

## Original Article

# Prevalence of Sleep Paralysis in the Medical Students of a Local Medical College

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### Abstract

**Objective:** To find out the prevalence of sleep paralysis among the medical students of a local Pakistani medical college.

**Methodology:** This cross-sectional study was conducted on 107 medical students from, Karachi Institute of Medical Sciences (KIMS), Karachi, Pakistan. Non-probability Convenient Sampling Technique was utilized for this study. Students suffering from any psychiatric illness were excluded from this study. The study was performed after taking permission from the Institutional Ethical Review Committee. Written informed consent was taken from all the students. The data were collected using a pretested predesigned Questionnaire which was consisted of 10 questions related to the common10 happening and symptoms of sleep paralysis. Data were recorded in the form of frequency and percentages and analyzed using SPSS 24.

**Results:** 52% (56 out of 107) participants have had an experience of sleep paralysis. Most of the participants (76.6%) described their experience as an Inability to move. Frequency of experience ranged from 0 to 20 times in the last year. Age at first experience ranged between 10-20 years.

**Conclusion:** We found a high prevalence of sleep paralysis (47.2%) among the medical students at a local Pakistani medical college. Majority of the students experienced the phenomenon multiple times in their life. The students associated the symptoms the factors such as academic stress, anxiety, workload, emotional experiences, sleep deprivation, work routine, sleep pattern, sleep deprivation, fatigue, mental disturbance, studies and routine stress. 37.3% of the students also related the phenomenon to their position of sleep (lying on back). The participants described the experience as a source of great distress. Sleep paralysis needs to be studied, investigated and addressed in context of mental health of the students.

**Keywords:** Anxiety, hostellite, sleeps paralysis.

**How to cite:** Ijaz A, Saeed M, Aftab RK, Altaf B, Ahmad A, Ali F. Prevalence of Sleep Paralysis in the Medical Students of a Local Medical College. *MedERA- Journal of CMH LMC and IOD.* 2021;3(2): 4-7.

**DOI:** <https://doi.org/10.5281/zenodo.5909757>

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Submission Date: 11-11-2021

1st Revision Date: 28-12-2021

Acceptance Date: 20-01-2022

### Introduction

**S**leep paralysis (SP) is a transient paralysis which a person encounters while sleeping or when

he is trying to wake up. The individual is absolutely aware and somehow prepared for<sup>1</sup> a happening yet cannot move during the episode. Few of the causes are drug abuse, anxiety, congenital, physiological health problem, disposition, IQ level, superstitious believes, issues regarding sleep, psychological wellness in overall population<sup>2</sup> and mental issues.

The most recent intercession for SP is Meditation-Relaxation therapy combined with<sup>3</sup> cognitive-behavioral therapy techniques. According to study, sleep issues are related<sup>4</sup> to the basis of SP. They may have restless nights followed with terror, a sensation of pressure on them, someone is already present within the space<sup>5,7</sup> and felt enhanced inefficiency. Consuming alcohol, upset mental state, issue falling asleep, poor sleep quality, extra tiredness at day, and event of SP had greater number of possibilities than others for<sup>8,9</sup> nightmares. This study aimed find the prevalence of SP in the medical students at a local Pakistani Medical College, Lahore.

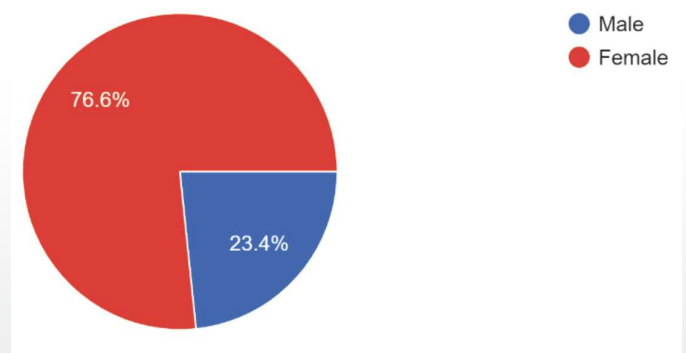
**Methodology**

This cross-sectional study was conducted on 107 medical students from Karachi Institute of Medical Sciences (KIMS), Karachi Pakistan. Sampling Technique used for this study was Non-probability Convenient sampling. Students suffering from any psychiatric illness were excluded from this study. The study was performed after permission from the Institutional Ethical Review Committee. Written informed consent was taken from all the students. The data were collected using a pretested pre-designed Questionnaire which was consisted of 10 questions related to the common<sup>10</sup> happening and symptoms of sleep paralysis. Data were recorded in the form of frequency and percentages and analyzed using SPSS 24.

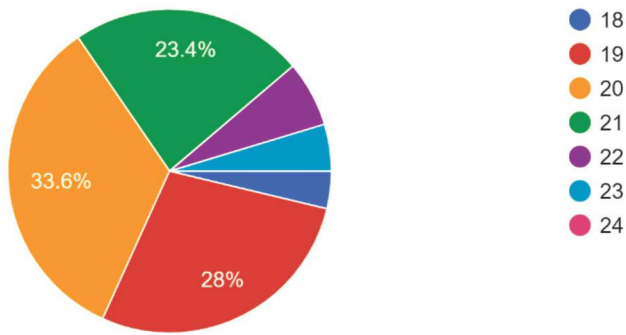
**Results**

There was a total of 107 responses out of which 82(76.6%) were from females. 52% (56 out of 107) participants have had an experience of sleep paralysis. Most of the participants (76.6%) described their experience as an Inability to move. Frequency of experience ranged from 0 to 20 times in the last year. Age at first experience ranged between 10-20 years. 56.6% of the participants associated the experience to preceding conditions such as academic stress, anxiety, workload, emotional experiences, sleep deprivation, work routine, sleep pattern, sleep deprivation, fatigue, mental disturbance, studies and routine stress. 37.3% of the participants considered ‘sleeping on back’ to be associated with sleep paralysis however 51% of the participants did not relate their experience to their sleep position. 39.2% of the participants described their experience as ‘a dream’ immediately after awakening, 27.5% associated it to ghosts, 21.6% to some mental problem and 23.5% were clueless about the happening. Demographic details are given in the pie-charts and bar graphs below.

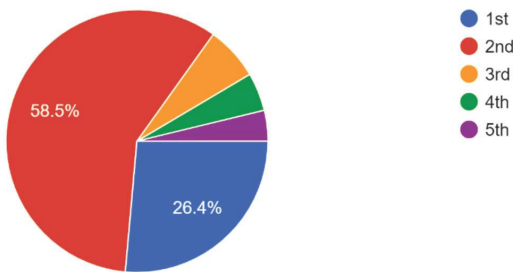
1. Gender
2. Age
3. Year of Study
4. Discipline of Study
5. Experience of Sleep Paralysis



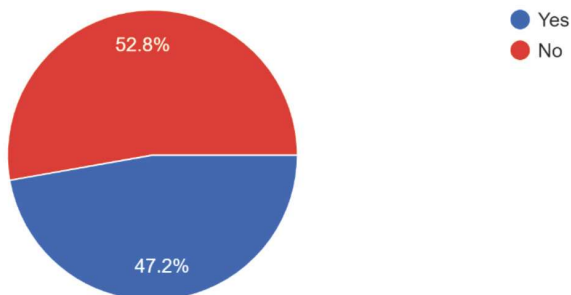
1. Gender



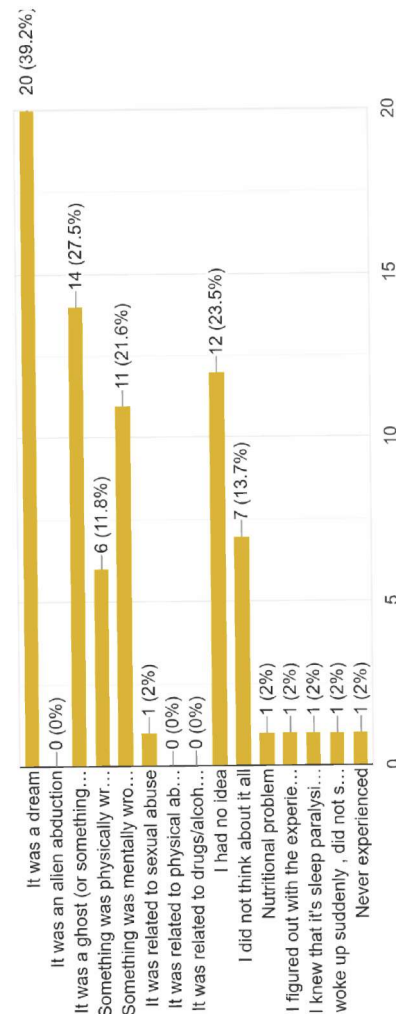
2. Age



3. Year of Study



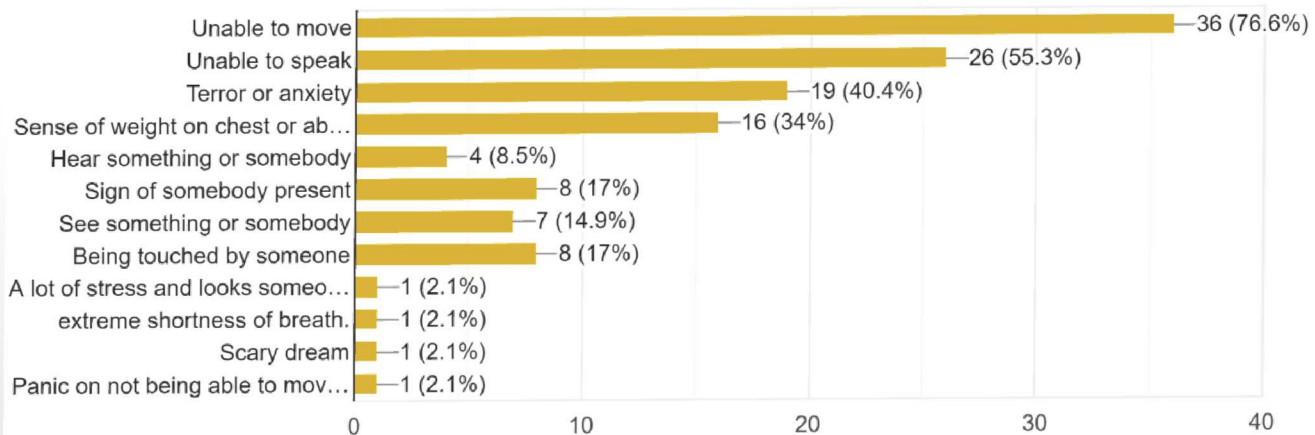
4. Have you ever experienced Sleep Paralysis?



6. How did you explain the event?

Discussion

We found that people who experience more SP episodes had some psychological issues like anxiety



5. What was your experience of Sleep Paralysis?

and stress. People who have post-traumatic stress disorders or panic disorders and poor sleep quality<sup>2</sup> may have SP. In the present study, the incidence of feeling evil presence during the episode of SP was more than 1/3 ratio. Making changes in sleep patterns or having good quality of sleep will be helpful in reducing SP episodes<sup>11</sup>.

Another study reported that not only the quality of sleep but also heredity plays an important role to induce SP and Polymorphisms in the PER2 gene were associated with SP, which affects the circadian<sup>12</sup> rhythms and sleep homeostasis. More research is required to have proper understanding of SP and to further know that how genetic factors are associated.

Good sleep and stress-free life should be maintained to avoid SP attacks. Relieving stress/anxiety, educating the community about healthy sleep schedules, and physically active lifestyle may help. Further extensive studies should be conducted on large sample size and in other cities of Pakistan too.

### Conclusion

We found a high prevalence of sleep paralysis (47.2%) among the medical students at a local Pakistani medical college. Majority of the students experienced the phenomenon multiple times in their life. The students associated the symptoms the factors such as academic stress, anxiety, workload, emotional experiences, sleep deprivation, work routine, sleep pattern, sleep deprivation, fatigue, mental disturbance, studies and routine stress. 37.3% of the students also related the phenomenon to their position of sleep (lying on back). The participants described the experience as a source of great distress. Sleep paralysis needs to be studied, investigated and addressed in context of mental health of the students.

**Conflict of Interest**

*None*

**Funding**

*None*

### References

1. Cheyne JA, Pennycook G. Sleep paralysis post episode distress: Modeling potential effects of episode characteristics, general psychological distress, beliefs, and cognitive style. *Clin Psychol Sci* 2013;1:135-48.
2. Denis D, French CC, Gregory AM. A systematic review of variables associated with sleep paralysis. *Sleep Med Rev* 2018;38:141-57.
3. Jalal B, Romanelli A, Hinton DE. Sleep paralysis in Italy: Frequency, hallucinatory experiences, and other features. *Transcult Psychiatry* 2020 : 1363461 52 09 09609.
4. Hinton DE, Pich V, Chhean D, Pollack MH, McNally RJ. Sleep paralysis among Cambodian refugees: association with PTSD diagnosis and severity. *Depression Anxiety* 2005;22:47-51.
5. Chaube N, Nathawat S. Sleep Paralysis: Its Genesis and Qualitative Analysis of Case Histories. *Adv Sci Lett* 2018;24:3347-51.
6. Stefani A, Iranzo A, Santamaria J, Högl B, Group S. Description of sleep paralysis in The Brothers Karamazov by Dostoevsky. *Sleep Med* 2017;32:198.
7. Kurou D, Avdi E. An exploration of the experience of sleep paralysis in urban youth in Greece. *Scientific Annals-School of Psychology AUTH* 2017;12:109-33.
8. Munezawa T, Kaneita Y, Osaki Y, Kanda H, Ohtsu T, Suzuki H, et al. Nightmare and sleep paralysis among Japanese adolescents: a nationwide representative survey. *Sleep Med* 2011;12:56-64
9. Otsuka Y, Kaneita Y, Nakagome S, Jike M, Itani O, Ohida T. Nightmares and sleep paralysis among the general Japanese population: a nationwide representative survey. *Sleep Biol Rhythms* 2018;16:187-95.
10. Kotorii T, Kotorii T, Uchimura N, Hashizume Y, Shirakawa S, Satomura T, et al. Questionnaire relating to sleep paralysis. *Eur Arch Psychiatry Clin Neurosci* 2001;55:265-6.
11. Denis D. Relationships between sleep paralysis and

sleep quality: current insights. Nat Sci Sleep 2018; 10:355.

12. Denis D, French CC, Rowe R, Zavos HM, Nolan PM, Parsons MJ, et al. Atwin and molecular genetics study of sleep paralysis and associated factors. J Sleep Res 2015;24:438-46.

### **Authors Contribution**

**A.I.:** Conception and design statistical expertise

**M.S.:** Data Collection and data entry

**R,K.A.:** Analysis and interpretation

**B.A.:** Article writing and review

**A.A.:** Article writing and review

**F.A.:** Critical revision, final approval