

Perceived stress and its correlates among nursing students: implications for nursing education

Amal Alsulami, RN, PhD

¹ College of Nursing, Taif University, P.O. Box 2425, Al Mutamarat Rd, Al Mathnah, Al Taif, 26521, Saudi Arabia

* Correspondence: Amal Alsulami, Assistant Professor, College of Nursing, Taif University, P.O. Box 2425, Al Mutamarat Rd, Al Mathnah, Al Taif, 26521, Saudi Arabia, Email: amal.ss@tu.edu.sa

ABSTRACT

Introduction: University students face several challenges regarding increasing their stress levels. These challenges include coursework, financial burdens, fear of infection during training, and other stressors. Stress among nursing students and its related factors are not well documented. This study investigated nursing students' stress levels and related factors during clinical practice.

Methods: This study employed a cross-sectional design and included 147 nursing students from the College of Nursing, Taif University, Saudi Arabia. Convenience sampling was used to recruit participants during their clinical practice in hospitals. The Perceived Stress Scale was used in addition to demographic questions to collect data from the online participants using Google Forms. Data were collected and analyzed using percentages and frequencies, means and standard deviations, t-tests, and Analysis of Variance.

Results: The nursing students reported moderate levels of perceived stress across various domains. The highest stress levels were observed in "Stress from assignments and workload" (1.85 ± 1.3), followed by "Stress from Area of Practice" (1.72 ± 1.29). Demographic factors also influence stress levels. Male students experienced higher stress levels than female students ($p < 0.03$), whereas single students reported lower stress levels than married students ($p < 0.001$). Additionally, students enrolled in Maternity Nursing courses reported higher stress levels than those enrolled in other nursing courses ($p < 0.034$).

Conclusion: Nursing students experienced significant perceived stress, particularly in areas related to academic workloads and clinical practice. Male students reported higher stress levels than female students, whereas single students reported lower stress levels than married students. Students enrolled in Maternity Nursing course reported higher levels of stress. These findings highlight the need for targeted interventions to improve nursing students' well-being.

Keywords: nursing students, stress level, clinical training, nursing profession, nursing education

Citation: Alsulami, (2024). Perceived stress and its correlates among nursing students: implications for nursing education. *Widely Nursing Journal*, 1(1). DOI: 10.70878/wnj.qxej3458

Received: September 27, 2024

Accepted: December 6, 2024

Published: December 8, 2024



Copyright: © 2024 Alsulami. This manuscript is published and licensed under CC BY-NC 4.0 (<https://creativecommons.org/licenses/by/4.0/>)

Introduction

Perceived stress among nursing students has garnered significant attention in recent years, particularly as the demand for nursing education escalates (Zurmehly & Leadingham, 2008). Nursing students often face a unique set of stressors that can adversely affect their mental health, especially during clinical practice in hospitals, which may add more stress (Farquharson et al., 2013; Friganović et al., 2019). Additionally, nursing students may be exposed to other sources of stress in their lives, such as economic burdens, relationship problems, and health concerns. These stressors can worsen stress

and its negative consequences (Alghamdi et al., 2019; Nebhinani et al., 2020). Research indicates that perceived stress is prevalent and varies significantly among different demographics within the nursing student population. For instance, a study highlighted that female nursing students reported higher levels of perceived stress than their male counterparts, suggesting a sex disparity in stress perception within this field (Albaqawi et al., 2022).

The educational environment is crucial in shaping nursing students' stress experiences. It is argued that nursing education should be transformed to create supportive learning environments that actively engage students and faculty alike (Del Prato et al., 2011). Such environments are essential because they can mitigate the stressors associated with academic and clinical demands. Research has identified professional training as a significant contributor to stress among nursing students, noting that the rigorous demands of clinical practice and the responsibilities of patient care create an environment where stress can flourish (Tully & Stress, 2004). Stress is a common problem experienced by many individuals, including nursing and medical students (Pandey & Chalise, 2015). Nursing students' challenges, such as academic load, clinical training in hospitals, and extended study hours, can lead to higher stress levels and lower academic performance (Abd El-Aziz Mohamed Madian et al., 2019; Jackson et al., 2010). A study in Al-Baha showed that nurse interns working in some hospital environments had acceptable satisfaction levels compared to those working in other areas (Ahmed et al., 2022).

Exposure to prolonged stress during the academic life of medical or nursing students could also be associated with negative outcomes, such as physical and mental health problems, low academic achievement, and low ability to establish safe and effective health services for patients. Furthermore, exposure to long periods of stress can result in mental health problems such as anxiety and depression (Aljohani et al., 2021). Moreover, the nursing profession is associated with high stress and mental health problems, which increases the risk of stress in nursing students (Chaabane et al., 2021).

In nursing education, stress has disadvantageous effects on nursing students' abilities, as it could result in students dropping out and decreasing their completion rates (Labrague et al., 2017). Working directly with patients suffering from pain is the most common stressor for nursing students during clinical training (Jimenez et al., 2010). Previous studies on stress among nursing students before and after the coronavirus disease 2019 (COVID-19) pandemic have determined the sources and factors of stress and identified stress management approaches. Although the primary sources of stress were caring for ill people, duties and workloads, and poor communication with staff or faculty members, nursing students should be adequately prepared for the profession regarding stress management, coping skills, and capabilities (Labrague et al., 2017). However, the negative outcomes and undesired consequences of stress on nursing students' physical and mental health have not been thoroughly investigated. As such conditions could result in fatigue, anxiety, depression, or even other physical health complaints such as headaches, stomachaches, and high blood pressure, they could lead to a drop in performance and are associated with more work-related errors (Farquharson et al., 2013).

Although studies have explored the prevalence, sources, and short-term effects of stress in this population (aged 18–20 years), research examining the cumulative impact of chronic stress over time is lacking. This includes the potential for long-term consequences, such as chronic fatigue, anxiety, depression, physical health issues, and performance decline. Addressing this gap is crucial for developing effective interventions to support nursing students' well-being. It is also essential to ensure a sustainable nursing workforce. Stress affects students' academic performance, decreases their ability to provide safe and high-quality nursing care to patients during clinical practice in hospitals, and decreases their intellectual abilities (Aedh et al., 2015; Hamaideh et al., 2017). This study aimed to identify the primary correlates of perceived stress among nursing students to enhance their well-being of nursing students and mitigate its negative consequences of perceived stress.

Methods

Study Design

This study employed a cross-sectional design to assess stress and related factors among nursing students.

Setting/Participants

This study was conducted on 147 nursing students using convenience sampling at the College of Nursing, Taif University, Mecca region, Saudi Arabia. The participants were nursing students registered in the third and fourth years of their second academic year, 2023–2024. These included students enrolled in theoretical and clinical training in hospitals. The inclusion criteria for this study were students currently enrolled in the nursing program at the College of Nursing, Taif University, who had courses including training at one hospital and were willing to participate in the study.

Instrument

The instrument is divided into three sections. The first section dealt with sex, age, year of study, and discipline of study. The second segment of the study included the Perceived Level of Stress Scale (PSS) by Sheu et al. (Al-Gamal et al., 2018), which was composed of 29 questions on a five-point Likert scale response format, which has six main aspects: "stress of teachers and staff (six items), stress of patient care (eight items), A peer and daily life stressor (four items), stress of studies and workload (five items), environmental stressors (three items), and stress due to unreasonable expectations of professional competence (three items)." Across all these domains, the participants had high scores, indicating that the stress level was higher than normal. Three experts unanimously agreed that the questionnaire was valid in the local context. Fifteen students participated in the reliability test with a Cronbach's alpha of 0.92.

Data Collection Procedure

Data were collected using Google Forms. Registered nursing students were invited through official emails and reminded by the researcher for up to two weeks. It included

questions related to demographics and validated the perceived stress scale. The responses were recorded on an Excel sheet, and all incomplete responses were omitted from the study. Data were collected between February and March 2024.

Data analysis

Data were analyzed using SPSS Windows software version 26. Descriptive statistics were used for frequency distributions, percentages, means, and standard deviations. An independent t-test and one-way ANOVA were also used to assess the relationships between demographic variables and stress levels among nursing students.

Ethical considerations

The present research was carried out in accordance with the ethical principles of the Declaration of Helsinki. The participants received an explanation of the study objectives as well as an overview of the methodology, risks, and advantages. Informed consent was obtained from all participants in the study before the start of the research.

Results

Table 1 shows that female students comprised the majority (81.0%), with a higher percentage of single students (91.8%). Fundamentals of nursing were the most taught courses (72.8%), reflecting the different clinical practice courses. Notably, a significant proportion of students reported no clinical experience (72.8%), while the majority had a bachelor's degree (95.2%). The distribution of students at various study levels was Year 3 (75.5%) and Year 4 (24.5%).

Table 1

Socio-demographic characteristics of the participants (N= 147)

| Demographic characteristics | Frequency (f) | Percentage (%) |
|------------------------------------|----------------------|-----------------------|
| <i>Sex</i> | | |
| Men | 28 | 19.0 |
| Women | 119 | 81.0 |
| <i>Marital status</i> | | |
| Single | 135 | 91.8 |
| Married | 5 | 3.4 |
| Separated | 5 | 3.4 |
| Divorced | 2 | 1.4 |
| <i>Course of training</i> | | |
| Maternity Nursing | 1 | 0.7 |

| | | |
|--------------------------|-----|------|
| Medical-Surgical Nursing | 2 | 1.4 |
| Fundamentals of Nursing | 107 | 72.8 |
| Critical Care Nursing | 19 | 12.9 |
| Psychiatric Nursing | 9 | 6.1 |
| Community Health Nursing | 8 | 5.4 |
| Pediatric Nursing | 1 | 0.7 |
| <i>Level of study</i> | | |
| Year 3 | 111 | 75.5 |
| Year 4 | 36 | 24.5 |
| <i>Repeated course</i> | | |
| Yes | 19 | 12.9 |
| No | 128 | 87.1 |

Table 2 shows the mean scores (\pm SD) and percentage distributions of perceived stress levels among nursing students in different domains. In the first domain, "Stress from taking care of patients," participants reported moderate stress (1.48 ± 1.1) on average. The second domain, "Stress from assignments and workload," indicated a higher stress level (1.85 ± 1.3), with 39% of students frequently bothered about low grades. The third domain, "Stress from Lack of Professional Knowledge and Skills," indicated a moderate stress level (1.48 ± 1.2), with concerns about unawareness of medical history and terminology. In the fourth domain, "Stress from Area of Practice," participants reported moderate stress levels (1.72 ± 1.29), particularly in hospital settings.

Finally, in the fifth domain, "Stress from Peers and Daily Life," students reported a moderate stress level (1.64 ± 1.27), with remarkable stressors involving peer competition and teacher pressure for performance comparison. The table concludes with the overall total perceived stress level (1.56 ± 1.2), showing moderate stress among nursing students.

Table 2*Perceived stress scale among nursing students at Taif University (n=147)*

| Perceived Stress Scale | Never | Rarely | Sometimes | Frequently | Always | Mean \pm SD |
|---|-------|--------|-----------|------------|--------|----------------------------------|
| <i>Stress from taking care of patients</i> | | | | | | 1.48 \pm 1.1 |
| 1. Lack of experience and ability in providing nursing care and in making judgments | 15.0 | 19.0 | 37.4 | 21.1 | 7.5 | 1.87 \pm 1.1 |
| 2. Do not know how to help patients with physio-psycho-social problems | 25.2 | 21.1 | 29.9 | 17.0 | 6.8 | 1.59 \pm 1.2 |
| 3. Unable to reach one's expectations. | 26.5 | 27.2 | 28.6 | 12.2 | 5.4 | 1.43 \pm 1.2 |
| 4. Unable to provide appropriate responses to teachers' and patients' questions. | 28.6 | 30.6 | 25.9 | 10.2 | 4.8 | 1.32 \pm 1.1 |
| 5. Worry about not being trusted or accepted by patients or patients' family. | 29.3 | 23.1 | 14.3 | 21.8 | 11.6 | 1.63 \pm 1.4 |
| 6. Unable to provide patients with good nursing care. | 29.9 | 29.3 | 23.8 | 12.2 | 4.8 | 1.33 \pm 1.1 |
| 7. Do not know how to | 45.6 | 22.4 | 17.0 | 8.2 | 6.8 | 1.73 \pm 1.3 |

| | | | | | | | |
|--|------|------|------|------|------|------------|-------------------|
| communicate with patients. | | | | | | | |
| 8. Experience difficulties in changing from the role of a student to that of a nurse. | 25.2 | 16.3 | 28.6 | 20.4 | 9.5 | 1.08±1.3 | |
| Stress from assignments and workload | | | | | | | 1.85 ± 1.3 |
| 1. Worry about bad grades. | 12.9 | 16.3 | 18.4 | 13.6 | 38.8 | 2.5±1.5 | |
| 2. Experience pressure from the nature and quality of clinical practice. | 17.0 | 17.7 | 30.6 | 21.8 | 12.9 | 1.96±1.3 | |
| 3. Feel that one's performance does not meet teachers' expectations. | 20.4 | 26.5 | 29.3 | 12.9 | 10.9 | 1.67±1.2 | |
| 4. Feel that the clinical practice requirements exceed physical and emotional endurance. | 27.2 | 26.5 | 21.1 | 12.9 | 12.2 | 1.56±1.3 | |
| 5. Feel that dull and inflexible clinical practice affects one's family and social life | 20.4 | 23.1 | 25.2 | 14.3 | 17.0 | 1.84±1.4 | |
| Stress from lack of professional knowledge and skills | | | | | | | 1.48 ± 1.2 |
| 1. Unfamiliar with medical history and terms. | 32.7 | 29.3 | 24.5 | 8.8 | 4.8 | 1.24±1.143 | |

| | | | | | | | |
|--|---|------|------|------|------|------|--------------------|
| 2. | Unfamiliar with professional nursing skills. | 30.6 | 27.9 | 25.9 | 10.9 | 4.8 | 1.31±1.157 |
| 3. | Unfamiliar with patients' diagnoses and treatments. | 29.9 | 23.8 | 26.5 | 12.2 | 7.5 | 1.44±1.24 |
| <i>Stress from the area of practice</i> | | | | | | | 1.72±1.29 |
| 1. | Feel stressed in the hospital environment where clinical practice takes place | 26.5 | 24.5 | 25.9 | 12.9 | 10.2 | 1.56±1.288 |
| 2. | Unfamiliar with the ward facilities. | 29.9 | 24.5 | 23.1 | 13.6 | 8.8 | 1.47±1.289 |
| 3. | Feel stressed from the rapid change in the patient's condition. | 16.3 | 19.7 | 25.2 | 21.1 | 17.7 | 2.04±1.334 |
| <i>Stress from peers and daily life</i> | | | | | | | 1.64 ± 1.27 |
| 1. | Experience competition from peers in school and clinical practice. | 21.8 | 25.2 | 30.6 | 13.6 | 8.8 | 1.63±1.218 |
| 2. | Feel pressure from teachers who evaluate students' performance by comparison. | 21.8 | 20.4 | 26.5 | 15.6 | 15.6 | 1.83±1.357 |
| 3. | Feelings that clinical practice affects involvement in | 24.5 | 21.1 | 30.6 | 14.3 | 9.5 | 1.63±1.261 |

| | | | | | | | |
|--|---|------|------|------|------|------|--------------------|
| | extracurricular activities. | | | | | | |
| 4. | Cannot get along with other peers in the group. | 43.5 | 22.4 | 19.0 | 7.5 | 7.5 | 1.13±1.262 |
| <i>Stress from teachers and nursing staff</i> | | | | | | | 1.45 ± 1.26 |
| 1. | Experience discrepancy between theory and practice. | 20.4 | 27.2 | 30.6 | 10.9 | 10.9 | 1.65±1.232 |
| 2. | Do not discuss patients' illnesses with teachers or nursing personnel. | 24.5 | 32.0 | 26.5 | 9.5 | 7.5 | 1.44±1.177 |
| 3. | Feel stressed that the teacher's instruction differs from one's expectations. | 28.6 | 17.0 | 27.9 | 17.0 | 9.5 | 1.62±1.316 |
| 4. | Doctors lack empathy and are not willing to help. | 30.6 | 22.4 | 23.8 | 15.6 | 7.5 | 1.47±1.278 |
| 5. | Feel that teachers do not give fair evaluation of students. | 40.1 | 20.4 | 22.4 | 10.2 | 6.8 | 1.23±1.266 |
| 6. | Lack of care and guidance from the teacher. | 41.5 | 19.0 | 21.8 | 10.2 | 7.5 | 1.23±1.293 |
| Overall total of perceived stress | | | | | | | 1.56±1.2 |

Table 3 shows the associations between demographic variables and nursing students' levels of stress. Remarkably, sex played a crucial role, with male students having higher stress levels than female students ($p < .03$). Marital status was another significant factor, suggesting that single students have lower levels of stress ($p < .001$). Maternity Nursing students reported higher stress levels than other nursing students ($p < .034$).

Table 3

Relationship between demographic variable and satisfaction level with stress among nursing students (n=147)

| Variable | Frequency (n) | Mean PS | SD | P-value |
|---------------------------|---------------|---------|---------|---------|
| <i>Sex</i> | | | | |
| Men | 28 | 1.8485 | .69774 | .78185 |
| Women | 119 | 1.4996 | .78185 | |
| <i>Marital status</i> | | | | |
| Single | 135 | 1.5609 | .74480 | .001* |
| Married | 5 | 2.6138 | .48485 | |
| Separated | 5 | 1.2276 | .80338 | |
| Divorced | 2 | .1379 | .19506 | |
| <i>Course of training</i> | | | | |
| Maternity Nursing | 1 | 3.5862 | - | .034* |
| Medical-Surgical Nursing | 2 | 2.4138 | 1.12162 | |
| Fundamentals of Nursing | 107 | 1.4853 | .79292 | |
| Critical Care Nursing | 19 | 1.7005 | .59649 | |
| Psychiatric Nursing | 9 | 1.8851 | .53532 | |
| Community Health Nursing | 8 | 1.4224 | .69572 | |
| Pediatric Nursing | 1 | 2.2069 | - | |
| <i>Level of study</i> | | | | |
| Year 3 | 111 | 1.5008 | .81929 | .20 |
| Year 4 | 36 | 1.7833 | .49574 | |
| <i>Repeated course</i> | | | | |
| Yes | 19 | 1.7659 | .78579 | .23 |
| No | 128 | 1.5364 | .77384 | |

Discussion

Perceived stress among nursing students highlights significant concerns in various domains of their academic and professional lives. The findings revealed that nursing students experienced moderate stress levels, particularly in areas related to patient care, academic workload, lack of professional knowledge, practice environments, and peer interactions. Each of these domains uniquely contributes to the overall stress experienced by nursing students, which has implications for their mental health and academic performance.

In the domain of "Stress from taking care of patients," the moderate stress level reflects the emotional and psychological burdens that nursing students face when preparing for real-world patient interactions. This agrees with the findings of Gallego-Gómez et al. (Gallego-Gómez et al., 2020), who found that nursing students experience increased stress because of patient care responsibilities, especially during the COVID-19 pandemic, which increases their feelings of stress and isolation (Gallego-Gómez et al., 2020). Similarly, stress levels among nursing students are highly affected by the intensity of training and the demanding nature of the profession (Moraes et al., 2021).

The second domain, "Stress from assignments and workload, showed a greater stress level, as the students' average percentage worrying about low grades was significant. This finding is consistent with research findings that academic stress is the most documented source of stress in nursing students, who tend to have a lot of schoolwork, clinical work, and performance (Li et al., 2021). Moreover, stress from academic workloads can result in panic disorders and psychopathologies of a depressive nature, and such psychological stress is harmful to nursing students' mental states (Li et al., 2021).

In the domain "Stress from Deficiency of Professional Knowledge and Skills," the results are expected to reflect a mild stress level in students since they have expressed concern about how well-prepared they are for clinical practice. This is interesting, especially given the findings of those who pointed out that students in the nursing discipline tend to be anxious about their abilities, especially in hospitals. The lack of education aggravates the feeling of stress, which is the fear that they will be unable to perform their clinical skills adequately. It has negative consequences on their learning and growth as professionals.

Within the domain "Stress from Area of Practice," the participants reported moderate stress levels, especially regarding tasks in a hospital. This brings to mind the work of those who observed that the nature of work environments for nursing practice is competitive and demanding and that such occupational stress will affect nurses' health status and level of patient care (Gu et al., 2019). The reasons for high stress levels in hospitals may also be associated with nursing caregivers and emotional labor, as explained by, who associated this problem with the lack of organizational help for an average nursing professional (Cricco-Lizza, 2014).

Lastly, under the domain "Stress from Peers and Daily Life," moderate stress was observed due to peer competition and performance pressure from instructors. Stiff competition is also observed around these activities and is associated with the adverse effects of social support, as observed by Araujo et al. (Araújo et al., 2020); relationships with peers

are an essential source of stress management among nurses (Araújo et al., 2020). Nursing students may find that the competitive environment associated with nursing education tends to make them feel incompetent and stressed, making stress management difficult. Finally, the fact that nursing students perceive a certain stress level indicates the many stressors they encounter in their clinical and academic lives. In promoting the health and well-being of nursing students and building their capacity, there is an urgent need to remove these stressors through specific measures such as increased support, education, and mental health services.

The reasons impacting nursing students' perceived stress levels have been reported to be moderate—the multifactorial nature of their academic and clinical practice concerns. Interventions for these stressors are mandatory to increase the resilience and well-being of nursing students. Evidence suggests that effective support systems, educational materials, and mental health services can reduce stress among nursing professionals and students. For instance, the relationship between perceived stress, fatigue, and social support in emergency department nurses and how a supportive work environment reduces stress and increases job satisfaction (Wu et al., 2020). This is important for nursing education in which students are qualitatively or quantitatively subjected to high workloads. It also focuses on the fact that health-promoting activities need to be included in the medical education curriculum, as student participation in such activities assists them in relieving stress and promoting wellness (Kötter et al., 2016). These insights highlight the importance of addressing distress among nursing students. Enhancing social support interventions and implementing preventive health measures could significantly benefit their well-being. The relationship between demographic factors and levels of stress experienced by nursing students turns out to be constructive, and these characteristics, among others, determine students' mental health. A critical relationship was identified between the level of stress and certain demographic variables, such as sex, marital status, and selected nursing courses. Such comprehension is vital for developing targeted measures for adequate nursing student support.

There is existing evidence regarding the issues above among nursing students regarding the number of levels assessed in various interventional studies. Males reported more stress, whereas male students pointed out that female nursing students were more stressed than their male counterparts, especially when they imposed stress during the pandemic stress period, as analyzed by Gallego-Gómez et al. (Gallego-Gómez et al., 2020). This is consistent with previous results that male and female nurses perceive stress differently based on coping strategies and that, consequently, women are more likely to experience depression than men. These sex differences have implications when nursing students are considered from a sex perspective other than female and male students.

The marital status of an individual carries weight concerning stress levels, with single students having relatively low stress levels compared with married students. This fact resembles the literature indicating that personal relationships and social support effectively reduce work-related stress among nurses (Araújo et al., 2020). Single students' lack of family obligations allows them to direct more time and energy toward academic studies and clinically oriented activities, lowering their stress levels. At the same time, in the case

of married students, other aspects emerge, such as the ability to perform one's studies while attending to family, which could increase stress levels. In addition, evidence has revealed that nursing students enrolled in specialized courses, such as Maternity Nursing, face more stress than their counterparts in other nursing courses.

These demographic factors show that the relationship between demographic variables and stress levels in nursing student populations offers a new dimension for understanding stress in specific nursing areas. For example, sex, family status, and specific nursing classes are factors that determine the level of stress experienced, calling for measures that will help restore the status quo and the surrounding environment. Nursing programs consider educational concerns and factors such as these to help nurture resilience, which improves the general wellness of students and their education and professional readiness skills.

Implication to Nursing Education

Nursing programs must focus on building an institutional framework promoting the multifaceted maintenance of intervention oriented to sex aspects, focusing on balancing job and family responsibilities, providing enhanced clinical training, developing encouraging educational settings, facilitating devotional help and peer teaching, and modifying programs to integrate the management of stress and research evaluation of the impact on treatment. This would allow nursing programs to offer more care to their students and, in turn, enhance their resilience and well-being. Therefore, targeted approaches should be employed to overcome these limitations. For female students, it would be helpful to introduce sex-sensitive mentoring programs, training focused on self-care and stress relief, support groups for nursing women, and combat sex discrimination. Mentoring by male nursing professionals, campaigns, workshops to combat-related stereotypes, men's support groups in nursing, and anti-discrimination workshops can be helpful for male students. Nursing programs can foster a more accommodating and supportive educational environment that responds to all students' challenges using these targeted approaches.

Limitation of the Study

This study has limitations in its ability to demonstrate causation and generalizability, primarily because it employed a cross-sectional design. Self-report bias and single-institution settings may have affected these results. Furthermore, the present study may not account for all stressors experienced by nursing students. Future studies should address these shortcomings by employing longitudinal designs, more representative samples, different data collection tools, multiple institutions, and various stressors.

Conclusion

This study examined perceived stress among nursing students. More than half of the participants were women younger than 30 years old, single, and attended a fundamental nursing course. Students reported moderate stress levels; however, the most concerning factors were patient or rest care, study load, professional knowledge, clinical practice, and peer communication. Male students were more stressed than female students, whereas

stress was lower among single students than married students. In addition, students taking Maternity Nursing courses showed elevated stress levels compared with those taking other nursing courses. These outcomes suggest that further insight and interventions are required to address the stress experienced by nursing students.

Recommendations

A strategic and comprehensive idea must be employed to reduce the high stress levels experienced by nursing students. This includes minimizing the academic and clinical workloads for the students, perhaps through mentorship programs, set time scopes for the assignments, or any other resources that can help reduce stress. Stressors also constitute monotonous schedules, which can be altered by better simulation of the clinical skills and this at the same time should be followed by the feedback necessary for the professional growth of students. Moreover, intensive sources of psychological and emotional therapy in the form of stress management workshops, counseling, stress in the nursing peer groups, and self-care education are important. Also, for stress to be minimized and the overall health of the students to be improved, institutional support in the form of provision of faculty development, establishing a good learning environment, flexible time frames for clinical practice, and the routine monitoring of students' health must be provided within the institution.

Availability of data statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Acknowledgments

The researcher would like to acknowledge Taif University in Saudi Arabia for supporting this work through project number TU-DSPP-2024-303.

Authors' Contributions

AA was the single author for this study; all components were accomplished by the author, including conceptualization, performed analysis and interpretation of data, designed the data collection tool, collected and coded the data, reviewed, edited, wrote the first draft of the article, and wrote the final version.

Funding

The author disclosed receipt of funding from the Taif University in Saudi Arabia under general project grant (TU-DSPP-2024-303).

Declarations

Ethics Approval Statement and Consent to Participate

This study adhered to the ethical standards of the Declaration of Helsinki. Informed consent was obtained from the students who participated in the study, and their online participation was after they agreed to participate in the study.

Declaration of Conflicting Interests

The author declares no conflict of interest related to this study.

References

- Abd El-Aziz Mohamed Madian, A., Mahmoud Abdelaziz, M., & Abo Elsoud Ahmed, H. (2019). Level of Stress and Coping Strategies among Nursing Students at Damanhour University, Egypt. *American Journal of Nursing Research*, 7(5), 684–696. <https://doi.org/10.12691/ajnr-7-5-3>.
- Aedh, A. I., Elfaki, N. K., & Mohamed, I. A. (2015). Factors associated with stress among nursing students (Najran University-Saudi Arabia). *IOSR Journal of Nursing and Health Science (IOSR-JNHS)*, 4(6), 33–38. DOI: 10.9790/1959-04663338
- Ahmed, W. A. M., Abdulla, Y. H. A., Alkhadher, M. A., & Alshameri, F. A. (2022). Perceived stress and coping strategies among nursing students during the COVID-19 pandemic: A systematic review. *Saudi Journal of Health Systems Research*, 2(3), 85–93. <https://doi.org/10.1159/000526061>.
- Albaqawi, H., Albagawi, B., Butcon, V., Alsaqri, S., & Pangket, P. (2022). Level of perceived stress and coping styles through positive mental health among nursing students in Hail, Saudi Arabia. *International Journal of Advanced and Applied Sciences*, 9(12), 108–113. <https://doi.org/10.21833/ijaas.2022.12.014>.
- Al-Gamal, E., Alhosain, A., & Alsunaye, K. (2018). Stress and coping strategies among Saudi nursing students during clinical education. *Perspectives in Psychiatric Care*, 54(2), 198–205. <https://doi.org/10.1111/ppc.12223>.
- Alghamdi, S., Aljabri, S., Jafari, G., Alzebali, R., Alkunaidiri, N., & Kalantan, N. (2019). Sources of stress among undergraduate nursing students. *Global Journal of Health Science*, 11(9), 116. <https://doi.org/10.5539/gjhs.v11n9p116>.
- Aljohani, W., Banakhar, M., Sharif, L., Alsaggaf, F., Felemban, O., & Wright, R. (2021). Sources of stress among Saudi Arabian nursing students: A cross-sectional study. *International Journal of Environmental Research and Public Health*, 18(22), 11958. <https://doi.org/10.3390/ijerph182211958>.
- Alzahrani, A. M., Hakami, A., AlHadi, A., Batais, M. A., Alrasheed, A. A., & Almigbal, T. H. (2020). The interplay between mindfulness, depression, stress and academic performance in medical students: A Saudi perspective. *PLOS ONE*, 15(4), e0231088. <https://doi.org/10.1371/journal.pone.0231088>.
- Araújo, A. F., Bampi, L. N. D. S. DS, Cabral, C. C. O. DO, Queiroz, R. S., Calasans, L. H. B., & Vaz, T. S. (2020). Occupational stress of nurses from the mobile emergency care service. *Revista Brasileira de Enfermagem*, 73(Suppl. 1), e20180898. <https://doi.org/10.1590/0034-7167-2018-0898>.
- Chaabane, S., Chaabna, K., Bhagat, S., Abraham, A., Doraiswamy, S., Mamtani, R., & Cheema, S. (2021). Perceived stress, stressors, and coping strategies among nursing students in the Middle East and North Africa: An overview of systematic reviews. *Systematic Reviews*, 10(1), 136. <https://doi.org/10.1186/s13643-021-01691-9>.

- Cheng, L., Guo, X., Liu, H., Chen, Q., & Cui, R. (2021). Hope, death anxiety and simplified coping style scores of nursing students during the outbreak of Covid-19: A cross-sectional study. *Medicine*, 100(34), e27016. <https://doi.org/10.1097/MD.00000000000027016>.
- Cricco-Lizza, R. (2014). The need to nurse the nurse: Emotional labor in neonatal intensive care. *Qualitative Health Research*, 24(5), 615–628. <https://doi.org/10.1177/1049732314528810>.
- Del Prato, D., Bankert, E., Grust, P., & Joseph, J. (2011). Transforming nursing education: A review of stressors and strategies that support students' professional socialization. *Advances in Medical Education and Practice*, 2, 109–116. <https://doi.org/10.2147/AMEP.S18359>.
- Eswi, A. S., Radi, S., & Youssri, H. (2013). Stress/stressors as perceived by baccalaureate Saudi nursing students. *Middle East Journal of Scientific Research*, 14(2), 193–202. DOI: 10.5829/idosi.mejsr.2013.14.2.734
- Farquharson, B., Bell, C., Johnston, D., Jones, M., Schofield, P., Allan, J., Ricketts, I., Morrison, K., & Johnston, M. (2013). Nursing stress and patient care: Real-time investigation of the effect of nursing tasks and demands on psychological stress, physiological stress, and job performance: Study protocol. *Journal of Advanced Nursing*, 69(10), 2327–2335. <https://doi.org/10.1111/jan.12090>.
- Friganović, A., Selić, P., Ilić, B., & Sedić, B. (2019). Stress and burnout syndrome and their associations with coping and job satisfaction in critical care nurses: A literature review. *Psychiatria Danubina*, 31(Suppl. 1), 21–31.
- Gallego-Gómez, J. I., Campillo-Cano, M., Carrión-Martínez, A., Balanza, S., Rodríguez-González-Moro, M. T., Simonelli-Muñoz, A. J., & Rivera-Caravaca, J. M. (2020). The Covid-19 pandemic and its impact on homebound nursing students. *International Journal of Environmental Research and Public Health*, 17(20), 7383. <https://doi.org/10.3390/ijerph17207383>.
- Gu, B., Tan, Q., & Zhao, S. (2019). The association between occupational stress and psychosomatic wellbeing among Chinese nurses: A cross-sectional survey. *Medicine*, 98(22), e15836. <https://doi.org/10.1097/MD.00000000000015836>.
- Hamaideh, S. H., Al-Omari, H., & Al-Modallal, H. (2017). Nursing students' perceived stress and coping behaviors in clinical training in Saudi Arabia. *Journal of Mental Health*, 26(3), 197–203. <https://doi.org/10.3109/09638237.2016.1139067>.
- Jackson, J. S., Knight, K. M., & Rafferty, J. A. (2010). Race and unhealthy behaviors: Chronic stress, the HPA axis, and physical and mental health disparities over the life course. *American Journal of Public Health*, 100(5), 933–939. <https://doi.org/10.2105/AJPH.2008.143446>.
- Jimenez, C., Navia-Osorio, P. M., & Diaz, C. V. (2010). Stress and health in novice and experienced nursing students. *Journal of Advanced Nursing*, 66(2), 442–455. <https://doi.org/10.1111/j.1365-2648.2009.05183.x>.
- Kötter, T., Ritter, J., Katalinic, A., & Voltmer, E. (2016). Predictors of participation of sophomore medical students in a health-promoting intervention: An observational study. *PLOS ONE*, 11(12), e0168104. <https://doi.org/10.1371/journal.pone.0168104>.
- Labrague, L. J., McEnroe-Petitte, D. M., Gloe, D., Thomas, L., Papathanasiou, I. V., & Tsaras, K. (2017). A literature review on stress and coping strategies in nursing students. *Journal of Mental Health*, 26(5), 471–480. <https://doi.org/10.1080/09638237.2016.1244721>.
- Li, X., Song, W. J., Zhang, J.-Y., Lu, C., Wang, Y.-X., Zheng, Y.-X., & Hao, W.-N. (2021). Factors associated with mental health of graduate nursing students in china. *Medicine*, 100(3), e24247. <https://doi.org/10.1097/MD.00000000000024247>.
- Moraes, H. D. S. C., DS C, Flores, P. V. P., Cavalcanti, A. C. D., Figueiredo, L. D. S., & Tinoco, J. M. V. P. (2021). Risk factors for coronary artery disease in nursing students. *Revista Brasileira de Enfermagem*, 74(1), e20190824. <https://doi.org/10.1590/0034-7167-2019-0824>.
- Mundhe, E. S. (2019a). A study of workplace stress and work stress. *Research Journey*, 123.

- Nebhinani, M., Kumar, A., Parihar, A., & Rani, R. (2020). Stress and coping strategies among undergraduate nursing students: A descriptive assessment from Western Rajasthan. *Indian Journal of Community Medicine*, 45(2), 172–175. https://doi.org/10.4103/ijcm.IJCM_231_19.
- Pandey, R. A., & Chalise, H. (2015). Self-esteem and academic stress among nursing students. *Kathmandu University Medical Journal*, 13(4), 298–302. <https://doi.org/10.3126/kumj.v13i4.16827>
- Sheu, S., Lin, H., Hwang, S., Yu, P., Hu, W., & Lou, M. (1997). The development and testing of Perceived Stress Scale of clinical practice. *Nursing Research (Republic of China)*, 5(4), 341–351.
- Tully, A. (2004). Stress, sources of stress and ways of coping among psychiatric nursing students. *Journal of Psychiatric and Mental Health Nursing*, 11(1), 43–47. <https://doi.org/10.1111/j.1365-2850.2004.00682.x>.
- Wu, C., Ge, Y., Xu, C., Zhang, X., & Lang, H. (2020). A correlation study of emergency department nurses' fatigue, perceived stress, social support and self-efficacy in grade iii a hospitals of xi'an. *Medicine*, 99(32), e21052. <https://doi.org/10.1097/MD.00000000000021052>.
- Zurmehly, J., & Leadingham, C. (2008). Exploring student response systems in nursing education. *Computers, Informatics, Nursing*, 26(5), 265–270; quiz 271. <https://doi.org/10.1097/01.NCN.0000304840.36960.b5>.

Disclaimer/Journal's Note: All manuscripts published in this publication/journal are owned and original works of the authors. Therefore, the data, opinions, comments, and statements contained in all publications are solely those of the author/s and contributor/s. The journal, editors, reviewers, or other parties involved in the preparation of the materials for publication in the journal website disclaims any legal responsibility for errors or omissions, damage to individual and property, resulting from the ideas, methods, and products referred to in the content of the manuscripts.