



Awareness On Effects of Sleep Deprivation Among College Students - A Questionnaire Based Survey

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ABSTRACT

Sleep deprivation is nothing but not getting a required amount of sleep. It can also affect our whole system. This may be due to stress in school, college, family or in a job. It includes behavioural components which may be problematic in the college campuses. Most of the time sleep deprivation is caused due to the intake of alcohol, drugs, caffeine and energy drinks and some other prescribed or non-prescribed stimulants. The main aim of this survey was to create awareness about effects of sleep deprivation among college students. This study was conducted among college students to spread the awareness about effect of sleep deprivation on health status among college students. A self structured questionnaire was prepared and circulated among college students through online survey planet link and the data was obtained and statistically analyzed. From the study population, 100% of the participants gave a positive response when asked if they were aware about sleep deprivation and its effects. From the results we may conclude that the majority of the college students are suffering from sleep deprivation. Seminars may be conducted in educational institutions, workplaces to create awareness on the deleterious effects of sleep deprivation on health status among the community.

Keywords: Sleep deprivation , college students , learning tasks , sleep , survey planet

INTRODUCTION

Sleep deprivation is also known as sleeplessness or insufficient sleep. Sleep deprivation is the condition in which a person who lacks enough sleep. In other words it is the condition of having no sleep at all. (Andersz and Bargiel-Matusiewicz, 2018) To maintain a healthy condition, an average adult needs about 7 to 8 hours of sleep per day. Now during sleeping, all the systems of the body are in an anabolic state which in turn helps to maintain and restore the skeletal, muscular, nervous and immune systems (Nartiang and P., 2019). And these systems in turn maintain the mood, memory and cognitive performance. Sleep plays a major role in endocrine and immune systems. Our body's internal circadian clock is the one which promotes sleep daily in the night. (Unguren and Weber State University. School of Education, 2010) Sleep is divided into two types based on the eye movements during sleeping. It is Rapid eye movement (REM) AND Non rapid eye movement (NREM). REM sleep occurs in a pattern which could impart on the learning process. A theory of collaborated material studies shows that REM slaps deprivation eliminates sleep induced improvement on visual procedural learning tasks. (Jones *et al.*, 2020) The same study also shows that it was not found or suitable for the selective slow-wave sleep deprivation. REM normally occurs every 90-120 minutes which means 4 to 5 times a night. With a simultaneous increase or growth in the period of occurrence of the REM, it will happen almost at the end of the sleep. (Holloway, 2012) Sleepiness and irregular sleep schedules have many unintended consequences, one of which is to negatively impact learning, memory and performance. The dual process theory maintains that certain types of memory issues are dependent on a sleep right status. (Wiwanitkit, 2013) Such memories are considered on Rapid eye movement (REM) and declarative memory on Non-rapid eye movement (NREM). Sleep deprivation can be classified into two types based on the duration and episodes that occur. (Robbins, 2015) This can be either chronic (persisting for long time) or sleep deprivation can be acute (an abrupt onset) which occurs for the short duration. Here in the case of chronic state it causes weight loss or weight gain, daytime sleepiness, fatigue etc. It also causes shortened attention and high anxiety and impaired memory etc. (D'Eon, 2020) Sleep deprivation is also said to affect the brain and the cognitive functions of a person. Occasionally, in some cases it is noticed to increase energy and alertness and also known to enhance a person's mood. Sleep deprivation among college students is caused due to daytime sleepiness. It is because they get inadequate sleep

since they go to bed late and wake up early. (Parveen, Ayesha Parveen and Dharmarajan, 2011) This occurs for different reasons. Sleep is a resting state in which an individual becomes relatively unaware of the environment. Sleep is an important biological necessity to maintain a healthy lifestyle. (Pilcher and Walters, 1997) Sleep deprivation is also known as sleeplessness or insufficient sleep. Sleep deprivation is the condition in which a person who lacks enough sleep. Inability or difficulty in maintaining alertness during the period is called as sleepiness. (Lee, Wang and Alfred, 2017) Sleep deprivation and sleepiness have negative consequences. There are many causes of sleep deprivation like driving drowsily, later awakening, later bedtime and health is poor. Disruption of sleep cycles and instability to concentrate and complete complex tasks. (Kaur and Singh, 2017) Consumption of alcoholic beverage and other beverages are referred to as the risk factors of sleep quality. The second stage of sleep deprivation is depression. (Meldrum and Restivo, 2014). It affects the academic performance and one's ability to concentrate on their work. Getting insufficient sleep is known as sleep deprivation. It affects our mental health. Using computer, mobile and watching television, playing video games is the major reason for sleep deprivation. The quality of sleep and the amount of time depends on sleep deprivation. (Macwana *et al.*, 2012) Work which is very stressful for the students leads to sleep deprivation. It is a naturally occurring state of mind characterised by altering unconsciousness and sensory activity. (DeAngelis *et al.*, 2019). Previous studies on cancer biology, nano materials, herbal products (Website, no date; Ponnulakshmi *et al.*, 2019) (Ke *et al.*, 2019) (Rengasamy *et al.*, 2018) (Menon, V and Gayathri, 2016) have motivated me to pursue this current research which is useful to our community. Our team has extensive knowledge and research experience that has translated into high quality publications (Choudhari and Thenmozhi, 2016; Govindaraju, Jeevanandan and Subramanian, 2017; Ravi *et al.*, 2017; Vikram *et al.*, 2017; Gupta, Ariga and Deogade, 2018; Hannah *et al.*, 2018; Kavarthapu and Thamaraiselvan, 2018; Pandian, Krishnan and Kumar, 2018; Ramamurthy and Mg, 2018; Ashok and Ganapathy, 2019; Ramesh *et al.*, 2019; Sharma *et al.*, 2019; Venu, Raju and Subramani, 2019; Wu *et al.*, 2019; Samuel, Acharya and Rao, 2020) The main aim of this survey was to create awareness about effects of sleep deprivation among college students.

MATERIALS AND METHODS

An online survey was conducted with a self structured questionnaire with a sample size of hundred participants comprising the general population. The questionnaire consists of questions that help in collecting socio-economic data, questions that help in assessing awareness among the participants and also related to the awareness and knowledge about sleep deprivation among college students. The questionnaire was validated in the standard manner. Measures such as selection of participants randomly, placing restrictions over the participant population and age groups are taken to minimise the bias occurring in sampling. The questionnaire was circulated using the online part from "survey planet" and the link was circulated through social media to the respondents. The results were collected and the data was statistically analysed. The responses were recorded and the results of the analysis were represented in the form of a pie chart.

RESULTS AND DISCUSSION

The results were obtained and analyzed. From (Fig 1) it is evident that around 35.6% of college students are suffering from sleep deprivation and were aware about the sleep deprivation and its consequences and the rest 64.4% of students are not suffering from sleep deprivation. From (Fig 2) it was observed around 59.8% of students believed that people who were older than 65 years had sleep problems, 8.8% believed it is 45-55 years age group of people had problems and around 10.8% for 25-35 years age group of people and 20.6% for teenagers. From (Fig 3) when asked about the methods to get enough sleep, 53.3% students agreed listening to music provides enough sleep and 16.2% agreed that warm bath gives sleep sooner, 14.3% students agreed exercise and 16.2% students agreed that by consuming tablets we may get enough sleep.

In (Fig 4) it is known that around 79.4% of the student population thinks that consuming caffeine can cause insomnia and 20.6% disagree with the statement. Drinking tea and coffee at night activates our brain cells which results in less amount of sleep (Jan, Huang and Lee, 2019). (Fig 5) shows 32.4% of students think that teenagers should have around 5-6 hours sleep and around 30.4% students believes that teenagers should have at least 7-8 hours of sleep and 13.7% of participants thinks that they should sleep for 8-10 hours and 23.5% students should have 9-11 hours of sleep. Fig 6 depicts 92.3% of participants have less energy throughout the day due to lack of sleep whereas 7.7% of students disagree with this. Lack of sleep makes one feel tired and exhausted which leads to irritation the whole day. (Subramanian, 2011).

From (Fig 7) it is seen that around 93.1% of the student participants think that due to lack of sleep it affects their academic performance and around 6.9% students do not think in the same way. Due to lack of sleep students may feel discomfort and may lose interest in studies and will not be able to concentrate on studies (Zaidi, 2012). From (Fig 8) it is evident that 87.3% of students thinks that sleep deprivation can make ones obese and around 12.7% do not think that lack of sleep can make them obese. According to this article, sleep deprivation can make one individual obese due to lack of sleep (Long and Cheng, 2019).

Are you suffering from sleep deprivation?

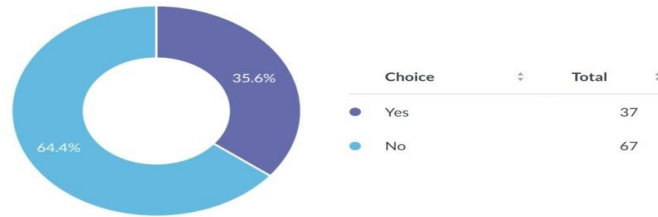


Figure 1 : The Pie chart shows the percentage distribution of responses about awareness on sleep deprivation. It is evident that around 35.6% of college students were aware about sleep deprivation and its consequences and 64.4% of students are not suffering from sleep deprivation.

Which age group have trouble in sleeping?

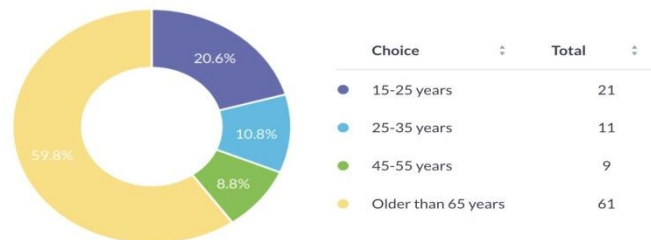


Figure 2 : The Pie chart shows the percentage distribution of responses about awareness on sleep deprivation in different age groups. It was observed around 59.8% of students believe that people who are older than 65 years of age have sleep problems, 8.8% believe it is 45-55 years age group people have problems, 10.8% for 25-35 years of age and 20.6% for teenagers.

How can you get a better night sleep?

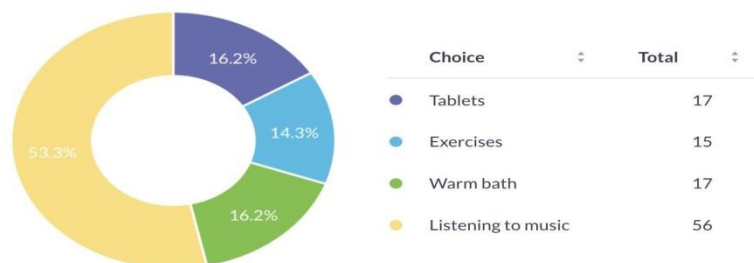


Figure 3 : The Pie chart shows the percentage distribution of responses about awareness on methods to get enough sleep. 53.3% of students say listening to music provides enough sleep and 16.2% believes that warm bath gives sleep soon. 14.3% students says by exercise and around 16.2% students believes that by consuming tablets we may get enough sleep.

Do you think that consuming caffeine avoids sleeping?

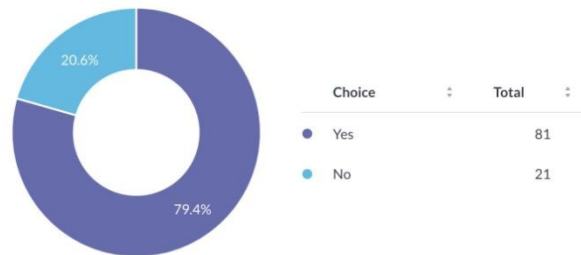


Figure 4 : The Pie chart shows the percentage distribution of responses about awareness on consuming caffeine. 79.4% of the student population thinks that consuming caffeine can avoid us to sleep and 20.6% disagree with the statement.

How many hours of sleep do you think a teenager should have?

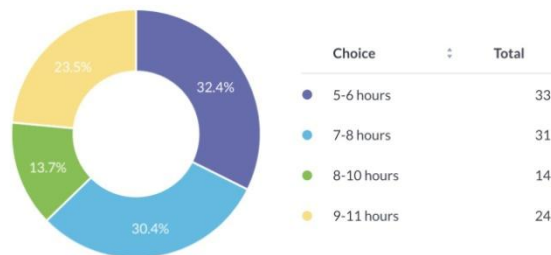


Figure 5: The Pie chart shows the percentage distribution of responses about awareness on hours of sleep required. 32.4% of students think that teenagers should have around 5-6 hours sleep and around 30.4% students believe that teenagers should have at least 7-8 hours of sleep and 13.7% of the population thinks that they should sleep for 8-10 hours and 23.5% students should have 9-11 hours of sleep.

Do you feel you have less energy throughout the day when you have less sleep?

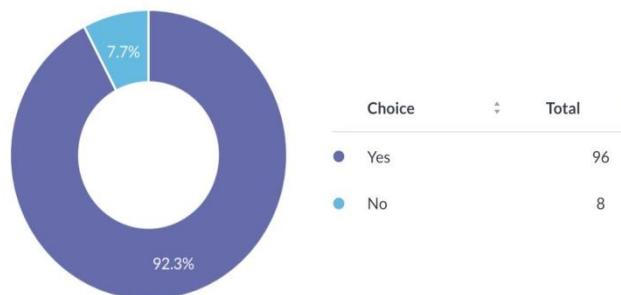


Figure 6 : The Pie chart shows the percentage distribution of responses about awareness on energy level during the day. It is evident that 92.3% of the population have less energy throughout the day due to lack of sleep whereas 7.7% of students disagree with this.

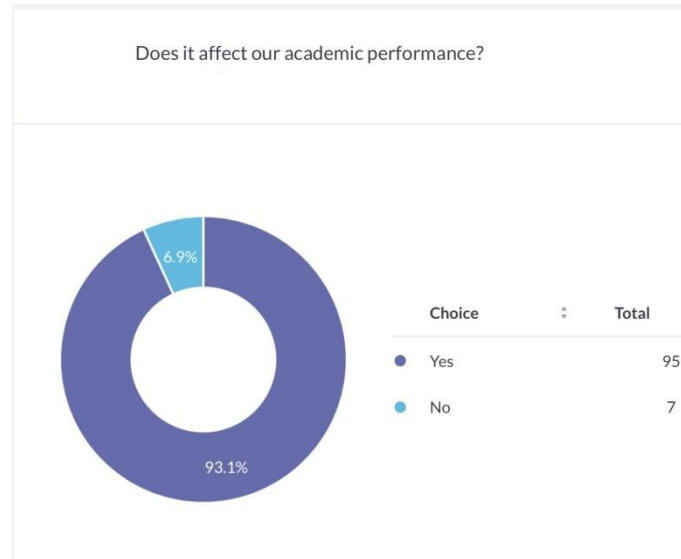


Figure 7: The Pie chart shows the percentage distribution of responses about awareness on effect of sleep on academic performance. 93.1% of students think that due to lack of sleep it affects our academic performance and 6.9% students do not think in the same way.

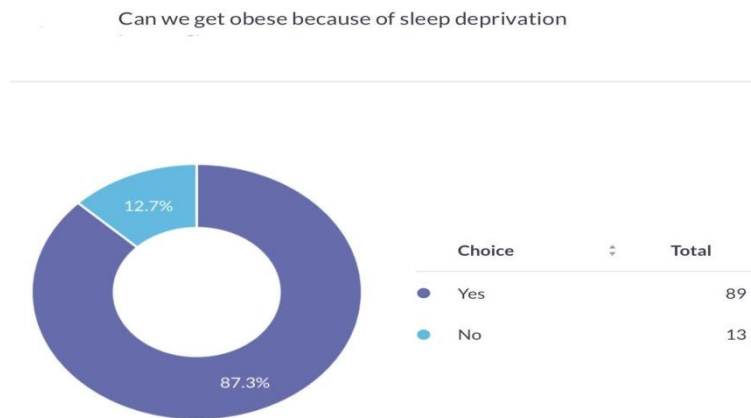


Figure 8: The piechart shows the percentage distribution of responses about awareness on obesity due to sleep deprivation. 87.3% of students thinks that sleep deprivation can make a person obese and around 12.7% do not think that lack of sleep can make them obese.

CONCLUSION

Sleep deprivation is also known as sleeplessness or insufficient sleep. Sleep deprivation is the condition in which a person who lacks enough sleep. From the results we may conclude that the majority of the college students are suffering from sleep deprivation. Seminars may be conducted in educational institutions, workplaces to create awareness on the deleterious effects of sleep deprivation on health status among the community.

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CONFLICT OF INTEREST

Nil

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