

A STUDY TO ASSESS SLEEP DEPRIVATION AND QUALITY OF LIFE IN SELECTED COLLEGES AMONG SJM INSTITUTIONS IN CHITRADURGA

Ralte Vanlalliansangpuia¹, Abhishek Kochuparambil Ramakrishnan¹, Anaswara Vinu*¹, Abhijit Kumar Dalal², Naveen Kumar Sannathimanna², Yogananda Rajashekar³

¹V Pharm D. Students, SJM College of Pharmacy, Chitradurga.

²Assistant Professor, Department of Pharmacy Practise, SJM College of Pharmacy, Chitradurga.

³Professor and HOD of Pharmacy Practice, S.J.M College of Pharmacy, Chitradurga, Karnataka-577502.

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*Corresponding Author

Anaswara Vinu

V. Pharm D. Students, SJM
College of Pharmacy,
Chitradurga.

ABSTRACT

Introduction: Sleep is vital for maintaining overall health, particularly neurocognitive and mental well-being. Disruptions in the circadian rhythm due to irregular sleep patterns and prolonged sleep deprivation significantly impact the neuroendocrine system, impairing processes such as memory consolidation, emotional regulation, and hormonal homeostasis. These disturbances affect both endogenous (internal) and exogenous (external) regulatory mechanisms, increasing the risk of developing various mental health disorders. **Objectives:** This study aimed to explore the reasons behind sleep deprivation and its impact on physical and mental health-related quality of life (QOL) among students. It also intended to raise awareness about sleep-related issues.

Methodology: A questionnaire based observational QOL study was conducted at Pharmacy, Medical, Engineering and Nursing colleges in Chitradurga. **Results:** Over a six-month period among number of students pursuing Pharmacy, Nursing, Medical, and Engineering courses under SJM Institution in Chitradurga. Among the 280 participants, 10.71% were significantly sleep-deprived. A notable number reported frequent mobile phone use before sleep and vivid imagination during sleep disturbances. **Conclusion:** The results of our study shows that majority of the students affected by sleep deprivation are addicted to

mobile phones having a frequency of 30 and percentage of 10.71% out of 280 samples, and students having lots of imagination. Our findings suggest that improving sleep hygiene, environment and lifestyle to promote better sleep practices could enhance student's quality of life. Poor sleep hygiene among students is closely linked to reduced QOL. Promoting better sleep practices through wellness programs can improve both academic performance and overall health.

KEYWORDS: Sleep Deprivation, Quality of Life, Insomnia, Sleep Hygiene.

INTRODUCTION

Sleep is vital for both physical and mental health, yet college students often experience sleep deprivation due to academic demands, lifestyle changes, and poor sleep hygiene. Irregular sleep schedules, common among students, can lead to difficulty initiating and maintaining sleep. Exposure to stress, illuminated nights, and substances like alcohol and nicotine further disrupt sleep patterns, contributing to disorders like insomnia and snoring. This study aims to explore the reasons behind sleep deprivation its impact on quality of life, and raise awareness about the importance of healthy sleep practices among college students.

MATERIALS AND METHODOLOGY

The study was a questionnaire based observational (QOL) study. The study was conducted at Pharmacy, Medical, Engineering and Nursing colleges in Chitradurga. This study was conducted over a period of six months. The study was initiated after receiving the approval from the Institutional Ethics Committee (IEC) SJM College of Pharmacy, Chitradurga. After obtaining informed consent form, questionnaire was distributed to the students. The questionnaire contains Demographic Information, General Health, Role Functioning-Physical, Physical Health, Bodily Pain Vitality, Social Functioning, Mental Health. Data was collected by the investigators and confidentiality was maintained during the data collection process. The data was entered in excel sheet and analysed with proper statistical method.

INCLUSION CRITERIA

- Students of Pharmacy, Medical, Engineering and Nursing colleges under SJM Institutions in Chitradurga.
- Both male and female students.

EXCLUSION CRITERIA

- Students who discontinue the study midway.
- Students who are not present during the study period.
- Students who are under sleep medication and other medication that induces sleep.

RESULTS

A total of 280 participants were enrolled in our study. A self-designed and validated questionnaire was utilized for data collection. The questionnaire was divided into four sections, designed to assess various aspects of healthcare awareness and knowledge.

DEMOGRAPHIC DETAILS

Gender Distribution of Participants

In the current study, the majority of respondents were male students (150, 53.6%), followed by female students (130, 46.4%). In the current study, the majority of respondents were male students (150, 53.6%), followed by female students (130, 46.4%).

Age Wise Distribution of Participants

In the current study, the largest proportion of respondents were 21 years old (92, 32.8%), followed by 20-year-olds (72, 25.7%) and 22-year-olds (58, 20.7%). Participants aged 23 comprised 8.6% (24), while those aged 19 made up 4.0% (11). Smaller groups included those aged 24 (12, 4.3%), 25 (8, 2.8%), and 26 (3, 1.0%), as represented in Table 01 and graphically depicted in Figure 01.

Table 01: Age Wise Distribution of Participants.

Sl.No	Age (In years)	Frequency	Percentage (%)
1	19	11	4
2	20	72	25.7
3	21	92	32.8
4	22	58	20.7
5	23	24	8.6
6	24	12	4.3
7	25	8	2.8
8	26	3	1.0
9	Other	280	100.0

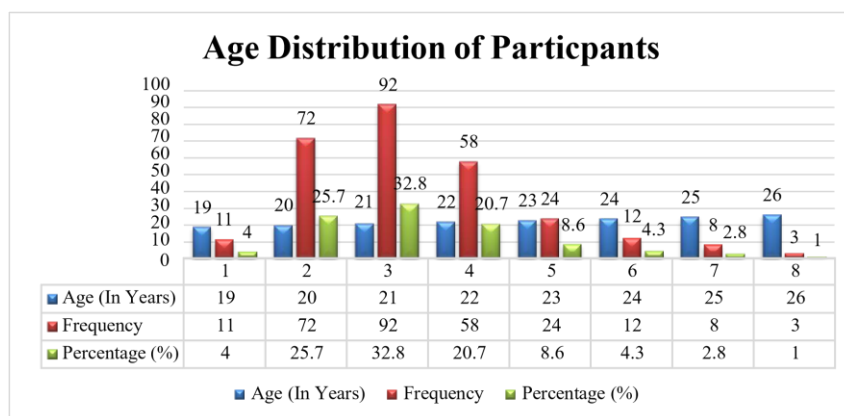


Figure 01: Age Distribution of Participants.

Discipline of Participants

A total of 280 participants were enrolled in the study, representing a diverse range of academic backgrounds. Pharmacy students comprised the largest group with 82 participants (29.3%), followed by Nursing students with 79 participants (28.21%). Engineering students made up 22.8% (64 participants), while Medical students accounted for 19.3% (54 participants). This distribution reflects a balanced sample from both healthcare and non-healthcare disciplines, ensuring a comprehensive analysis of the knowledge and awareness across different fields.

Knowledge on Sleep Deprivation

A total of 280 individuals participated in the survey. Out of these, 214 participants, accounting for 76.4%, indicated that they are familiar with sleep deprivation. On the other hand, 66 participants, which represents 23.6% of the total, stated that they are not familiar with the concept of sleep deprivation. This data suggests that a significant majority of the respondents (over three-quarters) have awareness or knowledge about sleep deprivation, while a smaller portion (less than one-quarter) are unfamiliar with it depicted in figure 02.

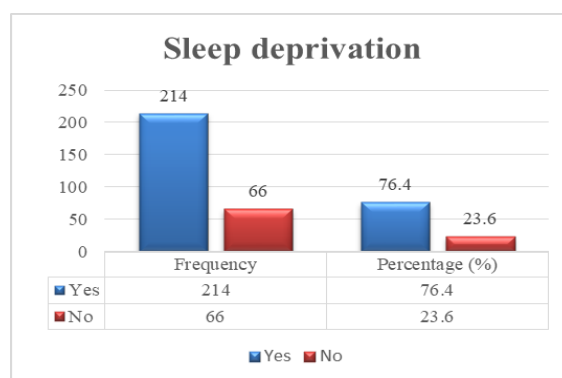


Figure 02: Response on the knowledge of sleep deprivation.

Family History of Sleep Disorders

Out of a total of 280 respondents, only 27 individuals (9.6%) indicated "Yes," suggesting that they have a family history of sleep disorders. On the other hand, a substantial majority of 253 participants (90.3%) answered "No," indicating no known family history of sleep disorders.

This data, depicted in Figure 03, reveals that a very small proportion of the respondents report a family history of sleep disorders, whereas the overwhelming majority do not. The large difference between these two groups could indicate that sleep disorders are less commonly reported or recognized within family histories in the surveyed population.

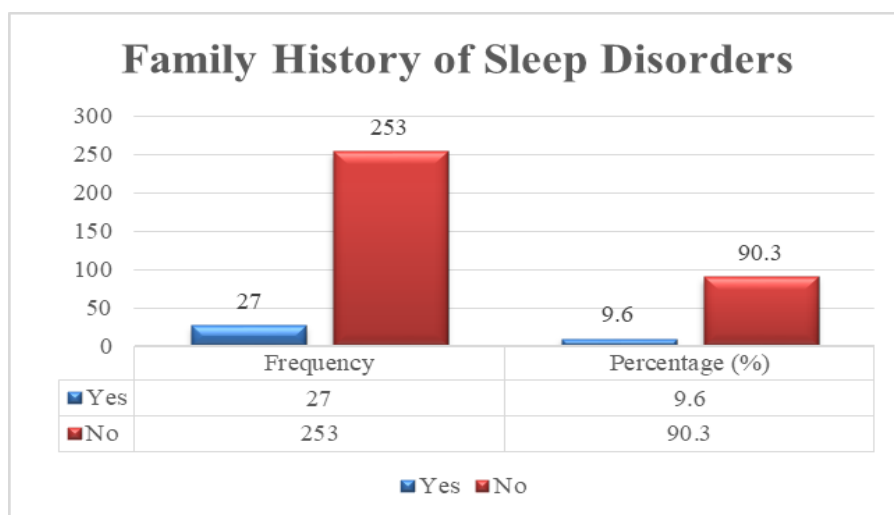


Figure 03: Response on family with history of sleep disorders.

SLEEP SATISFACTION

Out of 280 participants, 182 respondents (65%) indicated "Yes," meaning they are satisfied with their sleep. Conversely, 98 respondents (35%) answered "No," indicating dissatisfaction with their sleep quality. This data is further illustrated in which graphically represents the distribution of sleep satisfaction among participants. The majority report being satisfied with their sleep, whereas a significant portion (35%) expressed dissatisfaction. This highlights that although a substantial number of individuals feel content with their sleep, over one-third of the participants are facing issues related to sleep satisfaction.

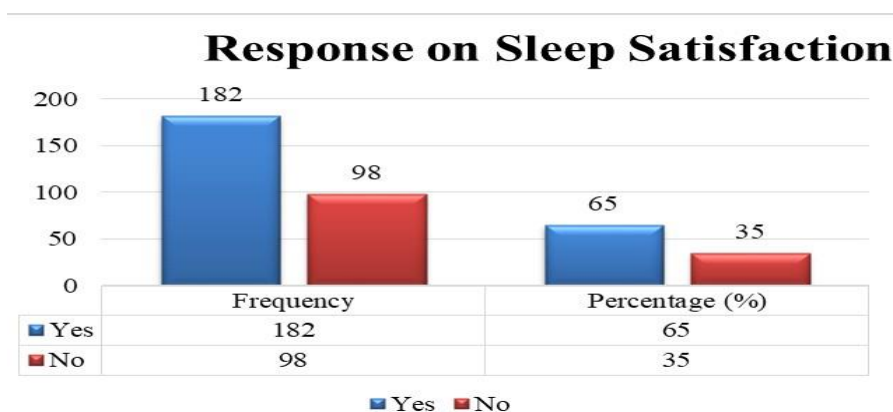


Figure 04: Response on Sleep Satisfaction.

SF-8 Observation

Table No 05: SF-8 Observation.

Score	Habits	Hours of Sleep	Screen Time	Affecting Physical Health	Bodily Pain	Energy	Limit	Bothered about Emotional Problems
1	75	248	221	210	180	111	203	185
0	205	32	59	70	100	169	77	95
%	26%	88%	78%	75%	64%	39%	72%	66%
Total	280	280	280	280	280	280	280	280

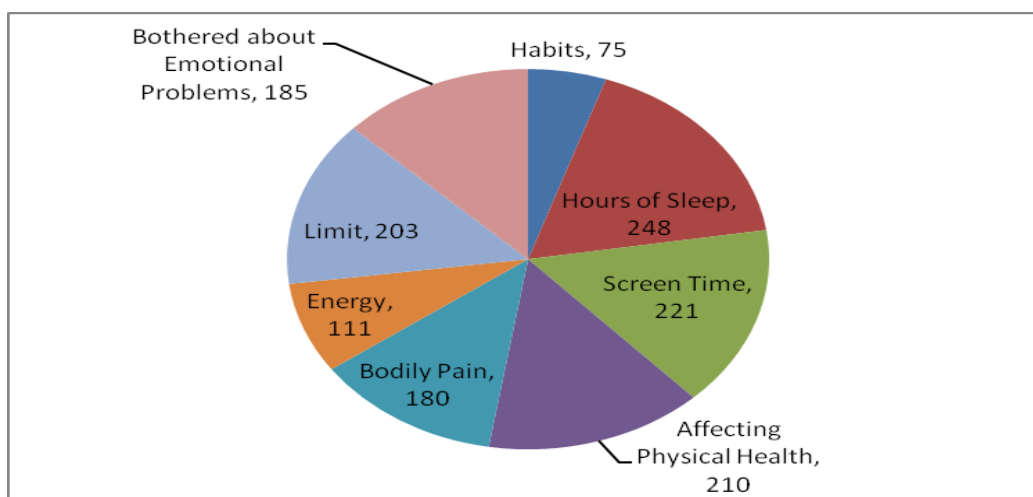


Figure 05: SF-8 Observational Pie-Chart.

The Scoring data provides insight into how various factors influence sleep patterns, with scores indicating whether these factors are affecting sleep (Score 1) or not (Score 0). A key finding is that screen time, hours of sleep, and physical limitations have the most significant impact on sleep disruption, contributing 78%, 88%, and 72%, respectively, to sleep problems. Those who report higher screen time (221) and insufficient sleep hours (32) show clear signs

of sleep disturbance. Additionally, poor physical health, reflected in a 75% contribution, and bodily pain (64%) also correlate strongly with sleep disruption.

Emotional problems contribute 66% to sleep disturbances, further demonstrating how mental and physical health are intertwined with sleep quality. While energy levels and habits also influence sleep, they have a lesser impact, with habits contributing only 26% to sleep issues and energy levels 39%.

In conclusion, the findings suggest that improving sleep quality hinges on addressing certain key factors. Reducing screen time, particularly before bed, is crucial, as is ensuring adequate hours of sleep. Maintaining physical health and managing emotional well-being are also important strategies, as they significantly contribute to sleep disturbances. While poor habits and low energy are somewhat influential, the data highlights the need to focus more on screen exposure, sleep hours, and overall physical and mental health to improve sleep patterns effectively.

DISCUSSION

Sleep plays a crucial role in maintaining overall health and well-being, especially for students. It affects mental stability, emotional balance, and physical functioning, governed by the brain's homeostatic processes and circadian rhythm. A minimum of 7 hours of quality sleep is essential for daily functioning. A study among 280 students revealed that 65% were satisfied with their sleep, while 35% expressed dissatisfaction. Common sleep disorders included narcolepsy (18%), CRDs (6%), nightmares (3%), insomnia (4%), and alcohol-related disturbances (17%). Male students (53.6%) were slightly more represented than females (46.4%), with the largest age group being 21 years. Despite 76.4% being familiar with sleep deprivation, 23.6% lacked awareness and management of sleep health.

CONCLUSION

The study highlights the growing impact of mobile addiction and stress on sleep quality, emphasizing the need for better awareness and management of sleep. This study highlights that sleep deprivation significantly impacts the quality of life among college students, especially those in Pharmacy, Nursing, Medical, and Engineering fields. Among the 280 students surveyed, 10.71% suffered due to mobile phone addiction, while only 3.57% experienced issues like mood swings, imagination, and poor concentration. These findings underscore the need to improve sleep hygiene and promote healthier lifestyles. Integrating

sleep education into wellness programs could enhance academic performance and overall mental and physical well-being.

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AUTHORS CONTRIBUTIONS

All the authors contributed equally.

CONFLICT OF INTEREST

All the authors declare no conflict of interest.

ETHICS DECLARATION

The study received ethical approval from the Institutional Ethics Committee of SJM College of Pharmacy, Chitradurga, with a Ref. No: SJMCP/468/2024-25.

CONSENT FOR PUBLICATION

The authors have given their consent for publication.

COMPETING INTERESTS

The authors declare that they have no competing interests.

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