Association between resilience and stress as perceived by Baccalaureate level nursing students at a government university in Jeddah, Saudi Arabia

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Background: Enhancing resilience in nursing education is considered essential for preparing mature and assertive nursing students who are capable of thinking critically and engaging in self-reflection to manage the stressful encounters of their academic, work, and social life. This study aimed to identify the association between resilience and stress among nursing students at a government university. A descriptive correlational research study was conducted on a sample of 315 nursing students in a Government University's Faculty of Nursing in Jeddah city. Two self-administered questionnaires, the Perceived stress scale (PSS) and Resilience Scale (RS-14), were used to collect the data. Nearly half of the nursing students had moderate stress, while more than one third had low stress. Similarly, almost half of the sampled nursing students had moderate resilience, almost a quarter of the students had high resilience, and the other quarter had low resilience. Pearson correlation revealed that there was a low and negative significant relationship between stress and resilience. The analysis of the collected data showed a statistically significant low negative correlation between the variables. This result suggests that as stress increases, resilience decreases, and vice versa. Therefore, the development of programs that focus on improving self-efficacy and teaching mindfulness and coping skills is recommended to aid the development of resilience in nursing students throughout their nursing education. This will help them proceed towards their future career and social life.

Keywords: Resilience, Stress, Correlation, Nursing Students

INTRODUCTION

Nursing in the twenty-first century can be a challenging and exhausting career, pushing the boundaries of nurses beyond their personal resources. The nursing profession is widely regarded as a stressful, difficult, yet ultimately satisfying field of study. Stress is a critical issue in nursing education, and is defined as "a situation in which internal demands, external demands, or both are assessed as taxing or exceeding an individual's or group's adaptive or coping resources" (Folkman and Lazarus 1984, p. 19). Undergraduate nursing students experience higher stress than students in other degrees due to the intense academic and clinical components of their programs (Bartlett et al. 2012). Several international studies have shown that during their nursing education, student nurses are subject to substantially higher levels of stress as a result of multiple stressors (Shukla et al. 2013; Blomberg et al. 2014; Leodoro 2013; Ajweh et al. 2015; Hamaideh et al. 2017; Verdone 2020).
A systematic review by Labrague et al. (2018) indicated that Saudi Arabian student nurses faced moderate to high levels of stress during their education and training as nurses. Hence, these nursing students are not immune to various stressors that they come across during their education. Several studies have investigated Saudi Arabian nurses' stressors and coping mechanisms (Aedh et al. 2015; Alsaqri 2017; Hamaideh et al. 2017; Mahfouz and Alsahli 2016). Several factors that cause stress in student nurses have been identified, and the literature divides them into academic and clinical categories. Academic sources of stress reported in the literature include examinations, lack of time spent on recreational activities, research projects, class homework, dissatisfactory grades, and poor interpersonal relationships with faculty members (Pulido-Martos et al. 2012; Leodoro 2013; Ajweh et al. 2015; Zhao, Lei et al. 2015).

On the other hand, clinical sources of stress include concerns about caring for dying and terminally ill patients, clinical incompetence, fear of ineffective relationship with patients and their families, heavy workload, and the fear of unfamiliar or new clinical situations and settings (Leodoro

2013; Wolf et al. 2015; Graham et al. 2016; Alsaqri 2017). Prolonged period of exposure to stress has been linked to negatively health outcomes for student nurses, their well-being and quality of life, as well as a threat to their academic success (Khater et al. 2014; Labrague et al. 2018). Furthermore, stress has the potential to trigger serious health issues, leading to physiological and psychological symptoms (anxiety, irritability, reduced concentration, depression, overeating or undereating, recurrent backaches, headaches, mood fluctuations, nervousness and sleeping disorders) (Chipas et al. 2012; Krantz et al. 2013).

Nevertheless, some individuals are capable of coping with situational demands, and indeed tend to thrive under such circumstances. These individuals are recognized as resilient, a trait that is considered important in the current field of nursing. Resilience has been defined as "the capacity to survive and adapt to adversity" (Kim and Windsor 2015, p. 22). Moreover, resilience may be described as the ability to resist and heal from mental hardship efficiently (Bacchi and Licinio 2017). Several authors (Kornhaber and Wilson 2011; Mealer et al. 2014; Wei and Taormina 2014; Kim and Windsor 2015) have presented that resilience can be taught, and this is crucial for nursing education because resilience has been declared to be "one of the most important factors in facilitating successful adaptation following exposure to a traumatic event" (Mealer et al. 2014, p. 98).

Nursing students with a low level of resilience may be more susceptible to unfavorable psychological consequences, including anxiety and depression (Reeve et al. 2013). Consequently, resilience training is gaining popularity and support as a recommended method that may help navigate psychological distress of students during their nursing education (McDonald et al. 2013; Thomas and Revell 2016). Due to the significant relationship between perceived stress and resilience, it is vital to cultivate resilience among university students. Stallman (2011) stated that, greater resilience levels lead to lower levels of psychological distress among university students. However, despite the abundance of literature examining stress among nursing students around the world, there is little literature highlighting the relationship between resilience and perceived stress among Saudi Arabian nursing students.

Therefore, the current study aims to identify the resilience and stress levels as perceived by nursing students and focus on the unexamined relationship between them. This study may help decision makers in planning for better management tools and appropriate support for students through programs that can promote resilience and reduce stress. Furthermore, appropriate stress counselling sessions can be devised, and academic environments can be catered to be more supportive and protective of nursing student's well-being.

Aim of Study

This study aimed to identify the association between resilience and stress among nursing students at the Faculty of Nursing at a governmental University in Jeddah, Saudi Arabia. The research questions were as follows:

- What is the level of stress among nursing students at the Faculty of Nursing at a governmental University in Jeddah city?
- What is the level of resilience among nursing students at the Faculty of Nursing at a governmental University in Jeddah city?
- What is the relationship between resilience and stress levels among nursing students, at the Faculty of Nursing of a Government University in Jeddah, Saudi Arabia?

MATERIALS AND METHODS

Research design

The study was designed to conform to the descriptive correlational research method. The goal of correlational research is to describe the association between variables, and to gauge the strength of this association (Ary et al. 2010).

Research setting

The study was conducted in the Faculty of Nursing (FON) of a Government University in Jeddah city, in Saudi Arabia. According to the official university website (King Abdulaziz University, 2019), the Faculty of Nursing was established in 1977, as a department in the college of Medicine and Medical Sciences. The nursing curriculum consists of four-year academic programs, with the first year for preparation, and the second, third, and fourth years focused on specialization. This is then followed by a compulsory one-year internship. In addition, the FON also provides a master's degree programs in scientific nursing in four different specialization areas: Psychiatric and Mental Health Nursing, Nursing Administration, Medical and Surgical Nursing and Obstetrics and Gynecology Nursing.

Participants

The inclusion criteria were: nursing students should belong to the second-, third-, and fourth-year baccalaureate program, from the Faculty of Nursing in a Government University, and should be willing to participate in the study.

A total of 400 baccalaureate nursing students were enrolled for the year 2020-2021. The researcher used the Raosoft Software Program to calculate the sample size. The required sample size for the current study was 197 students, with 5% confidence error and 95% confidence level. Thus, a convenience sample of 315 students were included, as they met the criteria with a response rate of 79%.

Tools of data collection

The tools used for data collection were as follows:

2-part Tool I:

Part one: Participants sociodemographic data sheet was developed by the researcher and included: (age, marital status, place of residence, place of accommodation, years of study, family monthly income).

Part two: Perceived stress scale (PSS), which was developed by Cohen et al. (1983), as a global measure of perceived stress. The PSS is among the most commonly used scales globally to measure the perception of stress. The PSS provides an indication of the degree to which life situations are considered to be stressful. The 10-item version (PSS-10) was used in this study, which has better psychometric properties (internal consistency and factor structure) (Cohen and Williamson 1988).

The 10-item PSS inquires about the thoughts and feelings encountered during the last month. These items are rated on 5-point Likert scale ranging from 0 (never), 1 (almost never), 2 (sometimes), 3 (fairly often), and 4 (very often). The overall possible scores ranged from 0-40, with higher scores indicating greater perceived stress. The total perceived stress score is the sum of the 10 items, with some of the questions (4, 5, 7, and 8) reversely scored, as these questions reflected positive ways of handling stress. The scoring system for PSS is as follows: 0-10 indicating relatively stress free, 11-20 low stress, 21-30 moderate stress, and 31-40 severe stress. The scale showed good psychometric properties with a Cronbach's alpha of 0.82 (Frick et al. 2011; Walli et al. 2013).

Tool II:

The Resilience Scale (RS-14) was developed by Wagnild (2009a), to assess resilience among young adults. The RS-14 is a set of 14 questions on a 7-point Likert-type scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The scores of the RS-14 are calculated as a total of response values for each item, therefore enabling scores to range from 14 to 98. Scores below 65 demonstrate low resilience, scores between 65 and 81 show moderate resilience, and scores above 81 are interpreted as high levels of resilience (Wagnild and Young 1993; Wagnild 2009b, 2014; Surzykiewicz et al. 2019). However, the researcher modified the scale from a 7-point to a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A 5-point Likert scale was used to increase response rate and response quality, along with reducing frustration levels among respondents (Babakus and Mangold 1992). Thus, scores ranged from 1- 46 indicated low resilience; 47-58 showed moderate resilience; 59-70 were interpreted as high levels of resilience. The RS-14 has very good psychometric properties, with a Cronbach's alpha of 0.90 (Wagnild 2014). Smith-Osborne and Whitehill Bolton (2013) reported the scale as the most commonly used to measure resilience among youth.

Procedures

Before conducting the study, data collection tools were translated from English to Arabic and back translated into English. Both English and Arabic tools were tested for their content validity and relevance by a panel consisting of five experts in the nursing field, and resultantly, there were no necessary modifications for the tools. The researcher conducted a pilot study on a sample of students from the Faculty of Nursing by including 10% of the students in the second, third, and fourth year of the baccalaureate nursing program who were willing to participate in the pilot study. This was about 20 nursing students from the estimated sample size, which was 200. The primary researcher distributed the questionnaire to the students during their classes after taking permission from their instructors. There were no changes in the data collection tools or study methods used. Participants included in the pilot study were excluded from the final data analysis, to avoid contamination of the data.

Ethical approval to conduct this study was obtained from the Nursing Research Ethics Committee (NREC) (NREC serial no: ref no 1M.06) at the Faculty of Nursing in the governmental university. Nursing students were assured that their participation was voluntary, and they had the right to withdraw at any time from the study, which would not affect them in any way. In addition, the students were assured of the confidentiality of all the information collected. The researcher was keen to protect nursing students' right to privacy through anonymity. All information received was stored safely on a data encrypted file that could only be accessed by the primary researcher.

The researcher collected data over two months, starting from March 2020. The questionnaire, with the attached consent form, was distributed to nursing students who were willing to participate in the study. Due to the COVID-19 pandemic and the national decision to migrate to remote online learning, the researcher developed an electronic questionnaire to complete the data collection process. By coordinating with the leaders for each nursing academic year, the electronic questionnaire was distributed to the nursing students through a WhatsApp group. The researcher instructed the students not to fill out the questionnaire if they had filled it out previously, to avoid data duplication.

Data analysis

The data were analyzed using SPSS, version 23.0. For descriptive statistics, frequencies, percentages, means and Standard Deviations (X ± SD) were used. For inferential statistics, a correlational test was used. Tables and graphs presented the results. The accepted confidence interval was 95% and the significance level for all analyses was $P < 0.01$ and <0.001. The relationship between resilience and stress levels by sociodemographic characteristics was assessed using Chi-square test. Pearson correlation test was conducted to test the

strength and the direction of the relationship between stress and resilience among nursing students.

RESULTS

Table 1 shows the distribution of nursing students according to their socio-demographic characteristics. As shown in this table, out of the 315 student-participants, approximately three-quarters (70%) were 21 years or younger, and all of them were single except one married student.

Table 1:Frequency and percentage distribution of nursing students according to their sociodemographic characteristics. (n=315)

Socio demographic Characteristics	Nursing students (n=315)	
	Frequencies	Percentage
Age group		
≤ 21 years	221	70.2%
22 – 25 years	94	29.8%
Marital status		
Single	314	99.7%
Married	1	0.30%
Year of study		
Second year	118	37.5%
Third year	102	32.4%
Fourth year	95	30.2%
Place of residence		
Inside Jeddah	287	91.1%
Outside Jeddah	28	8.9%
Place of accommodation		
Alone	7	2.2%
With family	291	92.4%
In campus	17	5.4%
Family monthly income		
Not enough	26	8.3%
Enough	251	79.7%
More than enough	38	12.1%

Out of these, 37.4% students studied in the second year, while 32.4% studied in the third year, and 30.2% studied in the fourth year. In addition, 91.1% of them were living inside Jeddah city, and 92.4% stayed with their family, while a minority stayed in the campus or alone (5.4% and 2.2%, respectively). Overall, 79.7% of them reported having a sufficient monthly income

Figures 1 and 2 present the distribution of frequency and percentage of nursing students, according to their perceived stress and resilience levels. Moderate perceived stress existed for 48.6% of nursing students, and 41.3% experienced low stress. Similarly, while 47.3%

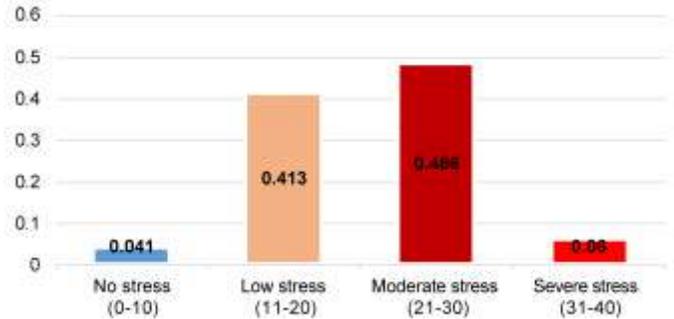of them had moderate resilience, 26.7% had high resilience, and 26% had low resilience.

Figure 1: Frequency and percentage distribution of nursing students according to their perceived stress levels. (n=315)
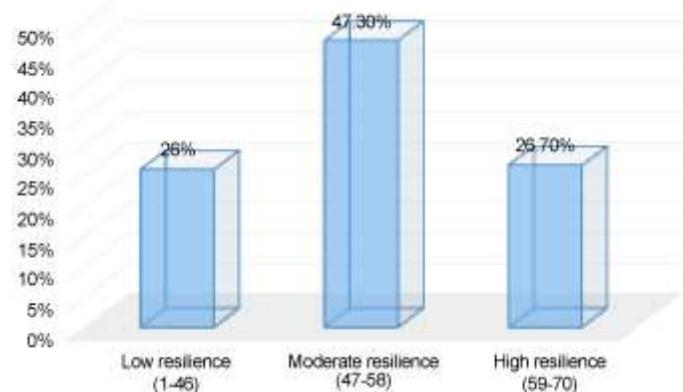

Figure 2: Frequency and percentage distribution of nursing students according to their resilience levels.

As shown in Table 2, Chi square test was conducted to test the relationship between the level of stress and the sociodemographic characteristics of nursing students. There was no statistically significant relationship between the level of stress and all items of sociodemographic characteristics, except the item of "Family monthly income," which shows a statistically significant value (X^2=24.660, p<0.001).

Table 3 displays the relationship between the levels of resilience and the sociodemographic characteristics of nursing students. There was no statistically significant relationship between the between these two variables, except with "Years of study," which shows a significant relationship with the resilience levels (X^2=17.748, p<0.01).

In addition, as shown in Table 4, Pearson correlation was conducted to identify the strength and direction of the relationship between perceived stress score and resilience among nursing students. The result indicated that there was a low and negatively significant relationship between the variables (r=-0.17; p<0.01), suggesting that as stress increases, resilience decreases, and vice versa.

Table 2: Relationship between stress levels and the sociodemographic characteristics of nursing students.

Socio-demographic	Nursing students (n=315)

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characteristics		Stress Level				Total	X^2	P
		No stress	Low	Moderate	Severe			
Age	≤ 21 years	7	91	110	13	221	1.902	0.593
		3.2%	41.2%	49.8%	5.9%	100.0%		
	22-25	6	39	43	6	94		
		6.4%	41.5%	45.7%	6.4%	100.0%		
Marital status	Single	13	129	153	19	314	1.428	0.699
		4.1%	41.1%	48.7%	6.1%	100.0%		
	Married	0	1	0	0	1		
		0.0%	100.0%	0.0%	0.0%	100.0%		
Years of study	Second year	2	48	60	8	118	6.317	0.389
		1.7%	40.7%	50.8%	6.8%	100.0%		
	Third year	6	47	42	7	102		
		5.9%	46.1%	41.2%	6.9%	100.0%		
	Fourth year	5	35	51	4	95		
		5.3%	36.8%	53.7%	4.2%	100.0%		
Place of residence	Inside Jeddah	13	116	141	17	287	2.105	0.551
		4.5%	40.4%	49.1%	5.9%	100.0%		
	outside Jeddah	0	14	12	2	28		
		0.0%	50.0%	42.9%	7.1%	100.0%		
Place of accommodation	Alone	0	3	4	0	7	3.356	.763
		0.0%	42.9%	57.1%	0.0%	100.0%		
	With a family	13	118	141	19	291		
		4.5%	40.5%	48.5%	6.5%	100.0%		
	In campus	0	9	8	0	17		
		0.0%	52.9%	47.1%	0.0%	100.0%		
Family monthly income	Not enough	1	4	15	6	26	24.660**	<0.000
		3.8%	15.4%	57.7%	23.1%	100.0%		
	Enough	12	112	114	13	251		
		4.8%	44.6%	45.4%	5.2%	100.0%		
	More than enough	0	14	24	0	38		
		0.0%	36.8%	63.2%	0.0%	100.0%		

*** *p<0.001*

Table 3: Relationship between the resilience levels and the sociodemographic characteristics of nursing students. (n=315)

Socio-demographic characteristics		Nursing students (n=315)					
		Resilience Level			Total	X^2	P
		Low	Moderate	High			
Age	≤ 21 years	58	104	59	221	0.022	0.989
		26.2%	47.1%	26.7%	100.0%		
	22-25	24	45	25	94		
		25.5%	47.9%	26.6%	100.0%		
Marital status	Single	81	149	84	314	2.851	0.240
		25.8%	47.5%	26.8%	100.0%		
	Married	1	0	0	1		
		100.0%	0.0%	0.0%	100.0%		
Years of study	Second year	29	60	29	118	17.748**	0.001
		24.6%	50.8%	24.6%	100.0%		
	Third year	40	37	25	102		
		39.2%	36.3%	24.5%	100.0%		
	Fourth year	13	52	30	95		
		13.7%	54.7%	31.6%	100.0%		
Place of residence	Inside Jeddah	76	137	74	287	1.322	0.516
		26.5%	47.7%	25.8%	100.0%		
	outside Jeddah	6	12	10	28		
		21.4%	42.9%	35.7%	100.0%		
Place of accommodation	Alone	4	1	2	7	6.338	0.175
		57.1%	14.3%	28.6%	100.0%		
	With a family	75	141	75	291		
		25.8%	48.5%	25.8%	100.0%		
	In campus	3	7	7	17		
		17.6%	41.2%	41.2%	100.0%		
Family monthly income	Not enough	9	13	4	26	2.680	0.613
		34.6%	50.0%	15.4%	100.0%		
	Enough	62	120	69	251		
		24.7%	47.8%	27.5%	100.0%		
	More than enough	11	16	11	38		
		28.9%	42.1%	28.9%	100.0%		

** $p<0.01$

Table 4: Correlation (Pearson-r) between stress and resilience level scores among nursing students. (n=315)

Variable	Pearson (r)/p
Perceived stress	-0.17**/0.003
Resilience	
*$p<0.05$, **$p<0.01$, ***$p<0.001$	

DISCUSSION

The current study revealed that the perceived stress among nearly half of nursing students was moderate, while more than one-third had low stress. This may be suggestive of the stressful experience of being a nursing student, with nursing education presenting a highly stressful curriculum. Another reason for this result may be that the nursing students who participated in the current study were between the ages of ≤ 21-25 years. This age group may tend to portray higher concern and insecurity about the demands of the professional education and career path they have chosen (Bublitz et al. 2016). Furthermore, moderate stress levels can also be attributed to the outbreak of COVID-19, lockdowns, and the need for social distancing. Maintaining daily life in lockdown during a pandemic like COVID-19 necessitates significant modification in lifestyle, resulting in psychological distress and stress (Sheroun et al. 2020).

In agreement with the result of this study, a research conducted in Turkey found that, the levels of academic stress among nursing students were moderate (Ozsaban et al. 2019). Similarly, a study in Saudi Arabia by Ahmed and Mohammed (2019) sampled 125 nursing students and found that they experienced moderate stress. Contradicting this result, a study conducted in Turkey by Yıldırım et al. (2016), showed high levels of stress in nursing students.

Moreover, 41.3% of nursing students in the current research had low stress, which may be a result of the vast majority of them living with their family. This may have decreased the time spent by students on daily domestic chores, providing more time to dedicate to their studies. Living with one's family can also provide the required support during stressful times. Students receiving higher levels of perceived family support had high self-esteem and low academic stress (Pandey and Chalise 2015). Another reason for lower levels of stress might be that more than three-quarters of nursing students had sufficient monthly income, and this reduced the stress of meeting financial needs. Income has varying degrees of influences on factors that reduce stress such as access to leisure and cultural activities and sports. The socioeconomic level of a family plays an important role in stressful conditions among students (Senturk and Dogan 2018). The low levels of stress could also be related to preferences among students towards online learning, fostered by COVID-19. Furthermore, Abdulghani et al. (2020) reported that students who enjoyed receiving online education during COVID-19 were found to be the least stressed. In Taiwan, a study conducted among 208 students revealed that two personality traits, intellect/imagination and conscientiousness, had a greater positive influence on students' perceptions towards online learning, while neuroticism had a significant negative impact on online courses' participants (Bhagat et al. 2019).

Analysis of variance in the current study reveals that there is no association between perceived stress and any of the sociodemographic variables, except one significant relationship, which was between family monthly income being "more than enough" and a moderate level of stress. This may be because some parents seek perfection, thus setting unrealistic expectations for their adolescents. Appraising such adolescents based on unrealistic expectations generally pressurizes them to be socially perfect, stemming uncertainties, doubts, and concerns regarding achieving such standards. This leads to higher levels of difficulties in handling stress and adversity. People with such experiences often tend to overachieve and remain unchanged in their approach even during difficult times, hoping to maintain their untarnished image. In this regard, Klibert et al., as cited in (Jones 2020), stated that those who score high in perfectionism are also more likely to find it more difficult to handle stress and adversity.

In accordance with the present results, Leodoro (2013) reported that students from high-income families tend to perceive higher stress related to their assignment and workload. Inconsistent with the current results, Alghamdi et al. (2019) found that academic load stressor of students decreases as their monthly income increases.

The second aspect explored in the present study is a student's resilience. The study revealed that nearly half the nursing students had moderate resilience, while the other half was split into two quarters; the first quarter had high resilience, and the other quarter had low resilience. This moderate resilience could be related to many reasons. The first may be because almost two-thirds of nursing students in the current study were in the third and fourth academic years, and these individuals may have built and reinforced their resilience as a result of their interaction with the typical adversities of academic education, such as caring for other people, and dealing with death and the demands of the profession. Furthermore, it is critical to understand the challenges that students face on a personal and family level, which occur outside of educational institutions, but which mobilize and improve their coping resources in general and may contribute to their resilience. The second reason for moderate resilience could be that the majority of nursing students lived with their family; in the Saudi culture, the family usually provides support to the children and it is known that social support is very important in building resilience. In accordance with this, several studies reveal that social support from family, peers, and faculty within nursing programs is a significant factor in the development of resilience among nursing students (Carroll 2011; Crombie et al. 2013). Spirituality and optimism are very important aspects in Saudi life and culture, since they are part of being Muslim, and this may be regarded as the third reason for moderate resilience in the current study. Religious practices in Islam such as prayers and the obligation of having positive faith and expecting the best, even in the worst of times, might all contribute to the

resilience of nursing students. In agreement with this, Helmreich et al. (2017), mentioned that spirituality and social support are factors that can bolster resiliency. Furthermore, Stephens (2013), cited that both optimism/hope and faith are attributes of resilience in nursing students.

In India, a study Sam and Lee (2020), reported that undergraduate students exhibited low resilience, which is inconsistent with the results of the current study. However, in agreement with the current result, several research studies found moderate resilience levels among nursing students (Ríos-Risquez et al. 2016; Mathad et al. 2017; Smith and Yang 2017; Ozsaban et al. 2019; Chow et al. 2020).

In the current study, it can be noted that sociodemographic characteristics of nursing students did not show a statistically significant relationship with the resilience level except only with one variable (years of study); fourth-year nursing students particularly showed a significant relationship with the level of resilience. The results indicated that moderate resilience levels had a significant relationship with those students. It could be that the higher level of study year may lead to higher resilience since students may become more resilient and able to adapt with the stressors facing them after the experiences that accumulate from academic environments and clinical practice along with their study, which all might contribute to a rise in their self-awareness, self-regulation, and self-efficacy. This is in accordance with the findings from a qualitative study conducted with third and fourth-year nursing students from Singapore, where students reported that despite being stressed at the beginning of clinical classes, their resiliency and adaptability increased due to several experiences they encountered and due to their classmates' support (Lopez et al. 2018). Also, Da Silva et al.(2020), reported that fourth-year students were more resilient than those who started the course, indicating that resiliency was strengthened throughout the education process.

The present study revealed a low and negatively significant correlation between stress and resilience, with the results showing that the lower the stress, the higher the resilience. This appeared to be the case in the current study, as nursing students with moderate stress showed low resilience, while those with low stress showed moderate resilience. This could be an indication that the nursing students with moderate resilience were fighting the stress and trying to handle challenges, and this may indicate that students were able to cope with various stressors encountered through their academic and clinical education. Hence, resilience may help nursing students thrive in stressful situations in the academic and clinical arena. In agreement with this, (Sahu et al. 2019), reported that individuals with high resilience tend to perceive less stress in a challenging and difficult environment and are more likely to overcome a stressful situation than those with low resilience. This finding is inconsistent with

Ozsaban et al. (2019); their cross-sectional study revealed that the correlation between the average score of psychological resilience scale for adults and nursing education stress had no significant difference. Thus, no relationship was found between stress and resilience levels of students. On the other hand, several findings from the literature show that there is a negative correlation between stress and resilience (Shilpa and Srimathi 2015; Smith and Yang 2017; Chow et al. 2018), which is consistent with the current study's findings.

This study has several limitations. First, it focused on nursing students from only one University in KSA. Thus, the findings cannot be generalized to all of KSA. Another limitation was that the COVID-19 pandemic and the lockdown caused closure of universities and educational systems globally. Hence, this situation might be considered an additional source of stress for some nursing students, or relief from stressors for a few others. Thus, the results of the study may be contaminated.

CONCLUSION

The current study revealed that there was a low and negative significant relationship between resilience and stress among nursing students, which means that as stress increases, resilience decreases, and vice versa. Based on the results of the current study, certain recommendations have been developed. It is important to educate nursing students about stress being inevitable in their academic life or career, and that they should learn how to cope with it positively. Nursing students also need to develop higher resilience to fight the stress. They should be informed about the role of academic advisors, to whom they can reach out when they feel tremendous stress hindering their performance in the academic sphere or in life. A channel of communication should be established between family members and academic advisors, to encourage the family to spend quality time with each other and to provide a safe space for their children to ventilate their emotion during stressful times. Social media platforms should raise community awareness, regarding the negative effect of constant unresolved stress, and the role of resilience as a healthy skill needed to deal with it. Further studies are required to examine these factors in different regions of Saudi Arabia, to verify the results of this study and to determine if cultural and other variables can affect resilience and stress among nursing students.

CONFLICT OF INTEREST
The authors declare that present study was performed in absence of any conflict of interest.

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AUTHOR CONTRIBUTIONS

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