Research Article

Awareness of effects of sleep deprivation among college students

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ABSTRACT

Introduction: Sleep deprivation is the condition of not having enough sleep; it can be either chronic or acute. A chronic sleep-restricted state can cause fatigue, daytime sleepiness, clumsiness, and weight loss or weight gain. It adversely affects the brain and cognitive function. However, in a subset of cases sleep deprivation can, paradoxically, lead to increased energy and alertness and enhanced mood. It has even been used as a treatment for depression. Sleep deprivation tends to cause slower brain waves in the frontal cortex, shortened attention span, higher anxiety, impaired memory, and a grouchy mood. **Materials and Methods:** This study is questionnaire-based survey. The survey comprises of questions pertaining to the effects of sleep deprivation among college students. This survey was administered to the 100 participants through a survey planet link. The results obtained were statistically analyzed. **Results:** Sleep deprivation is a major problem faced among college students of the present generation. There are several causes which attribute toward it. Irritability, mood swings, lack of motivation, swelling of eye, and headaches are consequences which may harm the health condition severely. **Conclusion:** College years are time of critical transition from adolescence to adulthood. This transition is involved with inadequate sleep. This chronic sleep deprivation may impair academic performance, mood regulation, and total well-being. Investigation of new approaches to promote good sleep should be prioritized.

KEY WORDS: Adolescents, Depression, Electronic gadgets, Motor accidents, Sleep deprivation

INTRODUCTION

Sleep is a resting state in which an individual becomes relatively quiescent and unaware of the environment.

Sleep is an important biological necessity to maintain a healthy lifestyle. Sleep deprivation is the condition of not having enough sleep; it can be either chronic or acute. The amount of sleep required by a person may vary,

but on average most adults need about 7–8 h of sleep. During sleep, most of the body's systems are in an anabolic state, which helps to restore the immune, skeletal, nervous, and muscular systems; these are vital processes that maintain mood, memory, and cognitive performance, and play a major role in the function of the endocrine and immune systems. The internal circadian clock promotes sleep daily at night.

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The various mechanisms of sleep are the subject of substantial ongoing research.[1] The advent of artificial light has substantially altered sleep timing in industrialized countries.[2]

All sleep, even during the day, is generally associated with secretion of prolactin.[3] Sleep is divided into two types: Non-rapid eye movement (NREM sleep) and REM sleep. NREM and REM sleep are so different that physiologists identify them as distinct behavioral states. First NREM sleep occurs and after a transitional period is called slow-wave sleep or deep sleep. During this phase, body temperature and heart rate fall, and the brain uses less energy.[4] REM sleep (also known as paradoxical sleep), a smaller portion of total sleep time and the main occasion for dreams, associates with desynchronized and fast brain waves, loss of muscle tone, eye movements, and suspension of homeostasis.[5]

Sleep deprivation is the condition of not having enough sleep; it can be either chronic or acute.

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A chronic sleep-restricted state causes daytime sleepiness, fatigue, clumsiness, and weight loss or weight gain.[6] It adversely affects the brain and cognitive function.[7] However, in a subset of cases sleep deprivation can, paradoxically, lead to increased energy and alertness and enhanced mood; it has even been used as a treatment for depression. Lose of sleep causes slower brain waves in the frontal cortex, high anxiety, shortened attention span, and a grouchy mood. Conversely, a well-rested organism tends to have improved memory and mood.[8] Neurophysiological and functional imaging studies have demonstrated that frontal regions of the brain are particularly responsive to homeostatic sleep pressure.[9] Good sleep hygiene includes a regular sleep-wake schedule, quiet sleep environment, and avoidance of caffeine after lunch and stimulating activities before bed.[10]

College students are some of the most sleep-deprived people in the nation. Adolescents have a delayed circadian preference. The nocturnal preference , or shift of the circadian system to a later time , has seen associated with puberty."[11] This change occurs in association with puberty; more physically mature adolescents have a preference for later bedtimes and may have a lower homeostatic sleep drive, and consequently, are less sleepy at night.[12] Sleep deprivation and sleepiness are caused by several reasons and have numerous negative consequences. Students get inadequate sleep because they go to bed late and wake up early which results in daytime sleepiness. Most people benefit from at least 7–8 h of sleep each night, which is an adequate amount of time for a person to complete a regular sleep cycle. When students are sleep deprived, sleep cycles are disrupted and their bodies respond by decreasing their ability to concentrate and complete complex tasks. The consequences of sleep deprivation and daytime sleepiness are especially problematic to college students and can result in lower grade point averages, increased risk of academic failure, compromised learning, impaired mood, and increased risk of motor vehicle accidents. Irregular sleep schedules have been associated with greater depressive symptoms. Prolonged sleep latency was associated with loss of pleasure, punishment feelings, and self-dislike.[13] In a study of female college students, sleep debt of 2 h per night and/or a bedtime after 2 am was associated with greater depressive symptoms.[14]

This survey is done to highlight the prevalence of sleepiness and sleep deprivation among college students, contributing factors for sleep deprivation and the potential consequences.

MATERIALS AND METHODS

This study is questionnaire-based survey. The survey comprises of questions pertaining to the effects of sleep deprivation among college students. This survey was administered to the 100 participants through a survey planet link. The results obtained were statistically analyzed.

RESULTS AND DISCUSSION

A person should have an average sleep of 7–8 h. 57% of participants responded that they go to bed at around 10–12 pm. 20% hit their bed around 12–2 am whereas 17% sleep earlier (8–10 pm) [Figure 1]

Fun and enjoyment being the reason for the delay of bedtime, the respondents were so hooked onto their activity that they were willing to sacrifice their sleep. 27% expressed that preparing for examinations is the reason and 12% felt that their addictive nature toward gadgets may be the cause of their reduced sleep [Figure 2].

Sleep deprivation and sleeplessness are caused by a host of reasons, 38.4% of students find that internet is the predominant cause for their sleep deprivation. Frequent use of cell phones around bedtime is associated with difficulties falling asleep, repeated awakenings, or waking up too early.[15] Inadequate sleep hygiene is common, as students often use technology and substances that compromise sleep quality and quantity,[16,17] with 21% of participants highlighted stress as the second major cause of sleep deprivation. This may be because students have to balance their studies and social life at the same time.

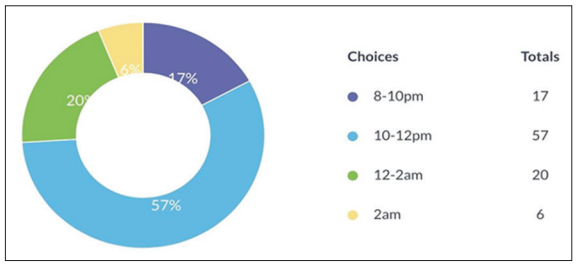

Figure 1: Routine time to sleep at night

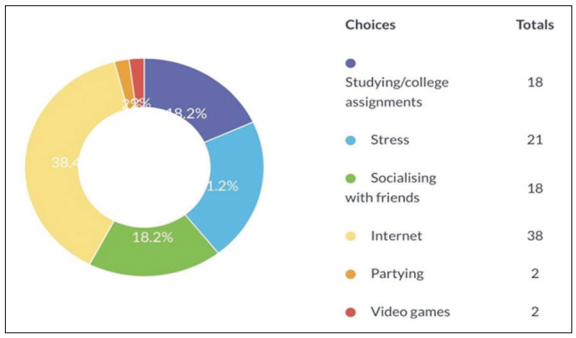

Figure 2: Indicate which of the following cause for you to lose sleep?

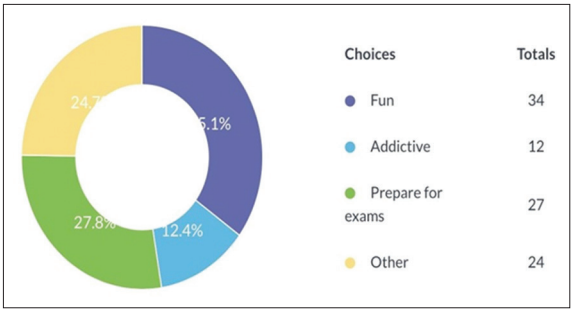

Figure 3: Why are you hooked on to your activity that you are willing to sacrifice your sleep?

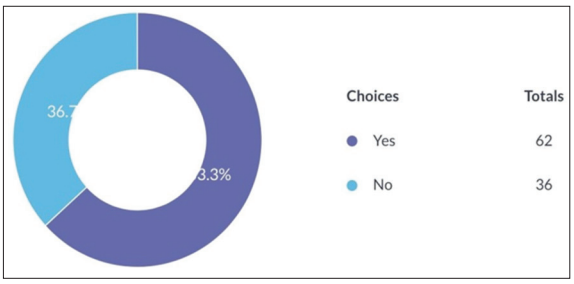

Figure 4: After sleep deprivation you doze during the day?

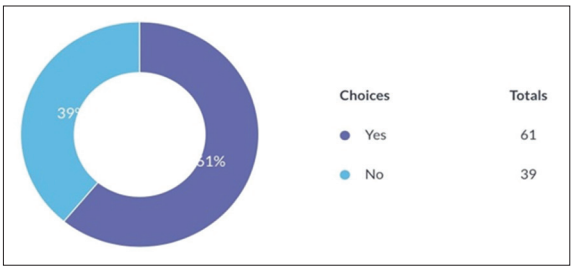

Figure 5: After sleep deprivation do you experience headaches?

Studying till late night to prepare for examinations and staying up late to complete college assignments is also highlighted as a major cause of sleep deprivation **[**Figure 3].

63% agree that they tend doze during the day after sleep deprived nights. This in turn may result in negative consequences. Students with sleep deprivation probably do not achieve optimal academic performances, they would not be able to concentrate during the lectures, and there is a high risk of academic failure. Some researchers have suggested that sleep deprivation is the prime reason for the failure in one's carrier.[18] Another concerning consequence of dozing is drowsy driving which may increase the number of motor accidents [Figure 4].

Sleep deprivation directly affects the health condition. 61% of participants agreed that they are likely to experience headaches after sleep deprivation. Several studies have reported that sleep deprivation decreases positive mood states and increases negative mood swings.[19] Complex relationships exist between suicide, mood disorders, and sleep. Insomnia may be a risk factor for suicide attempts and death by suicide [Figure 5].[20]

CONCLUSION

College years are time of critical transition from adolescence to adulthood. This transition is involved with inadequate sleep. Student's inadequate sleep hygiene is common, as students often use technology and substances that compromise sleep quality and quantity. This chronic sleep deprivation may impair academic performance, mood regulation, and driving safety. Investigation of new approaches to promote good sleep should be prioritized. This survey has created an awareness on the importance of sleep among college students.

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