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## Stress and coping strategies among nursing students at the College of Nursing, ABHA, King Khalid University

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### Abstract

**Background:** Stress and coping during nurse education and training are widely recognized as important areas of research, as nursing students often experience high levels of stress due to academic demands, clinical placements, and personal life stressors.

The aim of this study was to examine nursing students' stress levels and their coping strategies in clinical practice.

**Methods:** The study was conducted at the College of Nursing, ABHA, King Khalid University, Kingdom of Saudi Arabia, using a descriptive design. A convenience sample from nursing students (n=153) who enrolled in an academic year 2022/2023 in the five, seven, and eight levels. Two tools were used for data collection: The Perceived Stress Scale and the Coping Behavior Inventory survey.

**Results:** The study findings indicate that the highest percentage of nursing students had a moderate level of academic stress (64.1%), the coping strategies most frequently used by nursing students were problem-solving, followed by stay optimistic, while avoidance coping strategy was the least frequently used by nursing students. Therefore, in light of these findings, it is recommended that the teaching of positive coping strategies should be implemented in the nursing curriculum prior to clinical placements.

**Keywords:** Coping Strategies, Stress, Nursing Students

### Introduction

One of the most demanding and stressful jobs in the world is nursing (Ching *et al.*, 2020) [7]. It is often known that university students pursuing nursing face higher levels of stress than those pursuing other health-related fields. Nursing students experience stress as they progress through their programs of study since they have to fulfill a lot of academic and practical requirements. By studying nursing theory and principles in the classroom, students get the necessary information to care for their patients (Tharani *et al.*, 2017) [24].

Students learn by doing in a clinical setting as they apply the theoretical concepts they have studied in the classroom. They acquire the necessary psychomotor skills and are assimilated into the job of a professional nurse by working in a genuine work setting (Durgun Ozan., *et al.*, 2020) [8]. Nursing students suffer the most stress related to the clinical component of their education, despite the fact that it offers abundant possibilities for practical experience (Yu'ksel & Bahadir-Yilmaz, 2019) [26].

Since nursing students frequently experience significant levels of stress due to academic obligations, clinical placements, and personal life pressures, stress and coping during nurse education and training are widely acknowledged as key areas of research (Liu *et al.*, 2022) [15]. An individual's reaction to academic requirements is known as academic-related stress (Fitzgerald & Konrad, 2021) [9]. It entails emotional anguish related to the worry of failing academically that is expected. This could manifest in a variety of ways, including feeling overburdened as you adjust to college life, the demands and requirements of the classroom, a sense of impediment to reaching your own objectives, and acclimatization to new systems. These elements alone are sufficient to endanger any student and cause emotional discomfort (Mathew, 2017) [17].

According to Thomas (2022) [25], stress can take the form of a complex interaction of behavioral, emotional, and physical changes. The degree of stress varies depending on the perceptions and coping mechanisms of the individual.

Exams, lengthy study sessions, grades, a lack of free time, a lack of prompt feedback on one's performance, and unique aspects of the academic program, such as organizing and leading workshops, are the main causes of academic stress. Stress in the clinical setting can come from

a variety of situations, including caring for sick patients, interpersonal conflicts with peers, uncertainty about one's own clinical competence, fear of finishing clinical requirements, managing difficult patients, heavy workloads, and prolonged standing while learning psychomotor skills like bathing, making beds, and monitoring vital signs. Monitoring have also being associated with high level of stress (Kumar *et al.*, 2020) <sup>[10]</sup>.

Long-term exposure to abnormally high stress levels can be harmful to student nurses' mental health, academic performance, and general well-being. Effective coping mechanisms are therefore crucial for lowering stress, enhancing wellbeing, and encouraging nursing students' academic performance (Li & Hasson, 2020) <sup>[14]</sup>.

Reducing the expectations that are placed on an individual from the outside and inside is a key component of stress management (Biggs *et al.*, 2017) <sup>[6]</sup>. Instead of using emotion-focused coping mechanisms, people should adopt coping skills that offer long-term solutions to stress, such problem-solving behaviors, to effectively manage and deal with these stresses (Kupcewicz *et al.*, 2020) <sup>[11]</sup>.

Three coping mechanisms that student nurses commonly employ are transference, remaining upbeat, and problem-solving techniques. It has been demonstrated that problem-solving techniques and maintaining an optimistic outlook are useful coping strategies for handling stress and difficult situations. Optimism, or having an optimistic view on life, keeps student nurses resilient and motivated when faced with challenging situations. By recognizing problems, creating plans of action, and carrying them out, problem-solving techniques help people feel less stressed and more in charge of their lives (Labrague *et al.*, 2018) <sup>[12]</sup>.

### Theoretical framework

The transactional model of stress and coping developed by Lazarus and Folkman (1987) <sup>[13]</sup> serves as the foundation for this investigation. This well-known theory highlights how people use both problem- and emotion-centered coping techniques, depending on how they perceive the stressors. The model offers a thorough lens through which to view how nursing students manage stress, addressing not only the identification of stress levels and sources but also throwing light on how successful the coping mechanisms used are (Labrague *et al.*, 2018) <sup>[12]</sup>.

### Significance of the problem

While stress is a common occurrence for people in all walks of life, students are particularly susceptible to it due to their academic obligations. Additionally, nursing students can alter dangerous situations by using an appropriate coping strategy, which improves outcomes and lowers stress levels. The requirement of nursing training programs causes excessive stress among nurse trainees, even if some degrees of academic stress may be desirable. This needs to be addressed early and managed effectively to improve the trainees' educational preparation.

Regretfully, the Kingdom of Saudi Arabia has paid little attention to the assessment of stress associated to academics. Therefore, this current study aims at identifying various stressors among nursing students and the coping mechanisms used by these students. It is expected that findings from this study will help to improve our understanding of stress in a collegial environment, and ultimately contribute to the development of interventions to enhance the educational preparedness of nursing students locally.

### Aim of the study

This study aimed to examined nursing students' stress levels and their coping strategies in clinical practice.

### Research question

There is a relation between perceived stress, and the coping strategies used by nursing students during their clinical training.

### Study design

Descriptive design was used to achieve the aim of the current study.

### Subjects

A convenience sample of nursing students (total number = 153). Who enrolled in an academic year 2022/2023 of the nursing bachelor degree program taught at college of nursing, king Khalid University in the five, seven, and eight levels. (86, 29, and 38 students, respectively). The highest percentage of students were in the age group from 21-22 years, as well as all the nursing students were female.

### Setting of the study

This study was conducted at the College of Nursing, ABHA, King Khalid University, Kingdom of Saudi Arabia, which include five scientific departments: Nursing administration and education, Fundamental of nursing care, Community nursing care, Medical surgical nursing, and Maternal and pediatric nursing. The college was established by the decision of the Council of Higher Education No. 14/42/1427 to provide distinguished education, community services, and innovative research in the field of nursing, through the optimal utilization of resources.

### Tools of data collection

The tool used in this study was composed of two instruments as follows:

#### Tool I: The Perceived Stress Scale (PSS)

It was developed by Sheu *et al.*, (2002) <sup>[22]</sup> and measures both the types of stressful events and the degree of stressors of nursing students. This survey also included two demographic questions: The age of the participant, and their academic level of study. The PSS consists of 29 items on a 5-point Likert scale (from 0 to 4) that are grouped into 6 stress/stressor categories. Those groups are stress from taking care of patients; teachers, and nursing personnel; assignments and workload; peers and daily life; the clinical environment; and lack of professional knowledge and skills. A score of 2.67 and higher was indicative of a high level of stress, a score between 1.34 and 2.66 was indicative of a moderate level of stress, and a score of less than 1.34 indicated a low level of stress. The instrument's reliability showed Cronbach's alpha values of 0.86 and a content validity index of 0.94.

#### Tool II: the Coping Behavior Inventory (CBI) survey

The CBI survey was first developed by Sheu *et al.*, (2002) <sup>[22]</sup> and measures the coping methods nursing students are more likely to utilize and their perceived effectiveness. The CBI survey consists of 19 items all on a 5-point Likert Scale (from 0 to 4) that are grouped into 4 categories: Avoidance, Transference, Problem-solving, and Stay optimistic. A score of 2.67 and higher was indicative of a high level of coping strategies, a score between 1.34 and 2.66 was indicative of a moderate level of coping strategies, and a score of less than

1.34 indicated a low level of coping strategies. The instrument's reliability showed a Cronbach's alpha coefficient ranging from 0.76 to 0.80.

### Data Collection Procedure

Prior to data collection, the researchers approached all eligible nursing students at the end of in-person lectures and explained to them the purpose of the study. They were informed that participation in this study is voluntary, and they could withdraw from it at any time. A refusal to participate would not affect their learning process and academic results. Students who were interested in the study were asked to sign a paper or digital consent form, fill in the instruments, and immediately return it to the researchers. Other eligible students who did not have in-person lectures were sent the survey via a Google Form to invite them to participate and complete the survey. The survey was sent out to a total of 153 students. Nursing students completed the survey on paper and online.

### Pilot study

A pilot study was carried out on 10% of nursing students (15) to test the clarity of the questions, and determine the time needed to fill the tools of data collection. No modification were done so the students were included in the main study sample.

### Administrative and ethical considerations

Permission to conduct the study was permissions obtained after explaining the nature of the study from the Dean of Nursing college ABA, King Khalid University, and the ethical committee from King Khalid University, approval No: ECM#2021-5610. Written explanation of the nature and aim of the study have been explained to all nursing students included in the study. They were given an opportunity to refuse or to participate, and they were notified that they could withdraw at any stage of the study.

### Statistical Analysis

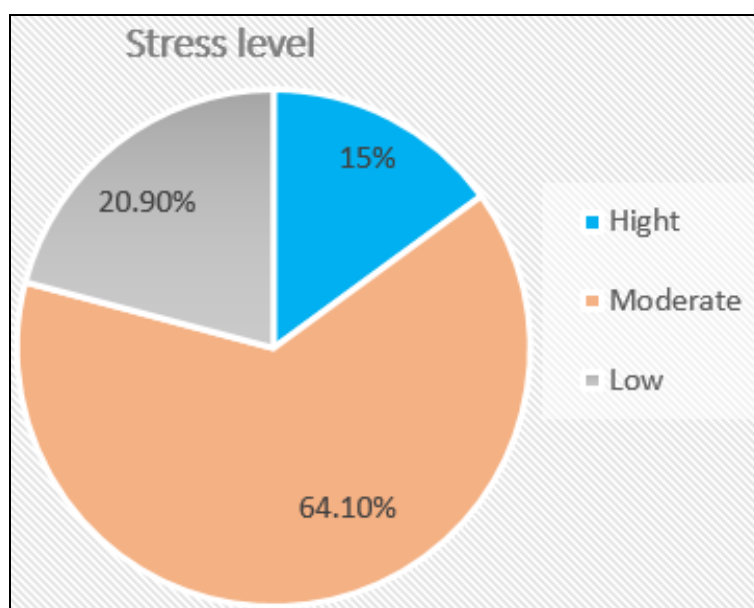
All data were collected, tabulated, and statistically analyzed using SPSS 20.0 for windows (SPSS Inc., Chicago, IL, USA)). Qualitative data were expressed as absolute frequencies (number), relative frequencies (percentage), and means and std. deviation. Pearson correlation coefficient was calculated to assess the relationship between various study variables, (+) sign indicates direct correlation & (-) sign indicates inverse correlation, also values near to 1 indicate strong correlation & values near 0 indicate weak correlation. All tests were two-sided. p-value < 0.05 was considered statistically significant (S), p-value < 0.001 was considered highly statistically significant (HS), and p-value  $\geq$  0.05 was considered statistically insignificant (NS).

**Table 1:** Means and std. deviation for subscales items of academic stress experienced by nursing students (n = 153)

Items	Mean	Std. deviation
Stress from taking care of patients	1.49	0.81
Stress from teachers and nursing staff	1.35	0.91
Stress from assignments and academic load	1.53	0.92
Stress from peers and daily life	1.32	0.82
Stress from lack of professional knowledge and skills	0.94	0.91
Stress from the environment	1.18	1.04
Mean score of stress	1.22	0.70

Table 1. Found that, overall, across all subscales of academic stress, the highest mean score of academic stress as perceived by students was related to stress from assignments and

workload (1.53  $\pm$ 0.92), while the lowest mean score was related to stress from lack of professional knowledge and skills (0.94  $\pm$  0.91).



**Fig 1:** Total academic stress levels among nursing students (n=153)

Figure 1. shows the highest percentage of nursing students had a moderate level of academic stress (64.1%), while the

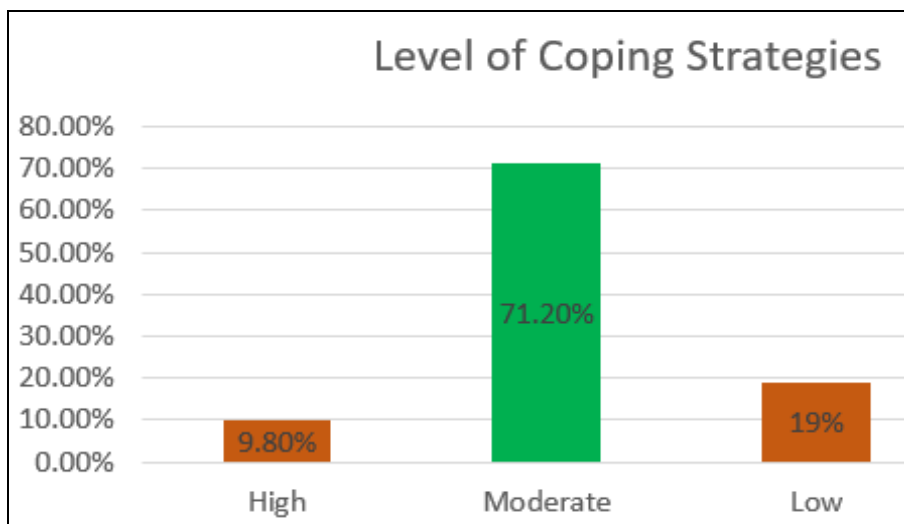
lowest percentage of students had a high level of stress(15%).

**Table 2:** Means and std. deviation for subscales items of coping strategies for stress experienced by nursing students (n=153)

Items	Mean	Std. deviation
Avoidance	1.37	0.87
Problem-solving	2.08	1.07
Stay optimistic	2.05	0.89
Transference	1.77	0.92
Mean score of coping strategies	1.64	0.75

Table 2. shows that the overall subscales of coping strategies, the highest mean score of coping strategies that used by nursing students were the problem solving and stay optimistic

strategies (2.08 ±1.07&2.05 ±0.89, respectively), while the lowest mean score was related to avoidance (1.37 ± 0.87).



**Fig 2:** Total level of stress coping strategies that used by nursing students (n=153)

Figure 2. shows the highest percentage of nursing students use a coping strategies for stress with a moderate level (71.2%),

while the lowest percentage of students use a coping strategies with a high level (9.8%).

**Table 3:** Relation between academic stress, coping strategies scores and academic level of nursing students (n=153)

Variables	Demographic data options	High	Moderate	Low	Chi Test	P Value
<b>Academic stress</b>						
Levels	5 <sup>th</sup>	6	60	20	22.156	0.001*
	86	7%	69.8%	23.2%		
	7 <sup>th</sup>	3	18	8		
	29	10.3%	62.1%	27.6%		
	8 <sup>th</sup>	14	20	4		
	38	36.8%	52.6%	10.6%		
<b>Coping strategies</b>						
Levels	5 <sup>th</sup>	8	60	18	28.723	0.001*
	86	9.3%	69.8%	20.9%		
	7 <sup>th</sup>	9	16	4		
	29	31%	55.2%	13.8%		
	8 <sup>th</sup>	4	14	20		
	38	10.5%	36.8%	52.7%		

Table 3. Depicts that there was a significant association between the academic stress and coping strategies of nursing students with academic level at P =0.001.

**Discussion**

Nursing students are regularly exposed to a variety of stressors during their education and training, which may either directly or indirectly impair their performance and ability to learn. The demands of clinical education can be stressful for students because of their inherent nature. Furthermore, the curriculum is much more difficult than other programs because of its practical components, which are crucial in preparing students for the role of a professional nurse (Ajibade *et al.*, 2016).

It is essential to comprehend the stressors that nursing students face during their training and the coping mechanisms they employ to deal with these challenges. This will make it possible for educators and nursing schools to assess and apply evidence-based interventions and support programs meant to reduce attrition in nurse training programs which in turn can help address the shortage of nurses in the region.

The study's findings showed that the majority of nursing students reported feeling moderately stressed about their academics. The results of this study suggest that nurse educators would have more challenges in putting techniques into practice that help students avoid academic stress while also maintaining their motivation and inspiration to learn more. This conclusion is consistent with that of Al-Zamil



(2017) <sup>[4]</sup>, Mohamed & El-Sherbini (2018) <sup>[18]</sup>, and Onieva-Zafra *et al.* (2020) <sup>[20]</sup>, who discovered that most nursing students had mild to moderate levels of stress. Although these results conflict with those of earlier research by Suarez-Garcia *et al.* (2018) <sup>[23]</sup> and Al Gamal *et al.* (2018) <sup>[3]</sup>, they did show that It has been discovered that kids experience substantial amounts of stress.

According to the results of the current study, students most frequently cited assignments, academic load, and patient care as sources of academic stress; on the other hand, they least frequently cited a lack of professional knowledge and abilities. Taking care of patients may have been the most stressful experience for nursing students due to the possibility that they will encounter a variety of patients with complex bio-psychosocial needs and problems. To effectively provide nursing care to these patients, nursing students must be able to establish and maintain therapeutic relationships as well as possess the necessary knowledge and skills.

Furthermore, a typical 4-year bachelor nursing degree is an extremely demanding educational experience, and nursing students face stress when the expectations of the curriculum outweigh their capacity to meet them.

The results of earlier research by Ahmed and Mohammed (2019) <sup>[2]</sup>, Nebhinani *et al.* (2020) <sup>[19]</sup>, and Shdaifat *et al.* (2018) <sup>[21]</sup>, which highlighted the academic load as a prominent factor leading to stress among nursing students, are also consistent with these findings. Additionally, Anaman-Torgbor *et al.*'s study from 2021 <sup>[5]</sup> revealed that students considered taking care of patients and completing assignments connected to their studies as major sources of stress. In terms of academic standing, the results of this study corroborate those of earlier research that found the least experienced nursing students to have lower stress levels. This could be the case because nursing students feel under pressure from their instructors and fellow nurses, who they perceive to be more competent and experienced than they are. This, in turn, raises the stress levels of the students. That being said, this interpretation needs to be connected to the previously mentioned results by taking the students' clinical placements into account. For instance, clinical placements in more specialized services are often finished in the later years of study, whereas training in more broad services occurs in college labs during the first years of study, necessitating more fundamental competencies for patient responsibility and care.

As a result, students who receive more in-depth instruction yet are also expected to possess higher levels of competencies and skills when providing patient care are under more stress. The study by Onieva-Zafra *et al.* (2020) <sup>[20]</sup>, which discovered that the least experienced nursing students had lower stress levels, corroborated this finding.

According to the results of the current study, problem-solving and maintaining optimism were the coping mechanisms that nursing students employed most frequently, with avoidance being the least common. One of the best strategies to handle stress is to solve problems by concentrating on behaviors that can change or control the issue.

Additionally, the current study revealed that the majority of nursing students employ coping mechanisms to deal with stress on a moderate level. These results are in line with those of earlier research by Al-Gamal *et al.* (2018) <sup>[3]</sup>, who noted that problem-solving techniques were the most often used coping mechanisms among nursing students. Additionally, a study conducted in 2020 by Kumar *et al.* revealed that nursing students had a modest level of coping.

The results of this study demonstrate a substantial correlation

between the coping mechanisms employed by nursing students and academic level, suggesting that pupils will employ these techniques more frequently if they experience less stress. This result is consistent with earlier research by Shdaifat *et al.* (2018) <sup>[21]</sup> and Madian *et al.* (2019) <sup>[16]</sup>, which discovered that nursing students' academic standing was a reliable indicator of their propensity to use coping mechanisms.

## Conclusions

The majority of nursing students reported experiencing moderate levels of academic stress. The most frequent causes of academic stress that students could think of were workload, assignments, and patient care; on the other hand, the least common source was a lack of professional knowledge and skills. The coping methods that nursing students utilized the most frequently were problem-solving and maintaining optimism, whereas avoidance was the least common. This study did find a connection between nursing students' academic levels and their experiences with stress as well as their coping mechanisms.

## Recommendations

In the light of these results, it is advised that the nursing curriculum include instruction in constructive coping mechanisms before clinical rotations. Developing an efficient clinical teaching strategy in nursing education may benefit from qualitative research centered on the perceptions of students regarding their clinical experience. To fully understand the impact of year-specific stress reduction programs on nursing students, more research is required. Conduct a larger-scale replication of this study at several colleges.

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