# A cross-sectional study to determine association between sleep quality and mental health of medical faculty from a tertiary care center of India

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## ABSTRACT

**Background:** Sleep quality is very important for the mental health of individual. The sleep quality and mental health have bidirectional relation and mean that the poor mental health affects the one's sleep quality or poor sleep quality affects the mental health. **Aims and Objectives:** The objective of the study was to document the relation between sleep quality and mental health of medical faculty. The secondary objective of the study was to identify the determinants of quality of sleep and mental health. **Materials and Methods:** This was cross-sectional study done between August and November 2021 after the second wave of COVID-19. Pittsburgh Sleep Quality Index Scale (PSQI) was used to access sleep quality and Zung Self-Reporting Depression Scale (ZSDS) was used to access the metal health. All the medical faculty of medical institutes were included in the study and three attempts were made to enroll them in study. **Results:** Cronbach's alpha for PSQI for this study was 0.80 and for ZSDS was 0.69 both were in an acceptable range. This study reported that 60.2% of participants have good quality of sleep while 16.3% of participants have recorded in mild or moderate ZSDS score. Exercise and chronic disease condition have statistically significant difference with ZSDS score. Remaining all the lifestyle-related habits do not have any significant association either with PSQI or ZSDS. **Conclusion:** Although there was no statistically significant difference between quality of sleep and ZSDS score, the mean score was higher of those participants who categorized as mild or moderate Zung score in comparison to those who categorized as normal.

**Key words:** Sleep quality; Sleep; Depression; Mental health; Health personnel

## INTRODUCTION

Sleep quality is defined as one's satisfaction of the sleep experience and it is important for human's mental and physical well-being. The brain works during sleep to analyze and store thoughts and memories, and it appears that a lack of sleep is particularly detrimental to the consolidation of pleasant emotional content.[1] Chronic sleep deprivation has been linked to impaired mental health. The prevalence of sleep disorders reportedly affects 22–65% of the general population.[2]

Mental wellness is always vital in one's life. Our mental health affects how we think, feel, and act in different situations, which has an impact on our emotional, psychological, and social well-being. Subsequently, it has an impact on our ability to handle various stress-related
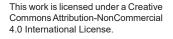
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problems as well as our decision-making. In a way, it seems that the sleep-related problems have direct or indirect relation with the mental status of person and can affect the person emotionally if the situation is not handled properly.[3]

It is well known in occupational medicine that sleep disorders are strongly work related and as such one of the most prevalent occupational problems in modern societies and working populations.[4] Health-care professions are among the first six most stressful ones. Health-care personnel are especially vulnerable to stress and professional burnout because they are responsible for human lives, and their actions or lack of action can have catastrophic consequences for their patients.[5]

As a result, the conventional concept that sleep issues were an indication of mental health illnesses is being challenged more and more. Instead, it is becoming clear that there is a bidirectional relationship between sleep and mental health in which sleep problems may be both a cause and consequence of mental health problems.[4] Hence, the aim of this study was to assess the association between sleep quality and mental health of medical faculty.

### Aims and objectives

Primary objective of the study is to find the association between sleep quality and mental health and secondary objective of the study is to document the determinant associated with sleep quality and mental health.

## MATERIALS AND METHODS

This was a cross-sectional study done to evaluate the poor sleep quality, general mental health status, and association between sleep quality and general mental health of medical faculty of Smt. B. K. Shah Medical Institute and Research Centre, Vadodara. All the faculty members who were available during August to November 2021 period and willing to take part in study were included in sample size. From human resource department, department-wise list of faculty was collected (total medical faculties were 167). This was a census type of survey in which all the faculty members of medical college were included and at least 3 attempts were made to contact them. All those available during the study period and who were willing to participate in the study were included in the study. Total 98 medical faculty participated in this study at the end of study period.

This study was begun after receiving ethical permission from the Institutional Ethical Committee of Sumandeep Vidyapeeth, Gujarat, India; the IEC number is SVIEC/ON/SRP/21026. Data were collected by personal interview with every individual using preformed, pre-tested questionnaire. Pittsburgh Sleep Quality Index Scale (PSQI) and Zung Self-reporting Depression Scale (ZSDS) were used as data collection tool to assess the quality of sleep and general mental health, respectively. The PSQI is a 19-item, self-rated questionnaire designed to measure sleep quality and disturbance over the past month. The total of the component scores gives a global PSQI score ranging from 0 to 21, with higher values indicating poorer sleep quality. While ZSDS has 20 questions out of this 10 were positively asked and remaining 10 were negatively asked to access the mental health.[6,7] For the ZSDS, a score of 25–49 indicates normal, whereas 50–59 and 60–69 indicate mild and moderate depression, respectively. The Zung self-reporting scale has a Cronbach's alpha of 0.69 and the PSQI scale had a Cronbach's alpha of 0.80.

In this study, sociodemographic variables such as gender, marital status, and type of family were taken; apart from this, the information related to tea/coffee, smoking, alcohol, and exercise was also taken. Collected data compiled in Microsoft Office Excel 2010. Data were analyzed with the help of MS Excel, Open Epi, and Epi Info software. These variables were used to see whether they had any relationship with PSQI scale or ZSDS. To find the associate between PSQI and ZSDS, Chi-square and $t$-test were used (Tables 1 and 2). Descriptive and analytical statistical methods were used for the preparation of results. In analytical methods, Chi-square and $t$-test were applied to find the level of significance and those who have $P<0.5$ were considered as significant.

## RESULTS

In this study, 40.8% of participants were female and 59.2% of participants were male. 56.1% were younger faculty (Tutor or Assistant Professor) while 43.9% of faculty were associate professor or professor. Out of total faculty, 37.5% of faculty member were single at the time of study and around 29.6% of faculty member lived alone.

Table 3 shows that average duration of actual sleep was 6.89±1.09 h. Around 95% of participants subjectively

| Table 1: Relation between PSQI and ZSDS (n=98) | | | | |
|---|---|---|---|---|
| **Global PSQI** | **ZSDS** | | | **Total** |
| | **Normal (25–49)** | **Mild (50–59)** | **Moderate (60–69)** | |
| 0-5 | 49 (83%) | 10 (17%) | 0 | 59 (60.2%) |
| >5 | 33 (84.6%) | 5 (12.8%) | 1 (2.6%) | 39 (39.8%) |
| Total | 82 (83.7%) | 15 (15.3%) | 1 (1%) | 98 |

Chi-square=0.04207, P value: 0.8375. PSQI: Pittsburgh Sleep Quality Index Scale, ZSDS: Zung Self-reporting Depression Scale

**Table 2: Comparison of good sleeper and bad sleeper**

| ZSDS Score | Good sleepers (PSQI ≤5) (n=59) | Poor sleepers (PSQI >5) (n=39) | P |
|---|---|---|---|
| ZSDS (total) | 42.74±6.72 (25–51) | 42.92±6.74 (20–63) | 0.8971 |
| Normal | 41.6±6.72 (40)[#] | 40.79±6.74 (33)[##] | 0.9772 |
| Mild and moderate | 50.33±8.16 (6)[#] | 54.67±6.95 (6)[##] | 0.7332 |
| Epworth sleepiness scale | 6.28±4.67 | 8.26±4.69 | 0.04368 |

[#]P<0.005, [##]P<0.005. PSQI: Pittsburgh Sleep Quality Index Scale, ZSDS: Zung Self-reporting Depression Scale

**Table 3: Results of PSQI (n=98)**

| PSQI Domain | Results (%) |
|---|---|
| Average duration of actual sleep (h) | 6.89±1.09 |
| Domain 1-quality of sleep (subjective) | |
| Good | 93 (94.9) |
| Bad | 5 (5.1) |
| Domain 2-sleep latency | |
| ≤15 min | 44 (44.9) |
| 16–30 min | 28 (28.6) |
| 31–60 min | 7 (7.1) |
| >60 min | 19 (19.4) |
| Domain 3-time of sleep (h) | |
| ≤6 | 66 (67.3) |
| >6 | 32 (32.7) |
| Domain 4 - Usual sleep efficiency (mean±SD) | 99% (±44%) |
| Domain 5 - Sleep disturbance (mean±SD) | 0.96 (±0.43) |
| Domain 6 - Medication for sleep | |
| Yes | 4 (4.1) |
| No | 94 (95.9) |
| Domain 7 - Daytime sleep dysfunction (mean±SD) | 0.68 (±0.88) |
| Mean global PSQI score | 5.12 (±2.78) |

PSQI: Pittsburgh Sleep Quality Index Scale, SD: Standard deviation

feel that they have a good quality of sleep but when asked about duration of sleep, only 32.7% have more than 6 h sleep.

Table 1 shows that in this study, 60.2% had normal sleep quality, while 39.8% have poor sleep quality. According to the Zung scale, 16.3% were mildly or moderately sad, whereas 83.7% were normal. There was no statistically significant difference found between PSQI and ZSDS.

Table 4 shows that there is no statistically significant difference in sleep quality or ZSDS based on post, gender, marital status, or living alone or with family. Exercise and chronic disease condition have statistically significant difference with ZSDS. Remaining all the lifestyle-related habits do not have any significant association either with PSQI or ZSDS.

Table 2 shows that on comparing the ZSDS score with normal ZSDS score among good and poor sleepers, the mean score of mild and moderate has higher score in comparison to normal and was statistically significant. While talking about ESS, there was a statistically significant difference observed between good sleepers and poor sleepers.

## DISCUSSION

The WHO declared COVID-19 as public health emergency of international concern on 30 January 2020 from this point world has witnessed the havoc of this virus and faced different waves. In a similar manner, India has also gone through different phases and health-care staff was fought against this virus from the front, this may impact their sleep quality and mental health as suggested by many studies.[8-11]

This study was done after the country passed through the second wave of COVID-19. It was observed that 60.2% of participants have good sleep quality while 39.8% of participants have poor quality sleep. Most studies done during the COVID-19 period reported that this pandemic affected the sleep quality of medical staff. A study done during the COVID-19 pandemic by Jahrami et al., reported the prevalence of poor sleepers as high as 75%.[9,10,12,13]

It was observed that almost 6 out of 10 participants has sleep hours of <6 h at night. It was also reported that 1 out of 4 participants has sleep latency of more than 30 min (Table 3), while a study done in Japan among general population by Chimed-Ochir et al., reported that 40% of adults sleep <6 h a day.[14]

This study reported average duration of actual sleep was 6.89±1.09 h and mean PSQI score was 5.12±2.78 (Table 3). A study done by Alboghdadly et al., in Saudi Arabia during the COVID-19 pandemic period among the staff involved in the treatment reported mean PSQI score of 9.56±3.72 and poor sleep quality was somewhat higher in males and no relation was found between quality of sleep and anxiety level.[15] In the present study, it was observed that out of 39 participants who have bad quality sleep, 23 (59%) participants were male while 16 (41%) were female but there was no statistically significant difference found (Table 4). There was no relation found between the post, gender, marital status, and family type with the quality of sleep or ZSDS score in this study (Table 4).

In this study, no statistically significant difference was recorded between the ZSDS score and PSQI score.

| Variables | PSQI | | Total | Chi-square value P-value | ZSDS | | | Chi-square value P-value |
|---|---|---|---|---|---|---|---|---|
| | 0–5 | >5 | | | Normal | Mild | Moderate | |
| Post | | | | | | | | |
| Tutor/SR | 19 (55.9) | 15 (44.1) | 34 (34.7) | Chi-square=1.961, P=0.5804 | 29 (85.3) | 4 (11.8) | 1 (2.9) | Chi-square=0.1827 P=0.9803 |
| Assistant Professor | 12 (57.1) | 9 (42.9) | 21 (21.4) | | 17 (81) | 4 (19) | 0 | |
| Associate professor | 18 (72) | 7 (28) | 25 (25.5) | | 21 (84) | 4 (16) | 0 | |
| Professor | 10 (55.6) | 8 (44.4) | 18 (18.4) | | 15 (83.3) | 3 (16.7) | 0 | |
| Gender | | | | | | | | |
| Male | 35 (60.3) | 23 (39.7) | 58 (59.2) | Chi-square=0.0018, P=0.9727 | 50 (86.2) | 7 (12.1) | 1 (1.7) | Chi-square=0.6676 P=0.4139 |
| Female | 24 (60) | 16 (40) | 40 (40.8) | | 32 (80) | 8 (20) | 0 | |
| Marital status | | | | | | | | |
| Married | 39 (59.1) | 27 (40.9) | 66 (67.4) | Chi-square=0.1045, P=0.7464 | 53 (80.3) | 12 (18.2) | 1 (1.5) | Chi-square=1.681, P=0.1951 |
| Single | 20 (62.5) | 12 (37.5) | 32 (32.6) | | 29 (90.6) | 3 (9.4) | 0 | |
| Living with | | | | | | | | |
| Alone | 15 (51.7) | 14 (48.3) | 29 (28.6) | Chi-square=1.236 P=0.2672 | 26 (89.7) | 2 (6.9) | 1 (3.4) | *P=0.2346 |
| With family | 44 (63.8) | 25 (36.2) | 69 (70.4) | | 56 (81.2) | 13 (18.8) | 0 | |
| Type of family | | | | | | | | |
| Joint | 18 (64.3) | 10 (35.7) | 28 (28.6) | Chi-square=0.4123, P=0.8137 | 24 (85.7) | 4 (14.3) | 0 | Chi-square=0.5829 P=0.2229 |
| Nuclear | 34 (57.6) | 25 (42.4) | 59 (60.2) | | 48 (82.8) | 10 (17.2) | 1 (1.7) | |
| Three generation | 7 (63.6) | 4 (36.4) | 11 (11.2) | | 10 (90.9) | 1 (9) | 0 | |
| Tea/coffee | | | | | | | | |
| Yes | 50 (61.7) | 31 (38.3) | 81 (82.7) | Chi-square=0.4528, P=0.5010 | 69 (85.2) | 11 (13.6) | 1 (1.2) | *P=0.2875 |
| No | 9 (52.9) | 8 (47.1) | 17 (17.3) | | 13 (76.5) | 4 (23.5) | 0 | |
| Smoking | | | | | | | | |
| Yes | 3 (42.9) | 4 (57.1) | 7 (7.1) | *P=0.2795 | 6 (85.7) | 1 (14.3) | 0 | *P=0.6798 |
| No | 56 (61.5) | 35 (38.5) | 91 (92.9) | | 76 (83.5) | 14 (15.4) | 1 (1.1) | |
| Alcohol | | | | | | | | |
| Yes | 12 (50) | 12 (50) | 24 (24.5) | Chi-square=1.381 P=0.2405 | 19 (79.2) | 5 (20.8) | 0 | Chi-square=0.4726 P=0.4918 |
| No | 47 (63.5) | 27 (36.5) | 74 (75.5) | | 63 (85.1) | 10 (13.5) | 1 (1.4) | |
| Exercise | | | | | | | | |
| Yes | 26 (53.1) | 23 (46.9) | 49 (50) | Chi-square=0.04083 P=0.8399 | 42 (85.7) | 6 (12.3) | 1 (2) | Chi-square=3.134, P=0.038 |
| No | 33 (67.3) | 16 (32.7) | 49 (50) | | 40 (81.6) | 9 (18.4) | 0 | |
| Chronic diseases | | | | | | | | |
| Yes | 7 (50) | 7 (50) | 14 (14.3) | Chi-square=0.709 P=0.3995 | 9 (64.3) | 5 (35.7) | 0 | Chi-square=4.494 P=0.034 |
| No | 52 (61.9) | 32 (38.1) | 84 (85.7) | | 73 (86.9) | 10 (11.9) | 1 (1.2) | |

*Fisher exact. PSQI: Pittsburgh Sleep Quality Index Scale, ZSDS: Zung Self-reporting Depression Scale

Although the mean ZSDS score was higher in poor sleepers in comparison to good quality sleepers. The study documented that the ZSDS score of those who were recorded mild/moderate score has high ZSDS score in both the good and poor-quality sleepers in comparison to those who have normal ZSDS score (Tables 1 and 2). A study done in China during COVID-19 era in medical students to see the relation between sleep quality and mental health by Wu et al., reported no significant differences in the prevalence of depressive symptoms and poor sleep quality according to gender or program classification.[16] A study done by Arvaniti et al., among the caregivers of end-stage renal diseases documented that as time passes, the caregivers accept the condition of patient that results in improvement of sleep quality as well as the mental status of caregivers.

A study done in Colombia among University Workers by Patricia Alexandra García-Garro (2022) reported that in university workers, sleep quality was reducing and increasing depressive symptoms, with respect to pre-pandemic levels.[17] The bidirectional association between depression and bad sleep quality has been widely acknowledged in literature.[18-20] A meta-analysis done by Scott et al., reported that the quality of sleep has dose-response relationship with mental health.[21]

As this study was done after the second wave (March to June 2021) of COVID-19 passed in India, the results not showing significant relationship between sleep quality and mental health, this may be the result of acceptance of Covid-19 in new normal that shows the improved sleep quality in comparison to the studies done during COVID-19 pandemic among the medical staffs.[8-10,19]

Further systematic analysis or meta-analysis needs to be done to see that during initial phase of COVID-19 pandemic whether there was increase in depression and sleep quality-related issues which get resolved or decrease

as the pandemic progresses and that improvement is bidirectional or not.

### Limitations of the study

This cross-sectional study was done after the second wave ended in India. Hence, the comparison between the first wave, second wave, and after the second wave may not be possible. The sample size was also small; as in this study, only the medical faculty of single medical college was included.

## CONCLUSION

In this study, 39.8% of participants have poor quality sleep and a proportion of poor quality sleep was high in male. In this study, the mean PSQI score was 5.12 (±2.78). There was no statistically significant difference observed between PSQI and ZSDS scores. Although the mean ZSDS score was high in mild and moderately classified participants in comparison to normally classified participants.

## ACKNOWLEDGMENT

## REFERENCES

1. Walker MP and van der Helm E. Overnight therapy? The role of sleep in emotional brain processing. Psychol Bull. 2009;135(5):731-748.
   https://doi.org/10.1037/a0016570

2. Yassin A, Al-Mistarehi AH, Yonis OB, Aleshawi AJ, Momany SM and Khassawneh BY. Prevalence of sleep disorders among medical students and their association with poor academic performance: A cross-sectional study. Ann Med Surg (Lond). 2020;58:124-129.
   https://doi.org/10.1016/j.amsu.2020.08.046

3. What Is Mental Health? MentalHealth.gov. Available from: https://www.mentalhealth.gov/basics/what-is-mental-health [Last accessed on 2023 Jun 26].

4. Hämmig O. Work- and stress-related musculoskeletal and sleep disorders among health professionals: A cross-sectional study in a hospital setting in Switzerland. BMC Musculoskelet Disord. 2020;21(1):319.
   https://doi.org/10.1186/s12891-020-03327-w

5. Koinis A, Giannou V, Drantaki V, Angelaina S, Stratou E and Saridi M. The impact of healthcare workers job environment on their mental-emotional health. Coping strategies: The case of a local general hospital. Health Psychol Res. 2015;3(1):1984.
   https://doi.org/10.4081/hpr.2015.1984

6. Zhang C, Zhang H, Zhao M, Li Z, Cook CE, Buysse DJ, et al. Reliability, validity, and factor structure of Pittsburgh sleep quality index in community-based centenarians. Front

7. Biggs JT, Wylie LT and Ziegler VE. Validity of the zung self-rating depression scale. Br J Psychiatry. 1978;132(4):381-385.
   https://doi.org/10.1192/bjp.132.4.381

8. Agarwala P, Bhargava A, Gahwai DK, Negi SS, Shukla P and Dayama S. Epidemiological characteristics of the COVID-19 pandemic during the first and second waves in Chhattisgarh, Central India: A comparative analysis. Cureus. 2022;14(4):e24131.
   https://doi.org/10.7759/cureus.24131

9. Zheng Y, Wang L, Feng L, Ye L, Zhang A and Fan R. Sleep quality and mental health of medical workers during the coronavirus disease 2019 pandemic. Sleep Biol Rhythms. 2021;19(2):173-180.
   https://doi.org/10.1007/s41105-020-00304-7

10. Chatterjee SS, Chakrabarty M, Banerjee D, Grover S, Chatterjee SS and Dan U. Stress, sleep and psychological impact in healthcare workers during the early phase of COVID-19 in India: A factor analysis. Front Psychol. 2021;12:611314.
    https://doi.org/10.3389/fpsyg.2021.611314

11. COVID-19 Public Health Emergency of International Concern (PHEIC) Global Research and Innovation Forum. Available from: https://www.who.int/publications/m/item/covid-19-public-health-emergency-of-international-concern-(pheic)-global-research-and-innovation-forum [Last accessed on 2023 Jun 08].

12. Banthiya S, Sharma S, Jahagirdar D, Jahagirdar V, Garg M and Sahadev HK. Sleep quality in the Indian adult population during the COVID-19 pandemic. Cureus. 2021;13(8):e17535.
    https://doi.org/10.7759/cureus.17535

13. Jahrami H, BaHammam AS, AlGahtani H, Ebrahim A, Faris M, AlEid K, et al. The examination of sleep quality for frontline healthcare workers during the outbreak of COVID-19. Sleep Breath. 2021;25(1):503-511.
    https://doi.org/10.1007/s11325-020-02135-9

14. Chimed-Ochir O, Ando S, Murakami S, Kubo T, Ishimaru T, Fujino Y, et al. Perception of feeling cold in the bedroom and sleep quality. Nagoya J Med Sci. 2021;83(4):705-714.
    https://doi.org/10.18999/nagjms.83.4.705

15. Alboghdadly A, Saadh MJ, Kharshid AM, Shaalan MS and Alshawwa SZ. Assessment of anxiety level and sleep quality of medical staff treating patients with COVID-19. Eur Rev Med Pharmacol Sci. 2022;26(1):312-319.
    https://doi.org/10.26355/eurrev_202201_27783

16. Wu H, Li H, Li X, Su W, Tang H, Yang J, et al. Psychological health and sleep quality of medical graduates during the second wave of COVID-19 pandemic in post-epidemic era. Front Public Health. 2022;10:876298.
    https://doi.org/10.3389/fpubh.2022.876298

17. García-Garro PA, Aibar-Almazán A, Rivas-Campo Y, Vega-Ávila GC, Afanador-Restrepo DF, Hita-Contreras F. Influence of the COVID-19 pandemic on quality of life, mental health, and level of physical activity in Colombian University workers: A longitudinal study. J Clin Med. 2022;11(14):4104.
    https://doi.org/10.3390/jcm11144104.

18. Tsuno N, Besset A and Ritchie K. Sleep and depression. J Clin Psychiatry. 2005;66(10):1254-1269.
    https://doi.org/10.4088/jcp.v66n1008

19. Arvaniti A, Panagoutsos S, Steiropoulos P, Zoumpouli A, Kantartzi K and Samakouri M. Sleep quality in caregivers of patients with end-stage renal disease. Psychiatriki. 2022;33(1):76-80.

https://doi.org/10.22365/jpsych.2022.056

20. Selvi Y, Aydin A, Boysan M, Atli A, Agargun MY and Besiroglu L. Associations between chronotype, sleep quality, suicidality, and depressive symptoms in patients with major depression and healthy controls. Chronobiol Int. 2010;27(9-10):1813-1828.

https://doi.org/10.3109/07420528.2010.516380

21. Scott AJ, Webb TL, Martyn-St James M, Rowse G and Weich S. Improving sleep quality leads to better mental health: A meta-analysis of randomised controlled trials. Sleep Med Rev. 2021;60:101556.

https://doi.org/10.1016/j.smrv.2021.101556

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**PCP-** Definition of intellectual content, literature survey, finalized final proposal, implementation of study protocol, questionnaire preparation data analysis, manuscript preparation and submission of article. **AS-** Concept, design, protocol, manuscript preparation, editing, and manuscript revision questionnaire preparation, manuscript preparation, editing and manuscript revision. **MP-** Definition of intellectual content, edited prepared first draft of proposal, statistical analysis, manuscript preparation, and manuscript revision. **SDJ-** broad concept of study, preliminary proposal of study, data collection, review manuscript. **RM-** broad concept of study, coordination, data collection, review manuscript. **RJ-** broad concept of study, questionnaire preparation, data collection. **ER-** Data collection, review manuscript. **RS-** Data collection, review manuscript..

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