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Exploring the Perceived Stress Levels and its Primary Determinants among Final Year BSc Nursing Students: A Cross-Sectional Analysis

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Abstract

Background: The transitional nature of collegiate education, paired with the rigorous demands of healthcare training, makes nursing students highly susceptible to elevated stress levels. Academic overload and clinical anxieties frequently compromise both student well-being and professional preparation.

Objective: This study aims to evaluate the academic, clinical and interpersonal factors contributing to stress among final year Bachelor of Science (BSc) Nursing students, utilizing the Transactional Model of Stress and Coping as a theoretical framework. Also, the study intents to find out the association between stress and demographic variables among nursing students.

Methods: A descriptive cross-sectional design was employed. Data was collected from 40 final year BSc. nursing students using the perceived stress scale and a 26-item structured rating scale. Data analysis was carried out using SPSS 25, involved descriptive statistics, Fisher's Exact, and Chi-square (χ^2) inferential modeling to assess demographic associations with stress.

Results: Academic pressures overwhelmingly dominated the stress profile. The primary stressors identified were disappointment over underperforming despite effort (Mean = 4.28), difficulty correlating theoretical knowledge with clinical practice (Mean = 3.95), and the overwhelming volume of assignments (Mean = 3.75). Inferential analysis indicated a statistically significant association between stress and demographic variables such as religion (χ^2 = 4.18, p=0.026*), domicile (5.76, p=009), family type (χ^2=3.47, p=0.032*), parental education (mother's: χ^2=17.78, p<0.001**, father's: χ^2=8.62, p<0.002**), father's occupation (χ^2 = 4.13, p = 0.026*), financial status (χ^2 =5.76, p<0.009**) and hobbies (χ^2 = 4.85, p<0.013*).**

Conclusion: The findings highlight that while the nursing curriculum is inherently demanding, much of the student distress originates from academic performance anxieties and the theory practice gap. Integrating structured time management training and effective clinical mentorship is essential for mitigating burnout in future healthcare professionals.

Keywords: Perceived Stress, Nursing Students, Primary Determinants of stress, Academic, Clinical, Interpersonal Stressors, Cross-sectional Study.

Introduction

Stress is a universal physiological and psychological response triggered when environmental demands exceed an individual's perceived coping capacity.[1] In the area of higher education, professional health care professional courses like a regular degree in nursing programme can be uniquely demanding. They bridge intensive theoretical coursework with high stake clinical practice, placing immense pressure on young trainees.[2] Perceived stress can be defined as a person understanding the amount of stress that he or she is exposed to in a particular point of time.[3] It is related to a feeling of uncertainty and instability about life and depends on the confidence in one's ability to handle difficulties. Numerous studies have reported that stressful events precede the onset of depressive episodes and have established a link between stress exposure and depressive symptoms.[3]

Theoretical Framework

This research is grounded in Lazarus and Folkman's Transactional Model of Stress and Coping (1984)[4]. According to this framework, stress is not a static event but a dynamic, two-way transaction between the individual and their environment. A nursing student first evaluates a stressor, such as a heavy assignment load or a complex clinical duty (primary appraisal). Next, they assess their available resources, such as time, knowledge, and social support to manage the threat (secondary appraisal). When the perceived academic or clinical demands exceed the student's available resources, psychological distress occurs.[5]

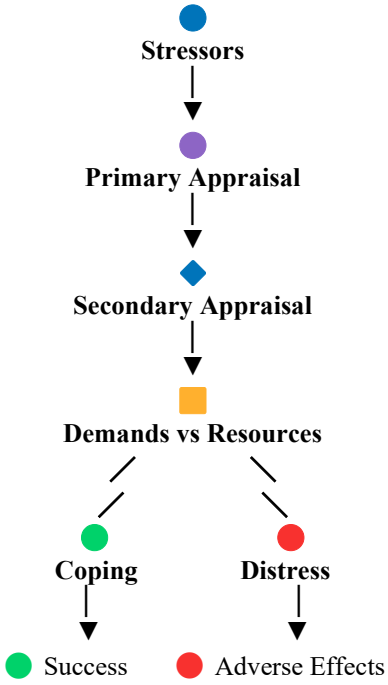


Figure 1: Theoretical Framework: Lazarus and Folkman's Transactional Model of Stress and Coping (1984)[4]

Review of Recent Literature

Recent literature highlights that nursing students experience heightened stress related to the increasing number of theoretical and clinical requirements they must fulfill.[6] Academic stressors often manifest as fear of failure, examination anxiety, and overwhelming assignment workloads.[7,8] Concurrently, clinical stress is frequently triggered by the fear of making medication errors, handling complex patient care, and navigating hierarchical relationships with clinical staff.[9] Socio-demographic factors also play a critical role. Studies indicate that female nursing students often report higher levels of perceived stress compared to their male counterparts.[10] Furthermore, students from lower socioeconomic backgrounds or rural domiciles frequently experience compounded stress due to financial constraints and transitional adaptation challenges.[11,12] Poor time management skills have been heavily linked to increased academic fatigue and reduced motivation, creating a cyclical pattern of stress and underperformance.[13,14] Recent global events, including the transition to post-pandemic learning environments, have further exacerbated anxieties regarding clinical readiness and the theory-practice gap.[15,16]

Objectives

1. To assess the perceived stress levels among final year BSc nursing students
2. To identify and rank the primary factors contributing to stress among final year BSc Nursing students.
3. To explore and rank the stressors under different sub categories i.e., academic, clinical and interpersonal etc among nursing students.
4. To determine the association between demographic variables and perceived stress levels.

2. Materials and Methods

Research Design and Setting

A descriptive cross-sectional survey design was utilized to systematically quantify stress-inducing factors. The study setting was College of nursing Rajouri, BGSB University, selected for its diverse student demographic combining both urban and rural cohorts.

Participants and Sampling

The sample size consisted of 40 final year, female BSc Nursing students. A non-probability, total enumerative sampling technique was employed.

- **Inclusion Criteria:** Students actively enrolled in the final year of the BSc Nursing program, who were willing to participate.
- **Exclusion Criteria:** Students absent during the data collection period and who were under active psychiatric treatment for stress or anxiety related disorders.

Data Collection Tools

Data were gathered using a structured questionnaire, divided into two distinct sections:

- **Section A (Socio-Demographic Profile):** Assessed 11 demographic data on age, religion, domicile, financial status, previous school education, family type, mothers' education, father's education, mother's occupation, father's occupation and hobbies.

- **Section B:** Perceived Stress Scale: Standardized 10 item tool, using a 5-point Likert scale to find out the stress levels.
- **Section C: (Structured Rating Scale for finding out the determinants of stress):** A validated 26-item structured rating scale was utilized. Each item was scored on a 5-point Likert scale (ranging from 1-rarely/never to 4-mostly/always) to quantify the frequency and intensity of various stressors.

Ethical Considerations

All formal permission and clearance were obtained prior to the study. Participation was entirely voluntary, and informed consent was secured from all participants. Absolute anonymity and data confidentiality were maintained throughout the research process.

Data Analysis

Data were tabulated and analyzed using Statistical Package for the Social Sciences (SPSS Version 25) software. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize demographics and rank stressors. Inferential statistics, specifically Chi-square (χ^2) and Fisher's Exact tests were applied to establish the significance of associations between demographic variables and stress scores. p-value of <0.05 was deemed statistically significant.

3. Results

Socio-Demographic Characteristics

The descriptive analysis of the 40 participants revealed a relatively homogenous cohort. The majority (82.5%) were aged between 20 and 21 years. Geographically, 42.5% hailed from rural domiciles, while the remaining were from urban (32.5%) or semi-urban (25.0%) settings. Financially, 42.5% of students reported a family monthly income of less than ₹10,000-20000, and 60% belonged to nuclear families.

Section I: Descriptive Statistics: Distribution of Sample Characteristics

Table 1: Distribution of Key Demographic Variables among Nursing Students (N=40)

Sl. No.	Variable	Category	Frequency (f)	Percentage (%)
01	Age	20-21 yrs	33	82.5%
		Above 21 yrs	07	17.5%
02	Religion	Hindu	06	15.0%
		Muslim	34	85.0%
03	Domicile	Rural	17	42.5%
		Urban	13	32.5%
		Semi-urban	10	25.0%
04	Financial Status	₹10,000 - ₹20,000	17	42.5%
		> ₹20,000 / month	23	57.5%
05	Previous School Education	JK Bose	32	80%
		CBSE	08	20%
06	Family Type	Nuclear	24	60%
		Joint	16	40%
07	Mothers Education	Up to high school	30	75%
		Above High School	10	25%
08	Fathers Education	Up to high school	15	37.5%
		Above High School	25	62.5%
09	Mothers' occupation	Homemaker	29	72.5%
		Government	06	15%

		Private	05	12.5%
10	Fathers Occupation	Government	17	42.5%
		Private/Self Employed	23	57.5%
11	Hobbies	Active (e.g., Sports, Dance, Travel, Fishing, Outdoor activities etc)	18	45%
		Passive (e.g., Music, Reading, TV, Internet Gaming, social media etc)	22	55%

Section II: Perceived Stress Levels among Nursing Students

Table 2: Frequency and percentage (%) distribution of samples according to Perceived stress levels

(N=40)

Perceived Stress Levels	Score Range	f	Percentage
Low Stress	0 - 13	08	20.0%
Moderate Stress	14 - 26	22	55.0%
High Stress	27 - 40	10	25.0%

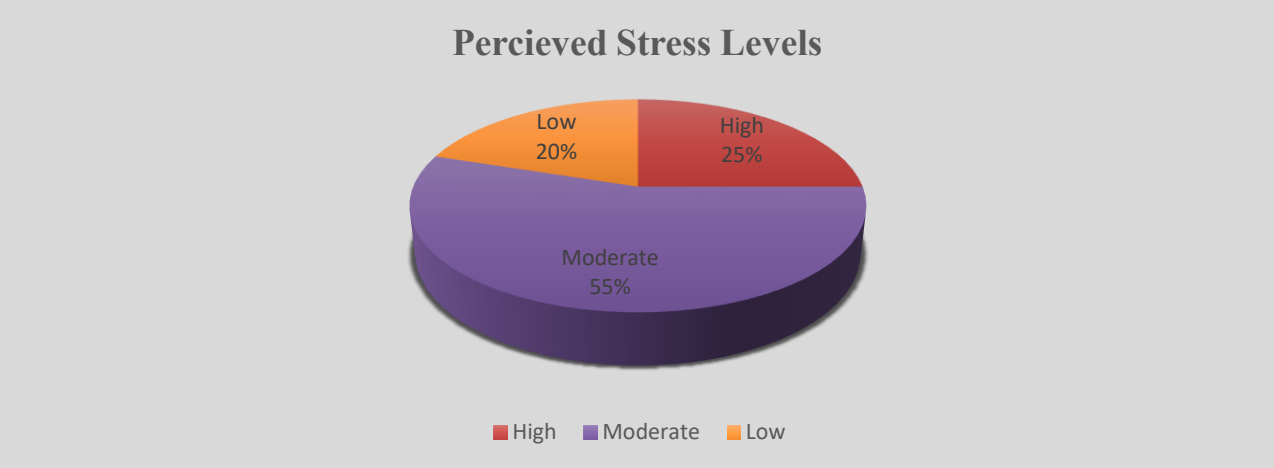


Figure 2: Pie Chart representing Perceived Stress level among Final Year Nursing Students

Table 3: Mean Perceived Stress score and Standard Deviation among Final year Nursing Students (N=40)

Parameter	f	Mean	SD
Perceived Stress	40	20.38	6.01

Inference: The perceived stress scale test results show a total mean score of 20.38±6.01 SD among final year nursing students, which falls under the category of moderate stress.

Section III: The Primary Determinants of Stress (Stressors)

Table 4: Ranked Stressors Among Nursing Students (N=40)

Q. No.	Stressor Description	Mean Score (Max 4.0)	Rank
Q.1	I feel disappointed when I score, less marks in spite of my efforts.	3.55	1
Q.3	I feel it difficult with many assignments.	2.57	2
Q.25	I become more frustrated due to failures in exam.	2.45	3
Q.7	I am worried when my teachers criticize me.	2.40	4

Q.20	I am unhappy with time limitations for recreational activities.	2.35	5
Q.9	I feel bad when comparing me with other students.	2.15	6
Q.15	I am worried about poor support from my parents.	1.95	7
Q.11	I am worried about the conflicts with me and my friends.	1.90	8
Q.14	I feel discomfort with conflicts in my family.	1.85	9
Q.4	I feel tensed with unexpected questions in the exam.	1.82	10
Q.19	I feel distressed on illness of my family members.	1.77	11
Q.2	I have difficulty in concentrating the class.	1.62	12
Q.17	I am worried about the increasing expenses of studies.	1.60	13
Q.24	I feel discomfort when the client's relatives interfere with nursing procedures.	1.55	14
Q.26	I am worried, if the relationship with my seniors are not well.	1.50	15
Q.13	I am worried about decreased job opportunities.	1.47	16
Q.10	I have difficulty in dealing with advanced subjects.	1.45	17
Q.23	I become disappointed due to lack of co-operation from the staff nurses.	1.42	18
Q.16	I feel more difficult in adjusting the hostel environment.	1.40	19
Q.8	I feel unhappy with frequent class test.	1.35	20
Q.18	I feel difficulty in correlating theory and practice.	1.32	21
Q.22	I have discomfort with self-injury and illness.	1.27	22
Q.21	I become anxious by close contact of patient with serious illness.	1.25	23
Q.5	I feel more anxious on delay of university exam.	1.15	24
Q.12	I feel discomfort due to poor co-operation from the clients.	1.10	25
Q.6	I have difficulty when exposed to clinical areas.	1.05	26

Section IV: Primary Determinants of Stress, Sub Categories

1. Academic Stressors

These stressors relate directly to academics, examinations, faculty interactions, and educational performance.

Table 5: Ranked Academic Stressors Among Nursing Students

Rank within Category	Q. No.	Stressor Description	Mean Score
1	Q.1	I feel disappointed when I score low marks in spite of my efforts.	3.55
2	Q.3	I feel it difficult with many assignments.	2.57
3	Q.25	I become more frustrated due to failures in exam.	2.45
4	Q.7	I am worried when my teachers criticize me.	2.40
5	Q.9	I feel bad when comparing me with other students.	2.15
6	Q.4	I feel tensed with unexpected questions in the exam.	1.82
7	Q.2	I have difficulty in concentrating the class.	1.62
8	Q.13	I am worried about decreased job opportunities.	1.47
9	Q.10	I have difficulty in dealing with advanced subjects.	1.45
10	Q.8	I feel unhappy with frequent class test.	1.35
11	Q.18	I feel difficulty in correlating theory and practice.	1.32
12	Q.5	I feel more anxious on delay of university exam.	1.15

2. Clinical Stressors

These stressors are triggered by the practical hospital environment, patient interactions, and clinical staff dynamics.

Table 6: Ranked Clinical Stressors Among Nursing Students (N=40)

Rank within Category	Q. No.	Stressor Description	Mean Score
1	Q.24	I feel discomfort when the client's relatives interfere with nursing procedures.	1.55
2	Q.23	I become disappointed due to lack of co-operation from the staff nurses.	1.42
3	Q.21	I become anxious by close contact of patient with serious illness.	1.25
4	Q.12	I feel discomfort due to poor co-operation from the clients.	1.10
5	Q.6	I have difficulty when exposed to clinical areas.	1.05

3. Interpersonal Stressors

These stressors stem from the student's social environment, family background, finances, and personal well-being.

Table 7: Ranked Interpersonal Stressors Among Nursing Students (N=40)

Rank within Category	Q. No.	Stressor Description	Mean Score
1	Q.20	I am unhappy with time limitations for recreational activities.	2.35
2	Q.15	I am worried about poor support from my parents.	1.95
3	Q.11	I am worried about the conflicts with me and my friends.	1.90
4	Q.14	I feel discomfort with conflicts in my family.	1.85
5	Q.19	I feel distressed on illness of my family members.	1.77
6	Q.17	I am worried about the increasing expenses of studies.	1.60
7	Q.26	I am worried, if the relationship with my seniors are not well.	1.50
8	Q.16	I feel more difficult in adjusting the hostel environment.	1.40
9	Q.22	I have discomfort with self-injury and illness.	1.27

Table 8: Mean and SD of Academic, Personal and Clinical Stressors (N=40)

Stressor Category	Mean Score	Standard Deviation (SD)
Academic	**1.94**	**0.45**
Clinical	**1.27**	**0.35**
Personal	**1.73**	**0.50**

Section V: Inferential Statistics: Association between Stress and Demographics

Table 9: Chi-square/Fishers Exact test Statistics for Association between Stress and Demographic Variables (N=40)

Demographic Variable	Category	Total (f)	Low to Moderate Stress (f)	High Stress (f)	df	Test Statistic (χ^2)	p-value (Fisher's Exact)
Age Group	20–21 years	33	25	8	1	0.00	1.000
	Above 21 years	7	5	2			
Religion	Hindu	6	2	4	1	4.18	0.026*
	Muslim	34	28	6			
Domicile	Rural	17	9	8	1	5.76	0.009**
	Urban/Semi	23	21	2			
Previous Education	JK BOSE	32	25	7	1	0.21	0.388
	CBSE	8	5	3			
Family Type	Nuclear	24	15	9	1	3.47	0.032*
	Joint	16	15	1			
Mother's Education	Up to High School	30	28	2	1	17.78	<0.001**
	Above High School	10	2	8			
Father's Education	Up to High School	18	9	9	1	8.62	0.002**
	Above High School	22	21	1			
Mother's Occupation	Homemaker	29	22	7	1	0.00	1.000
	Employed	11	8	3			
Father's Occupation	Government Employed	17	16	1	1	4.13	0.026*
	Private/Self-Employed	23	14	9			
Financial Status	₹10,000 - ₹20,000/month	17	9	8	1	5.76	0.009**
	> ₹20,000/month	23	21	2			
Hobbies	Active (Sports, Dance)	18	17	1	1	4.85	0.013*
	Passive (Reading, Music)	22	13	9			

*p<0.05 level, **p<0.01 level.

Inference: the above table depicts significant association observed between stress and selected demographic variables such as religion, domicile, family type, parental education, father's occupation, financial status and hobbies.

4. Discussion

This study provides a critical, localized assessment of the pressures faced by final year nursing students, mirroring broader global trends in nursing education. The study found out moderate level of stress among final year nursing students. The finding that academic underperformance despite significant effort (Q.11) serves as the primary stressor aligns closely with recent studies by Mohamed et al. (2024)[2] and Banstola (2021)[17], which cite academic perfectionism and fear of failure as leading causes of burnout in preclinical healthcare students. The difficulty in correlating theory with practice (Q.18) ranked as the second highest stressor. This phenomenon is heavily documented in current literature; students often struggle to translate rigid classroom concepts in high pressure clinical environments.[8] Within the Lazarus and Folkman's framework[4], this disconnect represents a severe "primary appraisal" threat, where the student feels their theoretical resources are inadequate for the practical demands placed upon them. Furthermore, the significant association between domicile and higher stress levels highlights the compounding effect of socioeconomic factors. Students migrating from rural to urban educational settings often face transitional friction, language barriers with complex medical terminology, and lack of immediate social support networks[12,18] The role of time management cannot be overstated. The high rank of "overwhelming volume of assignments" suggests that curriculum density exceeds the students' current organizational capacities. Research by Khajeali et al (2021) and Amarillo (2024) confirms that structured time management acts as a crucial buffer against academic stress[19,15]. When students lack these skills, stress manifests as fatigue and sleep disruption, severely impairing clinical judgment and academic retention[20].

Limitations

The primary limitation of this study is the relatively small female samples (N=40) drawn from a single institution, which may restrict the generalizability of the findings. Future research should employ longitudinal designs across multiple academic years to track the evolution of stress as students transition from classroom heavy schedules to full-time clinical placements.

5. Conclusion

Recognizing the specific triggers of stress among nursing students is the first critical step toward systemic educational reform. This study concludes that while the nursing curriculum is inherently demanding, the majority of student distress originates from fear of academic underperformance, heavy assignment loads, and the challenge of bridging theoretical knowledge with clinical realities. Institutions must adopt a proactive, student-centered approach. Recommendations include integrating time management and resilience building modules into the first-year orientation curriculum, establishing accessible peer mentorship programs, and utilizing clinical simulation labs more extensively to bridge the theory-practice gap before students enter live hospital settings. By addressing these root causes, nursing colleges can foster a healthier educational ecosystem and ensure the sustainable development of a highly competent nursing workforce.

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