ORIGINAL ARTICLE

FREQUENCY OF INSOMNIA AMONGST MEDICAL STUDENTS AND ITS CORRELATION WITH DEMOGRAPHIC VARIABLES

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Submitted: June 29, 2016
Accepted: December 01, 2016

ABSTRACT

OBJECTIVE
To determine the frequency of insomnia amongst medical students and its correlation with different demographic variables.

STUDY DESIGN
Descriptive Cross sectional study.

PLACE AND DURATION OF STUDY
Department of Psychiatry & Behavioural Sciences, JPMC and Sindh Medical College Karachi.

SUBJECTS AND METHODS
Medical students of first year to final year of >18 years age and both genders were included after fulfilling the criteria. Ethical issues were addressed according to IRB of Institute. Students having history of known psychiatric disorder like schizophrenia and mood disorder were excluded. Data was collected on prescribed proforma. Frequency of insomnia was measured on validated "Athens Insomnia Scale". Results were analyzed on SPSS, version 16.0.

RESULTS
Total 325 medical students, 65 from each of 5 batches were approached. Male students were 10.8% and female students were 89.2%. Ages of students ranged from 17 years to 25 years. 90.8% belonged to middle Socio-economic class, 97.5% were unmarried. Of all, 109 (33.5%) students were insomniac. Higher age was more associated with insomnia. (p value= 0.008).

CONCLUSION
Insomnia is highly prevalent in medical students and should be focus of policies and strategies to minimize its deleterious effects by educating about good sleeping habits.

KEY WORDS
Insomnia, Medical students, Sleep deprivation.

INTRODUCTION

Insomnia is derived from the Latin word which means "No sleep" however medical definition includes difficulty in falling asleep, difficulty in staying asleep, waking up too early, poor quality (i.e non-restorative sleep) or problems maintaining sleep at least 3 nights per week for at least one month[1]. The affected person also complains of sleep related daytime impairment of work. Insomnia or sleeplessness put variety of negative effects on the physical, psychological, social health and economic status of humans[2,3].

Every adult needs at least 7.5 to 9 hours of sleep. There are many reasons of disturbed sleep pattern. Among them most common is use of stimulants like caffeine etc. Medical causes include hyperthyroidism, rheumatoid arthritis, hypoglycemia, urinary bladder disorders, prostate problems, sleep apnea and disruptive snoring problem[3,4]. Worldwide prevalence of insomnia ranges from 25 to 35%[5]. Prevalence of insomnia among population of Karachi was found to be 31.3%[6].

Professional medical studies are the toughest and lengthiest among all fields of carrier. A medical student has to read a many subject textbooks, attend class lectures, practical classes and ward postings. Thus they need to have a fresh mind and healthy physique; the maintenance of which can be achieved with proper sleep. Insomnia during medical studies can therefore become a big hurdling factor in flourishing of a medical student as good doctor because insomniac students mostly remain absent from lectures and have poor academic records in their studies[7,8]. It may cause constant stress and anxiety and further insomnia[9-11]. Thus lead them to use more stimulants like caffeine for sake of increased activity improving alertness use. It has been documented that if the caffeine is used over a prolonged period can result in dependence and on withdrawal may lead to different psychological disturbances including insomnia[12]. A study from USA on undergraduate college students found that 70% of the sample was sleeping less than the recommended duration[13]. The student who obtained sufficient sleep secured better results in exams than short sleepers[6-8].

Appropriate quantification of such issues in our setup will be helpful in making the policies and modifying the curricula of medical studies so as to increase the yield of one of expensive professional degree courses. Aim of the current study was to investigate the prevalence of insomnia among medical students of a public sector medical college in Karachi.

SUBJECTS AND METHODS

Participants

This descriptive cross sectional study was conducted at the Department of Psychiatry and Behavoiural Sciences, JPMC Karachi and its allied teaching institute (i-e; Sindh Medical College, Karachi). Total 325 volunteer medical students above 18 years of age, enrolled in first year to final year MBBS (65 from each batch) were approached conveniently. Students having history of known psychiatric disorder like schizophrenia and mood disorder were excluded.

Instruments

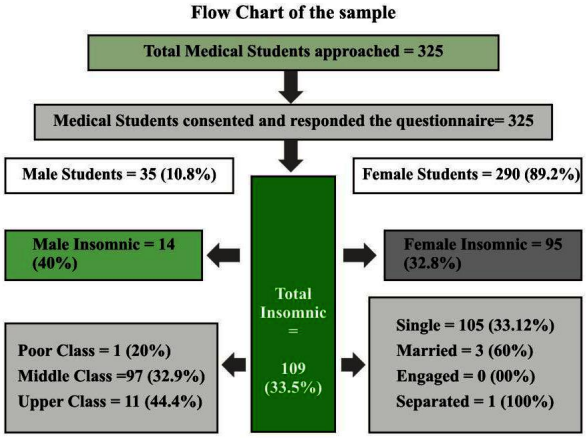
Demographic data including age, gender, socioeconomic status, marital status were recorded. Diagnosis of insomnia was made according to International classification of Diseases (ICD-10) criteria. Frequency of insomnia was measured on validated "Athens Insomnia Scale". Score on each item of "Athens Insomnia scale" was added to get one summary measure (possible score 0 to 24). Those who score 6 or more than 6 were considered as Insomniacs and vice versa.

Procedure

Ethical committee approval was obtained from the institute. After ensuring them of confidentiality the consenting students were asked to answer the structured questionnaire. The data was analyzed on SPSS version 16.0. Mean with standard deviation was calculated for continuous variables such as age (in years). Frequency with percentage was calculated for categorical outcome variables. Stratification was done to control for year of medical education and modifiers such as gender, marital status and socioeconomic status. percent ages and Students't-test were applied to variables taking p value < 0.05 as significant.

RESULTS

Total 325 medical students, 65 from each of 5 batches (First Year through Final Year) of Sindh Medical College, Karachi participated in the study and filled the questionnaire. (See figure 1). Ages of students ranged from 17 years to 25 years. Mean age + SD of medical students was 20.55 ± 1.67 years. Mean insomnia score + SD was 4.90 + 3.51.



Maximum insomnia score was 17. Table 1 showed gender-wise distribution of medical students in their batch years. Frequency of sampled population in age categories gradually increased from 17 years, reached its peak till the age of 20 years and then decreased at age of 25 years (Table 2). Most of sampled population (90.8%) belonged to middle Socio-economic class assessed on basis of subjective report of the participants (Table 2). On evaluation of Athens insomnia scale scores, it was found that out of total 325 medical students, 109 (33.5%) had insomnia (Table 3 and Figure 2).

Table 1
Medical students gender wise distribution of the year of education

Gender	Medical students Year wise					Total
	1st year	2nd year	3rd year	4th year	Final year	
Male	7 (10.8%)	10 (15.4%)	7 (10.8%)	5 (7.7%)	6 (9.2%)	35 (10.8%)
Female	58 (89.2%)	55 (84.6%)	58 (89.2%)	60 (92.3%)	59 (90.8%)	290 (89.2%)
Total	65	65	65	65	65	325

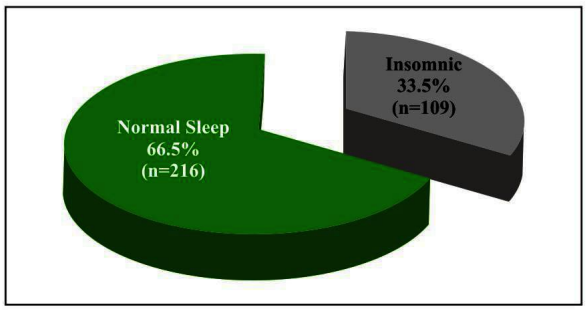
Table 2
General characteristics of all medical students(n=325)

Characteristic		Number	Percents
Age	17 years	1	0.3
	18 years	42	12.9
	19 years	53	16.3
	20 years	67	20.6
	21 years	60	18.5
	22 years	60	18.5
	23 years	34	10.5
	24 years	3	0.9
	25 years	5	1.5
	Total	325	100
Socio-economic status	Poor class	5	1.5
	Middle class	295	90.8
	Upper class	25	7.7
	Total	325	100
Marital status	Single	317	97.5
	Married	5	1.5
	Engaged	2	0.6
	Separated	1	0.3
	Total	325	100

Table 3
Difference between student with normal sleep and insomnia on student sample t test

Score on insomnia scale (Range= 0-24)	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
	25.135	324	.000	4.895	4.51	5.28

Figure 2.
Insomnia among medical students



DISCUSSION

The current study has assessed the medical students (MBBS) of a college in Karachi and found that about one third (33.5%) of sample was affected with insomnia. Findings of our study are comparable with contemporary studies. A study from Brazil reported that prevalence of insomnia among medical students was 28.15%1 . A study from Iran found that at least 42% medical students/ interns were affected of insomnia1 . Other studies have estimated that prevalence of sleep disorders may be as high as 68.1%16. Waqas and colleagues reported that in Lahore 77% medical students were insomniac due to high stress level with mean ± SD, PSS-14 score of 30 ± 6.979. The mean ± SD score of insomnia noted by a study from Iran was 7.0 ± 2.317 which is higher than our study participants (4.90 ± 3.51). Though medical students in Pakistan face very high incidence of insomnia during their education, but we think that this difference between studies is due to region, lifestyle of students and overall difference of institutes.

Mean age of students reported by current study was 20.55 ± 1.67 years which coincides with those of contemporary studies9,13,16-18. Regarding medical students in our study, we noted that there was increase in the frequency of insomnia as age was increased. This may be due to promotion of study year, increase in number of different subjects and clinical postings etc; which increase the work burden on the students. In simulation are the findings of other studies 9,13,14-18 . These studies documented that insomnia among medical students increased with increasing age. However; a local study predicted that among general population, gender, age, income or occupational status were not significantly found to be associated with insomnia and married person tended to enjoy better sleep.3

LIMITATIONS

The current study is limited by the fact that it was conducted only in single public sector medical college. Second; we had not investigated much about medical/ psychological comorbid in this study which could also give a different picture. The results of this study therefore; cannot be inferred to the entire population of students pursuing for a degree, yet this study provides an insight to the health indicator of future health professionals.

CONCLUSION AND RECOMMENDATIONS

The current study had noted that future healers of nation are themselves at risk of developing ill health which may lead to poor performance resulting in poor outcome and suffering of their patients. How can unhealthy doctors provide health to their patients? Insomnia is affecting every third medical student. Insomnia can devastate their health on one side and the learning and delivering abilities on the other. With this there arises a need to change and modify the medical curriculum as well as the teaching techniques, learning facilities. Simultaneously courses and lectures on improving sleep habits of medical students is the need of hour.

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4	**Dr. M. Ashar Waheed Khan**	SMDC, Karachi	Analysis of results and references in light latest research	
5	**Dr. Fatima Taufique**	JPMC, Karachi	Materializing the study	
6	**Vijai Kumar Gemnani**	SMBBMU, Larkana	Materializing the study