

# Prevalence of Sleep Abnormalities Among College Students

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**Abstract:** Sleep can be defined as a complex neurological state which functions to restore the body's energy and provide rest. The importance of sleep can be understood by the fact that people spend a major part of their life in sleeping. Any change in the normal sleep pattern, quality, and quantity results in the occurrence of sleep abnormalities. However it is not possible to identify the specific reason of many sleep disorders but some aspects are genetically influenced. Insufficient sleep at the night may cause the sleepy waking hours, this sleep deprivation can be very dangerous. People do not consider sleep problems as a major disorder but public awareness should be made on this topic.

**IndexTerms** - Sleep disorders, sleep cycle, Insomnia, Circadian rhythm.

## 1. INTRODUCTION

Sleep plays a vital role in the one's life and his development. Good sleep is necessary for optimal health and can affect physical, psychological as well as physiological states such as, weight, mood and hormone levels. According to the National sleep foundation, the amount of sleep needed for the people of different age groups are different. For infants (12-15 hours), teenagers (8-10 hours), young adults (7-9 hours) and older adults (7-8 hours)<sup>1</sup>. Changes in the structure and function of the brain during development can have profound effects on the sleep. Sleep has two phases: Non- rapid eye movement (NREM) sleep and Rapid eye movement (REM) sleep<sup>2</sup>. The first phase of sleep cycle is NREM while REM phase starts after a short period of NREM sleep. Human sleep has five stages stage I, II, III, IV of NREM sleep and fifth of REM sleep. The sleep patterns changes as a child grows<sup>3</sup>. With increasing age, the quality of sleep decreases. Other factors that affect the sleep include physical factors, stress and other medical conditions especially those which causes chronic pain. Sleep is an essential part of life. It is essential for restoration and recovering of energy and also physically as well as mentally provides rest to the body<sup>4</sup>. Sleep also affects the brain growth and the memory. There are many neurologic disorders that are associated with sleep disorders<sup>5</sup>. Sleep difficulties are linked to both physical and emotional problems. It is a basic human need and is crucial to both physical and mental health. Not getting enough sleep or poor quality sleep has many potential consequences. One of the main reasons behind the non diagnosis of sleep disorder is may be the lack of awareness among people regarding the disorder; many people do not consider it as a serious problem.

## 2. TYPES OF SLEEP DISORDERS

There are more than 100 different sleep/wake disorders that are classified into insomnia, circadian rhythm disorders, parasomnias, hypersomnia, and sleep disorders associated with mental, neurological and other medical disorders <sup>1,2</sup>[figure 1].

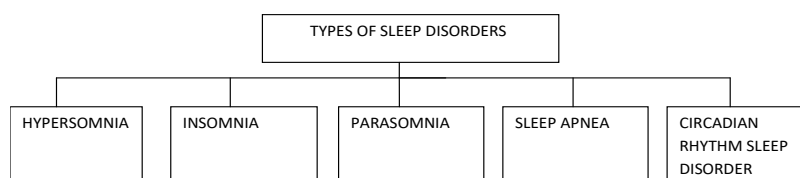


Fig 1: Types of sleep disorders

Hypersomnia is also known as excessive day time sleepiness (EDS). It is a condition in which a person is unable to stay awake during day time. Hypersomniac people can fall asleep anytime; this can affect their work efficiency, mental or thinking ability and cause lack of energy<sup>2</sup>. There are many potential causes of hypersomnia which includes: use of drugs or alcohol, depression, genetics, not getting enough sleep during night. Second type of sleep disorder is insomnia which is characterized by not having sleep or insomniac people find it difficult to fall asleep, stay asleep or both. These people feel tired after waking up because they are sleep deprived. Insomnia can be of primary or secondary. Primary insomniacs do not have other health problems whereas secondary insomniacs may be dealing with depressions, cancer, some medicines and arthritis<sup>2</sup>. Third type is parasomnia, which refers to the abnormal or unwanted events or experience that occur during sleep. It may also include abnormal movements,

behavior, emotions and perception of dreams. It usually occurs in people suffering from neurologic disorders, Parkinson's disease. In many cases parasomnia is because of genetic factor<sup>5</sup>. Fourth type is the sleep apnea which is a serious sleep disorder in which breathing repeatedly stops and starts. People who snores loudly and feel tired after sleep may have sleep apnea. There are three main types of sleep apnea these are obstructive sleep apnea (occurs when throat muscle relax), central sleep apnea (occurs when brain does not send proper signals for breathing), complex sleep apnea (it is a combination of both obstructive and central sleep apnea)<sup>6</sup>. Last and fifth type of sleep disorder is circadian rhythm sleep disorder which is characterized by a disturbance or disruption to the normal circadian rhythm, which causes the person to feel excessive day time sleepiness, insomnia or both. When a sleep schedule is not consistent it may disturb the ability to initiate or maintain sleep. It includes delayed sleep-wake phase disorder, advanced sleep-wake phase disorder, irregular sleep-wake phase disorder, and non 24 hour sleep-wake rhythm sleep disorder<sup>7,8</sup>.

### 3. METHODOLOGY

For collecting the data about the sleep abnormalities in people of different age groups especially among teens and adults, a Google questionnaire was framed. For the survey it was sent to different people (most were the students from age group 16- 22, the students were of Punjab and Himachal Pradesh) whom consent has been taken for collection of data and their answers were recorded and accordingly the result is analyzed. The total number of students participated in this survey are 200. The questionnaire consists of 12 questions which are designed by keeping in mind different physical and psychological factors that can affect sleep.

#### Questionnaire

1. Do you feel you have sleep abnormality/disorder?
2. Do you sleep immediately lying on the bed?
3. Do you use mobile phone before sleeping?
4. Have you noticed any change in your sleep after a heavy day?
5. Do you think your age affects your sleep?
6. Do you feel your diet affects your sleep?
7. Have you tried yoga or other exercise to cure sleep abnormality?
8. During exams or under stress conditions do you feel difficulty in sleeping?
9. If you are a night shift employee, have you notice any change in your body?
10. Do you feel your sleep depends upon climatic conditions?
11. Does light affect your sleep?
12. Do you sleep soundly even out off your comfort zone?

### 4. OBSERVATIONS & RESULTS

There are many factors both external and internal that can qualitatively as well as quantitatively influence the normal sleep. About 47.5 % students were not aware about abnormality in their sleep. The affected students show abnormal sleep due to:

• **Light's effect-** Light is one of the most important external factors that can affect sleep. It does so both directly by making it difficult to sleep and indirectly by influencing the timing of our internal clock. 51% of student subjects feel difficulty in sleeping in light, hence light affects their sleep.

• **Age-** 47.5% Student subjects feel that their sleep is affected by their sleep as more the age, less the time of sleep or feel difficulty in sleeping as age increases.

• **Mobile usage-** 44.9% people use mobile phone before sleeping and feel difficulty in sleeping as the light of phone disrupts the production of melatonin hormone.

• **Work load-** 76.5% Student subjects felt change in their regular routine after a heavy day and 20.4 % were having the same schedule of sleeping.

• **Diet-** 27.6 % Student subjects believe that their sleep is affected by the food they consume and rest 70.4% disagree with this, as they do not think that their diet control their sleeping pattern.

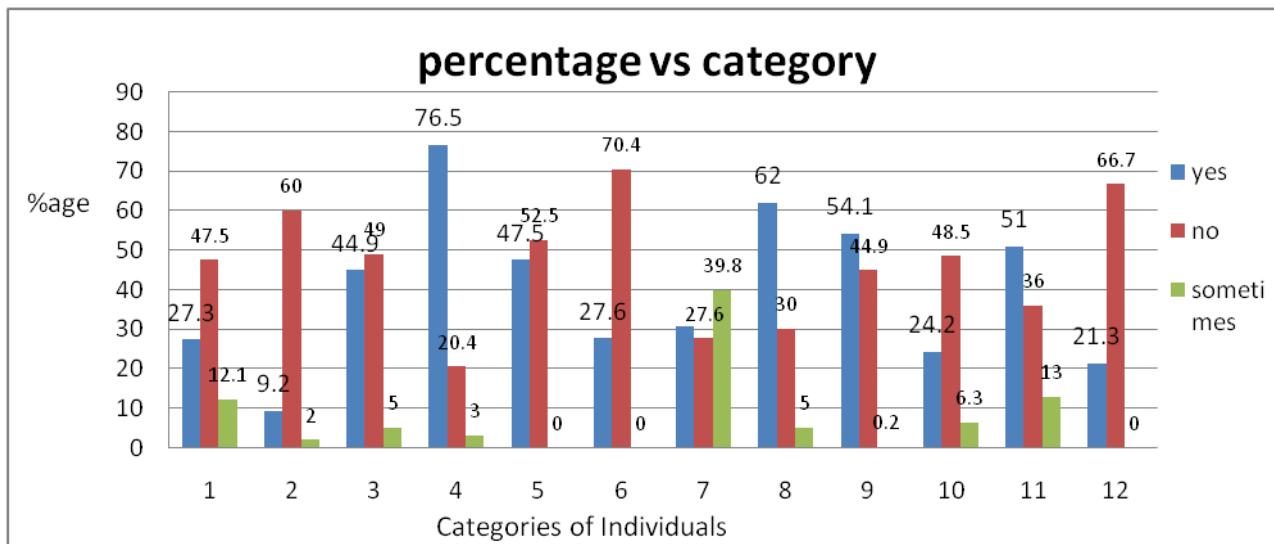
• **Exercise and yoga -**30.6% Student subjects actually took their sleeping abnormality serious as they have tried different exercises and yoga for the same. 39.8% people dose sometimes and rest 27.6 % have not tried.

• **Stress-** Stress a major role in controlling the sleep .About 62% Student subjects felt that during stressful conditions their sleep was affected, 30% were unaffected by stress.

•**Night shifters** – Our body has a biological clock and our sleep /wake cycle works according to it which is directly or indirectly dependent on light. In night shift employees, this cycle get disturbed. 54.1% people were night shifters or know someone and they find change in their behavior and sleeping habits.

•**Climatic conditions**- 48.5% people do not believe that their sleep is controlled by the climatic conditions, and rest 24.2% felt that their sleep is being affected by the climatic conditions.

•**Comfort level**- 66.7% Student subjects find it difficult in sleeping out of their comfort place and 21.3 % people were unaffected.



**Table 2: Percentage Versus Category**

Category	% age of Individuals
1.	Relating to sleep abnormality.
2.	Sleep immediately lying on bed.
3.	Use mobile phone before sleeping.
4.	Noticed change in their sleep pattern after a heavy day.
5.	Think that age affects sleep.
6.	Feel diet affects sleep.
7.	Tried yoga or exercise to cure sleeping abnormalities.
8.	Feel difficulty in sleeping during stress or exam time.
9.	Night shift employee/or known who have noticed change on their body.
10.	Feel sleep depends upon climatic conditions.
11.	Sleep is affected by light.
12.	Sleep out of the comfort place.

**5. CONCLUSION**

The result of the study reveals that sleeping disorders are increasing especially in the age group of 16-22 because of their unhealthy lifestyle. This may be due to the stress and overuse of digital items and less outdoor activities. Other factors also affect sleep pattern which may be emotional trauma, anxiety, depression, and certain physical factors. Sleep disorders are of various types, hence, it is necessary to understand the reason behind and type of disorder.

**6. REFERENCES**

- [1] American Academy of Sleep Medicine. International Classification of Sleep Disorders, Revised: Diagnostic and Coding Manual. Chicago, Illinois: American Academy of Sleep Medicine, 2001.
- [2] National Commission on Sleep Disorders Research. Report of the National Commission on Sleep Disorders Research (Research DHHS Pub. No. 92). Washington, DC, 1992
- [3] Understanding Sleep Disorders , American Academy of Neurology.
- [4] Kuem Sun Han , Lin Kim and Insop, Stress and Sleep Disorders, Shimp Kyung Hee University, Seoul 130-701
- [5] Kumar VM, Vetrivelan R , mallick HN. Alpha-1 adrenergic receptors in medial preoptic area are involved in the induction of sleep. Neurochem Res 2006.

- [6] Vijayan VK, Patial K. Prevalence of obstructive sleep apnea syndrome (OSAS) in Delhi, India. Chest 2006 130: 92S
- [7] Velayudhan Mohan Kumar (2008) :sleep and sleep disorders ,The Indian Journal of Chest Diseases & Allied Sciences, Vol. 50, pp.129-136.
- [8] Von Economo C. Sleep as a peoblem of localisation. J Ner Ment Dis 1930;71:249-59.

