

European Journal of Health Sciences (EJHS)



ASSOCIATION OF INSOMNIA WITH EXCESSIVE INTERNET USE AMONG
PHYSICAL THERAPY STUDENTS IN LAHORE, PAKISTAN

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Abstract

Purpose: Objective of this study was to determine the association of insomnia with excessive internet use among physical therapy students in Lahore, Pakistan.

Methodology: It was an analytical cross sectional study which was completed in 6 months duration. Sample size of 220 male and female students were taken by non-probability convenient sampling technique from four private universities of Lahore, Pakistan. Insomnia severity Index and Internet Addiction Test used to measure the degree of insomnia and internet addiction among participants. The variables were measured in categorical form and chi square test used to establish the association between the variables.

Findings: Out of 69 average online users, 31(44.9%) were not having significant insomnia, 29(42%) with sub threshold insomnia, 8(11.6%) with moderate insomnia, and 1(1.4%) with severe insomnia. Out of 113 participants with occasional problems, 26(19.5%) were not having significant insomnia, 29(21.8%) with sub threshold insomnia, 55(41.4%) with moderate insomnia, and 23(17.3%) with severe insomnia. Insomnia and internet addiction were significantly associated and there was a strong positive relationship between the variables.

Recommendations: It was recommended that more studies should be done with larger sample size. Experimental studies should also be done on this topic. It was also recommended that Internet usage in university students should be restricted and monitored by the authorities like parents, hostel wardens etc. This could minimize the incidence of insomnia among students. This could improve the academic performance of students and also be helpful in improving their quality of life. Students should only use internet when required.

Keywords: *Insomnia, Internet addiction, quality sleep, cell phone, student*

1.0 INTRODUCTION

We are living in era of technology, where most of the adult population using laptops and mobile phones. Many mobile users are using advance versions of mobile phone known as smart phone which allow easy access for using internet, social media application. According to survey, in Spain 97% physical therapy students reported using internet. Internet involved in routine activities of peoples by facilitating access to information and advancing communication.(1, 2)As every coin has two sides, similarly internet has its own positive and negative points. The greatest advantage of internet is that it connects us with world. Internet opened a new sphere in social interaction. Internet was developed basically to assist thesis, gaining guidelines, business transaction and interactive statement. (3) But it has become the major part of their existence. Now it is being used for entertainment purpose in physical therapy student population instead of work and it is hard to resist its attraction.(3) Internet addiction is now occurring among physical therapy students and there are some social and psychological factors that are playing role in internet addiction. This affects the mental health of students. Physical Therapy students who spent more time using internet had little time for sleep and they feel higher level of tiredness. (4) Sleep has vital role for good physical and mental health. Sleeping is core component for strong cognitive and physical functions. (5) Disturbance in sleep and difficulty in falling sleep is known as Insomnia in medical term. Population based studies revealed that approximately 30% of variety of adult reported one or more symptoms of Insomnia. Insomnia among physical therapy students leads to chronic conditions and affects the physical functioning, physical health, social functioning, mental health and also affect the proper functioning of vital organs of body which lead to many pathological disorder. Another research compares result of mild, moderate and severe insomnia results shows that mild and severe insomnia patients had suffering with depression and congestive heart failure. Insomnia patients reported more physical problems than depression.(7). Sleep and Biological rhythm should be precise to control Internet usage and get better sleep quality of students. This study would help in counseling of late adolescents about harm of late night awakening and excessive use of internet. They should get proper sleep at night. Because proper sleep enhance normal brain functions and normal daily activities.

1.1 Statement of the Problem

Present study was motivated by inadequate or few studies on this topic. Thus the essential for initial interventions and education strategy aims at promotion of good sleep quality behavior in students is necessary.

1.2 Objective of the Study

- To determine the association of insomnia with excessive internet use among physical therapy students in Lahore, Pakistan.

2.0 LITERATURE REVIEW

Gema Mesquita and Rubens Reimão (2007), aimed to determine the consequence of nightly computer use and its effect on quality of sleep. Sample size were 150 (55M, 105F) Questionnaire about computer usage with the objective of obtaining information regarding the time and number of hours of nighttime computer use, were applied for collection of data. Pittsburgh Sleep Quality Index was used to determine sleep quality. By using Regression test, research determined that use of computer effects quality of sleep ($p=0.0062$). (10)

Babak Amra and Ali Shahsavari conducted a study which aimed to determine the association of nocturnal use of cell phone with duration and quality of sleep in Iranian medical students. Sample size included two thousand and four hundred participants, Pittsburgh Sleep Quality Index questionnaire was used. Total participation were 90.4% ($n = 2257$ medical students). Out of total, 56.1% of females and 38.9% of males stated poor quality of sleep. By using regression test study concluded participants using cell phone at late night were 1.39 times more prone to face poor quality of sleep than others (p -value < 0.001). (5)

Amanda and L. Gamble stated that electronic devices are actually related with poor sleep of quality in physical therapy students. This study accessed the use of cell phone on bed just before sleeping and its relation with quality of sleep. Sample included were students ($n=1,184$; 67.6% girls) who were analyzed through survey that included different patterns. More than 70% of participants were found using electronic devices before going to sleep. (11) Lee M Cheung et al focused on determining insomnia associated with internet addiction. This cross sectional study included 719 physical therapy students. Pittsburgh Sleep Quality Index was used. Regression analyses assessed that if there is any association lies between insomnia and internet addiction. Among participants, students addicted with use of internet were labelled as insomniacs. Internet addiction was associated with depression. (6)

Sue K Adams and Jennifer Daly conducted a study which concluded that students took sleep about 8.5-10 hours every night. Approximately, American's sleeping hour is between 7.5-8.5 hours of sleep every night. Cellular phone technology and its intensity of use directly relates with the quality of sleep as well as quantity of sleep. The objective of this study was to describe pattern of sleep and its effect on mental as well as physical health. (12) Isabella Wolniczak and José Alons conducted a study in 2013 which aimed to determine use of internet and poor quality of sleep. Using cross sectional design it included university students. The Internet Addiction Questionnaire and the Pittsburgh Sleep Quality Index, scale was used. Individuals having 06 score or more have declared poor sleep quality. (1)

Alexandros N. Vgontzas and Julio Fernandez-Mendoza concluded that recently there was lack of knowledge and no evidence was available to prove that insomnia is related with stress and developing depression but now a day's lots of researches have been done to prove that there is significant association between lack of sleep directly relating with physical activity, loss of concentration and many biological impact factors on human body. (13)

Judith Owens concluded that low quality sleep and its relationship with cell phone used in physical therapy student. This study analyzed the threats associated with poor quality sleep and how it is associated with developing depression. Current literature available on the internet claims

that low quality sleep is highly associated with internet addiction, late night mobile use and sedentary life style leading to not only decreased efficiency in work but health related consequences as well.(14)

3.0 RESEARCH METHODOLOGY

3.1 Study Duration:

The study duration was 6 months (August 2020 to Feb 2021) after the approval of the research board.

3.2 Sample Size:

Sample size was calculated by the software Raosoft and it was 220

3.3 Study Design:

It was a Cross sectional study.

3.4 Sampling Technique:

Non-probability convenient sampling was used.

3.5 Study Setting:

Data was collected from physical therapy students of 04 Universities in Lahore, Pakistan

3.6. Selection criteria:

3.6.1. Inclusion Criteria:

- Age between to 18-25 years.
- Physical Therapy Students
- Students who use internet/smart phones/laptops upto 6 hours in a day.

3.6.2. Exclusion Criteria:

Individuals were excluded if they were:

- Not willing to participate.
- Insomnia presence due to health related disorder (pregnancy, after any surgery, heart problem, neurological diseases, stress and anxiety) would be excluded.

4.0 RESULTS

A total of 220 DPT students participated in the study. The mean age of the participants was 21.6. Out of total 220 participants 47.7 were males and 52.3 were females. Out of 220 participants 28.2 % were from Akhtar Saeed Medical and Dental College, 16.4 were from Azra Naheed Medical College, 27.7 % were from University Of Management and Technology, and 27.7 % were from University Of Lahore. Out of 69 average online users, 31(44.9%) were not having significant insomnia, 29(42%) were with sub threshold insomnia, 8(11.6%) were with moderate insomnia, and 1(1.4%) were with severe insomnia. Out of 113 participants with occasional problems, 26(19.5%) were not having significant insomnia, 29(21.8%) were with sub threshold insomnia,

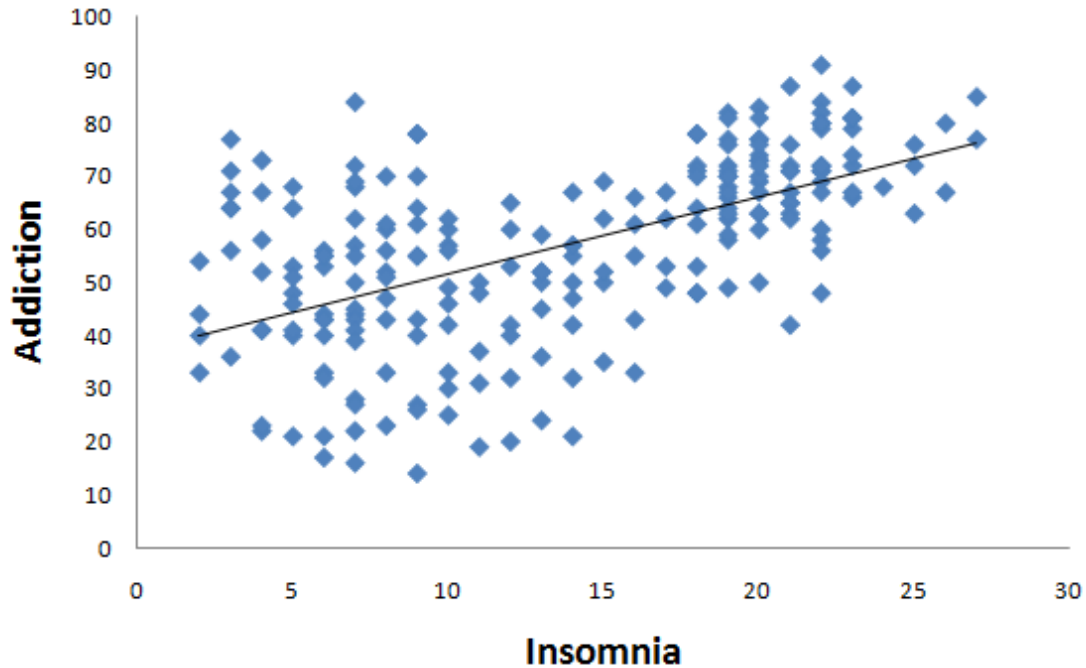
55(41.4%) were with moderate insomnia, and 23(17.3%) were with severe insomnia. Out of 18 participants with significant internet addiction, 1(5.6%) were not having significant insomnia, 0(0%) were with sub threshold insomnia, 5(27.8%) were with moderate insomnia, and 12(66.7%) were with severe insomnia. The p value <0.001 calculated through chi square test show that there is significant association between insomnia and internet addiction.

Table 1: shows association of insomnia with internet addiction

| | No clinically significant insomnia | Sub threshold Insomnia | Moderate Insomnia | Severe Insomnia | Total | p value |
|----------------------------|---|-------------------------------|--------------------------|------------------------|--------------|----------------|
| Average online user | 31(44.9%) | 29(42%) | 8(11.6%) | 1(1.4%) | 69(100%) | <0.001 |
| Occasional problems | 26(19.5%) | 29(21.8%) | 55(41.4%) | 23(17.3%) | 133(100%) | |
| Significant problem | 1(5.6%) | 0(0%) | 5(27.8%) | 12(66.7%) | 18(100%) | |
| Total | 58(26.4%) | 58(26.4%) | 68(30.9%) | 36(16.4%) | 220(100%) | |

Table 2: shows relationship of insomnia and internet addiction

| Variable | Insomnia | Addiction | Correlation Coefficient (r) |
|-----------------|-----------------|------------------|-------------------------------------|
| Mean Score | 13.75±6.81 | 56.96±17.24 | 0.571 |



The mean score of in participants was 13.75 ± 6.81 and mean score of internet addiction was 56.96 ± 17.24 . The value of coefficient correlation $r 0.57$ show that there is strong positive relation between variables as indicated by previous studies.

5.0 SUMMARY

5.1 Conclusion

Insomnia and internet addiction are significantly associated and there is strong positive relationship among both variables. The result of this study revealed that excessive use of technology, cell phones and internet affect the quality of sleep which cause mental or health problems related to insomnia.

5.2 Recommendations

- More studies should be done with larger sample size.
- Experimental studies should be done on this topic.
- The internet addiction and insomnia have found to be positively associated. Internet usage in university students should be restricted and monitored by the authorities like parents, hostel wardens etc. This could minimize the incidence of insomnia among students. This could improve the academic performance of students and also be helpful in improving their quality of life
- Students should only use internet when required.

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