



A STUDY TO ANALYSE SLEEP PROBLEMS IN COLLEGE STUDENTS AND ITS IMPACT ON MENTAL HEALTH

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ABSTRACT

OBJECTIVE: This study aims to analyse impacts of sleep quality on mental health and quality of life of college students.

METHOD: One hundred students aged between 17 to 24 years from distinctive colleges of Delhi NCR (India) performed a cross-sectional survey about sleep that blanketed The Pittsburgh Sleep Quality Index (PSQI), and The Profile of Mood States (POMS).

RESULT: the students stated disturbed sleep, over 75% of the population had poor sleep quality. The Pearson correlation depicted that sleep had a positive correlation with depression and total mood disturbance. **CONCLUSION:** This study suggests a massive relationship between poor sleep quality and intellectual fitness in the college population. The current study strengthens the claim that unique domains of sleep behaviors can immediately or indirectly (through mood) predict physical and psychological health.

KEYWORDS : poor sleep quality, mental health depression, occupational therapy in sleep problems, total mood disturbance, college students.

INTRODUCTION

Sleep is a complex, vital, and lively manner that is integral in maintaining human health. It is imperative in immune and endocrine function, modulation of emotion and mood, neuro-plasticity, learning, practical skills (communication, cognition and emotional) and occupational performance¹.

The American Occupational Therapy Association's revised Occupational therapy practices framework: domain and process (2008) identified sleep as an area of occupation that must be assessed in relation to adequate rest, sleep intention, and sleep indulgence².

The sleep disturbance causes clinically significant distress or impairment in social, occupational, behavioral, or other important areas of functioning³.

The college students are in transition from well-organized and structured schedules of high school to loosely ordered collegiate life, which presents many challenges that often includes, change in peer groups, new social life, maintenance of academics, increased caffeine consumption and late-night use of electronics, responsibility of being independent and future decisions, being away from home, some students can cope up with these stresses then others, and may develop risk of insomnia⁴.

Sleep is an important aspect of successful and healthy life in college, yet previous studies suffer short comings, a practice gap therefore exists. Occupational therapists routinely do not assess sleep, neither recognizes sleep as a significant issue. Occupational therapists should routinely assess sleep-wake cycle as a part of standard practice, and recommendation for the functional and occupational performance issues that arise from sleep problems among the populations should be intervened.

The aim of the study is to bridge the gap between sleep disorders and occupational therapy practice area.

In this study, psycho-metrically valid and reliable instruments are used, consisting qualitative items to explore insomnia, in a sample of non-clinical population.

METHOD

Participants

The study recruited under-graduate student from various universities of Delhi NCR. This survey was completed by 100 students (34 male, 66 female) within the age limit of 17 -24 years. The mean age of the population was 20.66 ± 2.171.

Procedure

Students of under-graduate course were recruited and explain about the study inform consent was taken and questionnaires were filled by paper pencil method.

Measures

- Pittsburgh Sleep Quality Index (PSQI)⁵

The PSQI is a 19-item self-rated questionnaire covering seven domains: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, Sleep disturbances, use of sleep medications, and day-time dysfunction. The 15 multiple-choice items and 4 write-in items yield scores from 0 (no Difficulty) to 3 (severe difficulty) on these seven domains. These domains produce a global score, ranging from 0 to 21, where scores greater than 5 Suggest significant sleep disturbance.

- **The Profile of Mood State (POMS)⁶**

The scale used to assess how severely participants experience depression, tension, fatigue, confusion, vigor, and anger. The participants are asked to rate on a 5-point Likert type scale from "not at all" to "extremely" how they feel right now.

In addition to the standardize scales the basic demographic information, we also asked participants to provide about age, gender, any demise and family crisis, relationship crisis, socio-economic status, any on-going medication.

Analytic plan

The goal of this study was to determine insomnia in college students. Followed by an estimation of the relation of insomnia with mental health and quality of life. All the data were coded, entered, in Microsoft excel and then analyzed using The Statistical Package for Social Sciences (SPSS, Chicago, Illinois, USA), version 16.0. the descriptive results were expressed as mean and Standard Deviation.

The statistical significance was set at $P \leq 0.05$. The Karl Pearson's correlation coefficient was used to test for significant relationships between categorical variables.

RESULT

The global score of Pittsburgh Sleep Quality Index (PSQI) >5 indicates poor sleep quality, and the 75% of population had a score which indicates (>5) a poor sleep quality, a positive correlation was observed with Total Mood Disturbance (a sub-scale of POM) and sleep quality.

1.Effect of Sleep quality on Mood States

	TEN	DEP	FAT	CON	ANG	ERA	VIG	TMD
PSQI	R .113	.380**	.513**	.481**	.318**	-.104	.110	.207*
	P .261	.000	.000	.000	.001	.303	.277	.039

**Correlation is significant at the 0.01 level *. Correlation is significant at the 0.05 level.

Key- PSQI: Pittsburgh Sleep Quality Index, TEN: tension, DEP: depression, FAT: fatigue, ANG: anger, ERA: esteem-related affect, VIG: vigorous, TMD: total mood disturbance), p: statistical significance, r; Pearson correlation,

DISCUSSION

On the sample of 100 college student, little incertitude subsists among health professionals about the fundamental importance of sufficient, restorative sleep in maintaining one's physical and mental health. Troubled sleep is considered both as a predictive sign and symptom of

many illnesses, and is associated with significant decrements in nerve, social functioning, physical and mental health, and general quality of life.

The result of this study endorses that the college students suffer from various sleep disturbances. The majority of this study population (75%) had poor sleep quality. The sleep difficulties are wide-spread in college students, their difficulties can be taking more than 30 minutes to fall asleep and difficulty maintaining sleep.

The correlation of age with PSQI was found negatively significant in our research and former studies also state that the college, students may have not yet developed sufficient coping strategies for handling stressful events, subsequently experience more internalizing, rumination, and worry⁷. Thus, biological factors (e.g., hyper-arousal of the autonomic nervous system and HPA axis over activation) provide a pre-disposition for stress-induced sleep difficulties, stressful events common in this population (e.g., mid-term examinations, relationship troubles) precipitate bouts of sleep difficulties, and rumination and worry can perpetuate the sleep difficulty⁸.

The correlation between gender and PSQI was not found significant which can be attributed to unequal distribution of population, however previous studies suggested that females reporting more sleep problems than male⁹.

Participants with ≥ 5 global score are indicative of poor sleep quality. The college lifestyle creates precipitating factors for sleep difficulty such as tight schedules, academics, final exam and other environmental factors, social changes, changes in circadian and sleep systems that regulate sleep duration and timing. The sleep difficulty might be associated with macro-structural changes, including changes in sleep stages, sleep architecture, and sleep efficiency. In addition, circadian changes, such as a shift toward later circadian chronotype and evening-type sleep patterns^{7,10}.

The poor sleep quality distorts the physical capacity, increase confusion and laziness, there is an increase in lactic acid build up because poor sleep does not provide time to repair muscle fatigue, which cause cramps and muscle pain. The fatigability and poor concentration lead to occupational impairment and results in poor quality of life¹¹.

In this study, depression, fatigue and confusion seemed to be the most important factor in poor sleep quality as PSQI and POMS's negative sub-scales, (tension, depression, fatigue, anger, confusion) were positively correlated.

The reduced sleep quality can be associated with various aspects of mental health in college students. Specifically, poorer global sleep quality was related to increase external problem and internal problems^{12,13}.

This study also found that college students' self-esteem is associated with both directly and indirectly by their sleep behaviors⁹. It is speculated that participants with greater sleep discrepancy might have a biased cognition towards the negative feeling about them and therefore, they might have a lower level of self-esteem to be predicted by sleep duration¹⁴. A possible explanation can be inferred from the relationship between sleep and emotion-modulated cognition. Recent findings suggested that sufficient sleep is vital to the optimal processing and evaluation of emotion, and individuals with insufficient sleep may have a bias in processing stimuli with negative valence¹⁵.

Limitations

This study only assesses the relationship between quality of sleep and mental health with retrospective self-report measures, and the self-report measure tends to have some-what inaccurate information.

This study consisted of a one-time survey, it is difficult to determine directionality in the relationship between inadequate sleep quality, mood, and stress, or to what extent poor sleep is secondary to or predictive of stress and anxiousness.

In the female population menstrual cycle related information was not taken, mood swings and abdominal cramps could be a reason of poor sleep and troubled mood.

Additionally, the year of the persuasion of college program was not

taken as fresher and senior students have different kind of stresses.

Ethical Clearances: Ethical clearance was taken from institutional ethical committee to conduct the study

Conflict of Interest: Authors report no conflict of interest.

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