

# Association of Social Media use with Sleep among Physiotherapy Students of Islamabad

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## ABSTRACT

**Background:** Social media use is quick and hard to resist nowadays. Social media continue to play a significant role in an individual's life in spite of all of the technological advancements. One of the main reasons why people have insomnia in the modern society is the media.

**Aim:** To ascertain whether University of Ibadat International University Islamabad physiotherapy students' use of social media and the quality of their sleep are related.

**Methodology:** A descriptive cross-sectional survey was conducted from October 2022 to February 2023 among students of Ibadat International University Islamabad. Sample was raised through non-probability convenient sampling techniques. 231 participants were selected according to inclusion and exclusion criteria. Data was analyzed by SPSS 25.

**Result:** Total participants were 112. Out of which 15(13.4%) were males and 97(86.6%) were females, 70(62.5%) were in the age group 18-20 years, 28(25%) were in the age group 21-23 years, 14(12.5%) were in the age group 24-26 years, 88 participants have low addiction; 4 with good sleep and 84 with poor sleep. Whereas 24 participants have high addiction; 1 with good sleep and 23 with poor sleep. Usage of social media 31-60 minutes per day was 2(1.8%), 61-120 minutes per day 35(31.3%) and more than 120 minutes per day was 75(67%). The study population's chi square association (p-value) was 0.709, suggesting that there was no significant correlation between social media disruption and sleep quality.

**Practical Implication:** Smartphone use for work-related communication at night can reduce efficiency and disrupt sleep hygiene. Accessing social media on smartphones can prolong sleep onset latency, reducing overall sleep duration, and resulting in poor sleep quality and problematic patterns.

**Conclusion:** There is no association found between social media usage and sleep among physiotherapy students and health care professionals of Ibadat International University.

**Keywords:** sleep, social media, PSQI, BSMAS, work-related communication, prolong sleep

## INTRODUCTION

The quality of sleep is a crucial factor in determining a person's overall health and well-being. It has a significant impact on an individual's mental health and behavior. Therefore, obtaining good quality sleep is essential for maintaining optimal wellness<sup>1</sup>.

According to recommendations, young and midlife adults should aim to get 7-9 hours of sleep per night. However, among individuals in the age group of 19-29 years old, as many as 67% report insufficient sleep that affects their ability to function properly<sup>2</sup>.

Students often have sleep issues. Just one-third of the more than 7,000 American university students surveyed in a recent study slept for more than seven hours a night, which is less than the suggested seven to nine hours. In a similar vein, a nationwide survey of college and university students in Norway found that insomnia affected 34.2% of female students and 22.2% of male students. In addition to having a negative impact on one's physical and emotional well-being, inadequate sleep and excessive daytime sleepiness can hinder scholastic achievement<sup>3</sup>.

The prefrontal cortex, which is connected to cognitive functions including creativity, integration, and planning, is also impacted by the quality of sleep. It has been shown that poor sleep quality and insomnia are linked to cognitive deficits such as forgetfulness, inattention, and difficulty remembering names. The brain's capacity to retain newly learnt activities in long-term memory is also impacted by sleep quality, which might result in regular cognitive failures<sup>4</sup>.

Social media-related nighttime behaviours, such as staying up late to check messages or notifications or postponing bedtime because of social media use, might cause sleep disruptions. 86% of younger students sleep with their phones within reach, despite the fact that this disturbs their sleep or makes it worse. Lower

learning results and sleep issues are linked to spending a lot of time on social media and instant messaging apps. The repeated notifications on social media platforms can lead to overuse and dependence, constantly interrupting users' everyday activities. Therefore, attention should be paid not only to the amount of social media use but also how and when it is used, as its disturbance to sleep should be investigated<sup>5</sup>.

Social media platforms like Facebook, Instagram, LinkedIn, and Snapchat have revolutionized the way individuals interact with each other, but they also raise concerns about negative outcomes, collectively referred to as the "dark side" of social media. These outcomes include social media fatigue, sleep problems, compulsive use, online regret, and fear of missing out, all of which have been shown to impair users' personal and professional lives. Despite these findings, social media engagement has continued to rise, with platforms like Instagram seeing a significant increase in active users in recent years<sup>6</sup>.

The self-reported test measures salience, withdrawal, conflict, relapse, tolerance, and mood modification as the six main components of addiction in the year prior. On the following scale, each item was assigned a score: (1) very seldom; (2) seldom; (3) occasionally; (4) frequently; and (5) quite frequently. The total score of the BSMAS is obtained by adding the scores of each item. The BSMAS total score falls between 6 and 30. If you score more than three on four out of six categories, it is unquestionably a sign of addiction<sup>7</sup>.

## METHODOLOGY

Over the course of six months, a descriptive cross-sectional study on doctor of physical therapy students at Ibadat International University Islamabad was conducted. This was carried out following consent from the Ibadat International University's Head of Department as well as the Institutional Review Committee (IRC) and Ethical Review Board (ERB). Every participant gave their consent. The study used a non-probability convenient sampling

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method to select 112 physical therapy students that were aged between 18-25, were of either gender, were user of social media sites (Facebook, Instagram, WhatsApp, Twitter, Snap chat or others) and had average 7-9 hours of sleep per day along with 2-6 hours per day use of social media sites. Students that had migraine, insomnia and irregular sleep were excluded from sample<sup>35-36</sup>.

Data was analyzed with the SPSS version 25. Normality of the data was checked through skewness and kurtosis values, Q-Q plot, P-P plots and histograms. Mean and SD ranges were calculated for all the numerical variables. All the categorical variables were presented in the form of frequency and percentage. Association between global PSQI and BSMAS sum was found by Chi-square testing.

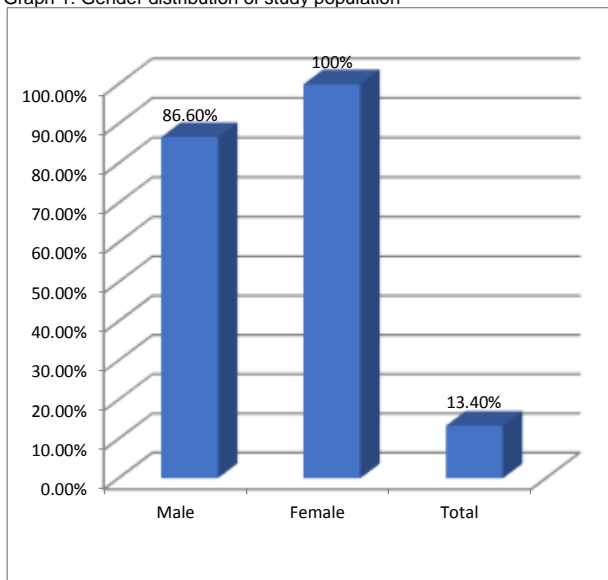
**RESULTS**

Total 231 participants were taken from Ibadat International University Islamabad. Every participant provided written consent form prior to filling form. Respondents who signed consent form, age between 18 to 26 years, using social media sites, duration of usage of social media per day 2 to 6 hours and average hours of sleep per 7-9 hours. 119 students were excluded from the study. Normality of the data was checked through skewness and kurtosis values, Q-Q plot, P-P plots and histograms. Mean and SD were calculated for all the numerical variables. All the categorical variables were presented in the form of frequency and percentage. Association between global PSQI and BSMAS sum was found by Chi-square testing which showed no association. Out of 112 participants, 15(13.4%) were males and 97(86.6%) were females. As shown in the graph 1, more female participants were present.

70(62.5%) were in the age group 18-20 years, 28(25%) were in the age group 21-23 years, 14(12.5%) were in the age group 24-26 years. As shown in the table 1, more population was in the age group 18 to 20 years.

Usage of social media 31-60 minutes per day was 2(1.8%), 61-120 minutes per day 35(31.3%) and more than 120 minutes per day was 75(67%). As shown in the table 2, more population was use social media per day more than 120 minutes.

Graph 1: Gender distribution of study population



Usage at night before 10pm was 14(12.5%), 10-12pm was 65(58%), 12-1am was 19(17%) and after 1am was 14(12.5%). As shown in the table 3, more population use social media at night 10pm-12pm.

Sleeping hours of population less than 5 hours was 1(0.9%), 5-7 hours were 76(67.9%) and 7-9hours were 35(31.3%). As shown in the table 4, more population had 5-7 hours of sleep per day.

BSMAS questionnaire has 6 items. BSMAS has mean±SD 1.21±0.412. Out of 112 participants, 88(78.6%) has low addiction and 24(21.4%) has high addiction (Table 5) Association among addiction and PSQI hasp-value was 0.709. Out of 112 participants, 88 participants have low addiction; 4 with good sleep and 84 with poor sleep. Whereas 24 participants have high addiction; 1 with good sleep and 23 with poor sleep (Table 6).

Table 1: Age group of study population.

Age group	Frequency	%age
18-20	70	62.5
21-23	28	25.0
24-26	14	12.5
Total	112	100.0

Table 2: Use of social media sites per day among physiotherapy students.

Usage of Social Media sites per day	Frequency	%age
31-60 minutes	2	1.8
61-120 minutes	35	31.3
more than 120 minutes	75	67.0
Total	112	100.0

Table 3: Usage of social media site at night among physiotherapy students.

Usage of Social Media site at night	Frequency	%age
Before 10pm	14	12.5
10-12pm	65	58.0
12pm-1am	19	17.0
After 1am	14	12.5
Total	112	100.0

Table 4: Average number of sleep hours per night among physiotherapy students.

Hours of sleep per night	Frequency	%age
less than 5 hours	1	0.9
5-7 hours	76	67.9
7-9 hours	35	31.3
Total	112	100.0

Table 5: Mean & SD of BSMAS along with addiction severity of study population.

Addiction Severity	Frequency	%age	Mean ± SD
Low addiction	88	78.6	1.21±0.412
High Addiction	24	21.4	
Total	112	100.0	

Table 6: Association of BSMAS and PSQI severity

Addiction Severity	PSQI Severity		Total	p value
	Good Sleep	Poor Sleep		
Low addiction	4	84	88	0.709
High Addiction	1	23	24	
Total	5	107	112	

**DISCUSSION**

PSQI scale is reliable questionnaire to assess sleep quality used in many studies and BSMAS is used to find out internet addiction. Use of social media increased day by day. This results in disturbance of sleep quality. Hence, we tried to measure internet addiction and its effect on sleep of physiotherapy's students of Ibadat International of Islamabad.

A study in Lahore conducted on 138 students by using PSQI scale. Out of 138 students, 47(34.1%) was male and 91(65.9%) were female. They are between the ages of years 19-23. In our study we use PSQI and BSMAS. Out of 112 participants, 15(13.4%) were males and 97(86.6%) were females, 70(62.5%) were in the age group 18-20 years, 28(25%) were in the age group 21-23 years, 14(12.5%) was in the age group 24-26 years.

The study at Lahore determines 9(6.5%) had very good sleep quality, 28(20.3%) had fairly good, 25(18.1%) had fairly bad

and 76(55.1%) had very bad sleep quality. There is strong and positive association between social media and sleep. Whereas in our study, 88 participants have low addiction; 4 with good sleep and 84 with poor sleep. And 24 participants have high addiction; 1 with good sleep and 23 with poor sleep.

A comparable PSQI sleep assessment was utilised in another Peshawar investigation. Thirty of the 130 pupils (or 23%) had a severe internet addiction, nine (6.42%) had a moderate addiction, and ninety-one (70%) had a mild addiction. 55 students, or 42.31%, out of 130 had poor sleep quality. 75 people, or 56.79%, experienced high-quality sleep. Less than  $\leq 0.01$  indicates a substantial correlation between excessive internet use and poor sleep quality. However, there is no meaningful correlation between social media use and sleep disturbance according to our research. Studies reveal that 4.66 billion individuals have access to the internet, 4.14 billion utilize social media, and over 5.2 billion own smartphones. Facebook is one of the most popular social media sites, with 1.82 billion daily users. Young adults are the most frequent users of screens and social media, which can affect their sleep and academic achievement. Despite its widespread use, very few studies have focused on the impact of social media on health, but some studies suggest that it may affect mental health and quality of social interactions, and is linked to sleep disturbances in adolescents<sup>3, 33-34</sup>.

One instrument for assessing sleep patterns and quality is the Pittsburgh Sleep Quality Index, or PSQI. The seven components of sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disruptions, usage of sleeping drugs, and daytime dysfunction during the previous month are measured in order to categorise sleep quality into poor and good categories. Each item is ranked equally from 0 (no difficulty) to 3 (high difficulty). The component scores are added to determine the global score, which has a range of 0 to 21. A total score higher than five indicates insufficient sleep<sup>20</sup>.

## CONCLUSION

When students use smartphones for work-related communication at night, it can lead to reduced work efficiency the next day. The concept of sleep hygiene refers to the extent to which individuals adopt behaviors or habits that facilitate sleep and avoid those that disrupt it. However, accessing social media on smartphones at night can negatively impact sleep hygiene by prolonging the time it takes to fall asleep (sleep onset latency) and reducing overall sleep duration. This can ultimately result in poor sleep quality and quantity, leading to problematic sleep patterns.

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1. Conception and design of or acquisition of data or analysis and interpretation of data.
  2. Drafting the manuscript or revising it critically for important intellectual content.
  3. Final approval of the version for publication.
- All authors agree to be responsible for all aspects of their research work.

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