

# SLEEP DISORDERS SYMPTOMS IN COLLEGE STUDENTS IN RELATION WITH ATTENTION DEFICIT HYPER ACTIVITY DISORDER SYMPTOMS

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## ABSTRACT

*Attention deficit hyperactivity disorder (ADHD) symptoms are exacerbated by sleep disorder. The purpose of this study was to determine whether or not sleep problems among college students are related to attention deficit and hyperactivity-impulsivity symptoms. The Pittsburgh Sleep Quality Index (PSQI), the Adult Attention-Deficit Hyperactivity Disorder Scale, was used to evaluate the 100 college students between the ages of 18 and 23 that were selected as a part of the study. In the results it was shown that moderate level of sleeping disorder among college students and other subset factors are not influenced by sleep disorder. Only a few factors like; Coffee consumption, Tea consumption and Room too hot and cold are affected by sleeping disorder. Therefore investigators conducted correlation analysis for checking the relationship between hyperactivity disorder (ADHD) and sleep disorder and found a positive and significant relationship between these two variables; hyperactivity disorder (ADHD) and sleep disorder. The study's participants had a mean age of 22.39 (1.93) years and comprised 38.5% male and 61.5% female. In order to determine the best treatment options and interventions, it is crucial to assess the sleep quality of young individuals who are experiencing attention problems.*

**Keywords:** *Sleep Disorders, Attention Deficit Hyperactivity Disorder, College students and Symptom*

Attention-deficit hyperactivity disorder (ADHD) is the most frequently diagnosed neuropsychiatric disorder in children (Feldman and Reiff, 2014). The incidences of childhood ADHD symptoms persisting to adulthood have been reported to vary in the 4%–60% range (Biederman, Mick and Faraone, 2000; Rasmussen and Gillberg 2000; Kessler, Adler and Barkley, 2006). Sleep problems are comorbid with ADHD from infancy to adulthood (Rasmussen and Gillberg 2000; Kessler, Adler and Barkley, 2006, Lin, Yang and Gau, 2016; Snitselaar, Smits, Van der Heijden, 2017). A meta-analysis reported that problems of sleep onset difficulties, daytime sleepiness and breathing related sleep disorders are common in children and adolescents diagnosed with ADHD (Cortese, Faraone and Konofal, 2009). Prolonged latency of sleep onset and difficulties associated with

maintaining sleep, waking up late in the morning and circadian rhythm disturbances are reported to be common in patients diagnosed with adult ADHD (Snitselaar, Smits, Van der Heijden, 2017).

## **Objective of the study**

1. To find out the level of Sleep Disorders among college students.
2. To find out the other factors which Affecting Sleep disorder among college students.
3. To assess the relationship between Sleep Disorders and Attention Deficit Hyperactivity Disorder Syndrome of the college students.

## **Hypothesis of the study**

1. There will be moderate levels of sleeping disorders among college students.
2. There will be a positive and significant

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relationship between Sleep Disorders and Attention Deficit Hyperactivity Disorder Syndrome of the college students.

## Method

Descriptive survey methods have been used for the nature of the study. Total 100 students, who are enrolled at a college that is affiliated with Rajiv Gandhi University, were chosen for the study. Purposive sampling technique has been used to collect the data. All participants completed the Pittsburgh Sleep Quality Index (PSQI), the Adult Attention-Deficit Hyperactivity Disorder-DSM-IV questionnaire based-Diagnostic Screening and Rating Scale.

## Data Acquisition Tools

The Pittsburgh Sleep Quality Index (PSQI): developed by Agargun and colleagues (1996). The PSQI offers data on the type and severity of current sleep disruptions that occurred within the last one month, as well as information on sleep quality. There are 24 items on the scale. Five of the items, which are answered by the bed partner (if any) 19 of which are self-rated Not included into the score. The 19 items used for assessing the seven separate sub-dimensions of subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disruptions, usage of sleeping medications, and daytime dysfunction are each given a score between 0 (no distress) and 3 (severe distress).

The Adult Attention-Deficit Hyperactivity Disorder Scale: this scale was developed by Gunay and colleagues (2005).

## Statistical Analysis

For statistical analysis of the data, the SPSS 22 package of software was applied. The Kolmogorov-Smirnov test was used to determine whether the continuous variables were normal. Descriptive analyses were carried out such as; percentage, mean, SD. The correlations between the categorical variables were examined and the Spearman correlation analysis was used to evaluate the relationship of PSQI and Adult ADHD subscale scores with total scores.

## Analysis and Results

Table no-1: level of cybercrime awareness of the Sleep affecting students among college students.

Scores	Frequency	Percentage	Levels of sleep affecting
Above 130.253	13	13	High
Between (130.253-110.263)	71	71	Average awareness
Below 110.263	16	16	Low
Total	100	100	

Table no – 1: the college students (71% in number), apply between moderate range of area i.e; 130.253 and 110.263. Therefore, investigators can say that college students in Arunachal Pradesh are having moderate and average sleeping disorders. Only 19% of students affected by sleeping disorders can see into table – 1.

**Table- 2: Habits and Other Factors Affecting Sleep disorder**

Factor	Percentage	
	Yes	No
Coffee consumption	72	38
Tea consumption	79	21
Regular exercise	34	66
Physical illness	19	71
Uncomfortable bed and pillow	42	58
Unventilated room	41	59
Too much light in room	38	62
Dark room	11	89
Room too hot and cold	61	39
Crowded room	35	75
Being alone in the room	8	92
Someone entering and exiting the room	37	63
Environmental Noise	52	48

Regarding use of tea, coffee, cigarettes, alcohol, regular exercise/sports, and other sleep-affecting activities, there were no statistically significant variations between the participant subgroups with and without sleep disturbances. There were no statistically significant differences between subjects with moderate-high levels of attention deficit symptoms and those who consumed tea, coffee, cigarettes, alcohol, participated in regular exercise

or sports, or other factors affecting sleep. 87 participants with sleep disorders and the 13 participants with low levels of attention deficit

symptoms were compared. Only two dimensions i.e; Coffee consumption and Tea consumption significantly impact on sleep (Table -2).

**Table 3: Correlation analysis between Sleep Quality Scores and Attention-Deficit Hyperactivity Scores**

ADHD	ADHD-1 (Attention deficit)	ADHD (Hyperactivity Impulsivity)	ADHD (ADHD related characteristics)	ADHD total
Subjective Sleep quality	0.213	0.110	0.325	0.290
Sleep Latency	0.157	0.108	0.255	0.239
Sleep duration	0.051	0.026	0.059	0.059
Sleep efficiency	0.097	0.036	0.35	0.104
Sleep disturbance	0.201	0.111	0.282	0.252
Use of sleeping medication	-0.029	-0.030	0.042	0.002
Daytime dysfunction	0.320	0.169	0.415	0.400
PSQI total	0.295	9.178	0.425	0.40

PSQI: Pittsburgh Sleep Quality Index, ADHD: Attention Deficit-Hyperactivity Disorder

\*\*p<0.001

The correlation between the PSQI's mean total scores and the ADHD scale was significant and positive ( $r=0.400$ ;  $P=0.40$ ). Table 3 shows the relationships between the PSQI and ADHD scale total and subscale scores. Correlation analysis carried out by controlling the effects of depression and anxiety scores showed that the correlation between sleep quality and ADHD symptoms retained its significance ( $r: 0.144$ ;  $P=0.023$ ).

### Major Finding of the study

1. 13 students feel slightly lower Sleep affecting problem and 16 students feel higher Sleep affecting disorder out of total sample. Investigators also found that 71 percent of students have moderate levels of sleep affecting disorder; therefore, in Rajiv Gandhi University's college students have no sleeping disorder problem. Only 13 percent of students are having sleeping disorder problems.
2. Coffee consumption, Tea consumption and Room too hot and cold factors have been slowly influencing the sleeping disorder problem and

other factors did not significantly impact the sleeping disorder problem.

3. Sleep Disorders and Attention Deficit Hyperactivity Disorder Symptoms are significant and positive relationships with each other.

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