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STRESS FACTORS AMONG NURSING STUDENTS AT BUHSC, KARACHI: A CROSS-SECTIONAL STUDY

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Abstract

Background: *Stress is a widespread and frequently overlooked issue for nursing students. It can impact academic achievement, performance in the clinical setting, and general welfare, thus offering difficulties in the students' personal and professional lives.*

Objective: *To identify the major stress factors among nursing students at Bahria University Health Sciences Campus (BUHSC), Karachi.*

Methods: *This descriptive cross-sectional study was done among undergraduate nursing students of BUHSC, Karachi. A minimum sample size of 183 students was calculated, and 186 students participated in the study via simple random sampling. A self-administered and structured questionnaire was used to collect data, which comprised demographic and stress-related factors and was analyzed using SPSS version 26.*

Findings: *The most salient stressors were those related to Exam stress (mean 3.57 ± 1.17), Headaches when stressed (3.31 ± 1.31), Anxiety about career (3.17 ± 1.48), Fear of making mistakes in patient care (3.11 ± 1.29), and Difficulty managing study (3.01 ± 1.17). The level of stress associated with lack of teacher support (2.44 ± 1.36) and family expectations (2.54 ± 1.50) was relatively low. The majority of participants chose 'sometimes' for most items, which suggested that stress was an often occurring aspect of student life.*

Conclusion*: The nursing students at BUHSC are confronted with multiple interrelated academic and clinical stressors which can impact upon the learning and wellbeing of nursing students. Nursing institutions need to be aware of students' stress and make an environment that is conducive to learning, counselling, and structured coping mechanisms.*

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INTRODUCTION

Nursing students are the focal point in the future health care system. They go through extensive education processes, learning many skills and knowledge related to the clinic and theory, which not only demands a high level of compassion but also professionalism. Concurrently, there has been a growing recognition of the high stress in academic fields, as many studies have demonstrated that they are more likely to experience stress than students in other areas [1]. They are confronted with multiple stress-inducing situations throughout their education. While nursing students have been extensively studied, there is still some disagreement in the literature regarding the extent to which there are potential sources of stress and their interactions. Academic, clinical, economic, and socio-relational stressors in a person's life and how they interact can all help to create a stressful situation. It is crucial to identify the stressors unique to nursing students and take steps to reduce the impact of these stressors on student achievement and health.

The stress that accompanies nursing education has already been noted, but the problem is still a pertinent one regarding the factors of stress. There can be many reasons for such a problem. Academic stressors like academic achievement, the volume of clinical practice, and the continuous evaluation of competence might overlap with socio-economic stressors like financial constraints or unstable social relations. There could be an overlap between the academic stressors (high level of academic performance, volume of clinical practice, continuous assessment of competence) and socio-economic stressors (financial constraints, unstable social relations). Second, recent research focuses attention on the importance of pedagogical interactions in the creation of stress [4]; thus, neglecting nurturing pedagogical relationships increases the current amount of stress. Lastly, stress factors such as difference in socio-cultural and local contexts are crucial, such as support services available and how they deliver nursing education.

Therefore, this study investigates the sources of stress among the nursing students in Pakistan. It tries to determine the most common ones and stress factors that exacerbate or alleviate their effects, in order to make practical suggestions for lowering the stress of the population under study. Stress among nursing students is a common problem, and its occurrence can be traced back to cultural aspects, educational background, and socio-economic characteristics of the local population. The three identified stress factors in this study, being job availability, gender roles, and the high demands of the working environment, are directly related to the situation in Pakistan [8]. Nursing students face immense challenges during an academic year in Pakistan, where they are expected to learn continuously and then test and evaluate their clinical skills [6]. Due to academic pressure and the heavy workload, it has been found that a significant number of students suffer from high levels of stress in the nursing colleges in Pakistan, particularly prior to exams [10]. Second, the distinctive aspect of nursing education is clinical practice, during which students are trained in practice, but the stressogenic effect may be greater due to insufficient support and resources, such as facilities for training [9]. Meanwhile, students may harbor negative emotions like anxiety or lack of self-worth when they have a negative belief about clinical hierarchy [8].

Last, but not least, the expectations of families and society are an integral part of the academic life of students in Pakistan. Students are placed under extra pressure as they have to meet family expectations in Pakistani society, such as working in a particular institution like health sector [9]. The stress is exacerbated by the challenges faced by the feminization of nursing and the associated issues of family responsibilities, economic issues and education [9]. Meanwhile, students' mental health issues are not being treated because there is a lack of accessible support services, and students are not seeking help because of the judgment of society [8]. This can lead to further mental health issues, impacting nursing students' academic success and, consequently, their ability to provide quality healthcare services.

Ill-equipped nursing schools in terms of education can contribute to stress. One of the elements that contribute to this state is the lack of mentors, counseling centers and peer-to-peer support, all of

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which are needed for the effective functioning of students in a challenging academic environment [10]. During the pandemic, this is especially problematic because of the sudden switch to distance learning and the cancellation of clinical practice, which affect students' skills and maintenance of their competencies [11].

Materials and Methods

It is a descriptive cross-sectional study carried out in the Department of Nursing of Bahria University Health Sciences Campus (BUHSC), Karachi, Pakistan, from October 2025 to December 2025. The study population consisted of all the undergraduate nursing students of the department, a total of 344 students. The minimum sample size required was estimated using OpenEpi software for a finite population and using a population size of 344 participants, 95% confidence level, 5% margin of error, and an anticipated prevalence of 50%; the minimum required sample size was 183 participants. The recruitment of eligible participants was done using simple random sampling, and a total of 186 students were enrolled in the study.

The study comprised all nursing students of all academic years irrespective of their presence during the data collection period and provision of their written informed consent. Students who refused to participate, were not present on the day data was collected, or had other majors were excluded. The data were gathered by a structured self-administered questionnaire divided into two parts, one for demographic data and the second for assessment of the stress factors among nursing students with five-point likert scale.

All participants were given a written informed consent and told the purpose and aims of the study before the questionnaire was administered. Participants were informed that participation was voluntary and that they would be guaranteed anonymity and confidentiality of all information. All the collected data were computerized, cleaned and analyzed by using the Statistical Package for the Social Sciences (SPSS) version 26. The data were presented as categorical (frequencies and percentages) or continuous (means and standard deviations) data using descriptive statistical methods. The data were represented in tables and suitable graphics for easy interpretation.

Ethical Approval was given by the Institutional Review Board of Bahria University Health Sciences Campus (BUHS-IRB#199/25) before starting the study. Before data collection, informed consent was obtained from all participants. All data were kept confidential and anonymous and used for research purposes only.

Results

The demographic details of the 186 study participants are shown in Table 1. Most participants were aged 18–21 years (76.9%), while 23.1% were aged 22–27 years. 60.2% of the sample consisted of female students, while 39.8% of the sample consisted of male students. When it comes to years of study, the largest number (40.9%) were first-year students, followed by third-year students (25.8%), second-year students (19.9%) and fourth-year students (13.4%). Most of the respondents were single (99.5%), and 0.5% were married. As far as accommodation is concerned, 57.6% of the children were from hostels and 42.4% were day scholars.

Table 1: Demographic Characteristics of the Participants (N = 186)

Variable	Category	n	%
Age (years)	18–21	143	76.9
	22–27	43	23.1
Gender	Male	74	39.8
	Female	112	60.2
Year of Study	First Year	76	40.9
	Second Year	37	19.9

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Variable	Category	n	%
	Third Year	48	25.8
	Fourth Year	25	13.4
Marital Status	Single	185	99.5
	Married	1	0.5
Accommodation Type	Day Scholar	78	42.4
	Hostel Resident	106	57.6

Note: N = 186 for all demographic variables except accommodation type (n = 184; 2 participants had missing data for this item).

Table 2 shows the descriptive statistics of the stress-related variables. Exam stress was the most stressful stressor, with a mean score of 3.57 ± 1.17, followed by headaches when stressed (3.31 ± 1.31) and anxiety about career (3.17 ± 1.48) stressors. Difficulty in managing study (3.01 ± 1.17) and fear of making mistakes in patient care (3.11 ± 1.29) also had relatively high mean scores. Mean scores for the stress factors reported as lack of teacher support, stress due to hostel/home environment and pressure from family expectations were lower. Valid responses varied from 181 to 186 for the stress-related variables.

Table 2: Descriptive Statistics of Stress-Related Variables

Stress-Related Variable	Valid n	Mean ± SD
Exam Stress	185	3.57 ± 1.17
Assignment Overload	185	2.94 ± 1.22
Difficulty Managing Study	186	3.01 ± 1.17
Nervousness During Clinical Procedures	186	2.67 ± 1.17
Fear of Making Mistakes in Patient Care	185	3.11 ± 1.29
Stress Due to Clinical Workload	186	2.81 ± 1.35
Anxiety About Career	186	3.17 ± 1.48
Emotional Exhaustion	186	2.91 ± 1.23
Difficulty Sleeping Due to Stress	185	2.66 ± 1.37
Stress Due to Lack of Teacher Support	186	2.44 ± 1.36
Pressure from Family Expectations	181	2.54 ± 1.50
Stress Due to Hostel/Home Environment	185	2.48 ± 1.27
Headaches When Stressed	185	3.31 ± 1.31
Feeling Tired Even After Rest	186	2.74 ± 1.34
Loss of Appetite During Stress	186	2.76 ± 1.39

The distribution of participants' answers to the statements relating to stress on a five-point Likert scale is detailed in Table 3. The highest number of answers for most variables were in the "sometimes" category. Specifically, 37.3% said that they sometimes had exam stress, 41.1% said they sometimes had assignment overload, and 41.9% said they sometimes had difficulty

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managing their studies. Many students also reported that they often (20.0%) or always (28.6%) felt worried about exams. Likewise, 26.9% of respondents always had a sense of anxiety in their careers, and 24.9% always had headaches during stress. A higher percentage of participants chose "never" for lack of teacher support and pressure from family expectations as their answers to the stress question. For the other variables, responses were spread throughout all five categories, with "sometimes" being the most common response for most of these variables.

Table 3: Distribution of Responses to Stress-Related Statements

Item	Never n (%)	Rarely n (%)	Sometimes n (%)	Often n (%)	Always n (%)
Exam stress	12 (6.5)	14 (7.6)	69 (37.3)	37 (20.0)	53 (28.6)
Assignment overload	28 (15.1)	32 (17.3)	76 (41.1)	22 (11.9)	27 (14.6)
Difficulty managing study	27 (14.5)	24 (12.9)	78 (41.9)	35 (18.8)	22 (11.8)
Nervous during clinical procedures	37 (19.9)	40 (21.5)	73 (39.2)	20 (10.8)	16 (8.6)
Fear of mistakes in patient care	28 (15.1)	28 (15.1)	58 (31.4)	38 (20.5)	33 (17.8)
Clinical workload stress	47 (25.3)	23 (12.4)	59 (31.7)	32 (17.2)	25 (13.4)
Career anxiety	39 (21.0)	22 (11.8)	43 (23.1)	32 (17.2)	50 (26.9)
Emotional exhaustion	33 (17.7)	26 (14.0)	76 (40.9)	27 (14.5)	24 (12.9)
Difficulty sleeping due to stress	52 (28.1)	31 (16.8)	55 (29.7)	21 (11.4)	26 (14.1)
Lack of teacher support	65 (34.9)	35 (18.8)	47 (25.3)	17 (9.1)	22 (11.8)
Family expectations pressure	70 (38.7)	23 (12.7)	38 (21.0)	20 (11.0)	30 (16.6)
Hostel/home environment stress	55 (29.7)	37 (20.0)	62 (33.5)	11 (5.9)	20 (10.8)
Headaches when stressed	21 (11.4)	29 (15.7)	52 (28.1)	37 (20.0)	46 (24.9)
Tired even after rest	45 (24.2)	35 (18.8)	56 (30.1)	24 (12.9)	26 (14.0)
Loss of appetite during stress	44 (23.7)	39 (21.0)	54 (29.0)	15 (8.1)	34 (18.3)

Note: The number of valid responses varied by item (n = 181–186); percentages are calculated on valid responses for each item.

Figures

The demographic characteristics indicated that the majority of the respondents were first year students, female students and young students between 18-21 years old, which is a relatively young student body that is new to the nursing profession. The findings related to stress further highlighted that exam stress, fear of making mistakes in patient care and anxiety about career were among some of the most significant concerns reported by students. Furthermore, the distribution of the responses showed that there were a number of students who ticked 'sometimes' for a number of the questions, meaning that it was a common experience rather than a rare one for them.

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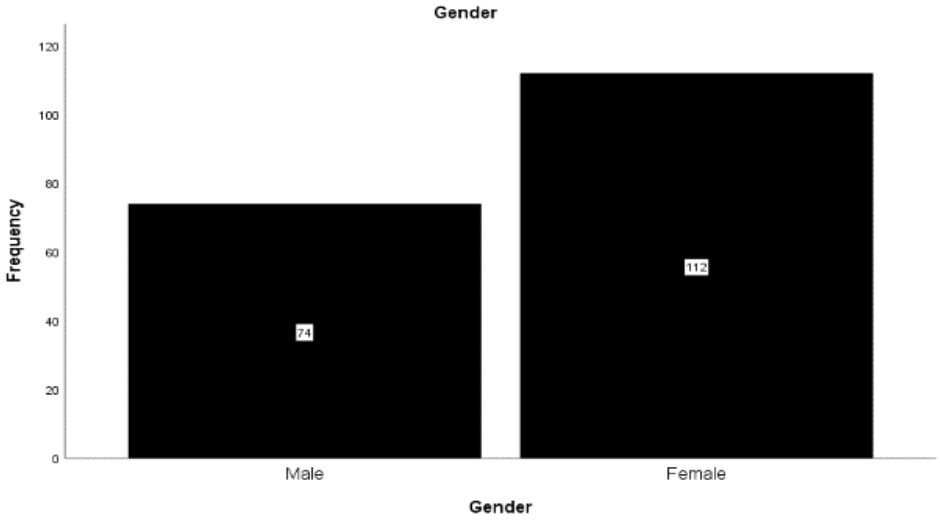


Figure 1: Distribution of participants by gender

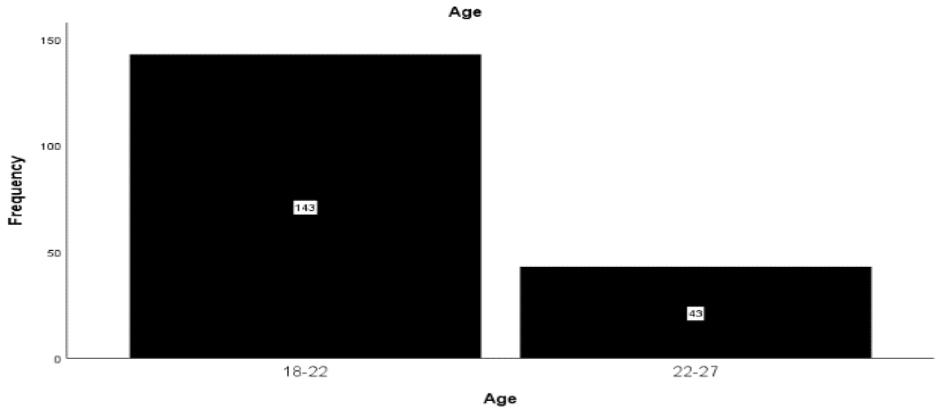


Figure 2: Distribution of participants by age group

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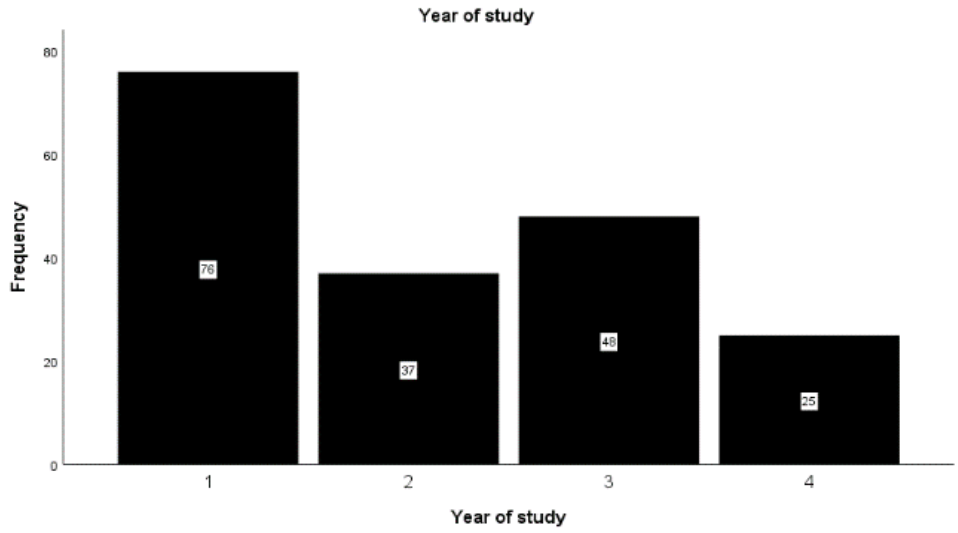


Figure 3: Distribution of participants by year of study

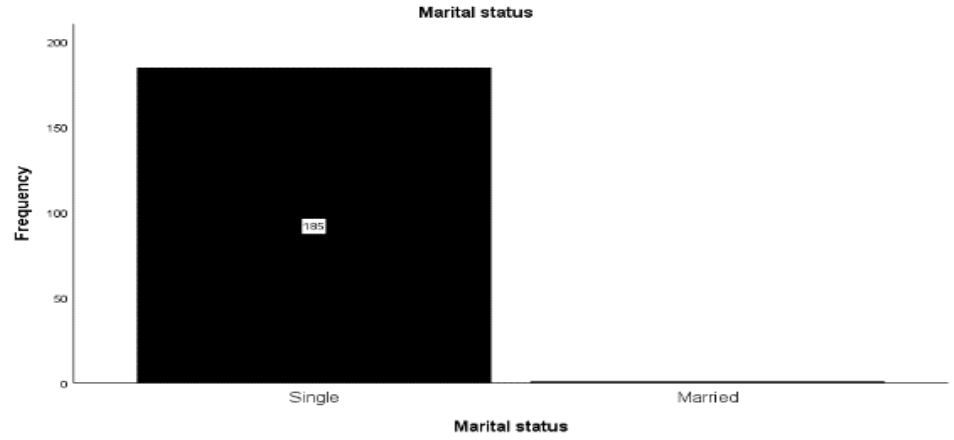


Figure 4: Distribution of participants by marital status

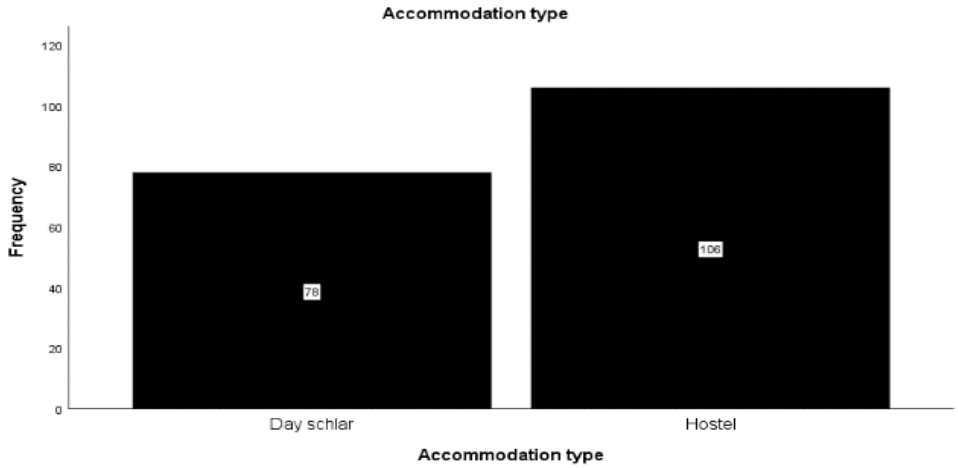


Figure 5: Distribution of participants by accommodation type

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Discussion

This study revealed that stress is a significant and common problem for the nursing students of Bahria University Health Sciences Campus, Karachi. Across the profile of the responses, students experienced regular academic and clinical pressures which impacted their learning and well-being [1,11].

The age profile of the students showed that the majority of those in the study were young students and females; and the profile of the students' educational years showed that the majority of the students were in their initial educational years. This is a significant statement since many nursing students in early education are given time to react to the requirements of professional schooling, particularly when transferring from a general academic setting to a more rigorous and demanding, responsibility-entrusted training program. The fact that many of the students were staying at hostels indicates that a large number of students were living outside their home environment and may experience an extra layer of adjustment and emotional stress.

Exam stress was the most notable of the different types of stress. It's a reflection of the stress that examinations put on the students of nursing who are supposed to qualify in theory, practical and clinical exams [5]. Assessment is not only about memory or classwork when dealing with nursing education but it also evaluates confidence, problem-solving, and application of knowledge in the real world. This can make examinations quite a bit stressful.

The study also showed a large proportion of concern about doing things wrong when it came to the care of the patient and concern about future career prospects. The findings are all the more significant because of the emotional aspect of caring for nursing students [2]. Nursing students are not only acquiring the academic information; they are also preparing to become a profession with important repercussions. This could be why for many of the students felt pressured to do things properly in a clinical setting and feared that they would be prepared for working as a professional.

The second thing that was obvious was that there were difficulties in planning students' study and dealing with the load of assignments. This indicates that students were being put under a great deal of academic pressure, especially when they were tasked with doing several tasks at once, in addition to their clinical responsibilities. Increasing demands of academic study can lead to reduced concentration capacity along with time management and motivation management capacity which leads to a loss of emotional well-being and self-concept in the field of academics [6].

The findings also suggest that stress was not associated solely with emotional stress but also to physical symptoms. Note that the mean score for headache (3.31 ± 1.31) was significantly higher when stressed compared to the other academic stressors (tiredness, sleep disturbance, loss of appetite) which had more moderate mean scores. It implies that there were physical symptoms to a greater or less extent, and that headache was a very common symptom, but the other somatic symptoms were also present, although to a lesser degree, and should therefore also be monitored. If these symptoms persist over time, they can impact classroom performance, clinical learning, and quality of life [7].

Conversely, stress resulting from a lack of teacher support and family expectations did not seem to be as significant as academic and clinical stressors. But the results should not be taken as inconsequential. Although not primary stressors for many students, supportive teaching, faculty support and family support are still significant factors that can buffer students from stress to help them cope better with pressure [12].

Overall, the results give a fairly consistent picture of nursing students who were highly stressed by the demands of their academic program and clinical duties. The findings of the study indicate that stress was not a problem of some students only, but it was a problem for all students and could be a factor that affects their performance in school and even their well-being in general. Nursing institutions must be aware of the seriousness of stress as an educational and health problem, and provide a learning atmosphere that facilitates students' professional and emotional growth.

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Limitations

There are some limitations of this study. The findings of the study may be limited in their generalizability to other nursing students in different institutions. The cross-sectional design is a snapshot of the stress at one point in time and does not provide causal relationships. Data were self-reported, thus could be subject to recall and social-desirability bias. Further research involving more than one institution, and with longitudinal or comparative designs, would enhance the evidence.

Conclusion

This study aimed to explore the major stress factors in nursing students of Bahria University Health Sciences Campus, Karachi, and the results indicated that students' academic and clinical life is a major source of stress. The findings show that exam stress, fear of making mistakes in patient care, concerns about future career opportunities, problems in managing studies, and stress headaches were the most prevalent problems. Many students indicated that these stressors occurred sometimes, often, or always, indicating that stress was not a one-time event, but a repeated one during their training.

The results also indicated that the highest sources of stress for students in the nursing profession were the demands from nursing education, particularly stress related to academic burden and clinical duties. Teachers' expectations and pressure and family expectations and pressure were reported less often but were nonetheless important factors for some participants and should not be ignored. Moreover, students' physical and emotional symptoms (which included tiredness, sleep disturbance, emotional exhaustion and loss of appetite) indicated that stress had an impact on students, not just on their performance in school, but on their overall well-being as well.

Recommendations

- The nursing department should hold regular stress-management workshops and counselling sessions with students to equip them with effective coping mechanisms for academic and clinical stress.
- Teachers and clinical supervisors should pay more attention to teaching, encouraging, and giving students positive feedback to eliminate students' fear of failure in teaching and make them more confident in the care of patients.
- Academic workload and pattern of examinations should be reviewed to ensure that it is challenging but manageable, especially during high stress periods, such as at the end of the year and on clinical postings.
- There is a need to improve students' support services, enabling students to utilize mental health, academic and peer assistance when necessary.
- It is desirable to create a more positive and non-judgemental clinical learning environment where students feel comfortable asking questions and learning from errors, instead of being afraid of them.

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