

Exploring Stress and Anxiety among undergraduate Nursing Students during academic years.

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ABSTRACT

Background: Nursing education is renowned for its demanding curriculum, often resulting in higher stress levels among students. **Objective:** This study aims to explore the prevalence of stress and anxiety and their sources and impacts on undergraduate nursing students in Khyber-Pakhtunkhwa, Pakistan. **Methodology:** A descriptive cross-sectional study surveyed undergraduate nursing students from various colleges in KPK using the Stressors of Nursing Students Inventory (SNSI) tool. **Results:** The study revealed varied stress levels among students, with total scores ranging from 59% to 85%. **Conclusion:** Addressing stressors and providing support can empower nursing students to direct their academic journey successfully, prioritizing their mental health for future professional excellence.

Keywords: *undergraduate nursing students, stress, anxiety.*

I. INTRODUCTION:

Stress is a subjective concept that can arise from any factor that disrupts the equilibrium in one's life (1). The state arises when an individual perceives their internal or external pressures as excessive or beyond their capacity for adaptation or coping (2). Stress occurs when individuals believe they cannot effectively handle challenges or hazards (3). It is the reaction of an individual to stimuli and the interaction between the individual and the environment (4). Stress arises when an individual perceives a change in their environment as demanding, frightening, or harmful to their overall well-being and stability (5). The World Health Organization has labeled stress as the 'Epidemic of the 21st Century.' Nursing education is characterized by significant stress levels, primarily resulting from its rapid pace and emotionally challenging demands (6). Nursing students have the highest stress levels compared to students studying other health-related degrees. Nursing students commonly experience stress due to academic concerns, clinical training, and social factors (7). Higher education students, especially health professionals, experience significant stress (8). A study found that academic demands were the primary cause of stress among nursing students, followed by clinical sources (9).

The nursing curriculum comprises a combination of practical and theoretical courses, with clinical practice occupying over 50% of educational time, making it a significant source of stress (10). Nursing students confront various challenges, including difficult coursework, extended study periods, stress related to clinical experience, and the necessity for critical thinking. Emotional and personal maturity are essential to overcoming these challenges (11). Nursing students face significant mental and physical stress from academic concerns, clinical training, and social factors (7, 8, 9).

The combination of theoretical and practical courses, with a heavy emphasis on clinical practice, contributes significantly to this stress (10). Emotional maturity plays a vital role in overcoming these challenges (11). Positive or negative stress responses can impact performance, with negative stress leading to reduced productivity, a lower quality of life, and even suicidal tendencies (26, 12). Stress affects academic performance and mental health (particularly during examinations and patient care responsibilities (6, 13, 14).

Additionally, healthcare crises like pandemics further exacerbate stress levels among nursing students (26). Clinical practice presents significant stressors for nursing students, including coursework demands and challenging clinical environments (15). Studies also highlight moderate to high stress levels during clinical training due to heavy workloads and patient care responsibilities (16). Assignments and clinical stressors such as insufficient information and extended hours further contribute to stress (16). Increased levels of stress in nursing students have been linked to depression and anxiety and impeded academic and career development (17, 18). Negative attitudes from physicians, staff behaviors, and challenging clinical placements also contribute to stress (9). Stress arises from perceived challenges exceeding coping abilities and subjective pressures from various sources (1, 2). Nursing's fast-paced and emotionally demanding nature further exacerbates stress levels (6). Nursing students suffer elevated levels of stress compared to students in other health disciplines, mostly due to academic demands, clinical training, and social issues (7, 8, 19).

II.METHODOLOGY:

A descriptive cross-sectional study was conducted among undergraduate nursing students studying in public and private nursing institutes in KPK, Pakistan, between August 2023 and December 2023. The students were from different nursing colleges in Swat, Swabi, Mardan, and Peshawar. B.S. Nursing students from the 1st, 2nd, 3rd, and 4th years of study who were available during data collection, had clinical exposure, and were willing to participate were included in the study through convenient sampling. The exclusion criteria comprised non-nursing students, individuals with psychiatric or mental health issues, students not exposed to clinical, and those who declined participation or did not consent. A Rao soft calculator was used to determine the sample size with a confidence interval of 95%, resulting in a sample size of 300.

The questionnaire was adopted from earlier studies (29), and standardized data collection tools were used. The Student Nurse Stress Index (SNSI), established by Jones and Johnston (20), evaluated stress levels and causes. The study questionnaire consists of two sections. The initial section comprises a questionnaire that gathers information on the socio-demographic features of the participants, including their age, academic year, CGPA, working status, mental disorder, housing status, and the number of study, clinical, and lecture hours they attend. The second

component comprises the Student Nurse Stress Index (SNSI), which employs a Likert-type scale with five points (20). The four elements addressed are personal issues, clinical aspects, academic workload, and interface concerns. The SNSI comprises 22 items, each rated on a scale of one to five. A score of one represents an absence of stress, while a score of five represents a high stress level. The SNSI's reliability coefficient, measured by Cronbach's alpha, was 0.84. The researchers acquired authorization from the authors to utilize the SNSI tool.

An electronic questionnaire containing the consent form was created via Google Forms and shared with various nursing college students via a link through WhatsApp groups and email. The collected data were analyzed using SPSS 22 (IBM SPSS Statistics for Windows). In total, 303 survey questionnaire responses were received from students. Three questionnaire responses were excluded because they fell within the exclusion criteria, with 300 included in the final analysis. Descriptive statistics were calculated to summarize demographics and key variables. Inferential statistics were applied (Chi-square) to determine the association of the level of stress with selected personal variables. For all associations and comparisons, $P < 0.05$ was considered statistically significant.

III. RESULTS:

The researcher included 300 male and female nursing students who were requested to fill out the online Google form to collect information. The research questionnaire contains two segments. First one is demographic characteristics like gender, age, CGPA, and academic year, and the second section includes residence, work status, mental disorder, and study hours per day, lecture hours per week, clinical hours per week, and sleeping hours per night, and lifestyle factors that might measure stress levels. The Student Nurse Stress Index (SNSI) is a tool that identifies the primary stresses commonly encountered by students. The study's socio-demographic variables are displayed in Table 1.

The study participants consisted of 19% ($n = 57$) females and 81% ($n = 243$) males, with a majority (58%) ($n = 175$) ranging between 22 and 24 years and 27% ($n = 83$) ranging between 19 and 21 years. About 35% ($n = 104$) of the participants were from 2nd year BSN, followed by 4th year (34%; $n = 102$), and 3rd year 30% ($n = 91$)

Table 1: Socio-demographic characteristics of the participants, (n = 300).

Table 1. Demographic characteristic		<i>n(300)</i>	<i>Percentage</i>
Gender	Male	243	81%
	Female	57	19%
Age	19-21	83	27.7%
	22-24	175	58.3%
	25-27	42	14.0%
CGPA	2.00-2.5	12	4.0%
	2.50-3.00	91	30.3%
	3.00-3.50	169	56.3%
	3.50-4.00	28	9.3%
Academic year	1 st year	3	1.0%
	2 nd year	104	34.7%
	3 rd year	91	30.3%
	4 th year	102	34.0%
Residence	Live alone	18	6.0%
	Live with roommate(s)	176	58.7%
	Live with parents	106	35.3%
Work status	Yes	39	13%
	No	261	87%
Mental disorder	Yes	17	5.7%
	No	283	94.3%
Study Hours per day	<5 hours	196	65.3%
	>5 hours	104	34.7%
Lecture Hours per week	<12 hours	82	27.33%
	12 to 24 hours	218	72.7%
Clinical Hours per week	6 hours	85	28.3%
	12 hours	176	58.7%
	18 hours	39	13.0%
Sleeping Hours per night	<4 hours	2	7%
	4-5 hours	57	19.8%
	6-7 hours	163	54.3%
	8-10 hours	78	26.0%

More than half of the participants, 56% ($n = 169$), reported their CGPA between 3.00 and 3.50. About (59%) $n = 176$. The reason behind a low GPA is mental stress, which may be caused by domestic issues that cause stress and anxiety at higher levels and affect students' academic journeys.

The other least common stress was environmental because most participants lived with roommates. (s) (58.7%), followed by living with parents (35.3%), being affected by domestic issues, and living alone (6.0%). They cannot share their feelings when tense and are unable to do group discussions, which increase students' motivation toward the study.

The majority of participants giving full time to their study did not have a job (87%), had 6 to 7 hours of sleep per night (54.3%), and followed by 8 to 10 hours (26.0%), while a smaller proportion had a job (13%) because of their weak financial status. Students who are doing the job and whose financial status is poor cannot study for less than 5 hours per day (34.7%). had 6 to 7 hours of sleep per night (54.3%), followed by 8 to 10 hours (26.0%), 4 to 5 hours (19.8%), and less than 4 hours (7%). And attend less than 12 hours of lectures per week (27.33%). Those who were stable financially and had talent studied for more than 5 hours per day (65.3%). They had between 12 and 24 hours of lectures per week.

Major stressor experienced by students during their academic journey is the stress caused by coursework and workload. They were worried about bad grades, experienced pressure on clinical practice, and did not meet teachers' expectations. The surveyed participants identified academic burden as their primary source of stress. The mean score for academic burden was 3.38, with a standard deviation of 0.83. The highest mean for the elements covered in the academic burden category was the examination and grades ($M = 2.54$, $SD = 1.17$) and fear of failing the course ($M = 2.54$, $SD = 1.21$). The statistical measures representing the several categories of the Student Nurse Stress Index (SNSI) are displayed in Table 2.

Table 1.2: Source of Stress among Nursing Students (SNSI)

S/No	(SNSI) Items	Not Stressful	Mild Stressful	Moderate Stressful	Severe Stressful	Extremely Stressful
		n (%)	n (%)	n (%)	n (%)	n (%)
1	Amount of classwork material to be learned	104(34.7%)	116(38.7%)	63(21.0%)	13(4.3%)	4(1.3%)
2	Difficulty of classwork material to be learned	78(26.0%)	123(41.0%)	75(25.0%)	17(5.7%)	7(2.3%)
3	Examination and/or grades	57(19.0%)	113(37.7%)	62(20.0%)	46(15.3%)	22(7.3%)
4	Peer competition	56(18.7%)	110(36.7%)	83(27.7%)	40(13.3%)	11(3.7%)
5	Attitudes/expectations of other professionals towards nursing.	59(19.0%)	121(40.3%)	71(23.7%)	30(10.0%)	21(7.0%)
6	Lack of free time	59(19.7%)	103(34.3%)	77(25.7%)	46(15.3%)	15(5.0%)
7	College/School response to student needs	69(23.0%)	103(34.3%)	66(22.0%)	38(12.7%)	24(8.0%)
8	Fear of failing in course	65(21.7%)	101(33.7%)	63(21.0%)	48(16.0%)	23(7.7%)
9	Actual personal health problems	82(27.3%)	112(37.3%)	53(17.7%)	37(12.3%)	16(5.3%)
10	Physical health of other family members	100(33%)	91(30.3%)	64(21.3%)	19(6.3%)	26(8.7%)
11	Relationships with parents	106(35%)	90(30.0%)	52(17.3%)	39(13.0%)	12(4.0%)
12	Other personal problems	84(28.0%)	113(37.7%)	63(21.0%)	26(8.7%)	14(4.7%)
13	Relations with other professionals	91(30.3%)	106(35.3%)	55(18.3%)	39(13.0%)	9(3.0%)
14	Too much responsibility	83(27.7%)	106(35.3%)	60(20.0%)	37(12.3%)	14(4.7%)
15	Lack of timely feedback about performance	86(28.7)	115(38.3%)	55(18.3%)	35(11.7%)	9(3.0%)
16	Client attitudes towards me	57(19.0%)	125(41.7%)	81(27.0%)	27(9.0%)	10(3.3%)
17	Client attitudes towards my profession	47(18.7%)	112(37.3%)	103(34.3%)	30(10.0%)	8(2.7%)
18	Atmosphere created by teaching staff	43(14.3%)	121(40.3%)	81(27.0%)	47(15.7%)	8(2.7%)
19	Relations with staff in the clinical area	59(19.7%)	107(35.7%)	93(31.0%)	33(11.0%)	8(2.7%)
20	I am not sure what is expected of me	44(14.7%)	123(41.0%)	96(32.0%)	29(9.0%)	8(2.7%)
21	limited entertainment time	31(10.3%)	113(37.7%)	107(35.7%)	40(13.3%)	9(3.0%)
22	limited family time	31(10.3%)	102(34.0%)	106(35.3%)	45(15.0%)	16(5.3%)

DISCUSSION:

The demanding coursework and rigorous training associated with nursing education often deeply impact students' mental well-being. This study investigates the stress and anxiety experienced by undergraduate nursing students throughout their academic journey. Particularly, factors such as parental expectations, competition for grades, and career choices contribute significantly to the stressors faced by these students (21). One notable finding of this study is the considerable stress from interactions with teachers and nursing staff, often due to inadequate communication time. This lack of communication may hinder students' ability to seek support and guidance, potentially affecting their academic and professional development (22). Moreover, the study emphasizes that students affected by anxiety and stress are at an increased risk of experiencing low clinical performance during their training, further emphasizing the adverse effects of stress on students' overall success (23). In addition to academic stressors, there are various stressors that contribute to the increased levels of stress among nursing students. These include challenges such as adapting to college life, separation from family, financial constraints, and environmental factors. Particularly, the gap between theoretical learning and practical application emerges as a significant stressor for students, highlighting the importance of integrating classroom knowledge with hands-on experience (24). Our recent study has revealed that undergraduate nursing students are significantly affected by mild stress. Three frequently cited explanations for stress are "excessive workload and assignments," "environmental stress," and "stress arising from patient care." (27). Another study found that (41.3%) had low, (40.0%) moderate and (18.8%) high anxiety (28). Another study found that assignment and workload stress (2.44 ± 0.64), followed by "environmental stress" (2.34 ± 0.68) and "patient care stress" (2.16 ± 0.61) are the main factors that contribute to the level of stress among university students (29). There was a weak statistically significant negative relationship between self-esteem and anxiety depressive symptoms ($r = -0.221$; $p < 0.01$) (30). Another findings shows that regarding anxiety, 7.5% (n= 8) exhibited normal levels, 26.7% (n= 32) showed mild to moderate anxiety, 55.0% (n= 66) experienced severe anxiety, and 10.8% (n= 13) reported extreme anxiety (31).

CONCLUSION:

This study highlights the multifaceted nature of stress and anxiety experienced by undergraduate nursing students and emphasizes the need for comprehensive support mechanisms. Addressing these challenges requires a holistic approach that includes academic support, financial support through scholarships, proper clinical supervision, mental health resources, and environmental adjustments. By fostering a supportive learning environment that prioritizes students' mental health and well-being, nursing education institutions can successfully empower students to navigate the challenges of their academic journey. Effective stress management strategies are essential to support nursing students' well-being and success.

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