



Original Article

Study on Association of Stress with Insomnia in University Students

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ABSTRACT

A sleep problem called insomnia causes difficulty falling and/or staying asleep. The disorder can be either short-lived (acute) or persistent (chronic). **Objective:** To evaluate the study on association of stress related problems with insomnia and to evaluating the percentage of females who take stress and also, they have headache. **Methods:** We conducted a perspective study and cross-sectional survey of the different departments of Lahore College for Women University, Lahore with stratified sampling design, applied to total sample n=300. The study was conducted on group A (n=111) females between age of 15 to 20 years. The second group B of age group between 21 to 28 years which include 189 females (n=189). Demographic measurements such as weight, height, BMI was taken of all subjects. Stress, insomnia patient, headache, NSAIDs taking was reported via questionnaire. All the data were collected and analyzed. **Results:** In group A 77% females take stress and in group B 82% females take stress out of 111 with (p<0.001). Due to stress 23% females are insomnia patient in group A and in group B 27% females are insomnia patient (p<0.001). The 64% females have headache due to stress in group A and 72% in group B with (p<0.001). The 32% females use NSAIDs in group A and 45% in group B with (p<0.001). **Conclusions:** It is concluded that the stress is harmful for any age group of females. The stress is the main cause of insomnia. Therefore, stress should not take. If the stress increases then the headache factor also increases.

INTRODUCTION

A sleep problem called insomnia causes difficulty falling and/or staying asleep. The disorder can be either short-lived (acute) or persistent (chronic). And it might come and go. Acute insomnia might continue for a few weeks or just one night [1-3]. Chronic insomnia is defined as occurring at least three nights per week for three months or longer. Primary and secondary insomnia are the two categories. If you have primary insomnia, it means that your sleep issues are unrelated to any other medical conditions or issues. Asthma, depression, arthritis, cancer, heartburn, or usage of alcohol are examples of conditions that might cause secondary insomnia [4, 5]. Other causes include discomfort, drug side effects, or substance abuse. Stress brought on by significant life events, such as job loss or change, a loved one's death, a divorce, or a move. the environment, including sounds, lights, and temperatures

alterations to your sleep routine, such as jet lag, a new shift at work, or undesirable habits you developed when you were experiencing previous sleep issues. mental illnesses including anxiety and depression. drugs, allergies, depression, hypertension, and asthma. Nighttime discomfort or pain. use of alcohol, smoke, or caffeine. several endocrine issues, including hyperthyroidism. Restless legs syndrome and other sleep disorders including sleep apnea [6-9]. The issue of sleep disturbances is becoming widespread. Japanese adults have sleep abnormalities at a rate of 17%-22%, while the prevalence of sleep disorders is thought to range from 7% to 50% in Portugal and Finland [11-14]. In the United States, more than 70 million people suffer from a sleep disorder, and modern lifestyles have led to Americans sleeping approximately 2 h less per night than 100 years ago.

Abnormalities in the sleep cycle are linked with neurocognitive consequences ranging from performance decrements, slower response times, and decreased cognitive ability [15]. Stress is a term that is often used by the global population. This term was first described as a "syndrome produced by diverse noxious agents" in the 1930s and was later called General Adaptation Syndrome. More over 70 million Americans have sleep disorders, and due to modern lives, Americans now sleep about 2 hours less per night than they did 100 years ago. Neurocognitive effects of abnormalities in the sleep cycle include performance declines, longer reaction times, and lowered cognitive abilities [16]. Stress is a problem that affects people all around the world. It results from a variety of environmental circumstances and can have a negative impact on one's physical and mental health. Individuals and organizations should put stress management techniques, such as workplace regulations that support work-life balance, access to counseling and mental health resources, and building a good work environment, at the top of their priority lists if they want to address stress in an effective way. It's also essential to adopt good lifestyle habits including regular exercise, relaxation techniques, a balanced diet, enough sleep, and supportive relationships. A healthier and more productive workplace can result from using comprehensive stress management strategies [8].

METHODS

The purpose of this study was to look at the relationship between stress-related disorders, gastrointestinal ailments, and insomnia among university students. A random sample of 300 female students from Lahore College for Women University, aged 15 to 30, was chosen to examine the prevalence of stress-related issues and identify relevant factors in this specific demography. Prior to participating, students were given thorough information about the study and requested to obtain written agreement, confirming their voluntary participation in the research process. The quality approach was applied. Participants completed a questionnaire as part of the quality process. Due to the high prevalence of stress problems among females, according to a WHO report, this study was specifically designed to include only females. The study's cross-sectional design was carried out during a 7-month period, from October 2019 to April 2020. The study needed to first estimate stress-related insomnia and gastrointestinal issues in young females before looking at the causes of stress-related disorders. Structured questionnaires were used to collect data for the other parameters, such as sociodemographic information, age, height, weight, social habits, symptoms, diet, and medical history.

RESULTS

The table 1 provides information on four variables (Age, Height, Weight, and BMI) for two groups (A and B). The mean and standard deviation of both groups were calculated. The mean age with standard deviation of Group A was 18.80 ± 1.40 and the mean age with standard deviation of group B was 22.42 ± 1.44 . The mean height with standard deviation of Group A was 1.63 ± 0.36 and mean height with standard deviation of Group B was 3.64 ± 1.86 . The mean weight with standard deviation of Group A was 52.29 ± 9.97 and the mean weight with standard deviation of Group B was 53.72 ± 8.21 . The mean BMI with standard deviation of Group A was 21.96 ± 19.58 and the mean BMI with standard deviation of Group B was 20.86 ± 3.28 .

Table 1: Continuous variables of group A and group B

Groups	Age (years) Mean \pm SD	Height (m) Mean \pm SD	Weight (kg) Mean \pm SD	BMI (kg/m ²) Mean \pm SD
A	18.80 \pm 1.40	1.63 \pm 0.36	52.29 \pm 9.97	21.96 \pm 19.58
B	22.42 \pm 1.44	3.64 \pm 1.86	53.72 \pm 8.21	20.86 \pm 3.28

Group A: 15 years to 20 years **Group B:** 21 years to 28 years

The figure 1 showed the association between two variables, Insomnia and Stress, with their respective groups, Group A and Group B.

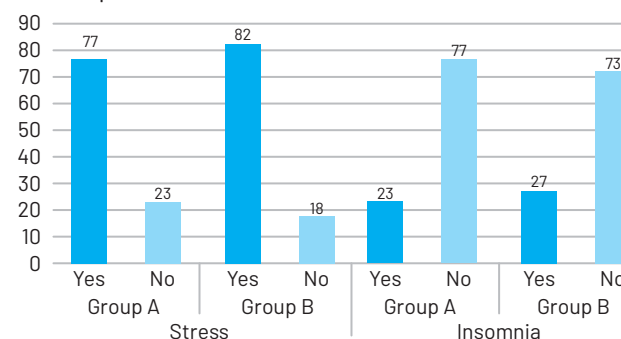


Figure 1: Comparison between Stress and Insomnia of Group A and B

The figure 2 showed the association between two variables, Insomnia and Headache, with their respective groups, Group A and Group B.

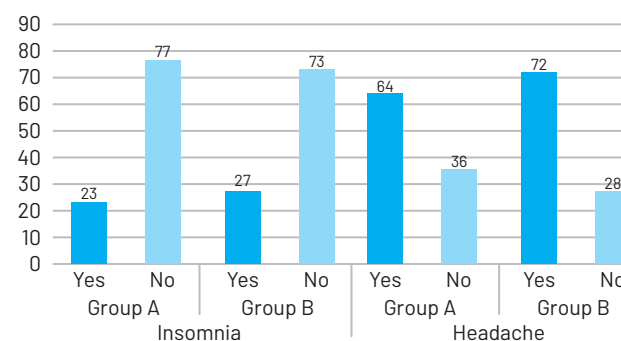


Figure 2: Comparison between Headache and Insomnia of Group A and B

The figure 1 showed the association between two variables, Insomnia and NSAIDs, with their respective groups, Group

A and Group B.

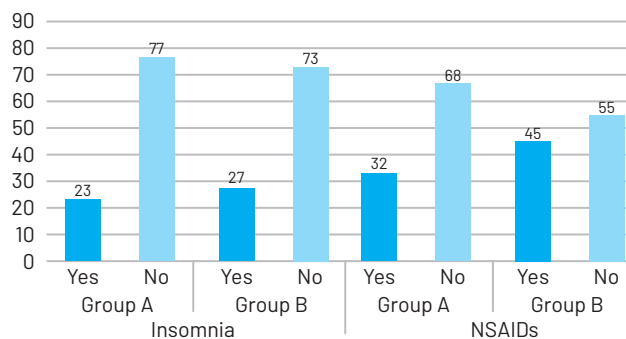


Figure 3: Comparison between NSAIDs and Insomnia of Group A and B

Table 2 showed the p-values in the table suggest significant associations between stress, Insomnia, Headache & NSAIDs and the respective groups.

Table 2: Associations between Groups, Characteristics, and p-values

Groups	Characteristics	p-value
Group A	Stress	0.0001
Group B		0.0001
Group A	Insomnia	0.0001
Group B		0.0002
Group A	Headache	0.0001
Group B		0.0001
Group A	NSAIDs	0.0002
Group B		0.0001

DISCUSSION

The research on the relationship between stress-related issues and sleeplessness in college students produced a number of interesting results. The study included 300 university students as a sample, with only representation from females. The individuals responded to questionnaires that measured their levels of stress, the quality of their sleep, and other important factors. The findings showed a substantial link between stress-related issues and insomnia in college students. High levels of stress were indicated by the majority of individuals, and this was positively connected with how severe their sleeplessness symptoms were. Additionally, specific stressors including a heavy workload in school, money worries, and relationship problems were found to be reliable indicators of sleeplessness. The study also found that students who reported poor coping mechanisms for stress, such as substance use or avoidance behaviors, were more likely to experience insomnia. In Group A and Group B, the discussion emphasizes the gender disparities in stress prevalence and its effects on females. The findings show that both groups' female members are significantly more likely to experience the negative effects of stress, including insomnia, headaches, and NSAID use. Although Group B seems to have a higher prevalence of stress-

related disorders, more research is required to determine what exactly causes these variations. Healthcare practitioners can create focused treatments and support systems to effectively address these difficulties by having a better understanding of the effects of stress and the health conditions that it is related with insomnia. Previous studies exploring the association between stress-related problems and insomnia in university students have provided similar findings [17]. For instance, a study conducted in 2006 by Alberti on a sample of 300 university students found a strong positive correlation between perceived stress levels and insomnia severity. The researchers also identified academic stress and lifestyle factors as key contributors to sleep disturbances among students. Another study conducted in 2019 by Średniawa et al., with a sample of 400 university students, demonstrated a significant association between stress-related problems and insomnia symptoms [18, 19]. The researchers highlighted the role of poor stress management skills, such as inadequate relaxation techniques and ineffective time management, in exacerbating sleep difficulties among students. While the current study supports and aligns with previous research, it contributes unique insights by specifically examining the association of stress-related problems with insomnia in a larger sample size and considering additional factors such as coping mechanisms and gender differences. These findings provide a more comprehensive understanding of the relationship between stress and insomnia in the university student population [20].

CONCLUSIONS

It is concluded that the stress is harmful for any age group of females. If the stress increases then the headache factor also increases. The stress is the main factor of insomnia. If stress is at its peak then the sleeping behavior will be disturbing. Therefore, stress should be avoided.

Authors Contribution

Conceptualization: FA

Methodology: SH, SS

Formal analysis: SWM

Writing-review and editing: FA, SH, SWM, SS

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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