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## Awareness of sleep hygiene in medical students of Karachi: A cross sectional study.

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### Abstract:

**Introduction:** Sleep, a neurobiological phenomenon, is very essential component for the behaviours of human beings. Sleep Hygiene is essentially a term which is used to understand lifestyle and environmental factors that influence sleep. A student when get admission in a university, it's a turning point in his/her life as previous routine is dramatically altered. This is more so if a student enters a medical college or university. While studying medicine the syllabus, timetables, duties, shifts are all manifold and hence it changes the complete environment and lifestyle of nearly all students. This in turn leads to drastic change in the pattern of sleep hygiene.

**Objective:** This study was conducted to assess the awareness of sleep hygiene among medical students.

**Methodology:** This cross-sectional study was conducted from March –August 2019. The approval of study sought from Ethical Review committee of Isra University. A self-administered questionnaire used to collect data after student's verbal consent and ensuring their anonymity. Using convenient sampling technique 467 medical students were studied including those from 1<sup>st</sup> year to 5<sup>th</sup> year students. The data was analyzed using SPSS version 21.0.

**Results:** Showed that 59.5% of the students have not heard about sleep hygiene, 31.5% have heard it and 9% of them were not sure about it. 77% of participants use social media, 72% takes shower and 63% of the students wash their face before going to the bed.

**Conclusion:** We concluded that majority of the medical students are unaware of Sleep Hygiene and a large portion of them uses social media before going to bed.

**Key Words:** Sleep Hygiene, medical students, awareness.

### Introduction

Certain practices, behaviours and habits from our daily life are of great importance in the achievement of good quality night sleep and an alert mind in the day, so called "sleep hygiene" practices. Psychiatric says that environment, food, smoking and the sleeping environment are linked with sleep hygiene.<sup>1</sup> First ever known reference regarding sleep hygiene was given by Nathaniel Kleitman in 1939<sup>2</sup>; he is considered to be

as the father of research in sleep. He evaluated factors such as sleeps' duration, practices, satiety and body temperature. However, it was in 1977 when Peter Hauri<sup>3</sup> who for the first time gave the thought about codifying sleep. He believes that the all-essential factors for the sleep hygiene would be life style, environment and general sleep facilitation components<sup>2</sup>. He was the one who is thought to have invented the term "Sleep Hygiene".<sup>3</sup>

The 24 hours sleep-wake circadian rhythm is biologically settled indigenously but is highly dependent upon the external factors such as light, temperature, and social disruption.<sup>4</sup> Sleep hygiene has been reported to be efficient in adolescents and young adults<sup>5</sup>. Medical students have very tough study burden and frustrating working schedule, they ordinarily shorten their sleep for sparing time, also having poor sleep practices or sleep hygiene due to the stress of their examinations and study burden<sup>6</sup>.

Good sleep influences both physical and mental health<sup>7</sup>. Healthy sleep contributes towards a healthy life and increases the ability of a person to perform daily routine work and responsibilities in a better way<sup>8</sup>. Improper sleep hygiene practices or having disturbed sleeping pattern can cause bad impact on the quality of life<sup>9</sup>. Sleep hygiene is a recent entity, awareness of sleep hygiene and sleep hygiene practices have never been studied in medical students of Karachi. Most medical students complain more of sleep problems due to their academic requirements<sup>10,11</sup>, the objective of our study was to know the awareness of sleep hygiene among students and the practices which they make for their sleep.

**Objectives:**

To assess awareness of sleep hygiene among medical students

To know the sleep hygiene practices in medical students

**Methodology:**

This Cross-sectional Study was conducted at Al-Tibri Medical College, Karachi. Isra University from March 2019 to August 2019. Study participants were students from 1st year to Final year MBBS. Permission sought from Ethical Review Committee, Isra University. Sample size was 467 and obtained through Convenient sampling. All post graduate student and students from the other disciplines of the University

Questionnaire:

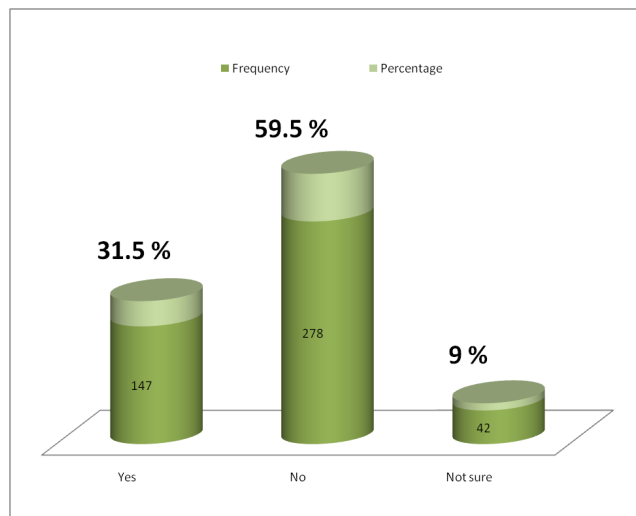
A questionnaire developed with open as well as close ended questions and pre-tested upon 50 medical students; ten from each year from first to final year MBBS. Self-administered questionnaire was distributed among all the students from first to final year MBBS after their verbal consent and explaining ensuring their anonymity. Response rate was 100%. The variables of interest for current study were “Place of residence, awareness of sleep hygiene, having difficulty to sleep

again after waking up in mid sleep, difficulty in waking up in the morning & sleep hygiene practices”. The data analysis was done on SPSS version 22.0 for percentages and frequencies.

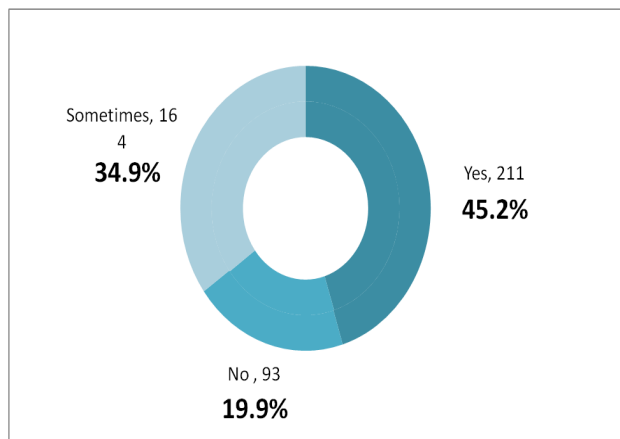
**Results:**

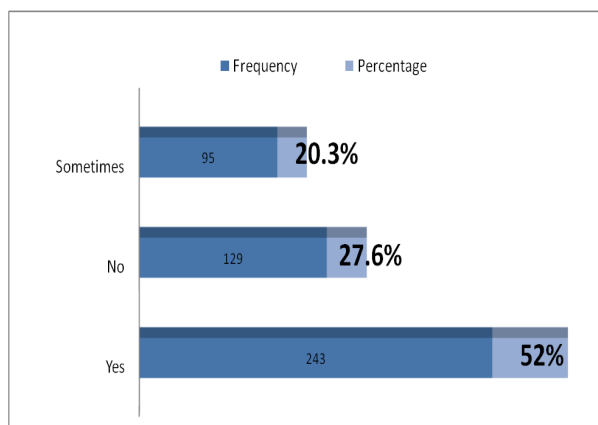
Among 467 participants, 59.1% (n=276) were male and 40.9% (n=191) were female; the age ranges from 18 to 24 years with a mean age of 21.13 years. From the 1st year number of respondents were 95 (20.3%), 2<sup>nd</sup> year 100 (21.4%), 3<sup>rd</sup> year 99 (21.2%), 4<sup>th</sup> year were 93 (19.9%) and final year were 80(17.1%). Students who reside in hostel were 346 (74.1%) while 121(25.9%) students were residing in different areas of the city.

**Fig-1. Have you ever heard about Sleep Hygiene?**



**Fig-2. It depicts the students who have difficulty to sleep again after awakening in midnight.**



**Fig-3. Easily wake up in the morning.****Table No 1: illustrates the activities of the students before going to bed.**

Activities	Yes n = (%)	No n = (%)
Taking shower	336 (72)	131 (28)
Social media use	362 (77)	105 (23)
Washing face	295 (63)	172 (37)
Watching movie	159 (34)	308 (66)
Exercise	51 (11)	416 (89)
Reading books	73 (16)	394 (84)
Room cleaning	235 (50)	232 (50)
Coffee drinking	65 (14)	402 (86)
Playing electronics games	168 (36)	299 (64)

**Discussion:**

Our study reveals that majority of MBBS students were not aware of sleep hygiene. Students are habitual to the practices which contribute in poor sleep hygiene and they frequently use social media and do not prefer to read a book or exercise before going to bed.

Although the studies on sleep hygiene are very limited especially in Pakistan, one study conducted on sleep quality gives the result of poor-quality sleep (39.5%) & a large portion (72%) of the medical students goes to bed after 12am<sup>12</sup>. A study conducted in Tamil Nadu India concluded that the large proportion of the students have improper sleep pattern and sleep hygiene

practices even when they are adolescent<sup>13</sup>. In Arabian Peninsula a study in Kuwait explores that large number of Kuwait University students are unaware of sleep hygiene which is consistent to our study as well<sup>14</sup>. Only 30.5% of the medical students of King Saud University, Riyadh, Saudi Arabia has awareness of sleep hygiene which is comparable to our results which shows that 31.5% of our students have heard about sleep hygiene<sup>15</sup>. Coming to the West side neighbor of Pakistan, a study in Tehran University of Medical Sciences Iran also witnesses sleep hygiene problems; the most significant among these is different timings to go to bed and caffeine intake with consequent adverse effect on sleep quality<sup>16</sup>. Not only the sleep hygiene is poor but also the sleep time has reduced, a research has shown that students used to sleep one hour more in 1969 as compared to 2001<sup>17</sup>.

**Conclusion:**

Awareness of sleep hygiene among medical students is very low, and the use of social media is high that contribute towards poor sleep.

**References:**

- Stepanski EJ, Wyatt JK. Use of sleep hygiene in the treatment of insomnia. *Sleep Med Rev.* 2003 Jun;7(3):215-25. doi: 10.1053/smr.2001.0246. PMID: 12927121.
- Donn Posner, Philip R. Gehrman. Sleep hygiene Chapters from the behavioural treatments for sleep disorders (BTSD) Treatment Protocols for Insomnia. University of Pennsylvania <https://www.med.upenn.edu/cbti/btsdchapters.html>
- Roth T, Ancoli-Israel S. Obituary for Peter Hauri (1933–2013). *Sleep.* 2013;36(4):617-618. Published 2013 Apr 1. doi:10.5665/sleep.2564
- Yazdi Z, Loukazadeh Z, Moghaddam P, Jalilolghadr S. Sleep Hygiene Practices and Their Relation to Sleep Quality in Medical Students of Qazvin University of Medical Sciences. *J Caring Sci.* 2016;5(2):153-160. Published 2016 Jun 1. doi:10.15171/jcs.2016.016
- Voinescu B. & Szentagotai-Tatar A. Sleep hygiene awareness: its relation to sleep quality and diurnal preference. *J Mol Psychiatry.* 2015; 3(1): 1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4328962/>
- Almojali AI, Almalki SA, Allothman AS. et.al. The prevalence and association of stress with sleep quality among medical students. *Journal of Epidemiology and Global Health.* 2017 Sep; 7(3):169-174. Epub 2017 May

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5. <https://www.ncbi.nlm.nih.gov/pubmed/28756825>. PMID: PMC6753813.
6. Magnavita N. & Garbarino S. Sleep, Health and Wellness at Work: A Scoping Review. *Int J Environ Res Public Health*. 2017 Nov; 14(11): 1347. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5707986/>
7. Buysse DJ. Sleep health: can we define it? Does it matter?. *Sleep*. 2014;37(1):9-17. Published 2014 Jan 1. doi:10.5665/sleep.3298
8. Witcher LA., Gozal D., Molfese DM., et.al. Sleep Hygiene and Problem Behaviors in Snoring and Non-Snoring School-Age Children. *Sleep Med*. 2012 Aug; 13(7): 802–809. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3430873/>
9. Azad MC, Fraser K, Rumana N, et al. Sleep disturbances among medical students: a global perspective. *J Clin Sleep Med*. 2015;11(1):69-74. Published 2015 Jan 15. doi:10.5664/jcsm.4370.
10. Almojali AI, Almalki SA, Alothman AS, Masuadi EM, Alaqeel MK. The prevalence and association of stress with sleep quality among medical students. *J Epidemiol Glob Health*. 2017 Sep;7(3):169-174. doi: 10.1016/j.jegh.2017.04.005. Epub 2017 May 5. PMID: 28756825; PMID: PMC7320447.
11. Surani AA., Zahid S, Surani A , et al. Sleep quality among medical students of Karachi, Pakistan. *Journal of the Pakistan Medical Association*. April 2015: 65-380. <https://pubmed.ncbi.nlm.nih.gov/25976571/>
12. Murugesan G, Karthigeyan L, Selvagandhi PK. et.al Sleep patterns, hygiene and daytime sleepiness among adolescent school-goers in three districts of Tamil Nadu: A descriptive study. *The National medical journal of India*. 2018 Jul-Aug;31(4):196-200. <https://www.ncbi.nlm.nih.gov/pubmed/31134922>
13. Al-Kandari S, Alsalem A, Al-Mutairi S, Al-Lumai D, Dawoud A, Moussa M. Association between sleep hygiene awareness and practice with sleep quality among Kuwait University students. *Sleep Health*. 2017 Oct;3(5):342-347. doi: 10.1016/j.sleh.2017.06.004. Epub 2017 Aug 10. PMID: 28923190.
14. Alshahrani M, Al Turki Y. Sleep hygiene awareness: Its relation to sleep quality among medical students in King Saud University, Riyadh, Saudi Arabia. *J Family Med Prim Care*. 2019 Aug 28;8(8):2628-2632. doi: 10.4103/jfmpc.jfmpc\_359\_19. PMID: 31548945;
15. Rezaei M, Khormali M, Akbarpour S, Sadeghniai-Hagighi K, Shamsipour M. Sleep quality and its association with psychological distress and sleep hygiene: a cross-sectional study among pre-clinical medical students. *Sleep Sci*. 2018;11(4):274-280. doi:10.5935/1984-0063.20180043.
16. Hicks RA, Fernandez C, Pellegrini RJ. The changing sleep habits of university students: an update. *Percept Mot Skills*. 2001 Dec; 93(3):648. doi: 10.2466/pms.2001.93.3.648. PMID: 11806580.