

Prevalence Of Stress And Its Possible Associated Factors Among Nursing Students In South India – A Cross-Sectional Study

Dr. Logesh D¹, Dr. Lakshmi Dorai B², Dr. Karun Babu³, Dr. Logesh D^{*4}

¹Post Graduate, Department of Psychiatry, VMKVMCH, VMRF (DU), Salem, Tamil Nadu, India.,

ORC ID: <https://orcid.org/0009-0001-0426-472X>

²Professor and HOD, Department of Psychiatry, VMKVMCH, VMRF (DU), Salem, Tamil Nadu, India

³Post Graduate, Department of Psychiatry, VMKVMCH, VMRF (DU), Salem, Tamil Nadu, India.

^{*4}Post Graduate, Department of Psychiatry, Vinayaka Mission's, Kirupananda Variyar Medical College & Hospital, Salem, VMRF (DU), Salem, Tamil Nadu, India.

ORC ID: <https://orcid.org/0009-0001-0426-472X>

***Corresponding Author:**

Dr. Logesh D

Email ID: logesh5679@gmail.com

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ABSTRACT

Background: Demanding clinical and academic environments have been potential sources of stress among nursing students. The levels of stress and anxiety may vary during students' educational training, depending on their ability to adopt behavioral strategies for coping with stress and other factors.

Objectives: To assess the degree of stress among nursing students and identify if any possible factors cause the stress.

Methodology: A cross-sectional study was conducted in Vinayaka Missions Annapoorana College of Nursing from October 2023 to April 2024. The study included 280 nursing Students studying in the Vinayaka Missions Annapoorana College of Nursing. The level of stress among the study participants was assessed using Perceived Stress Scale (PSS) for nursing students and College Student's Stress questionnaire.

Results: The average age of the students was 19.9 years old, and 78.3% were females. The majority of the study participants had mild stress (51.4%), 41.8% had a moderate level of stress and 6.8% had a severe level of stress according to the Perceived Stress Scale (PSS). There was a significant association between the age group, gender, academic performance, and level of stress among the study participants ($p < 0.05$).

Conclusion: Nursing teachers and clinical mentors should be encouraged to develop programs to help prepare nursing students to cope with the challenges they are about to face during their clinical placements.

Keywords: Level of stress, Perceived Stress Scale, College Student's Stress questionnaire, Nursing students

1. INTRODUCTION

Stress is an inevitable part of life and has become increasingly prevalent in today's fast-paced society. Stress is a critical concern among students pursuing higher education, particularly in demanding fields like nursing. With its rigorous academic workload, practical training, and emotional challenges, nursing education often places students in high-pressure situations. These stressors can significantly impact their physical, mental, and emotional well-being, as well as their academic performance and clinical efficiency¹.

Stress is defined as the body's response to perceived threats or challenges, whether physical, emotional, or psychological. It arises when there is an imbalance between an individual's demands and their capacity to cope. Nursing students encounter numerous stressful experiences during their academic journey, including adapting to a new college environment, coping with academic pressures, striving for high performance, facing uncertainty about their future, dealing with homesickness, and living in hostels. These stressors can impact their academic and clinical performance, as well as their mental, emotional, and physical health^{2,3}.

Nursing students often face various stressors within the clinical learning environment. Academic-related stressors include assignments, insufficient knowledge, examinations, and teaching methods. Clinical practice challenges involve issues like lack of competence, managing patients who are critically ill or dying, shift work, supervision, handling emergencies, and the condition of patients. Additionally, interpersonal relationships with patients, peers, teachers, or other healthcare professionals, as well as personal and social factors, further contribute to their stress levels^{4,5}.

Stress can also impair cognitive functions such as concentration and memory, leading to suboptimal academic performance. Furthermore, stress in nursing students may compromise their ability to provide safe and effective patient care during clinical training, thus affecting their professional development⁶. Identifying the prevalence and associated factors of stress among nursing students in South India is vital for developing targeted interventions⁷. The present study aimed to assess the degree of stress among nursing students and identify if any possible factors cause the stress.

Aims and Objectives:

- To assess the degree of stress among nursing students.
- To identify if any possible factors are found to cause the stress.
- To compare and analyze the degree of stress and its co-relation to other factors that may lead to stress.

Methodology:

Study Design : A cross-sectional study

Study Population: . The study included 280 nursing Students studying in the Vinayaka Missions Annapoorana College of Nursing,Salem.

Study Period : The study was performed between October 2023 to April 2024.

Sampling Method : A simple random sampling was used to collect the sample.

Ethical Approval: The Institutional ethical committee approval obtained for the study from VMKVMCH.

Informed Consent : Informed and Written consent for the study was obtained from the all Participants.

Eligibility Criteria:

Inclusion criteria:

- Nursing Students aged above 18-25 years.
- Those who are willing to participate in the study

Exclusion criteria:

- Students who are already diagnosed with Psychiatric disorders and chronic medical conditions.
- Students who are already on medication for any Psychiatric or medical condition.

Sample size calculation: $N = Z^2 \times PQ/D^2$ $Z = 1.96$, $P=16\%$ according to Pilot study, Margin of error = 5%. The calculated Sample size is 206 and after adding a non-response rate of 10%, the final sample was 280.

Data collection:

The study participants were explained about the study and a Informed and written consent form was obtained from all the study participants. Demographic information such as age, gender, socio-economic status, marital status, and academic information were collected. The level of stress among the study participants was assessed using Perceived Stress Scale (PSS) for nursing students and College Student's Stress questionnaire. The perceived Stress Scale (PSS)⁸ consists of 20 questions to assess the level of perceived stress. For each of the questions 'Yes' was worth 1 point and each 'No' was worth 0 point except for question number 13 and 14 where 'Yes' was worth 0 and 'No' was worth 1. The total score is 20 which was divided into different perceived stress level according to the score as: Mild (0-6), Moderate (7-13), and severe (14-20). College Students' Stress⁹ questionnaire which comprised five subscales (academic, physiological, social, psychological and environmental) was designed. The measure contains a total of 50 items rated on four points ranging from 1 (never) to 4 (always). Each subscale contains ten items. Higher scores reflected a higher level of stress.

Data Analysis:

The data was entered in MS EXCEL 2019 and analyzed using SPSS Statistics 16.0. Quantitative variables were expressed in mean standard deviation and qualitative variables were expressed in proportions. To find the significance of the study, appropriate statistical tests were used.

Results:

In the present study, 280 nursing Students studying in the Vinayaka Missions Annapoorana College of Nursing were included.

Table 1: Distribution of study subjects based on their sociodemographic profile (N=280)

Variables	Frequency	Percentage
Age group		
18 years	162	57.8
19 years	67	23.9
≥20 years	51	18.3
Gender		
Male	61	21.7
Female	219	78.3
Academic year		
1 st year	113	40.4
2 nd year	89	31.8
3 rd year	78	27.8
Sought psychiatric help previously		
Yes	7	2.5
No	273	97.5

Table 1 shows that the majority of the study participants belonged to the age group 18 years (57.8%), 19 years (23.9%) and 78.3% were males. Most of the study participants belonged to the first year (40.4%), second year (31.8%), and third year (27.8%).

Table 2: Level of Perceived Stress of the study subjects (N=280)

Level of Perceived Stress	Frequency	Percentage
Mild stress	144	51.4
Moderate stress	117	41.8
Severe stress	19	6.8

Table 2 shows that the majority of the study participants had mild stress (51.4%), 41.8% had a moderate level of stress and 6.8% had a severe level of stress according to the Perceived Stress Scale (PSS).

Table 3: College Students' Stress level of the study subjects (N=280)

Components of stress	No. of items	Mean	SD	Alpha
Academic	10	28.5	4.9	0.62
Physiological	10	19.4	3.3	0.78

Social	10	18.7	2.7	0.80
Environmental	10	31.2	5.4	0.73
Psychological	10	18.3	2.3	0.67
Overall	50	116.1	19.3	0.91

Table 3 shows that regarding the College Students' Stress level among the study participants, an alpha of 0.91, very high reliability indicates that the overall stress scale was consistent and robust in measuring the general stress level of students. Environmental stress has the highest mean score, making it the most significant stressor for students and academic stress has the second-highest mean score, indicating a significant contributor to overall stress. Social stress has a lower mean score compared to other stress types, indicating less prominence for the study participants.

Table 4: Association between level of stress and sociodemographic profile & academic performance of the study subjects (N=280)

Variables	Characteristics	Level of stress			p-value
		Mild	Moderate	Severe	
Age group	18 years	71	79	12	0.004
	19 years	48	16	3	
	≥20 years	25	22	4	
Gender	Male	32	21	8	0.049
	Female	112	96	11	
Academic year	1 st year	47	56	10	0.102
	2 nd year	53	31	5	
	3 rd year	44	30	4	
Academic performance	Good	81	50	3	0.001
	Poor	63	67	16	

Table 4 shows that the majority of the participants among 18 years had moderate stress (79), followed by mild stress (71) and severe stress (12). There was a significant association between the age group and level of stress among the study participants. Among male participants, 32 participants had mild stress, 21 had moderate stress and 8 of them had severe stress. There was a significant association between gender and level of stress among the study participants. Regarding the academic year, first-year students reported the highest stress levels, with 56 participants having moderate stress and 10 having severe stress. However, there was no statistical association between the academic year and the level of stress among the participants ($p=0.102$)

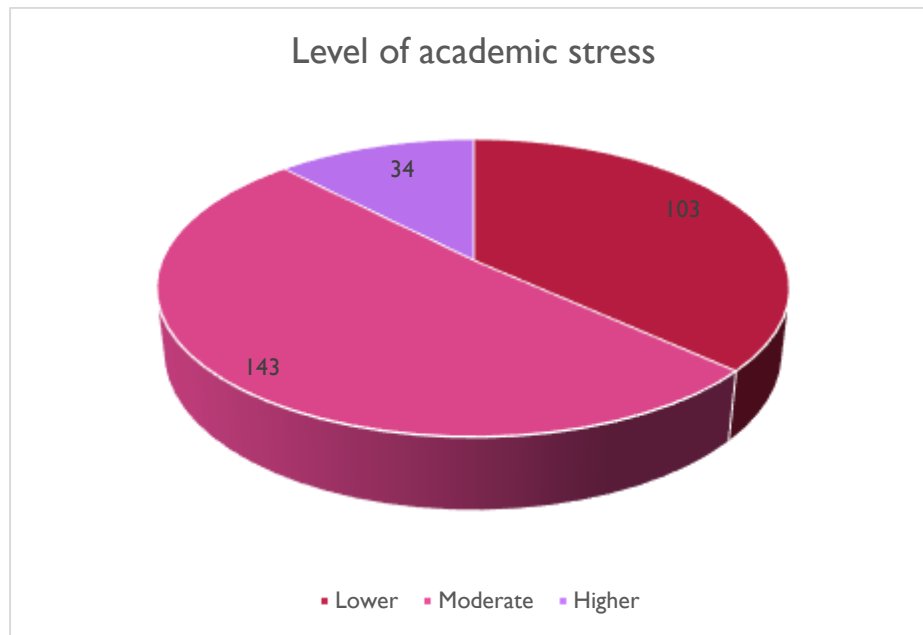
Figure 1: Level of academic stress of the study subjects (N= 280)

Figure 1 shows that most of the study participants had a moderate level of academic stress (143 out of 280), 103 out of 280 had a lower level of academic stress and 34 out of 280 had a higher level of academic stress.

2. DISCUSSION

The growing complexity and specialization of medical technology, combined with the increasing demands for efficiency in healthcare, require nurses to maintain exceptional academic performance. However, it is important to recognize that these pressures place them at a heightened risk for burnout, mood disorders, and substance use disorders due to the significant physical and mental stress they face¹⁰.

The impact of stress on students varies depending on how they manage it; for some, stress can be a motivating factor, while for others, it may lead to anxiety and depression. During this time, stress can contribute to various negative consequences, including decreased academic performance, heightened burnout, increased stress levels, and reduced overall well-being, potentially manifesting as substance use or challenges in other areas of life¹¹. The present study aimed to assess the degree of stress among nursing students and identify if any possible factors cause the stress.

In the present study, the majority of the study participants were 18 years of age (57.8%), 19 years (23.9%) and 78.3% were males. Nair RK et al¹² study observed that 49.5% of the study participants were 18-20 years old, 70.5% were females and 97.0 were single. Adikari B et al¹³ study (2019) found that 97.1% were ≤ 19 years old and the mean age of the study participants was 18.17 years.

In the current study, the majority of the study participants had mild stress (51.4%), 41.8% had a moderate level of stress and 6.8% had a severe level of stress according to the Perceived Stress Scale (PSS). Adikari B et al¹³ study (2019) reported that out of 172 participants, 54.7% of students had a Moderate level of Stress, 41.3 % had a Mild level of stress and 4.0% of participants had severe stress. Similarly, Nair RK et al¹² study found that out of 101 participants who were stressed, 19.5% had moderate stress, 12.0% had severe stress, and 1.0% were extremely stressed. Similar findings were reported by J H Tapariya et al¹⁴ study found that 23.3% had mild depression, 24.2% had moderate and 9.2% had severe depression among students and Das BM et al¹⁵ study observed that 26.8% of the students had mild and 26.8% of them had moderate depression.

In the present study, the majority of the participants among 18 years had moderate stress (79), followed by mild stress (71) and severe stress (12). There was a significant association between the age group, gender, academic performance, and level of stress among the study participants ($p < 0.05$). Younger students are more likely to experience higher stress levels, potentially due to the transition to college and adjustment challenges. First-year students faced higher stress due to new academic, social, and environmental challenges. Poor academic performance was strongly associated with higher stress levels, particularly moderate and severe stress.

3. CONCLUSION

Nursing teachers and clinical mentors should be encouraged to develop programs to help prepare nursing students to cope with the challenges they are about to face during their clinical placements. Effective interventions targeting stress

management, such as mindfulness practices, counseling services, and curriculum adaptations, are crucial to mitigate the adverse effects of stress on student well-being and academic performance.

Conflict of Interest : None

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