

A Cross-Sectional Study to Analyze the Level of Stress among Nursing Students of Christ College of Nursing, Jagdalpur, Chhattisgarh

Jyoti Majumdar*

Abstract

Nursing education combines rigorous academic training with demanding clinical responsibilities, exposing students to multiple stressors that may affect their psychological well-being, academic performance, and professional growth. Assessing stress levels and their association with sociodemographic variables is essential for developing effective support strategies. This study aimed to assess the level of stress among nursing students and determine its association with selected sociodemographic characteristics. A descriptive cross-sectional study was conducted among 150 nursing students at Christ College of Nursing, Jagdalpur, Chhattisgarh. Participants were selected using a convenience sampling technique. Data were collected through an online survey using Cohen's Perceived Stress Scale (PSS-10). Both descriptive and inferential statistical methods were used for data analysis. The results revealed that 24% of students experienced low stress, 75% had moderate stress, and 1% reported high perceived stress. The mean stress score was 19 ± 4.04 , indicating an overall moderate level of stress among participants. Chi-square analysis showed no statistically significant association between stress levels and sociodemographic variables such as age, year of study, hostel residence, family income, family support, and interest in nursing ($p > 0.05$). In conclusion, the study highlights that moderate stress is prevalent among nursing students. Although severe stress was reported by a small proportion, timely identification and implementation of stress management interventions are necessary to promote students' mental well-being and enhance their academic and clinical performance.

Keywords: Perceived stress, nursing students, psychological well-being, sociodemographic factors, stress management

INTRODUCTION

Stress is commonly experienced during student life, particularly in professional courses such as nursing, which require high academic performance, clinical competence, and emotional engagement [1, 2]. Nursing students are expected to manage both theoretical learning and intensive clinical training, along with frequent examinations and professional responsibilities [3]. These demands can create psychological pressure and emotional stress.

Prolonged exposure to stress may negatively affect students' mental health, academic performance, and clinical skills. It may also reduce motivation and satisfaction with the nursing profession [3]. Therefore, assessing stress levels among nursing students is essential to ensure their well-being and promote effective learning and professional development within nursing education [4].

*Author for Correspondence

Jyoti Majumdar
E-mail: jyotimajumdar57@gmail.com

Assistant Professor, Sri Sathya Sai Institute of Higher Medical Sciences- college of Nursing, Bangalore, Karnataka, India

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Background of Study

Stress refers to psychological and physiological reactions that occur when individuals perceive that environmental demands exceed their ability to cope [1, 2]. In educational environments, particularly in professional courses such as nursing, stress often arises due to academic workload, clinical training requirements, examinations, interpersonal relationships, and concerns about future employment [4, 5].

Undergraduate nursing students are especially vulnerable to stress because nursing education integrates theoretical instruction with practical clinical experience [6]. Students frequently participate in hospital postings, long hours of training, and continuous evaluation of their clinical performance. Additionally, caring for patients and interacting with healthcare teams can be emotionally demanding. These challenges may increase nursing students' stress levels.

Incidence of Stress Among Nursing Students Worldwide

Several studies conducted worldwide have reported high stress levels among nursing students. Research indicates that 50–80% of nursing students experience moderate to high stress during their education [7, 8]. Common stressors include academic workload, clinical responsibilities, lack of confidence in clinical skills, and limited social support.

A systematic review by Zheng, Jiao, and Hao (2022) reported that a significant proportion of nursing students globally experience moderate stress, particularly during advanced academic years and clinical postings. Stress among nursing students has been associated with fatigue, anxiety, sleep disturbances, reduced concentration, and poor academic performance [9].

Incidence of Stress Among Nursing Students in India

In India, several studies have highlighted the high prevalence of stress among nursing students. Singh et al. (2018) reported that approximately 60% of undergraduate nursing students in Lucknow experienced considerable stress related to academic pressure and clinical training [11].

Similarly, Baruah et al. (2022) [12] observed a high prevalence of stress, along with symptoms of anxiety and depression, among nursing students. Another study conducted in Eastern India by Krishna Choudhury and Helenpuii (2024) revealed that more than half of the nursing students experienced mild to moderate stress [13]. Saeed AA et al. (2026) reported that nearly half of the B.Sc. nursing students in South India experienced moderate stress during their training [14].

These findings indicate that stress among nursing students is a widespread concern globally and within India, emphasizing the need for institution-specific studies to assess stress levels and plan appropriate interventions.

MATERIALS AND METHODS

Research Design

A descriptive cross-sectional research design was adopted (Figure 1).

Setting

The study was conducted at Christ College of Nursing, Jagdalpur, Chhattisgarh.

Population and Sample

The participants were undergraduate nursing students. A total of 150 students were selected using a convenience sampling technique.

Tools for Data Collection

Data were collected using the Cohen's Perceived Stress Scale (PSS-10). The scale consists of 10 items rated on a 5-point Likert scale ranging from 0 (never) to 4 (very often). Four items were reverse scored. The total score ranges from 0 to 40, with higher scores indicating greater perceived stress.

Data Collection Procedure

Data were collected using Google Forms after obtaining permission from the concerned authorities and informed consent from the participants.

Data Analysis

The data collected were tabulated and analyzed using descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (chi-square test) according to the study objectives.

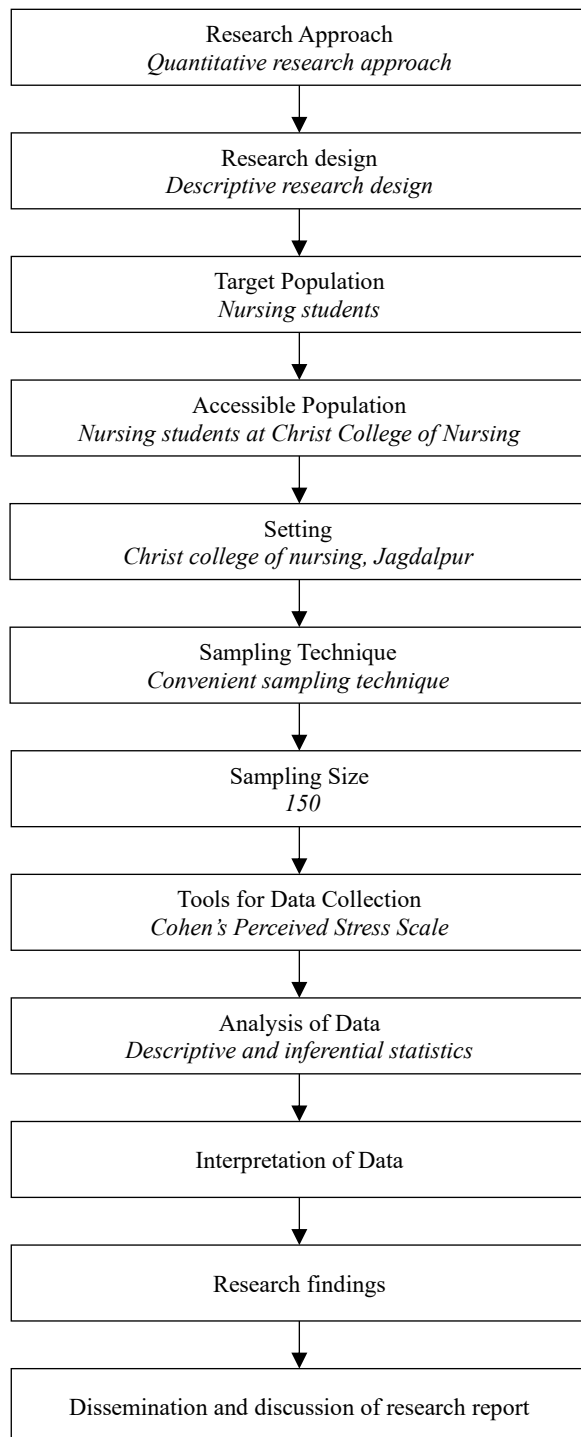


Figure 1. Schematic representation of research methodology.

RESULT

Sociodemographic Variables

Most of the participants (53%) were in the age group of 21–23 years. The majority were second-year students (33%) and resided in shared hostel accommodation with four or more students (74%). More than half of the students (58%) belonged to low-income families. A large proportion of students reported strong family support (73%), and 83% expressed an interest in nursing.

Level of Stress

The findings revealed that:

- 24% of students experienced low stress.
- 75% experienced moderate stress.
- 1% experienced high perceived stress.

The mean stress score was 19, with a standard deviation of 4.04, indicating a moderate level of perceived stress among the students.

Association Between Stress Level and Sociodemographic Variables

Chi-square analysis showed no statistically significant association between the level of stress and selected sociodemographic variables such as age, year of study, hostel accommodation, family income, family support, and interest in nursing ($p > 0.05$). This suggests that stress was commonly experienced across different groups of students, irrespective of their background characteristics.

Frequency and Percentage Distribution Tables of Samples According to Demographic Characteristics

The frequency and percentage distribution of the sample based on age, year of study, hostel accommodation, family income, and family support are discussed and observed in detail in Tables 1–9 and Figures 2–7.

Table 1. Distribution of subjects according to age.

| S.N. | Age in years | Frequency (n) | Percentage (%) |
|------|-------------------|---------------|----------------|
| 1 | 18–20 years | 64 | 43% |
| 2 | 21–23 years | 79 | 53% |
| 3 | 24–26 years | 05 | 3% |
| 4 | 27 years or older | 02 | 1% |

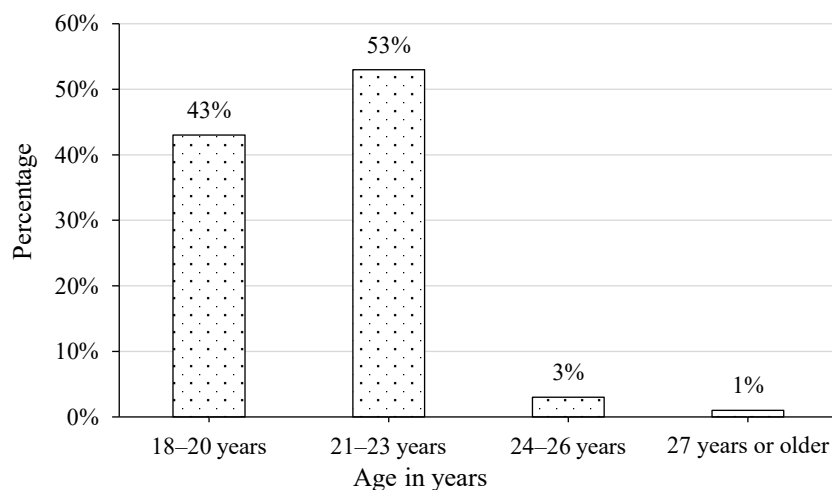


Figure 2. Column diagram showing the distribution of subjects according to age.

Table 2. Distribution of subjects according to year of study.

| S.N. | Year of study | Frequency (n) | Percentage (%) |
|------|---------------|---------------|----------------|
| 1 | First year | 32 | 21% |
| 2 | Second year | 50 | 33% |
| 3 | Third year | 34 | 23% |
| 4 | Fourth year | 34 | 23% |

Table 3. Distribution of subjects according to hostel accommodation.

| S.N. | Hostel accommodation | Frequency (n) | Percentage (%) |
|------|-----------------------------|---------------|----------------|
| 1 | Single room | 22 | 15% |
| 2 | Shared (2 to 3 students) | 17 | 11% |
| 3 | Shared (4 or more students) | 111 | 74% |

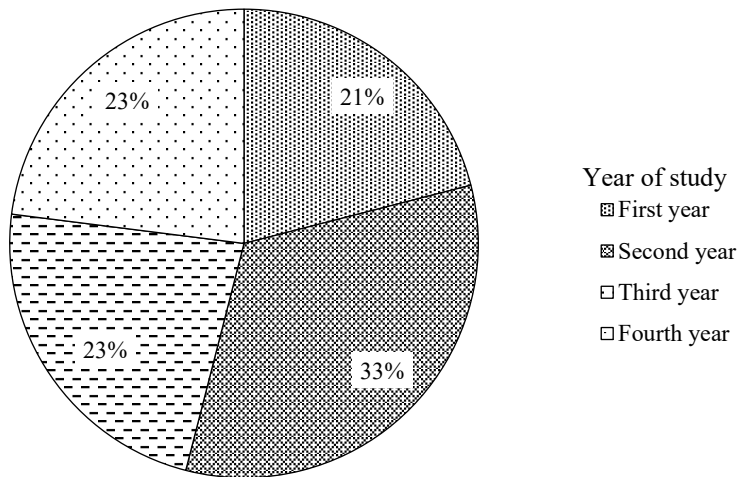


Figure 3. Pie diagram shows the distribution of subjects according to year of study.

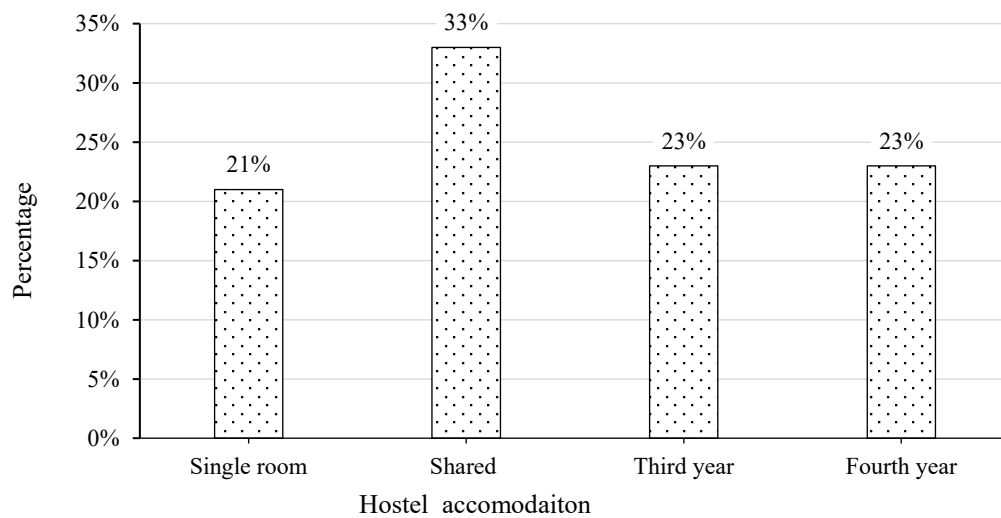


Figure 4. Column diagram showing the distribution of subjects according to hostel accommodation.

The findings reveal that 24% (35) of students have low stress, 75% (113) of students have moderate stress, and 1% (2) have high stress (Table 7).

Table 4. Distribution of subjects according to family income.

| S.N. | Family income | Frequency (n) | Percentage (%) |
|------|---|---------------|----------------|
| 1 | Low-income family (Less than ₹50,000 per annum) | 87 | 58% |
| 2 | Middle-income family (₹50,000-₹200,000 per annum) | 58 | 39% |
| 3 | High-income family (> ₹200,000 per annum) | 05 | 3% |

Table 5. Distribution of subjects according to family support.

| S.N. | Family support | Frequency (n) | Percentage (%) |
|------|------------------|---------------|----------------|
| 1 | Strong support | 110 | 73% |
| 2 | Moderate support | 38 | 26% |
| 3 | Poor support | 02 | 01% |

Table 6. Distribution of subjects according to interest in nursing.

| S.N. | Interest in nursing | Frequency (n) | Percentage (%) |
|------|---------------------|---------------|----------------|
| 1 | Yes | 125 | 83% |
| 2 | No | 25 | 17% |

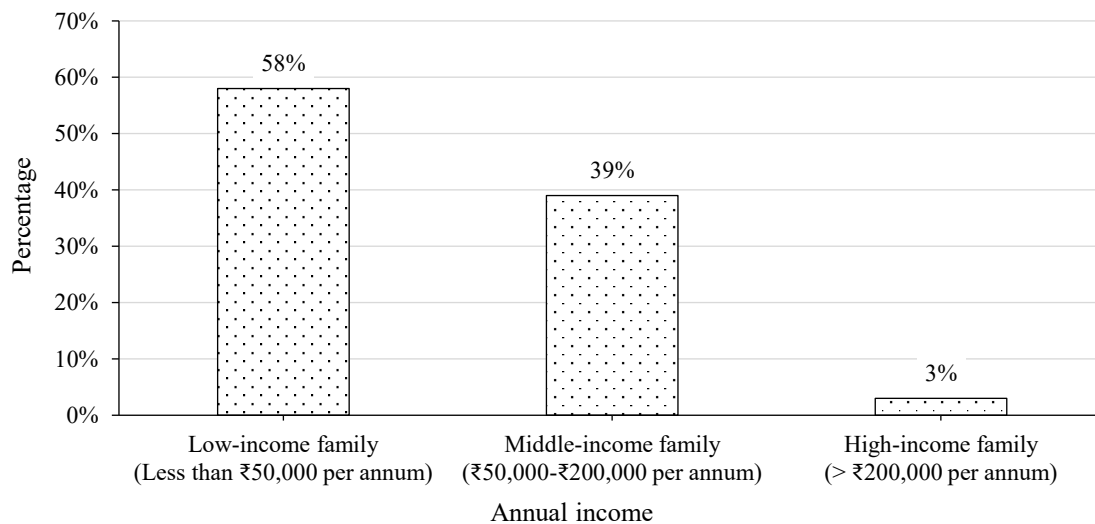


Figure 5. Column diagram showing the distribution of subjects according to the highest level of education.

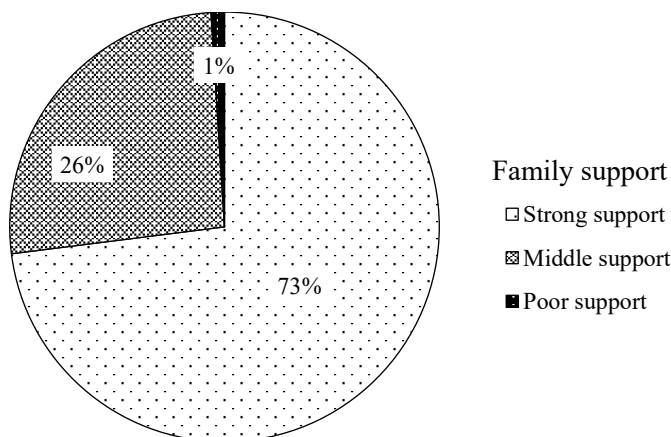


Figure 6. Column diagram showing the distribution of subjects according to family support.

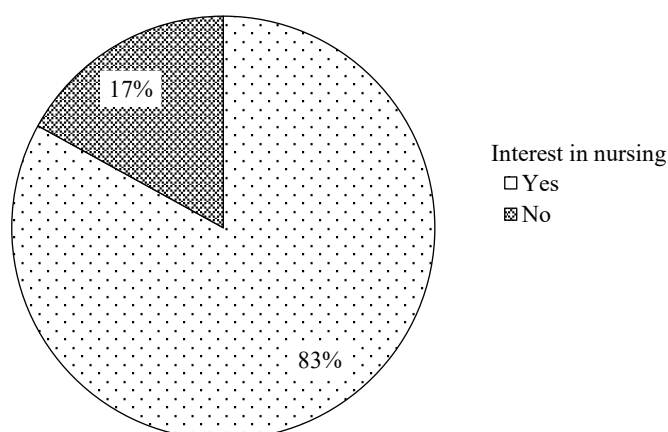


Figure 7. Pie diagram shows the distribution of subjects according to interest in nursing.

Table 7. Frequency and percentage distribution of data related to knowledge scores.

| S.N. | Stress level | Score | Percentage % |
|------|-----------------|-------|--------------|
| 1 | Low stress | 35 | 24% |
| 2 | Moderate stress | 113 | 75% |
| 3 | High stress | 2 | 1% |

Table 8. Overall analysis of knowledge score using mean, mean percentage, and standard deviation.

| S.N. | Stress level | Total score | Mean | Mean percentage | Standard deviation |
|------|-----------------|-------------|------|-----------------|--------------------|
| 1. | Level of stress | 2878 | 19 | 13% | 4.04 |

The mean level of stress was 19, the mean percentage was 13%, and the standard deviation was 4.04.

Table 9. Chi-square analysis for the association between the level of stress and sociodemographic variables.

| S.N. | Sociodemographic variable | Low stress | Moderate stress | Perceived stress | Total | X ² | DF | Chi-square Tab value | P value | inference |
|------|-----------------------------|------------|-----------------|------------------|-------|----------------|----|----------------------|---------|-----------------|
| 1. | Age in years | | | | | 5.44 | 6 | 12.59 | <0.05 | Not Significant |
| | 18–20 years | 17 | 47 | 0 | 64 | | | | | |
| | 21–23 years | 16 | 62 | 1 | 79 | | | | | |
| | 24–26 years | 2 | 3 | 1 | 6 | | | | | |
| | 27 years or older | 00 | 1 | 0 | 1 | | | | | |
| | Total | 35 | 113 | 2 | 150 | | | | | |
| 2 | Year of study: | | | | | 5.59 | 6 | 12.59 | <0.05 | Not Significant |
| | First year | 7 | 25 | 0 | 33 | | | | | |
| | Second year | 12 | 37 | 2 | 51 | | | | | |
| | Third year | 10 | 23 | 0 | 33 | | | | | |
| | Fourth year or higher | 6 | 28 | 0 | 33 | | | | | |
| | Total | 35 | 113 | 2 | | | | | | |
| 3 | Hostel accommodation | | | | | 8.9 | 6 | 9.4 | <0.05 | NS |
| | Single room | 3 | 18 | 1 | 22 | | | | | |
| | Shared (2 to 3 students) | 6 | 11 | 0 | 17 | | | | | |
| | Shared (4 or more students) | 26 | 84 | 1 | 111 | | | | | |
| | Total | 35 | 113 | 2 | 150 | | | | | |

| S.N. | Sociodemographic variable | Low stress | Moderate stress | Perceived stress | Total | X ² | DF | Chi-square Tab value | P value | inference |
|------|---|------------|-----------------|------------------|-------|----------------|----|----------------------|---------|-----------|
| 4 | Family income | | | | | | | | <0.05 | |
| | Low-income family (below 50,000) | 25 | 62 | 2 | 89 | 5.07 | 4 | 9.488 | | NS |
| | Middle-income family (₹50,000–₹200,000 per annum) | 9 | 48 | 0 | 57 | | | | | |
| | High-income family (> ₹200,000 per annum) | 1 | 3 | 0 | 4 | | | | | |
| | Total | 35 | 113 | 2 | 150 | | | | | |
| 5. | Family support | Low | Moderate | Perceived | | 1.44 | 4 | 9.48 | | NS |
| | Poor support | 0 | 3 | 0 | 3 | | | | | |
| | Moderate support | 9 | 27 | 1 | 37 | | | | | |
| | Strong support | 26 | 84 | 0 | 110 | | | | | |
| | Total | 35 | 114 | 1 | 150 | | | | | |
| 6. | Are you interested in nursing? | | | | | | | | <0.05 | |
| | Yes | 30 | 98 | 2 | 130 | 0.39 | 2 | 5.99 | | |
| | No | 5 | 15 | 0 | 20 | | | | | |
| | Total | 35 | 113 | 2 | 150 | | | | | |

DISCUSSION

The present study revealed that most nursing students experienced moderate stress levels, consistent with findings from several national and international studies. Moderate stress among nursing students may be attributed to academic workload, clinical responsibilities, examinations, and adjustment to professional expectations.

The absence of a significant association between stress level and sociodemographic variables indicates that stress is a common phenomenon affecting nursing students regardless of age, year of study, or socioeconomic background. Similar findings have been reported in earlier studies, suggesting that the stress experienced by nursing students is largely related to the nature of nursing education itself rather than individual demographic factors.

Although only a small proportion of students reported high stress, even moderate stress, if persistent, can adversely affect students' mental health and academic performance. Therefore, early identification and appropriate support are essential.

IMPLICATIONS OF THE STUDY

Nursing Education

1. The predominance of moderate stress (75%) among nursing students indicates the need to integrate basic stress management and coping skills training into the nursing curriculum.
2. Faculty should be sensitized to identify early stress indicators, especially to prevent the progression from moderate to severe stress.
3. Academic and clinical schedules should be streamlined to reduce avoidable academic overload.

Nursing Practice

1. Addressing stress during training can help develop emotionally resilient and professionally competent nurses.
2. Students with controlled stress levels are more likely to provide safe, empathetic, and effective care.

Nursing Administration

1. The presence of moderate and severe stress, although limited, highlights the need for a supportive institutional environment.
2. Regular stress screening, accessible counselling services, and mentoring systems should be strengthened to support students' well-being.

Nursing Research

1. This study provides evidence that moderate stress is common among nursing students, serving as a baseline for future research.
2. Further studies are recommended to evaluate interventions aimed at reducing student stress levels.

Recommendations

1. Regular stress management and coping skills programs should be incorporated into nursing education.
2. Periodic stress screening and timely counselling should be provided for nursing students.
3. Faculty should maintain a supportive academic and clinical environment.
4. Nursing institutions should promote healthy coping and peer support activities.
5. Further research is recommended to evaluate stress-reduction interventions among nursing students.

Limitations

1. The study was conducted in a single nursing college, which limits the generalizability of the findings.
2. The cross-sectional design does not allow assessment of causal relationships.
3. The study did not explore specific stressors or coping strategies of students.

Future Research

1. Longitudinal studies are recommended to assess changes in stress levels during nursing education over time.
2. Interventional research can be undertaken to evaluate the effectiveness of stress management programs.
3. Multi-center studies with larger samples are suggested to enhance the generalizability of findings.

CONCLUSION

The study concluded that perceived stress is common among nursing students, with most experiencing moderate levels of stress. Although only a few students reported severe stress, the findings highlight the importance of early identification and supportive strategies to promote students' mental well-being and academic success.

Declaration of Interest

The authors declare that there are no conflicts of interest regarding the publication of this manuscript.

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