

Study of sleep disruption and its effects on Medical trainees

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Abstract

Introduction: Good quality sleep and adequate amount of sleep are important in order to have better cognitive performance and avoid health problems and psychiatric disorders.

Aim: The aim of this study was to describe sleep habits and sleep problems in a population of interns of Vydehi Institute of Medical Sciences.

Subject and Method: Sleep habits and problems were investigated using a convenience sample of interns from Vydehi Institute of Medical Sciences. The study was carried out during Oct. to Dec. 2015 with population consisted of total 60 medical interns. A self-administered questionnaire developed based on Epworth Daytime Sleepiness Scale was used. Data was analyzed by using SPSS version 16.0.

Results: In this study, out of 60 medical students, 39 students had abnormal levels of daytime sleepiness while 23 were border line. Sleep quality in females was worse than the male.

Conclusion: Disorders related to poor sleep qualities are significant problems among medical interns in our institution. Caffeine and alcohol ingestion affected sleep and there was high level of daytime sleepiness. Sleep difficulties resulted in irritability and affected lifestyle and interpersonal relationships.

Keywords: Medical Interns, Sleep disorders, Sleep habits, Sleep quality

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Introduction

Sleep is a physiological process essential to life. Its quality is strongly related to psychological and physical health and other measures of well-being.⁽¹⁾ Sleep deprivation and symptoms related to sleep disorders have not only been ignored but also inadequately understood. Almost one-third of adults report difficulty in sleep.^(2,3) The pattern of sleep and wakefulness in different subjects is known to vary with their age, the demands of their occupation, their physiological and psychosocial characteristics, psychiatric illness, and some types of physical illness.⁽⁴⁾ In the last few years, there has been a growing attention to sleep and sleeplessness-related problems. This interest is mainly due to the recognition that sleepiness and fatigue are becoming endemic in the population.⁽⁵⁾ Sleep itself is in short supply for young physicians in their formative years because they stay up late to cram for examinations in medical college followed by prolonged stints at the hospital.⁽⁶⁾ The hectic schedule of interns and residents working at the hospital is affecting their health and life style.

Numerous studies conducted within the past decade have analyzed the deleterious effects of sleep deprivation on medical house staff in various medical as well as surgical specialties.⁽⁷⁻¹⁰⁾ Hence, this study intends to explore the effects of sleep patterns on the medical interns- Vydehi Institute of Medical Sciences

Materials and Method

This is a cross-sectional, questionnaire-based, observational study carried out during the period of October 2015 to December 2015 among interns enrolled at Vydehi Institute of Medical Sciences. The study population consisted of total 60 medical interns by using a convenience sample. The questionnaire was pre-tested on subsample of 30 interns and modified and necessary changes were made accordingly. The ethics committee of the institute approved the study. Confidentiality was assured to all interns who volunteered and none were reimbursed. Interns who were willing to participate were given a brief description about the study and its objectives. Verbal consent of each student was taken. Students who were having past history of sleep disorders and currently using sedative medications or narcotics for any acute or chronic medical condition were excluded from the study. Recruitment and collection of data continued for four weeks. Information collected included information regarding age, sex and body mass index, addictions and Epworth daytime sleepiness scale.

Instrumental tool used in the study: EDSS:⁽¹¹⁾ It is a scale intended to measure daytime sleepiness that is measured by use of a very short questionnaire. This can be helpful in diagnosing sleep disorders. It was introduced in 1991 by Dr. Murray Johns of Epworth Hospital in Melbourne, Australia. The questionnaire asks the subject to rate his or her probability of falling asleep on a scale of increasing probability from 0 to 3 for eight different situations. The scores for the eight

questions are added together to obtain a single number. A number in the 0-9 range is considered to be normal while the numbers 10 and 11 are border line and 12-24 range indicates that expert medical advice should be sought.

All data were coded, entered, and then analyzed using the Statistical Package for Social Sciences SPSS, Chicago, Illinois, USA, and version 16.0. Descriptive results were expressed as frequency, percentage and mean Standard Deviation. Statistical significance was set at $P \leq 0.05$. Karl-Pearson's correlation coefficient was used to test for significant relationships between categorical variables.

Results

As shown in Fig. 1 23 interns were not having daytime sleepiness. 26 interns were had an average amount of daytime sleepiness. 11 were excessively sleepy and were considering seeking medical attention.

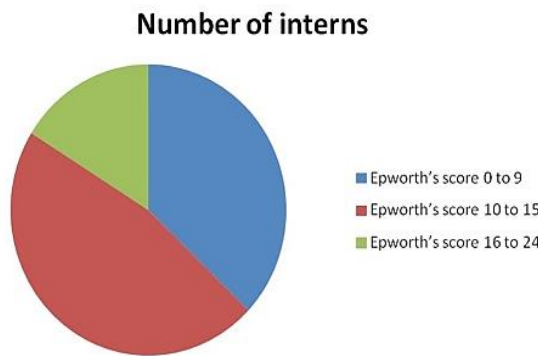


Fig. 1: Severity of daytime sleepiness in subjects

As shown in Fig. 2 12 male interns and 11 female interns were not having daytime sleepiness. 12 male and 14 female interns were had an average amount of daytime sleepiness. 5 male and 6 female medical interns were excessively sleepy and were considering seeking medical attention.

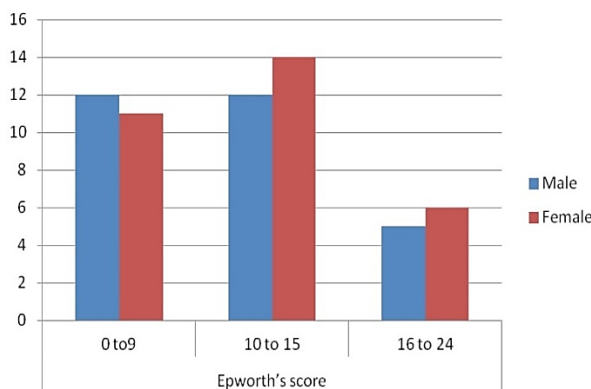


Fig. 2: Gender ratio of severity of daytime sleepiness in subjects

As shown in Fig. 3 nine interns were experiencing frequent headaches due to lack of sleep whereas nine interns had difficult attention span and deficit short term memory. Due to sleep deprivation 9 interns were more irritable and lost interest in work. Ten medical interns admitted increase addiction towards tea and coffee. One candidate learnt smoking and ten interns had altered sleep pattern.

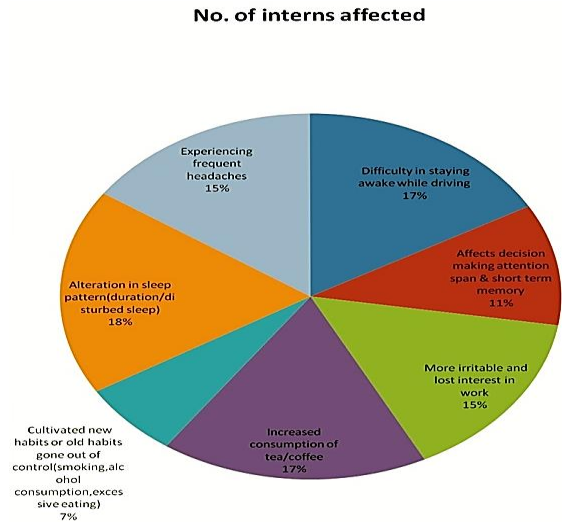


Fig. 3: Lifestyle changes due to sleep disturbance

Discussion

Disorders related to sleep are an issue of major concern and has long-term social and demographic consequences. In the present study, interns are in a transition phase wherein they have to prepare for post graduation and also get to play a role (albeit a small one) in management of the patients. Other studies also corroborate this findings.⁽¹²⁻¹⁴⁾

In this study, the sleep quality in females is worse than the males.

The effect of life-style on sleep quality have been examined in several studies and most of them identified an association between this variable and sleep disturbances.⁽¹⁵⁾

In the present study, excessive coffee intake, alcohol abuse, smoking and use of mobile phones/laptop were the habits adversely affecting sleep in medical students. Also those who exercised regularly were less likely to develop sleep disturbances. The lesser the sleep duration greater was the daytime sleepiness. Similar findings were shown by Marzieh, et al.⁽¹²⁾

Medical students suffer high level of stress due to academic demands, particularly during examination periods. The residents are in the constant contact with patients suffering and complaining about their illness. Stress associated with insufficient sleep and excessive daytime sleepiness can lead to difficulties in interpersonal relationship, depression, anxiety, and alcohol and drug abuse.^(16,18) In our study, of the 72/150 (48%) student reported being stressed, of which 33/72

(45%) were postgraduates and 24/72 (34%) undergraduates. Only 15/72 (21%) interns reported being stressed. This indicates that stress had a significance correlation with sleep disorders.

Sleep medicine is an important field in the medical study and allows medical students and professional to diagnose their own sleep disorders as well as their patients. Despite the numerous publications regarding the subject, students and professionals tend to ignore the sleep disorders and their possible consequences.^(17,18) Effect of lack of sleep like memory loss, feeling depressed and feeling irritable were observed in our study. Good refreshing Sleep is one of the constituents for general well being among students.⁽¹⁹⁾

Limitations

Sleep problems may be worse than those reported in our study, as medical interns may give socially desirable answers such as not having sleep problems. Thus, this study may be limited by underreporting. Further studies based on longer period with separate data on week days and weekends are needed. Comparison between different studies in different countries is not an easy task because there is much variability in operational definitions and different measures are used to evaluate sleep.

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