nationality or origin of the students shows that about three-fourth (74.6%) of the students were from India and the remaining one-fourth (25.4%) were from Nepal. About 48% of the students were from 1st year and the remaining 52% students were from 2nd year of MBBS program. Median score and (IQR) achieved by the students was 2 (1-3).

Table 1 illustrates the pattern of hours of sleep preceding the examination. More than one half (52%) of the students either could not sleep at all or slept just for 1 to 1.5 hours. On the other hand, less than 12% slept for a significant number of hours, i.e. 5 to 6.5 hours.

Table 1. Hours of sleep preceding exam (n = 280).

Hours slept preceding exam	Number	Percentage
0 hour	47	16.8
1 to 1.5 hours	99	35.3
2 to 2.5 hours	49	17.5
3 to 3.5 hours	19	6.8
4 to 4.5 hours	33	11.8
5 to 5.5 hours	23	8.2
6 to 6.5 hours	10	3.6

About two third (66%) of the students were able enough to achieve one to two scores out of a total of five scores whereas, only less than two percentage of the students could succeed to get the maximum or highest score (Table 2). Though passing examinations

and having grip on contents of subject matter are interrelated, they are not always true. In this study, we categorized the students in four classes based on the scores they gained in viva examinations. The students who secured 1 to 2 scores were labelled as 'below average'. Similarly, 3 scores (average), 4 scores (above average) and 5 scores (outstanding).

Table 2. Pattern of scores gained in viva examination (out of five scores).

Score/marks achieved	Number	Percentage
1 score	125	44.6
2 score	60	21.4
3 score	58	20.7
4 score	32	11.4
5 score	5	1.8

Chi-square test was used to see the difference in scores gained between male and female and it was statistically insignificant ($p=0.143$). The correlation between hours of sleep preceding viva examination and the score achieved was positively ($r=0.701$) and statistically significantly ($p<0.001$) correlated. There were no statistically significant differences in association between the year (first and second year) students and gender ($p=0.464$) and age ($p=0.087$). Additionally, the association between nationality of the students and the score gained was also insignificant ($p=0.128$).

DISCUSSION

Medical education is a highly sensible and difficult field and it has direct practical implication on human life. Therefore, this profession is considered as the most respectful in the society. In medical education, there are various subjects and students have to study them in integrated manner as they have to appear in exam in integrated manner. This impose more stress on medical students and thus it becomes hard for them to pass in examinations.^{10,11}

Students studying at National Medical College, Birgunj, Nepal were from Nepal and India with more than 74% from India. Indian students wish to be enrolled in Nepalese medical colleges preferably the colleges situated in cities located in Indo-Nepal boarder. The reasons behind this are lower cost of medical education in Nepal, easy process of getting admission being foreigner and easy access as there is no requirement of visa for Indians to visit, stay and study in Nepal.^{12,13}

About 63% of the students who participated in the study were male. This clearly indicates the parents' preference on sons compared to daughters for medical education in this region.¹⁴ But, the study conducted by

Rizwi et al in Pakistan found an opposite trend in which about 78% of the medical students were females.¹⁵ There can be various factor for gender preference for medical education however motivation of girls towards medical education is increasing in recent time.¹⁶

Fifty two percent of the students were from 2nd year of the MBBS course and majority of them were from India compared with the 1st year students. In fact, students from India were getting admission in Nepalese medical schools just because of personal interview and without appearing in entrance examination. However, recently government of Nepal realized the importance of conducting entrance examination for Indian students too like Nepalese students and so the numbers of students from India get declining from last two to three years. Thus, the numbers of students were comparatively less in 1st year.

Sleeping less number of hours during examinations compared with usual days is quite common however; it is surprising to know that more than one half (52%) of the students either could not sleep at all or slept just for 1 to 1.5 hours in preceding night of examinations. This is due to intensified fear of viva examinations among the medical students.¹⁷ The pattern of sleep and study in usual days is very irregular among the students.¹⁸ Another important component is the timing of sleep. It is quite usual among the medical students to have altered timing of sleep during examination days.¹⁹ This further causes more stress on students and ultimately leads to failure in examinations.^{20, 21}

Gender does not have any significant differences on hours of sleep and score gained. Likewise, there were no significant differences between the year (first and second year) students and gender, and age. The association between nationality of the students and the score gained was also insignificant. However, there was strongly positive correlation between hours of sleep preceding examination and the score achieved in viva. Thus, proper and sufficient hours of sleep preceding examination are vital to score good in viva examinations.

There was no structured questionnaire for data collection in this study. There is chances of individual variation, question types during the viva examination which cannot be taken into consideration.

CONCLUSIONS

There is a trend among the medical students either not to sleep or sleep only for few hours preceding viva examinations. Furthermore, students who did not sleep properly in preceding night could not be able to respond well in viva and ultimately their performance is poor.

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