Correlation of Perceived Stress on the Academic Achievement of Undergraduate Nursing Students of KPK

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Abstract

Objective: To identify the impact of stress on academic performance among undergraduate nursing students of kpk.

Method: The design of the study was descriptive-correlational. It was conducted from April to August 2022, having a sample size of 103 and using a convenient sampling technique through an adopted questionnaire perceived stress scale.

Results: In this study, the male students were more (69.9%) n=72 than the female students were (30.1%) n=31. The students of semester 4th were in the majority (45%). Among the participants, (4%) were suffering from high stress, while moderate stress (88%) and low stress only (8%). The majority of the students' academic performance was good (58.3%), average (35%), and poor performance (6.8%). The mean scores of stress were: 8th semester (19.2±4.18), 6th semester (21.3±2.98), 4th semester (20.3±3.67) and 2nd semester (18.2±5.25). The correlation between stress and academic performance was calculated through SPSS. It shows that academic performance is not correlated with stress (p-0.681), while stress was also not correlated with demographic variables like gender (p-0.13) and age (p-0.139).

Conclusion: Stress in the first year is common due to exposure to new and difficult subjects and environments. Through coping strategies, senior students managed stress to avoid problems with the passage of time.

Keywords: Stress, academic performance, nursing students, Khyber pukhtankhwa, undergraduate

Introduction

The nursing profession is a well-known profession in Khyber Pukhtankhwa Pakistan. The nursing institutes follow the curriculum in academic and clinical skills that is approved by the higher education commission and the Pakistan Nursing Council.[1] Nursing schools enable learners to become employees or as leaders in the future, where they will teach or perform clinical work on behalf of their institution or university.[2] A 4-year nursing degree is a very demanding and tough program. Students worked hard in clinical duties and within the nursing organization to achieve better grades and ranks throughout the semesters. Therefore, they face psychological issues that impact their performance. The intensity of these issues varies from student to student. A psychological, emotional state and situation arose in which the students react when they feel pressured or threatened, called stress. These mental health problems are becoming more common among healthcare workers.[3] Studies have shown that nursing students face stress more than other professions.[4] Nursing students have to complete theoretical exams, tests, and clinical skills assessments within a specific time frame. When the burden increased from the resources of students with

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which they were dealing, stress increased among students.[5] A high level of stress not only affects student performance but also leads to serious mental health illnesses such as depression.[6] Stress has not only a negative impact; it also has a positive impact. For example, low to moderate stress may increase students' motivation, encouraging them to persevere in their studies and achieve their targets.[7] Nursing students not only face stress in theory, but they also face challenges in clinical duties. Nursing students during their initial clinical days become under pressure and nervous about how to face patients and clinical staff. Students' adjustment with the concerned department, health care staff, and patients took some time, so those students who are good at coping strategies overcome this period, but those students who are new to the challenges are affected by psychological stress. The prevalence of clinical stress is higher in nursing students because nursing students spend more time in the clinical areas and come into contact with patients with severe injuries, chronic diseases, and the deaths of patients.[8] Studies have shown that the first and second years of nursing students are the most stressful for nursing students because they are new to the profession and subjects. For other students, the third year is more stressful due to clinical duties.[9] Some of the students are affected by stress in the last year of research projects, nursing seminars, and the transition from nursing institute to clinical training internship. The study of Goff (2011) shows that there is no relationship between stress and academic performance.[10]

Stress is a condition that can't be avoided. Therefore, coping strategies and stress reduction programs could improve the academic performance of students. It is very unfortunate that none of the nursing institutes in Khyber pukhtankhwa have a stress reduction program to engage students in the last period of their degree program to improve their academic performance. The purpose of this study is to explore the perceived stress among nursing students and its impact on their academic performance.

Material and Method

The conducted study was a descriptive correlational study conducted from April 2022 to August 2022 in the different private and public institutes of Khyber pukhtankhwa Pakistan. The inclusion criteria for the study were nursing students who are currently enrolled in any registered nursing college and students who are willing to be part of the study. A formal permission from the nursing institutes was obtained before approaching the nursing students. The sample size of the population was 103 nursing students through a convenient sampling method. All the students were clarified through verbal conversation and in consent form that their participation in the project is purely voluntary, no student will receive any direct benefit from the project, their data will be used only for data analysis, and they can leave the study when they want to ensure the ethical rights of the participants. The data was collected from the participants after permission from the college authorities. A paper was printed that contained a consent form and a perceived stress inventory questionnaire. The aim and objectives of the questionnaire were explained to all the participants.

Perceived Stress scale: An adopted questionnaire of the perceived stress scale (PSS) was used, developed by Cohen, S.(1983).[11] The questionnaire contains two parts: part-a (gender age, year of program, and college status), while part-b contains 10 questions that contain two subscales:

Questions 1, 2, 3, 6, 9, and 10 are perceived helplessness (a feeling of an individual). Questions 4,5,7, and 8 are lack of self-efficacy (measured in reverse) (0 =>4;1=> 3;2 => 2;3=> 1;4 =>0).

The scale contains a 5 point Likert scale (0-never, 1-almost never, 2 sometime, 3-fairly often, 4-often). The validity of the questionnaire was checked by and the test-retest reliability was checked by Lee, E. H. (2012).[12] The academic performance (GPA) of the students were taken from the students directly during data collection and then cross checked with examination record of the college. The study was approved by the institutional review board (IRB) before data collection. The proposal, questionnaire, and consent were submitted and, after the review concluded that there was no harm to the participants, the approval from the IRB was received for data collection.

Results

The total number of the participants in this project was 103. Among these participants, the number of male participants was higher (69.9%) n=72, than the number of female participants (30.1%) n=31. In the age-category, the students aged (20 to 23 years) were in the majority (67%) n=69, followed by those aged 24 to 27 years (30.1%) n=31, and those aged 28 and above (2.9%) n=3. The majority of the students were from private colleges (96%) and (4%) from public nursing colleges. The stu-

dents of 2nd year (3rd and 4th semester) were higher (45%), followed by the 4th year (7th and 8th semester) students (39%), while the students of 3rd year (5th and 6th semester) were (12%), and 1st year (4%) (Table-1). In the questionnaire of the perceived stress inventory, the number of questions was 10 with a 5-point Likert scale (0-never, 1-almost never, 2-sometime, 3-fairly often, 4-often). In (table 2), the mean and standard deviation of each question with the most frequent option of the participants are present; the results of questions 4, 5, 7, and 8 are reverse. ((Table-2).). A cut-off value was set for the level of stress. The majority of the students (88%) n=91 suffered from moderate stress, while (8%) n=8 suffered from a low level of stress, and only (4%) n=4 was identified as high stress. Comparing the male and female students' stress levels, the male students' high stress level was higher (6%) than female students (0%), followed by a higher level of moderate stress in males (89%) compared to females (87%), and low stress was maximum among females (13%) compared to male students (5%) ((Table-3). In 2nd semester nursing students, the stress of moderate level was n=3, compared to high (n=0) and low-stress level (n=1), while in 4th semester nursing students, the moderate level was high (n=41), followed by low stress level (n=3) and high stress (n=2). Among the 6th semester students, the moderate stress level was (n = 13), while the low and high stress levels were the

same (n=0). In the 8th semester, the majority of students, n=34, were suffering from moderate stress, while n=4 faced low stress and high stress, n=2 (Fig-1). The mean and standard deviation score of the 2nd semester was (18.2±5.25), 4th semester (20.3±3.67), 6th semester (21.3±2.98) and the 8th semester (19.2±4.18). The values were set in categories with a cutoff score to identify the performance of participants as good, average, or poor performance. (58.3%) had a good performance, then (35%) students had an average performance, and (6.8%)

Table 1: *Demographic characteristics*

Characteristics	Categories	Frequency n=103	Percentage
Gender	Male	72	69.9%
	Female	31	30.1%
Age	20 to 23 years	69	67%
	24–27 years	31	30.1 %
	28 and above	3	2.9%
Institute Status	Public college	4	4%
	Private college	99	96%
Year of BSN Program	2nd semester	4	4%
	4th semester	46	45%
	6th semester	11	12%
	8th semester	40	39%

Table 2: *Perceived stress inventory mean standard deviation and most frequent response (N-never, AN-almost never, ST-sometime, FO-fairly often, O-often)*

S.No	Question	Mean and SD	Most frequent
1	In the last month, how often have you been upset because of something that happened unexpectedly?	2.23 ± 1.23	2-ST (29.1%)
2	In the last month, how often have you felt that you were unable to control the important things in your life?	2.06 ± 1.19	2- ST (35.9%)
3	In the last month, how often have you felt nervous and "stressed"?	2.23 ± 1.21	2- ST (30.1%)
4	In the last month, how often have you felt confident about your ability to handle your personal problems?	1.34 ± 1.23	0-N (33%)
5	In the last month, how often have you felt that things were going your way?	1.60 ± 1.17	2- ST (32%)
6	In the last month, how often have you found that you could not cope with all the things that you had to do?	2.25 ± 1.28	3-FO (29.1%)
7	In the last month, how often have you been able to control irritations in your life?	1.54 ± 1.13	1-AN (35%)
8	In the last month, how often have you felt that you were on top of things?	1.97 ± 1.29	2-ST (30.1%)
9	In the last month, how often have you been angered because of things that were outside of your control?	2.33 ± 1.26	2-ST (33%)
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	2.16 ± 1.10	3-FO (40.8%)

Table 3: *Academic performance and stress among the participants*

Academic performance of the participants			Gender	
Academic performance	Cutoff values	Students performance	Male	Female
Good performance	3.41 to 4.0	60 (58.3%)	41(57%)	19(61%)
Average performance	2.81 to 3.4	36 (35%)	27(37%)	9(29%)
Poor performance	Below 2.80	7 (6.8%)	4 (6%)	3(10%)
Stress among the participants				
Low level of stress	0 to 13	8 (8%)	4 (5%)	4(13%)
Moderate stress	14 to 26	91 (88%)	64(89%)	27(87%)
High stress	27 to 40	4 (4%)	4 (6%)	0 (0%)
Correlation of stress with academic performance				
	Academic performance	Gender	Age	
Stress (p-value)	0.681	0.139	0.465	

of students' performance were poor ((Table-3)). The findings indicate that there is no correlation between academic performance and stress, nor is stress correlated with gender, nor with age, nor with semester ((Table-3).
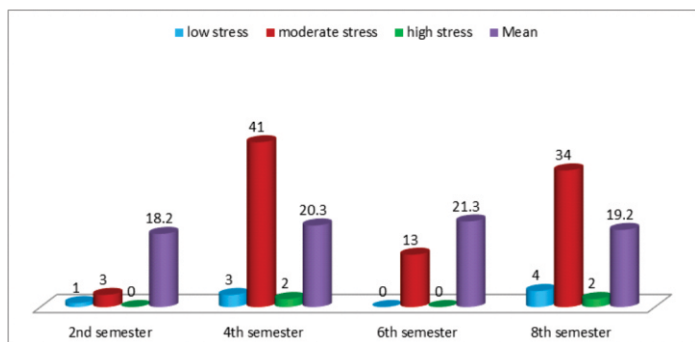

Fig 1: *Stress level and mean score (semester)*

Discussion

In the current study, the total number of participants was 103, where the number of males (69.9%) was higher than female students. The maximum number in 4 categories of semester among the nursing students was moderate, like in the 4th semester the score was (n=3), in the 4th semester it was (n=41), in the 6th semester it was (n=13), and in the 8th semester it was (n=34). The outcomes are similar to the study conducted by Elias, H et al. (2011) found that among undergraduate students, moderate stress is most common due to medical and health sciences.[13]

In this study, the findings reveal that there is no corre-lation between stress and academic performance. The findings are similar to those of studies conducted by Awofode, A. D. (2011)[14] and Womble, L. P. (2003) that found no significant correlation between stress and academic performance.[15] The findings of our study are opposite to the results of studies conducted by Oketch J. et al. (2018) and Rafidah, K. et al. (2019) that found a significant association between academic performance and stress.[16,17]

Furthermore, the results of our study identify that the 8th semester students' stress mean score (19.2±4.18) is less than the stress level of the 6th (20.3±3.67) and 4th semester (21.3±2.98). The findings are not similar to the study conducted by Elias, H et al. (2011) that reveals that final semester students have a high stress mean score of (1026 ± 267) compared to the mean score of the middle semester (929 ± 317).[13] This study reveals that the mean score of the 8th semester is low (19.2±4.18) compared to the scores of the 4th and 6th semesters. That means that senior students easily manage the stress through coping strategies. Similarly, the study accompanied by Awofode A. D. (2011) found that seniors reduce the impact of stress on their academic performance because these students easily deal with issues.[14] These findings are also supported by the studies of Hara et al. (2014), and Monterio et al. (2014).[18,19]

Our study reveals that the students of the first semester have the lowest mean score of stress (18.2±5.25) com-pared to middle semester students. The findings are similar to those of Elias, H et al. (2011),[13] but contradict the findings of Wintre MG, (2000).[20]

The results of this study indicate that there is no relation-ship between gender and stress and academic perfor-mance, which is not similar to only the findings of Scott (2009) that show the impact of gender on stress capability,[21] but also the results of Oketch J. et al. (2018) that show statistically significant stress and academic achievement with both male and female.[16]

Conclusion

The study concluded that there is no correlation between stress and academic achievement. Compared to female students, male students have more exposure to stress due to the burden of study and domestic responsibilities. Stress among first-year undergraduate nursing students is common due to exposure to medical and health subjects. With the passage of time, nursing students manage stress with the help of coping strategies.

Conflict of Interest   *None*

Funding Source   *None*

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Authors Contribution

AS: Conceptualization of Project
HJ: Data Collection
SA: Literature Search
FA: Statistical Analysis
S, S: Drafting, Revision
AS: Writing of Manuscript