Association of social media addiction with insomnia among university students.

Arisha Shafiq1, Aroona Gulzar2, Iqra Imtiaz3, Muhammad Abdul Sami4, Fatima Riaz Hussain5, Khushbakht Imtiaz6, Humera Ambreen7

ABSTRACT... Objective: To determine the frequency of social media addiction and insomnia among university students and to find out the association between these two variables. Study Design: Cross-sectional Survey. Setting: Universities of Twin Cities of Pakistan i.e. Islamabad and Rawalpindi. Period: February 2021 to July 2021. Material & Methods: The survey was initiated after taking approval from Institutional Review Board and Ethical Committee of Shifa International Hospital, Shifa Tameer-e-Millat University Islamabad, Pakistan. On the basis of inclusion criteria 451 young healthy participants of both genders were selected by using non-probability convenient sampling technique. Participants who were taking sleeping pills, had medical or surgical problems and with history of diagnosed mental disorders were excluded from the study. A self-structured questionnaire was used to obtain the demographic data. The frequency of social media addiction and insomnia was assessed using the Social Media Addiction-Student Form (SMA-SF) and the Insomnia Severity Index (ISI) respectively. For data analysis IBM SPSS Statistics version-22 was used. Results: The mean age of participants was 21.55±1.55 (years). Among 451 participants majority 252 (55.9%) exhibited mild social media addiction and 152 (33.7%) participants exhibited sub-threshold insomnia. The P-value of <0.05 indicates that there is a significant association between social media addiction and insomnia. Conclusion: The findings of the study concluded that social media addiction and insomnia was common among university students and significant association was found between social media addiction and insomnia.

Key words: Insomnia, Pakistan, Social Media Addiction, Students, University.

INTRODUCTION
Recently the access to social media has tremendously increased in young people with global use of social media and mobile phones to over 2.5 billion active users.1 Internet addiction is an unrestrained and extravagant use of the internet which disturbs people’s lives.2 It has evolved as a common condition that meets the criteria to be classified as a mental disorder in the DSM-V (Diagnostic and Statistical Manual of Mental Disorders).3 The main cause of its addiction is the rapid expansion of internet accessibility particularly among adolescents.4 Apart from easy accessibility these social media platforms are particularly designed to keep users engaged by providing various options for socialization and also contribute to clinically significant harm.5 Individuals with internet addiction seem to have a high percentage of sleep disorders including long sleep duration requirements, later bedtimes, shorter sleep periods, poor sleep quality, prolonged daytime sleepiness and sleep-wake behavior issues.6 Access to social media especially at night time impacts the sleep hygiene of users by increasing the onset of sleep latency (the time it takes to fall asleep) and lessening the total sleep time which potentially disrupts patterns of sleep by affecting the quantity and quality of sleep.7 Moreover, young adults regularly encounter feelings of being left out if they don’t get social media access and they also tend to keep their phones close by at night.8 In return the disturbing quality of sleep imposes a higher risk for both physiological and psychological illnesses.8 Furthermore, these individuals seem to be more
prone to have personality disorders and exhibit frustration, depression, social isolation and family conflict. It has also been correlated to mental health issues such as sleeplessness, agitation, sadness, bipolar disorder, self-injury, and suicidal ideation.10

Addiction to the internet could be a key concern among undergraduates, and knowing its association with sleep is crucial to take appropriate measures to address this issue. For students the consequences of this addictive behavior can disrupt their studies, adversely affect their career goals and plans and have profound and negative effects on the whole society. In addition to that considering lifestyle patterns is also important because it can suppress the connection between sleep disorders and Internet addiction. Therefore the aim of present study was to determine the frequency of social media addiction and insomnia among university students and to assess the association between social media addiction and insomnia.

MATERIAL & METHODS
A cross sectional survey was conducted among university students of twin cities of Pakistan i.e. Rawalpindi and Islamabad from February to July 2021 after taking approval from Institutional Review Board and Ethical Committee of Shifa International Hospital (IRB # 060-21), Shifa Tameer-e-Millat University Islamabad Pakistan. Sample size was calculated using Rao Software (95% Confidence Interval and 5% Margin of error). Data was collected from 451 participants using non-probability convenient sampling technique.

Inclusion criteria was university students of either gender aged 18 to 24 years. Whereas participants having history of diagnosed medical or mental disorder and taking sleeping pills were excluded from the study.

Informed written consent was obtained from each participant prior to participation in the study. Data was collected using the following tools: The Social Media Addiction Scale-Student form (SMA-SF) that measures how addicted a person is to social media. This scale had five-grade Likert-type questions with four factors and 29 items. Sub-dimensions comprised virtual tolerance with 1-5 elements. Virtual communication consisted of 6-14 items, 15-23 questions indicated virtual problems and the virtual information had 24-29 elements. The scales highest value was 145 and the lowest value was 29. The higher the score the more likely the individual is considered as a "social media addict". Based on the evidence this scale is reliable and valid for evaluating social media addiction among students of different educational levels with internal consistency coefficient of entire scale to be 0.93.11

The Insomnia Severity Index (ISI) questionnaire was used for the assessment of the severity effect and nature of insomnia. It was a Likert scale with 5-points. The total score ranged from 0 to 28. A score of 0 to 7 indicated that insomnia is absent. Sub- threshold insomnia was indicated by a score of 8-14. A score of 15 to 21 was considered to be moderate insomnia and a 22 to 28 score was interpreted as severe insomnia. The Cronbach’s alpha of this scale was 0.84 and the test-retest reliability of the insomnia severity index was excellent, ranging from 1-0.84 (intra-class correlation).12

Data was analyzed using SPSS (Statistical Package for Social Sciences) version-22. Quantitative variables were expressed as Mean±SD, whereas qualitative variables were expressed as frequency and percentages. To determine the association between social media addiction and insomnia chi-square test was applied.

RESULTS
Out of total 451 participants 363 (80.5%) were females and 88 (19.5%) were males. Mean age of the participants was 21.55±1.55 (years). The mean±SD of daily social media use and daily sleeping hours of participants was 5.73 ± 3.19 and 7.82 ± 1.63 respectively.

Social media addiction was assessed using Social Media Addiction-Student Form (SMA-SF) questionnaire which was divided into four categories. Out of 451 participants majori
(55.9%) had mild social media addiction followed by moderate addiction in 105 (23.3%) participants. Few 9 (2%) participants reported to have severe social media addiction (Table-I).

Majority of the participants reported no clinically significant insomnia as shown in Table-II. Whereas 152 (33.7%) participants reported to have mild sub-threshold insomnia (Table-II). Only 4 (0.9%) participants had severe insomnia.

Chi square test was applied to determine association between social media addiction and insomnia among university students and p value (<0.05) showed significant association between these two variables (Table-III).

<table>
<thead>
<tr>
<th>Categories of SMA-SF</th>
<th>Frequency (%)</th>
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<tbody>
<tr>
<td>No addiction (29-58)</td>
<td>85 (18.8%)</td>
</tr>
<tr>
<td>Mild (59-88)</td>
<td>252 (55.9%)</td>
</tr>
<tr>
<td>Moderate (89-118)</td>
<td>105 (23.3%)</td>
</tr>
<tr>
<td>Severe (&gt;119)</td>
<td>9 (2.0%)</td>
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Table-I. Frequency (%) of categories of social media addiction-student form

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<tr>
<th>Insomnia Categories on The Basis of Severity</th>
<th>Frequency (%)</th>
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</thead>
<tbody>
<tr>
<td>No clinically significant insomnia (0-7)</td>
<td>253 (56.1%)</td>
</tr>
<tr>
<td>Sub-threshold insomnia (8-14)</td>
<td>152 (33.7%)</td>
</tr>
<tr>
<td>Clinical insomnia - moderate severity (15-21)</td>
<td>41 (9.1%)</td>
</tr>
<tr>
<td>Clinical insomnia - severe (22-28)</td>
<td>4 (0.9%)</td>
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Table-II. Frequency (%) of insomnia categories

DISCUSSION
Social media use is suggested to be more obsessive than cigarettes or alcohol. Its addictive use has dismissive outcomes in daily lives including social media tiredness, fear of missing out and sleep disturbances. Intense internet usage has been linked to disturbed sleep quality, mood disturbances, impulsivity, self-harm, lack of self-confidence, reduced levels of physical activity and health conditions such as migraine headaches, backache and obesity.

The results of the current study showed that majority of the university students are addicted to social media use and had mild to moderate insomnia. Moreover the study also suggested significant association between insomnia and social media addiction.

The current study results were in accordance with a study conducted by Akibul Islam Chowudary and his fellows in 2020 to determine the prevalence of insomnia among university students of South Asia. The findings of the study showed that the quality and quantity of sleep among university students have changed as a result of the rapid development of social media technology. The students who use the internet and interact with friends on social media late at night suffered from sleep deprivation. The results of this study are in favor of the current study.13

Another study in December 2020 by Rea Alonzo and his colleagues described social media use as a risk factor for sleep disturbance and leads to poor sleep outcomes. The findings of this study suggested that using social media late at night is connected with sleep problems and has a detrimental impact on sleep duration.14

In the year 2020, Stephen B. Nowell and his colleagues conducted a study. The findings of the study demonstrated that smartphone addiction and excessive use of social media has a negative impact on sleep quality and the excessive usage of these social media applications has a contributing factor to poor sleep outcomes. Shorter sleep time, later sleep onset, daytime...
tiredness, and lower school performance were all linked to increased use of media such as cell phones, computers, and computer games. The findings of this study support the findings of the current study.15

Contrary to the results of current study, a study conducted by Martha Octiva and her colleagues in December 2018 showed that frequency and type of social networking sites were not associated with insomnia among adolescents.16 These differences might be due to changes in geographic location, age of the participants and the different outcome tool used to measure social media addiction.

Other factors that may contribute to the influence of social media addiction on insomnia or affect the relationship between these two variables must be identified in future researches for better understanding.

CONCLUSION
The current study concluded that social media addiction and insomnia is common among university students. Furthermore, the study also showed that there is a significant association between social media addiction and insomnia.

REFERENCES
15. Nowell SB, Thompson K. Relationship between social media use and sleep quality of undergraduate nursing students at a Southeastern University. 2020.
## AUTHORSHIP AND CONTRIBUTION DECLARATION

<table>
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<th>Author(s) Full Name</th>
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