TO EVALUATE ANXIETY AND DEPRESSIVE SYMPTOMS AMONG UNDERGRADUATE NURSING STUDENTS IN KARACHI, PAKISTAN

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Abstract

Background: *Anxiety is an emotional state characterized by a heightened sense of self-protection oriented toward future events. Depression, on the other hand, is a mood disorder marked by persistent feelings of sadness, loss of interest or pleasure, and emotional numbness*

Objectives: *To evaluate levels of anxiety depression among undergraduate students of nursing*

Methods: *A cross-sectional research design was employed, involving a sample of 112 undergraduate nursing students from Jesus and Mary Institute of Nursing and St. James Institute of Nursing, Karachi. Data were collected using a socio-demographic questionnaire and the Aga Khan University Anxiety and Depression Scale (AKUADS)*

Results: *The findings of the study revealed that 64.3% of nursing students exhibited positive Anxiety Depressive Symptoms (ADS), while 35.7% showed negative ADS. The analysis of ADS in relation to socio-demographic variables demonstrated no statistically significant associations with age, gender, residence, academic level, job status, or substance use. Additionally, a very weak and statistically insignificant negative correlation was observed between Anxiety Depressive Symptoms (ADS) and age (r = -0.083; n = 112; p = 0.382)*

Conclusion: *The findings of the current study indicate that the majority of nursing students were experiencing symptoms of anxiety and depression. Furthermore, socio-demographic variables—including gender, academic year, residence, job status, and substance abuse status—did not have a statistically significant impact on these symptoms. These results underscore the urgent need for targeted interventions aimed at reducing anxiety and depression levels among nursing students, given their crucial role as the future of the nursing profession.*

INTRODUCTION

Anxiety is an emotional state characterized by a heightened sense of self-protection oriented toward future events. It involves physiological and behavioral responses to perceived threats or potentially harmful situations. These responses may include increased heart rate, restlessness, and heightened alertness. Depression, on the other hand, is a mood disorder marked by persistent feelings of sadness, loss of

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interest or pleasure, and emotional numbness. It often includes symptoms such as guilt, sleep disturbances, appetite changes, fatigue, difficulty concentrating, and recurrent thoughts of death or self-harm. [1]. Different factors such as stress, sleep quality, anxiety, career planning after graduation, and grade point average were found to be correlated with depressive symptoms.[2].The cross-sectional study conducted in Myanmar, comprising 230 nursing students, revealed that depressive symptoms among nursing students were significantly associated with stress, self-efficacy, and emotion-focused coping. Stress was the strongest predictor, indicating a significant positive effect on undergraduate nursing students' depressive symptoms. [3].The nursing student's perceived self-efficacy and depressive symptoms were significantly associated with each other. Nursing students who were suffering from anxiety and depression had lower self-efficacy scores than those without anxiety and depression [4]. The results of meta-analysis study showed that majority of nursing students were suffering from moderate stress (42.1%) and have mild to moderate anxiety (19.4%-25.1%). Senior nursing students had severe stress levels compared with junior nursing students (29.0% vs 15.1%). [5].The prevalence of anxiety and depression symptoms among undergraduate nursing students was higher in research studies conducted after the coronavirus disease (COVID-19) outbreak. [6].Additionally, the poor sleep quality was significantly associated with anxiety and depression symptoms. [7]. Furthermore, the research study identified that 16.9% of the students have depression symptoms, while 30.2% have high levels of anxiety symptoms. [8].The meta-analysis of 27 cross-sectional studies showed that the prevalence of depression was found to be 34% in nursing students. The younger students were suffering more from depression. Nursing students from Asian countries have a higher prevalence of depression. [9].Moreover the cross-sectional study conducted at Aga Khan University, Karachi, Pakistan, revealed that 40% of nursing students reported having mild depression, and out of those, 53.3% of nursing students have failed exams. Factors such as adjusting to a place away from home, socializing, and meeting new people were identified as precursors of anxiety in nursing students. A positive family history of depression was found to be 14%,

which can also be an important contributor to the student's well-being. [10]. Furthermore the results of cross-sectional study conducted in Karachi, Pakistan revealed that 40.65% students were found to have anxiety, depressive symptoms, while 59.35% nursing students have no anxiety and depression symptoms. Students who did not exhibit symptoms of anxiety or depression were found to be more active and cheerful, performed better academically, and were better able to cope with difficult and stressful situations. [11].The objective of this study is to evaluate anxiety and depressive symptoms among undergraduate nursing students.

1. Methods

A cross-sectional research design was employed in the current study. The research was conducted at Jesus and Mary Institute of Nursing and Allied Sciences and St. James Institute of Nursing and Health Sciences, located in Karachi, Pakistan. The target population consisted of undergraduate nursing students. A convenient sampling technique was used to recruit participants. The sample size was calculated using OpenEpi software, based on the formula for one sample proportion. Assuming a prevalence of depression at 88.4% [12], with a 95% confidence interval, 80% power, a 5% margin of error, and an estimated population size of 500, the required sample size was calculated to be 112 participants. The study was conducted between April and May 2025.Inclusion criteria involves nursing students enrolled in BSN program and willing to participate in the study. Exclusion criteria consist of students from other nursing programs, students who were suffering from any psychiatric illness. Study parameters consist of independent variables such as Age, Gender, Academic level, Degree program, Resident, Job Status, Substance abuse, while Anxiety Depressive score was dependent variable. Permission was obtained from the principals of both institutes. Informed consent was taken from all participants. Confidentiality and anonymity were ensured throughout the study. The Socio-demographic questionnaire and Aga Khan University Anxiety Depressive Scale (AKUADS) comprises of 25 items with cut off value 19 was used to collect data. Data were analyzed using SPSS version 26. Descriptive statistics uses frequency tables, mean, standard deviation to report findings. Statistical tests

such as Independent t-test, ANOVA and Pearson's correlation were applied to analyzed data.

2. Results:

Table 1 presents the socio-demographic characteristics of a sample comprising 112 individuals. The **mean age** of the participants was **23.36 ± 2.83 years**. The **gender distribution** included **63.4% males** and **36.6% females**. All participants were enrolled in the **Bachelor of Science in Nursing (BSN)** program. Regarding the **academic year, 17.9%** of students were in their first year, **10.7%** in the second year, **64.3%** in the third year, and **7.1%** in the fourth year. In terms of **residency, 64.3%** of the students lived with their parents, while **35.7%** resided in hostels. The majority of students **75%** were **unemployed**, whereas **25%** were employed. Additionally, **14.3%** of the participants reported **substance abuse**, while **85.7%** did not.

Table 1: Socio-demographic variables (n=112)

Socio-Demographic Variables	Characteristics	N (%)
Age	23.36 ± 2.83	112 (100.0)
Gender	Male	71 (63..4)
	Female	40 (36.6)
Degree program	BSN	112 (100.0)
	Others	0 (0)
Academic year	First year	20 (17.9)
	Second year	12 (10.7)
	Third year	72 (64.3)
	Fourth year	8 (7.1)
Resident	Family	72 (64.3)
	Hostel	40 (35.7)
Job Status	Job	28 (25.0)
	Jobless	84 (75.0)
Substance Abuse	Yes	16(14.3)
	No	96 (85.7)

Table 2 shows that 64.3% of nursing students reported experiencing positive symptoms of anxiety and depression, while 35.7% did not exhibit any such symptoms.

Table 2: Anxiety and Depressive Symptoms

ADS	Percentage	Scores Obtained
Symptoms present	64.3%	Above 19
Symptoms absent	35.7%	Below 19

Very weak negative insignificant relationship was found between anxiety, depressive symptoms and age. (r = -0.083; n = 112; p-value=0.382) (Table 3).

Table 3: Correlation between Anxiety and Depressive Symptoms and Age

	N	r	p-value
ADS, Age	112	-0.083	0.382

Table 4 presents the results of the analysis examining the association between demographic variables and anxiety and depressive scores. The gender variable did not show a statistically significant association with anxiety-depressive score (p = 0.718). Similarly, academic year was not significantly associated (p = 0.575). Other variables, including residence (p = 0.112), job status (p = 0.428), and substance abuse (p = 0.323), also lacked significant associations. Overall, none of the socio-demographic variables demonstrated a significant relationship with anxiety and depressive scores.

Table 4: Association of demographic variables with anxiety and depressive score

Socio-Demographic Variables	Characteristics	Mean ± SD	N	p-value
Gender	Male	23.54 ± 11.25	71	0.718
	Female	24.29 ± 9.49	41	
Academic year	First year	23.10 ± 8.80	20	0.575
	Second year	21.08 ± 8.39	12	
	Third year	24.03 ± 11.51	72	
	Fourth year	27.75 ± 9.31	8	
Resident	Family	22.63 ± 10.10	72	0.112
	Hostel	25.95 ± 11.27	40	
Job Status	Job	22.43 ± 10.72	28	0.428
	Jobless	24.27 ± 10.59	84	
Substance Abuse	Yes	21.38 ± 9.43	16	0.323
	No	24.22 ± 10.78	96	

1. Discussion

The aim of the current study is to evaluate anxiety and depressive symptoms among undergraduate nursing students. The results of our study showed that the mean age of the participants was 23.36 ± 2.83 years. The research study conducted in Saudi Arabia revealed that majority of students were in same age group similar to our study. [13].The current study revealed that 64.3% of nursing students reported experiencing positive symptoms of anxiety and depression, while 35.7% did not exhibit any such symptoms. In contrast the cross-sectional study conducted in Mardan, Pakistan showed that 67.7% of students have a normal range of anxiety, whereas 32.3% of students have mild to moderate levels of anxiety. [14]. The study in Sichuan, 554 vocational nursing students reported 41.7% anxiety, 28.7% depression, and 20.2% stress. [15].Furthermore our study revealed that there were no significant difference in the mean score of anxiety and depression among academic levels. In contrast the study showed that the mean score of depression for first year students was significantly different than students in other study years. [16].The current study showed that no significant relationship was found between residence and anxiety depressive score. Similarly the descriptive, cross-sectional study comprises of 258 nursing students from Saudi Arab University showed that no significant association was found in the mean level of depression with, current residence of students. [17].In contrast the results of study conducted in Pakistan revealed that students who lived in hostels and final year students were more prone to develop anxiety depressive symptoms. [18].Moreover the

current study showed no significant relation between gender and anxiety depressive symptoms. No significant differences on the basis of sex were always observed in another research study. [19] Additionally our study showed very weak negative insignificant relationship was found between anxiety, depressive symptoms and age. Similarly the research study conducted in Pakistan revealed negative weak correlation between age and anxiety, depressive symptoms. [20]

5. Conclusion

The findings of the current study indicate that the majority of nursing students were experiencing symptoms of anxiety and depression. Furthermore, socio-demographic variables—including gender, academic year, residence, job status, and substance abuse status—did not have a statistically significant impact on these symptoms. These results underscore the urgent need for targeted interventions aimed at reducing anxiety and depression levels among nursing students, given their crucial role as the future of the nursing profession. Awareness sessions must be conducted among students.. A psychologist should be present in institute to help the students to deal with psychological issues. Further research studies should be conducted to see the impact of socio-demographic variables on self-esteem

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