

The Relationship between Anxiety and Resilience among Nursing Students in Qassim University, KSA.

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Abstract

Background: Feelings of stress and agitation are hallmarks of anxiety, which can also cause changes in the body including increased blood pressure, tremors, shaking, feeling dizzy or feelings of palpitation. Nursing students are exposed to many stressors. These stressors may interfere with their personnel and practical life affecting their ability to cope with the surrounding challenges. Nursing students must possess necessary skills to cope with their environment and achieve adaptation. Resilient students are defined in terms of their capacity to deal with changes. **Objectives:** To assess anxiety level and resilience level and detect the relation between anxiety and resilience among nursing students. **Subject and methods:** This descriptive crosssectional study was conducted in college of nursing, Qassim University, KSA. The sociodemographic questionnaire, Resilience Scale developed by Connor and Davidson, and Beck Anxiety Scale were completed by 152 nursing students. The data were analysed using SPSS program. **Results:** About (61.8%) of the participants were diagnosed to have mild anxiety levels, (23%) moderate anxiety while only (15.2%) had severe anxiety. The mean resilience score, was 68.67 ± 14.39 . There was significant negative correlation between total anxiety and resilience scores ($r = -0.389$ and $P = 0.001^*$). **Conclusions:** Mental health issues, such as anxiety, still have a significant impact on people who are pursuing a nursing education. The association between anxiety and the stress associated with practice was significantly mediated by resilience. High-resilience nursing students had inner strengths, that enable them in overcoming difficult situations. Resilience serves as a stress-reduction tool and aids in students' recovery from mental health difficulties. **Recommendations:** Stress surrounding the life of nursing students so, they need more support and facilities. The four-year educational program at the nursing school should offer facilities and chances for students to practice stress management techniques, including acquiring resilience.

Keywords: Anxiety, Resilience, Nursing students

Introduction

Nursing students are exposed to many practice-related stressors causing anxiety. This anxiety may hinder their education performance and clinical practice. Being focused, motivated, and adaptable in facing stress and anxiety is necessary for them. This is what is called resilience (Berdida & Grande, 2023). It describes how people successfully adjust to big events and challenges that they face (Qi et al., 2022). Stronger resilience enables nursing students to cope with and rapidly react to challenges and unpleasant occurrences, find a new equilibrium, and

decrease the negative effects on their mental health (Jntema, Burger & Schaufeli, 2019).

A body's natural reaction to feeling nervous, afraid, and stressed about the future is anxiety (Huang, 2012). Anyone, at any age, can experience anxiety. Even though being anxious and stressed happens in many situations along our daily life but when this anxiety become strong and constant, it can worsen and eventually develop into psychological disorder (Newman et al., 2013). It can result in distress syndromes like trembling, shortness of breath, headaches, mental confusion, irritability, and a variety of other disorders (Hofmann & Hinton, 2014).

Students in their late teens and early twenties have been found to have a significant prevalence of anxiousness. In contrast to high school, university involves additional consideration for social interaction, homesickness, tuition costs, and expense of living in addition to being intellectually hard (Vitasari et al., 2010). Students are advised to possess the fortitude necessary to adapt with the new environment challenges. Resilient students are defined in terms of their capacity to deal with changes. Resilience is therefore related to one's capacity to overcome or cope with hardship. (Portnoy et al., 2018).

Resilience is thought to be a helpful pathway that aids kids in interacting with their environment and evaluates the connections between a variety of mental satisfaction factors and performance in learning process. (Xue, 2021 & van der Meulen et al., 2020). The capacity to maintain optimism and adjust to hardships is known as resilience. It can be enhanced by practise or education. Resilience, according to some studies, can be viewed as a shield for mental health and can lessen the negative effects of trauma on one's mental state. Furthermore, evidence indicates that resilience can alter how stress and adverse feelings are related, minimising the effects of stress (Wu et al., 2023).

Few studies have been done recently in Saudi Arabia assessing nursing students' psychological resilience and anxiety. Hence, this study is aimed to evaluate anxiety level and resilience level and detect the relationship between anxiety and resilience among nursing students.

Significance of the study:

University is a critical time in a person's life requiring flexibility and change in lifestyle. Nursing students face unusual and difficult circumstances in their daily lives, so they undergo pressure and stress. Anxiety and depression are only two of the mental health conditions that resilience can help protect against. Resilience can help fend off bullying and trauma that has already occurred, to name just two. Being adaptable can help you cope with a psychological issue more successfully. (Mesman, 2021). To the best of our knowledge, Few studies have been done recently in Saudi

Arabia assessing nursing students' psychological resilience and anxiety.

The Aim of the study:

The study was intended to evaluate the relationship between anxiety and resilience among nursing students in Qassim university, KSA

Research questions:

The reasearch questions for which the researchers tried to find out the answers were:

- 1- Is anxiety prevalent among nursing students in Qassim University, KSA.
- 2- What is the resilience level among nursing students in Qassim University, KSA.
- 3- What is the relation between anxiety and resilience among nursing students in Qassim University, KSA.

Subjects and Methods

Research design:

A descriptive cross sectional design was utilized in this study.

Study setting:

The study that was carried out in College of nursing, Qassim University, KSA for one year.

Research subjects:

The study included 152 nursing students (from students in year 2, 3, 4), and willing to participate in the study .

Sample size:

The association between psychological resilience level, and anxiety level, was -0.255 (Demir & Barut, 2020). with power of test 90%,and confidence level 95% ,the sample size calculated to be 152 student.

$$\text{Sample size} = [(Z\alpha + Z\beta)/C]^2 + 3$$

$$\text{The standard normal deviate for } \alpha = Z\alpha = 1.96$$

$$\text{The standard normal deviate for}$$

$$\beta = Z\beta = 1.2265$$

$$C = 0.5 * \ln[(1+r)/(1-r)]$$

Data collection sheet which is composed of three parts including; Socio-demographic sheet, Resilience Scale developed by Connor and Davidson and The Beck Anxiety Scale was developed by Beck et al:

1.Socio-demographic sheet:

This part included the personal characteristics of the students including age, residence, marital status, parent's occupation, family size and the income.

2.Resilience Scale developed by Connor and Davidson (2003).

Each of the 25 items on the scale which is given a response on a 5-point scale (0 being "not true at all" and 4 being "true nearly all the time") based on how much they agree with it. The sum of all the replies yields the overall score, which ranges from 0 to 100 and represents the respondent's resilience. Bilingual specialists assessed and approved the final draught. The internal consistency reliability in this study, as measured by Cronbach's alpha, was = 0.89.

The Beck Anxiety Inventory was developed by Beck et al (1988).

The frequency of an individual's anxiety symptoms is assessed using this scale. It contains of 21 self-reported items on a four-point scale that rate the severity of physical and mental anxiolytic symptoms experienced during the previous seven days. Scores of 0 to 21 indicate mild anxiety, 22 to 35 indicate moderate anxiety, and 36 and higher indicate potentially alarming levels of worry. The measurement system was converted from English into Arabic and then back into English. Bilingual specialists assessed and approved the final draught. The internal consistency reliability in this study, as measured by Cronbach's alpha, was = 0.94.

Pilot study: About 10% of the study subjects participated in a pilot study to evaluate the tools' applicability, viability, and practicability. Based on the findings of the pilot study, the necessary modifications were then made.

Procedure: After ethical approval, the questionnaire was adapted in Google form (need 20 minutes to be filled) to facilitate data collection. The leader of all academic years sent the form to the students on WhatsApp group of each academic year. The data was observed till the required sample reached (3 months).

Ethics approval and consent to participate

The proposal for this study was submitted to the Research Centre Committee (RCC) (number of ethical acceptances is (06-27-23) of the college of nursing at Qassim university. Before providing their informed consent to participate in the study, students were informed of its goals and their freedom to decline or withdraw at any time. Students were

made aware that the data would only be utilised for study, and the confidentiality of the collected information was guaranteed. All subjects electronically provided their informed consent prior to registration. On the screen requesting informed consent, there were only two options: Yes or No. The individuals who clicked "Yes" were then taken to the questionnaire page and told they could opt out of the study at any time and without giving a reason.

Statistical Analysis

SPSS 26.0 for Windows was used (SPSS Inc., Chicago, IL, USA). Quantitative information was represented using the mean, standard deviation, and median (range), whereas qualitative information was expressed using absolute frequencies (number) and relative frequencies (%). The Student's t-test was used to compare two groups of data that were normally distributed, while the Mann Whitney U test was used for variables that weren't normally distributed. To compare variables that weren't normally distributed and more than two groups, the Kruskal-Wallis test was used.

The percentage of categorical variables was compared using the Chi-square test. The Spearman's rank correlation coefficient was used to assess the relationship between the various study variables. p-value < 0.05 is considered statistically significant.

Results

Table (1) shows that mean age of the participants was 21.05 years, slightly less than half of students (47.8%) were between 21-23 years. The majority of students (73.7%) living in urban areas. Most of students (96.1%) were single. In terms of father work there were more than half of students (53.3%) had work.. Regarding income about four fifth of students (79.6%) had sufficient income. Concerning family members; there were more than half of students (55.3%) between 4-7 members.

Figure (1) show that mean total anxiety score was 19.45 ± 14.13 and mean total resilience score was 68.67 ± 14.39 .

Figure (2) illustrated that three fifth (61.8%) of the participants had mild anxiety levels, slightly more than one fifth (23%) of students had moderate anxiety while only less than one fifth (15.2%) had severe anxiety.

Table (2) shows that both income and family members are associated with anxiety.

There was a statistically significant relationship between total anxiety score and income, increased anxiety level among students with non-sufficient income. There was a statistically significant relationship between total resilience score and family members, where the highest resilience mean score among students with family members (4-7).

Table (1): Nursing Students' Sociodemographic Features, in Terms of Frequency and Percentage Distribution (n=152).

Socio-demographic Characteristics	no.	%
Age (years)		
19-<21	49	32.2
21-23	103	67.8
Mean \pm SD	21.05	\pm 1.135
Residence		
Rural	40	26.3
Urban	112	73.7
Marital status		
Single	146	96.1
Married	6	3.9
Father work		
Without work	71	46.7
Work	81	53.3
Mother work		
House wife	91	59.9
Work	61	40.1
Income		
Not sufficient	31	20.4
Sufficient	121	79.6
Family members		
1 – 3	4	2.6
4 -7	84	55.3
\geq 8	64	42.1
Birth order		
First	25	16.4
Second	34	22.4
\geq the third	93	61.2

Table (3) shows that anxiety score is significantly negative associated with total resilience score among nursing students.

Table (4) shows that there was significant negative correlation between total anxiety and resilience scores.

Table (5) demonstrates that anxiety score had negative effect on resilience score.

Figure (1): Bar Chart Illustrating Mean Score of Anxiety and Resilience

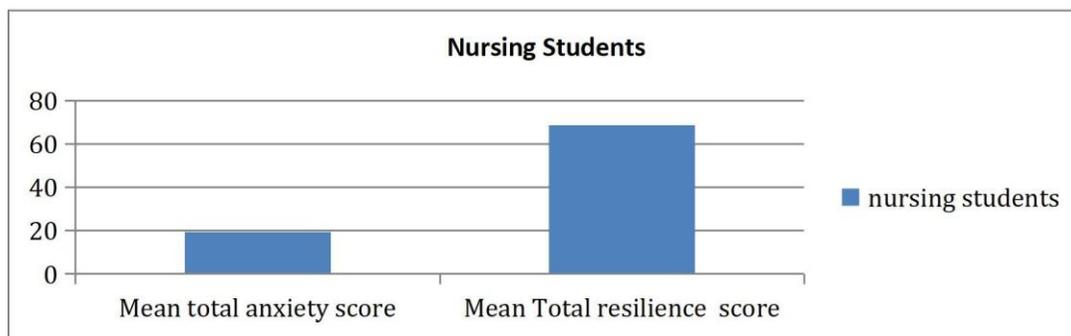


Figure (2): Pie Chart Illustrating Anxiety Levels among Nursing Students

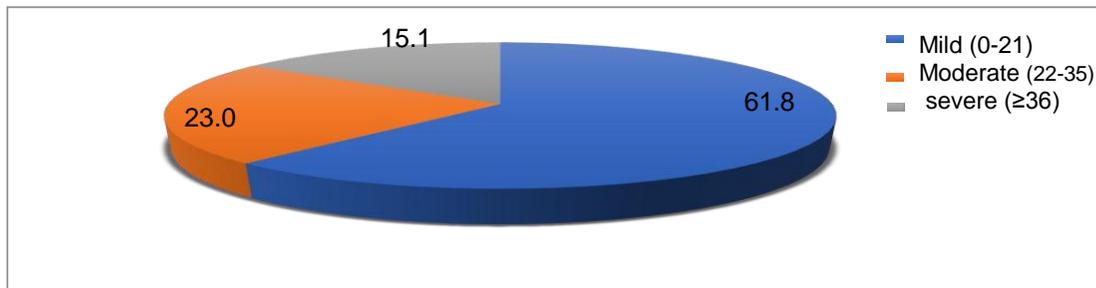


Table (2): Relation Between Socio-demographic Characteristics of Nursing Students and Their Total Mean Scores of Anxiety and Resilience (n=152).

	Total anxiety score		Total resilience score	
	Median (Interquartile Range)	Test and p-value	Mean ± SD	Test and p-value
Age (years)				
19-<21	16 (20)	MW=0.142	69.91±12.01	t=0.735
21-23	17.5(24.75)	P=0.887	68.07±15.42	p=0.463
Residence				
Rural	14 (23.5)	MW=1.702	71.12±17.07	t=1.258
Urban	18 (22)	P=0.089	67.79±13.29	p=0.210
Marital status				
Single	16 (22.25)	MW=0.544	68.54±13.80	t=0.519
Married	30 (38)	P=0.586	71.66±26.94	p=0.605
Father work				
Without work	19 (21)	MW=1.251	67.04±15.87	t=1.309
Work	15 (22.25)	P=0.211	70.09±12.90	p=0.193
Mother work				
House wife	17 (23)	MW=0.06	67.92±13.87	t=0.781
Work	16.5 (23.5)	P=0.952	69.78±15.19	p=0.43
Income				
Not sufficient	24 (22)	MW=2.404	64.51±15.21	t=1.814
Sufficient	15 (23.25)	P=0.016*	69.73±14.05	p=0.072
Family members				
1 - 3	38 (16.5)	KW=5.687	48.50±18.62	F=5.65 p=0.001**
4 -7	15 (20.75)		70.88±13.73	
≥8	18.5 (22)		67.03±14.03	
Birth order				
First	16 (19.5)	KW=0.853	71.80±16.31	F=0.78
Second	15 (23)	P=0.653	68.91±14.41	P=0.45
≥the third	19 (23)		67.74±13.88	

MW: Mann-Whitney U, KW: Kruskal Wallis Test, t: student t-test, F: one way Anova test, statistically non-significant (p>0.05), *: statistically significant (p<0.05), **: highly significant (p<0.001)

Table (3): Relation between Total Anxiety Score of Nursing Students and Their Total Mean Score of Resilience (n=152).

	Total resilience score	
	Mean ± SD	F test and p-value
Total anxiety score		
Mild	72.44±13.63	
Moderate	63.86±14.57	9.613 (<0.001**)
Severe	61.68±13.00	

F: one way Anova test, **: highly significant (p<0.001).

Table (4): Correlation Matrix between Total Anxiety and Resilience Scores (n=152).

	Total resilience score	
	r	p-value
Total anxiety score	-0.389	0.001**

** : statistically highly significant (p<0.001), r: correlation coefficient

Table (5): Step Wise Multiple Linear Regression for Predicting Factors which Affect Total Resilience Score of Nursing Students.

Model	Unstandardized		Standardized	t	Sig.	95.0% Confidence	
	Coefficients					Interval for B	
	B	Std. Error	Beta				Lower Bound
(Constant)	76.373	1.840		41.498	.000	72.737	80.010
Anxiety score	-.396-	.077	-.389-	-5.168	.001**	-.547-	-.245-

** : highly significant (p<0.001). R-square=0 .151, ANOVA: F= 26.704, P<0.001 Variables entered and excluded: age, residence, marital status, father work, mother work, income, family members, and birth order.

Discussion

Mental health issues including anxiety and depression are highly connected with nursing students' burnout brought on by a heavy clinical practice burden. Negative affectivity brought on by upsetting life events may be utilized to predict anxiety and depression in teens and undergraduates (Alvarez et al., 2019). Resilient students may be less prone to suffer from mental health problems (Aryuwat et al., 2023). A person who is resilient is able to handle hardship while maintaining emotional stability, environmental control, and a positive outlook. Resilient

nursing students will be able to manage challenges in clinical settings (Christensen et al., 2016). The aim of this study was to evaluate the relationship between anxiety and resilience among nursing students.

The current study showed that mean age was 21.05 years, slightly less than half of students were between 21-23 years. This outcome could be explained by the fact that this stage of life is packed with stressful stimuli that can lead to psychological anguish and poor performance. In addition to the rigours of their studies, university students must deal with a variety of stressors that could be harmful to

their mental health, such as new social networks, financial changes, and adjusting to new family and social duties. Also, college students in this period required to acquire skills that helping to facilitate adaptation with this university stage. Similar findings were supported by **Bresoliet al, (2020)** who conducted their study among healthcare undergraduate students and found that the age group of the studied sample ranged from 18–22-year-old with mean± SD19.3±4. Moreover, **Devi et al (2021)**, reported that participants ranged in age from 20 to 33, with an average age of 23.15. Most respondents were under the age of 23. Age and degrees of anxiety and sadness were significantly correlated negatively. students showed lower levels of anxiety and despair as well as higher levels of resilience when compared to younger classmates. Similar results were obtained by **Christensen, et al (2019)**, whose study revealed that compared to older students, younger nursing students displayed higher levels of depression. Students' knowledge seems to be enriched as they gain more real-world experience and skills over time, and they appear to be better able to manage stress by adopting healthy coping mechanisms.

Concerning marital status of participant students, the study findings revealed that majority of the participant students were single. This could be attributed to the concept of marriage was considered an overload for the students and some families preferred to postpone the marriage of their sons until they terminated their study. Similarly, this finding was supported by **Worku et al., (2020)**, who studied 'Depression, and Associated Factors among Undergraduate Students' in **Ethiopia** and documented that most of the participant students were single. More support to this result could be gained from **Fernandes et al., (2018)** who carried out their study among college nursing students in **Brazil** and added that most of participant students were single. Additionally, the majority of students had enough incomes, which may be related to Saudi Arabia's status as a developed nation with rich resources available to its residents.

The findings of the current study showed that the majority of nursing students had mild degree of anxiety and this may be explained by nursing students in our university

receive efficient support and facilities enough for them to overcome anxiety through academic counselors and psychiatric counselling unit in nursing college. These findings agreed with those of **Ghaedi-Heidari et al (2022)**, who claimed that the majority of student anxiety was on the mild side. According to research by **Pandey et al. (2021)**, medical students' anxiety levels were generally low during the COVID-19 pandemic and did not noticeably increase when they directly cared for COVID-19 patients. Additionally, **Xiao et al. (2020)** found that during the pandemic, 95.4% of medical students reported having low to average levels of anxiety. The outcomes of these two trials agreed with those of the current study. Although medical students are at risk of catching Covid-19, they are not overly concerned about it because of their high impression of the virus' prognosis and propagation.

The present study revealed that mean total resilience score was 68.67 that is above average resiliency. According to the **Ghaedi-Heidari et al. (2022)** study, medical students had above-average levels of resilience. It may be more likely that persons with ordinary resilience levels will be able to cope with and recover from challenges like the epidemic. This discovery may potentially be the cause of the students' reduced anxiety levels. According to **Du et al. (2021)**, 50% of the pupils' resilience was similar to what was predicted prior to the COVID-19 pandemic. **Qi et al. (2022)** demonstrated that the resilience score as a whole was 58:00 18:27, which was below the domestic average of 65:4 13:9. The indicator of optimism is at its lowest. In the face of adverse occurrences, resilience is a dynamic process involving emotional adjustment. The impact on mental health is lessened and the speed of adapting to the new environment is increased with greater resilience. Process-based resilience means that the "time" factor must be taken into account.

The current study revealed that there was statistically significant relationship between total anxiety score and income. The findings suggest that students from low-income households are probably not allowed to express certain emotions in their homes. On the other hand, kids from homes with incomes that are

average or above average view the ability for everyone to express themselves without upsetting anyone else and to talk through issues until a solution is reached as a critical component of family resilience. **Devi, Purborini and Chang (2021)** reported that concerning the respondents' living expenses, about two thirds of the students reported having a monthly allowance or having trouble paying for clinical placements. For the purpose of enhancing their clinical experiences, they must also switch between hospitals with various patient specialties. This increases the financial burden on the students by requiring them to pay more for clinical training and further living expenses. Absenteeism, dropout rates, and sub performance on tests and in therapeutic settings follow as a result of this. In **Heckman, Lim and Montalto (2014)** study, financial constraints are also mentioned as a stressor in college student populations. **Lim, et al. (2014)** revealed that students at colleges who reported mental health issues including depression were more likely to have poorer financial self-efficacy and lessening future financial optimism. On the other hand, as a constructive coping strategy, students with financial difficulties were also more likely to ask for financial assistance.

Resilience and personality traits among nursing students were compared, there was statistically significant relationship between total resilience score and family members. The more numbers of family members, the more resilient they were. This could be as a result of increased family social support, which includes emotional support, feeling valued and a part of a larger social group, as well as practical assistance, advice, and knowledge. This result is consistent with that of **Yldrm and Tanverdi's study from 2021**, which found that resilience and social support together boost life happiness. This means that young adults are more likely to have greater life satisfaction when they have strong networks of friends, family, and other individuals they may turn to for social support, because having resilience would enable them to overcome challenges. Social support is therefore likely to encourage resilience, which in turn results in greater life satisfaction.

Our current findings clearly revealed that there was a negative correlation between total anxiety and resilience scores with statistically significant difference. and this was in accordance with Anxiety and resilience have a considerable inverse connection, according to research by **Ran et al. (2020)** on the whole Chinese population. The negative associations between resilience and anxiety supported the hypothesis that those who were more resilient would be less likely to experience severe anxiety, including after demographic adjustment for age and education. Also, **Berdida et al. (2023)** stated that stress is negatively correlated with resilience. A person becomes less resilient; the more stress they experience or the longer they experience it, which is in harmony with our results. **Ghaedi-Heidari et al. (2022)**, on the other hand, found no connection between medical interns' anxiety and resilience. An outbreak of COVID-19. The results of this study were contradicts our study results due to the variations in approaches and tools. Additionally, according to the literature study, resilience is a complicated idea whose link to other variables cannot be simply stated by any one model. Resilience is influenced by factors including various behavioural and personality traits, adaption processes, and cultural and social contexts.

Conclusion

- High-resilience nursing students appear to be able to connect with their inner strengths, which aids them in overcoming difficult situations while pursuing their nursing learning.

-Resilience serves as a stress-reduction tool and aids in students' recovery from mental health difficulties. Mental health issues, such as anxiety, still have a significant impact on people who are pursuing a nursing education.

-The association between clinical practice-related stress and anxiety was shown to be significantly mediated by resilience.

Recommendations:

Stress surrounding the life of nursing students so, they need more support and facilities. The four-year educational program at the nursing school should offer facilities and chances for students to practice stress management techniques, including acquiring resilience.

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