Investigation of Insomnia Among Students At The University Level: A Cross-Sectional Analysis

Fozia Fatima, Sabir Ali*, Khadija Qamar, Safia Bibi***, Sobia Fatima**

National University of Medical Sciences (NUMS), Rawalpindi Pakistan, *University of Baltistan, Skardu Pakistan, **Army Medical College/National University of Medical Sciences (NUMS) Rawalpindi Pakistan, ***International Islamic University Islamabad Pakistan

ABSTRACT

Objective: To investigate the students' perception of insomnia at the university level and to determine the effects of demographic factors on their perception.

***Study Design*:** Cross-sectional study

***Place and Duration of Study*:** Department of Education and Department of English, International Islamic University, from Sept 2020 to Feb 2021.

Methodology: This study involved twelve hundred and fifty (1250) university students. The insomnia questionnaire was developed after the exploratory factor analysis.

***Results*:** The findings of this study revealed that students at the university level suffer from a high rate of insomnia, but they did not take any steps to address it because they had a neutral perception toward the problem. There was no significant effect of semester-term and the type of department with insomnia (p=0.864 and p=0.648).

***Conclusion*:** Students were neutral about their insomnia problem at the university level.

Keywords: Insomnia, Students, University.

***How to Cite This Article**: Fatima F, Ali S, Qamar K, Bibi S, Fatima S.* Investigation *of Insomnia Among Students at the University Level: A Cross-Sectional Analysis. Pak Armed Forces Med J 2022; 72(1): 296-298. Doi: https://doi.org/10.51253/pafmj.v72i1.6998*

INTRODUCTION

University students face insomnia that affects women more often than men.[1] Insomnia may differ from person to person. It is caused due to stress, hypertension, anxiety, several diseases, the overburden of studies and work and many other reasons.[2,3] It was imperative to recognize insomnia as it can increase healthcare utilization, lower quality of life and social relationships and decrements in memory, mood and cognitive functions.[4,5]

In Pakistan, insomnia has increased steadily over the past ten years, in contrast to other countries. It reduces the chances of development of students in educational fields.[6,7] Students are showing lack of concentration in academic performance and social interaction.[8] Therefore, this study was planned to investigate students' perception regarding insomnia at the university level and to explore the effect of demographic factors (type of department & semester-term) on students' perception regarding insomnia.

METHODOLOGY

This cross-sectional study was conducted at the Department of Education and English, International Islamic University, from September 2020 to February 2021. A sample size of 1250 was estimated through Epitools epidemiological calculator, while keeping the level of significance as 5%, confidence level as 95% prevalence from previous survey as 30%.[9] Non-probability consecutive sampling technique was used data collection after approval from the Ethical Committee of International Islamic University, Islamabad (Certificate no: 622-FSS/BSEDU/F-17).

Inclusion Criteria: Female students of bachelor of science (BS) from the Department of Education and English were included in the study.

Exclusion Criteria: Non-consenting students were excluded from the study.

Demographic details of the participants were documented. A structured questionnaire was used in this study. The questionnaire was based on the "transtheoretical model" by Prochaska developed in the late 1970s.[10,11] It consists of 25 items. We modified the questionnaire keeping in view the objective of the study. 5-factors Likert scale was used as "strongly disagree" to "strongly agree". The content validity of the questionnaire was checked by the experts of social sciences from International Islamic University and National University of Medical Sciences, Rawalpindi, Pakistan.

Correspondence: Dr Fozia Fatima, Department of Health Professional Education, NUMS Rawalpindi Pakistan

Received: 01 Jul 2021; revision received: 13 Aug 2021; accepted: 17 Aug 2021

Construct validity was measured through exploratory factor analysis, and the reliability of the questionnaire was checked by the Cronbach Alpha (=0.840).

Statistical Package for Social Sciences (SPSS) version 21 was used for the data analysis. Quantitative variables were summarized as Mean ± SD and qualitative variables were summarized as frequency and percentages. Independent sample t-test was applied to find the mean differences among the groups. The *p*-value of ≤0.05 was considered statistically significant

RESULTS

This study involved twelve hundred and fifty (1250) female university students. 620 (49.6%) students were studying in 1st semester and 630 (50.4%) in the 8th semester. Majority of female students exhibited neutral behaviour regarding pre-contemplation (3.22 ± 0.04), contemplation (3.40 ± 0.25), preparation (2.87 ± 0.89), action (3.40 ± 0.32), maintenance (3.38 ± 0.14) and termination (3.50 ± 0.15). The overall mean value of perception (3.29 ± 0.21) showed that students were neutral about various stages of insomnia at the university level (Table-I).

Table-I: Mean responses of students regarding behavioral stages of insomnia.

Behavioral Stages of Insomnia	Mean ± SD
Pre-Contemplation	3.22 ± 0.04
Contemplation	3.40 ± 0.25
Preparation	2.87 ± 0.89
Action	3.40 ± 0.32
Maintenance	3.38 ± 0.14
Termination	3.50 ± 0.15
Students' Perception about Insomnia	3.29 ± 0.21

Majority of the participant were not satisfied with their sleeping patterns (35.2%) and their academic performance was affected due to irregular sleep (36.8%). Most of the participants agreed that lack of sleep cause tiredness and irritation (46.4%). Participants agreed that they were not able to stay wake in the daytime (32%) and irregular sleep pattern affect their work performance and productivity (47.2%). Students recognized their problematic behaviour and wanted to overcome it (39.2%) as shown in the Table-II.

Table-II: Summary of responses of participants regarding insomnia (n=1250).

S. No.	Items	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Action n (%)	Strongly Agree n (%)
PC1	I am not satisfied with my sleeping patterns.	160 (12.8)	270 (21.6)	150 (12.0)	440 (35.2)	230 (18.4)
PC2	I feel difficulty in falling asleep once I get up.	110 (8.8)	260 (20.8)	270 (21.6)	420 (33.6)	190 (15.2)
PC3	My academic performance is affected due to irregular sleeping patterns.	120 (9.6)	230 (18.4)	240 (19.2)	460 (36.8)	200 (16.0)
PC4	I feel depressed sometimes due to a lack of sleep.	120 (9.6)	310 (24.8)	220 (17.6)	360 (28.8)	240 (19.2)
PC5	The rate of insomnia is higher in female students as compared to other people.	40 (3.2)	260 (20.8)	470 (37.6)	330 (26.4)	150 (12.0)
C6	I feel irritation and tiredness in the daytime because of less sleep.	111 (8.8)	110 (8.0)	120 (9.6)	580 (46.4)	340 (27.2)
C7	I use my mobile for a long time after going to bed.	160 (12.8)	180 (14.4)	180 (14.4)	330 (26.4)	400 (32.0)
C8	I wake up at night many times during my periods.	110 (8.8)	310 (24.8)	370 (29.6)	270 (21.6)	190 (15.2)
C9	I sometimes skip sleep at night during my examination.	220 (17.6)	110 (8.0)	111 (8.8)	520 (41.6)	300 (24.0)
P10	I remain awake until late at night on weekends.	110 (8.0)	160 (12.8)	180 (14.4)	420 (33.6)	390 (31.2)
P11	I use screens for almost five hours a day.	80 (6.4)	230 (18.4)	160 (12.8)	420 (33.6)	360 (28.8)
P12	I am losing interest in daily life activities.	900 (72.0)	200 (16.0)	110 (8.8)	00 (0.0)	40 (3.2)
P13	I am taking sleeping pills to fall asleep according to the circadian cycle.	180 (14.4)	280 (22.4)	390 (31.2)	240 (19.2)	160 (12.8)
A14	I have difficulty staying awake during the day.	220 (17.6)	280 (22.4)	250 (20.0)	400 (32.0)	110 (8.0)
A15	My sleep routine is irregular due to a lot of work.	20 (1.6)	240 (19.2)	200 (16.0)	590 (47.2)	200 (16.0)
A16	My sleep routine affects my concentration and productivity.	60 (4.8)	60 (4.8)	200 (16.0)	560 (44.8)	370 (29.6)
A17	I believe that students with negative thoughts and hectic routines are more likely to suffer from insomnia	150 (12.0)	190 (15.2)	290 (23.2)	480 (38.4)	140 (11.2)
M18	I believe that sleep and depression have an inverse relation.	70 (5.6)	110 (8.0)	520 (41.6)	420 (33.6)	140 (11.2)
M19	I promote novelty in classroom learning.	10 (0.8)	240 (19.2)	310 (24.8)	540 (43.2)	150 (12)
M20	I believe that demographic factors affect a student's health.	40 (3.2)	110 (8.0)	370 (29.6)	500 (40)	240 (19.2)
M21	I believe that students with poor sleep give birth to chronic insomnia.	50(4.0)	170 (13.6)	360 (28.8)	490 (39.2)	180 (14.4)
T22	I believe students recognize that their behavior is problematic.	111(8.8)	80 (6.4)	220 (17.6)	490 (39.2)	350 (28.0)
T23	I believe that encouraging students to work in groups much of the time is important to reduce the work burden.	111(8.8)	90 (7.2)	440 (35.2)	490 (39.2)	120 (9.6)
T24	I believe that students have no desire to return to their unhealthy behaviors and are sure they will not relapse.	30 (2.4)	120 (9.6)	320 (25.6)	520 (41.6)	260 (20.8)
T25	I believe that students who reach this stage never want to go back with the loss of hope, happiness, desires, wishes, health, and many others.	30 (2.4)	120 (9.6)	320 (25.6)	520 (41.6)	260 (20.8)

Table-III showed that semester-term (p=0.864) and type of department (p=0.648) had no significant effect on the students' perception about insomnia.

Table-III: Mean difference in students regarding insomnia.

Factors		Mean ± SD	*p*-value
Students' Perception about Insomnia	8th Semester	85.63 ± 13.5	0.864
	1st Semester	81.80 ± 12.2	
	Department of Education	83.36 ± 12.3	0.648
	Department of English	80.08 ± 10.5	

DISCUSSION

This study showed that exams, negative thoughts, academic overload, late-night schedule and the use of screens more than 8 hours daily badly affect sleeping patterns. It was found that almost all the university students suffer insomnia at the university level 12 and this finding was supported by the work of Hershner and Chervin.[6] They found that the university students had insomnia, but they were not able to recognize it. Smith *et al*,[4] showed that students were neutral about the various stages of their behaviour regarding insomnia because they were not aware of their pre-contemplation, contemplation, preparation, action, maintenance. Our result was quite similar to the work of Schlarb *et al* and Sheaves *et al*.[13] They found that adult students better understand their mental conditions at the university level. In previous studies, researchers reported the prevalence of insomnia varying from 11.8% in Nigeria to 27% in the US and 37% in Italy and France and 31.3% in Pakistan.[14-17]

Staner *et al*,[14] and Jerath *et al*,[9] found that the prevalence of chronic insomnia was more frequent in the students of first year.

Students are developing sleep difficulties as a result of several pressures, academic overload, constant pressure to succeed and anxiety about the future.[18] Students with chronic sleeping disorders should be identified by the teachers. Seminars and workshops should be conducted about the seriousness of insom-nia.

CONCLUSIONS

Students had a neutral perception about the problem of insomnia.

Conflict of Interest: None.

Authors' Contribution

FF: Conceptualization, manuscript writing and reviewing article after submitting into research journal, SA: have made substantial contribution in research design, data analysis and it's interpretation, KQ: Reviewing and analyzing article critically for important intellectual content and proof reading, SB: Application of formal data collection and analysis by SPSS and manuscript writing, SF: Accountable for all the aspect of this work in ensuring that questions related to the accuracy or integrity of any part of the work are apporiately investigated and resolved.

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