RESEARCH MANUSCRIPT

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The multidimensionality of anxiety among nursing students during COVID-19 pandemic: A cross-sectional study

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Abstract

Background: Over the past year, healthcare workers constantly report their COVID-19 anxiety. However, this concept remained understudied among nursing students (NSs).

Aim: This study investigated the difference between NSs' three types of anxiety and their profile variables during the COVID-19 pandemic.

Methods: This study used a cross-sectional, descriptive-correlational design. Three instruments were used: COVID-19 anxiety scale (CAS), COVID-19 anxiety syndrome scale (COVID-19ASS), and short health anxiety inventory (SHAI) to collect data from 484 Saudi NSs. We applied the Mann–Whitney U test and linear regression to analyze the data.

Results: Across the three instruments; CAS, Item 1 "I feel bad when thinking about COVID-19"; COVID-19ASS, Item 11 "I have imagined what could happen to my family members if they contracted COVID-19"; and SHAI, Item 17 "A serious illness could ruin many aspects of my life" yielded the highest means. COVID-19ASS showed a significant difference for the profiles "known positive" ($p = 0.05$) and "action taken after with testing" ($p = 0.05$). NS, who knew someone with COVID-19, was the only predictor of CAS.

Conclusion: Our study concludes NSs experience anxiety symptoms. Anxiety is specific to COVID-19 or a set of similar anxiety symptoms. Further research is needed to explore the anxiety state of NSs during the pandemic.

KEYWORDS
anxiety, COVID-19, health anxiety, health anxiety syndrome, nursing students

1 | INTRODUCTION

The multidimensional theory of anxiety states that anxiety is either expressed cognitively such as when someone is worried and terrified or physically through bodily symptoms marked by changes in behaviors related to hypochondriasis or both.[1] Thus, anxiety may appear specific to a cause, or in a cluster of similar symptoms called syndrome or the thought of having a serious incurable illness such as hypochondriasis.[2] It manifests physical symptoms as headache, sweating, palpitations, chest tightness, and stomach discomfort.[3] The American Psychiatric Association[4]

considers anxiety as a normal response to stress and beneficial to positive coping or adaptation. Accordingly, anxiety becomes health anxiety when a person is exaggeratingly worried and constantly seeking reassurance about well-being.[5] Scarella et al.[6] proposed that health anxiety is highly associated with other types of anxiety, mood, and somatoform disorders. The COVID-19 pandemic affected people's way of life in more ways than one.[7,8] Most COVID-19 patients die within days or weeks, the moment they start to show lung consolidation.[9] Yet, unknowingly and less reported are the psychological sequelae of COVID-19,[10] such stress,[11] depression, and anxiety.[12]

Everyone has a share of suffering in this pandemic and university students such as nursing students (NSs) are equally at risk of contracting the COVID-19. Like everyone else, NSs are fearful and anxious about the current pandemic.[13] Sun et al.[14] reported that Chinese NSs have reservations about proceeding forward in the nursing profession. Studies published to date on COVID-19 clearly showed that the anxiety level of the general population,[15] nurses,[16] and NSs[17] are considerably high. Accordingly, their perceived anxiety is apparent in their general health.[18] To provide the proper and appropriate management of care, it has to be determined which anxiety is specifically correlated to COVID-19 and those that are not.

At the outset of 2021, dozens of studies have been published on COVID-19 anxiety on different age groups, such as adolescents and high school students,[19,20] elderly,[21] pregnant women,[22] and university students.[23] Two studies published on the anxiety of NSs, one focused on anxiety and coping[24] and other on the anxiety level.[25] Moreover, to our knowledge, there is only one published study in Saudi Arabia on anxiety levels of university students.[26] These studies did not explore the multi-dimensionality of anxiety among Saudi NSs.

In light of all the preceding literature on anxiety related to COVID-19, this study investigated the state of anxiety of NSs using the COVID-19 anxiety scale (CAS), COVID-19 anxiety syndrome scale (COVID-19ASS), and short health anxiety inventory (SHAI) instruments. Also, this study examined the differences in the nature of NSs anxiety state whether it's COVID-19 anxiety, an anxiety syndrome, or health anxiety when grouped according to their profile variables. Additionally, the three instruments' predictive variables were identified.

2 | METHODS

2.1 | Research design

This study used a descriptive cross-sectional design to investigate NSs' COVID-19 anxiety and health anxiety, and the relationship to their profile variables.

2.2 | Study setting

The setting of this study is a college of nursing of the state university in the Northern region, Saudi Arabia. Founded in 2005, the nursing college has two separate campuses (male and female).

2.3 | Sampling and participants

This study used census or total enumeration sampling. All students enrolled during both semesters of the academic year 2020–2021 are eligible to participate. There were 579 enrolled NSs in the second-to-fourth year. The fifth year NSs (nursing interns) were excluded. The pilot test of the Arabic version instruments was administered to 58 (10%) NSs. The Arabic translated instruments were fielded to the remaining 512 actual participants. Of this number, 484 usable instruments were retrieved.

2.4 | Ethical considerations

Before conducting this study, we sought the ethics approval of the Institutional Review Board of a state university in Saudi Arabia's north-central region. Upon completion of all the pertinent documents, approval number H-2020-250 was granted. Since our participants are students, we declare that all protocols contributing to this study comply with the Helsinki Declaration as revised in 2013. Also, we adhered to the ethical standards of the relevant national and institutional committees on human experimentation.

2.5 | Instruments

We used three psychometrically tested instruments that have evidence for validity and reliability in this study to determine the perceived anxiety of NSs during the COVID-19 pandemic. All instruments were given permission by their original authors for their usage in this study. Preceding the three surveys are questions tailored to gather data regarding the participants' demographic and academic variables. This includes gender; the presence of chronic illness; participant's residence (within the city [urban] or in the villages [rural]); COVID-19 testing (tested or not tested); action taken after testing (no action or self-quarantine); and any close contact to known COVID-19 positive person.

The CAS created by Silva et al.[27] was specifically constructed to determine the anxiety experience of a person caused by the COVID-19 pandemic. The CAS is rated using a scale of 0 (not applicable to me) to 3 (very applicable to me). To derive the score of the responses to each item of the seven-item instrument, we computed the average score of the 0–3 scale. The higher average reflects higher anxiety on COVID-19. The instrument has a Cronbach's α score and McDonald's Ω values at 0.89 each, showing a high-reliability score.

COVID-19ASS was developed by Nikčević and Spada.[28] The possible range of score is 0–20 using the Scale 1 (not at all) to 5 (nearly every day). It has two correlated factors: perseveration (C-19ASS-P), composed of six items; and avoidance (C-19ASS-A), having three items. Both factors demonstrated acceptable levels of reliability. The C-19ASS-P and COVID-19ASS-A have Cronbach's α score of 0.86 and 0.77, respectively; demonstrating high reliability.

The SHAI[29] was used to examine the health anxiety of NSs. The SHAI was adapted with the full consent of the authors to change the range of scores from 0 to 4 instead of the original 0 to 3. No other changes were made. The authors of the instrument provided three important reasons why the SHAI should be used in the nonclinical population. First, health anxiety exists within a continuum ranging from normal to a being hypochondriac. Second, if SHAI is used in this population, it helps to understand how hypochondriasis arises from ordinary normal life experiences and is not related to a clinical problem. Finally, using the SHAI

to the normal population helps practitioners to understand that current health anxiety is not related to an existing clinical health problem. The 18 items SHAI is divided into three factors: illness likelihood factor (includes 10 items; 1,4, 5, 6, 7, 8, 9, 11, 12, and 14); illness severity factor (includes five items; 15, 16, 17, and 18); and body vigilance factor (includes three items; 2, 3, and 10). One item (item 13) is not classified into any of the three-factor but is part of the total 18 items. The rating scale of this instrument ranges from 0 (as not at all) to 4 (worries a lot) having a score range of 0–72. Its Cronbach's α score of 0.86, indicating high reliability.

The adapted instruments were translated into the Arabic language. We followed the appropriate process of translating the original versions of the three instruments.[30] Three language experts affiliated with the study setting conducted the process of translating the instruments to Arabic versions. A forward–backward translation ensured the instrument's content validity. Furthermore, the instruments were validated by three seasoned researchers in the nursing college who are articulated in both Arabic and English languages. We pilot tested the translated version of the instruments to a portion of the population (58 [10%]) to determine errors. The pilot-tested instruments yielded the following Cronbach's α score of 0.86 for CAS, 0.78 for COVID-19ASS, and 0.83 for SHAI. All the translated instruments showed high reliability to be used in this study.[31]

2.6 | Data collection

We collected the data from December 30, 2020 to April 18, 2021. Due to COVID-19 restrictions against face-to-face interaction, the data gathering was implemented online, using Google survey forms. The instructions and consent statement were highlighted in the first part of the form. When NSs send back the online survey, it signifies their voluntary consent to participate. The google forms were sent to their registered email addresses. To ensure anonymity and confidentiality, personal details were concealed and only the research team can access the collected data. Reminders were sent every 48–72 h through their emails and *WhatsApp* group chat to increase a high feedback rate.

2.7 | Statistical analysis

This study used IBM Statistical Package for Social Sciences version 27 to analyze the data. To answer Objective 1, the data were presented using frequency and percentage distribution, whereas, for Objective 2, we calculated the means and standard deviations to summarize the responses of the participants to the three instruments. Finally, in terms of the participants' demographics, including COVID-19 and non-COVID-19 specific profiles, the Mann–Whitney U test was employed to compare the CAS, COVID-19ASS, and SHAI. This decision resulted from a determination that the data did not meet the standards of normality, as determined by the Kolmogorov–Smirnov and Shapiro–Wilk tests. As a result, the action to use the Mann–Whitney U test, a nonparametric variation of the

t-test, was made. In addition, predictor variables for the three questionnaires were determined using linear regression analysis.

3 | RESULTS

3.1 | Demographic profile of the participants

Table 1 shows that most of the 484 participants (68.2%) are females and live in the city proper (95.9%). Other than gender and residence, which are demographic "non-COVID-19" profiles of the participants, the COVID-19 profiles are also shown. Also, we obtained information about their testing status, whether or not they had been tested, and the actions taken after undergoing the COVID-19 test. Only 10% were tested, while a higher majority did not undergo testing. Furthermore, since a small percentage of the participants were tested, only a few opted to self-quarantine. The participants were asked if they knew anyone who had been diagnosed with COVID-19. The vast majority answered that they did not know someone close to them who tested COVID-19 positive, such as a friend or family member (97.1%). This study's "known positive" profile does not indicate that the participants had a close encounter with a COVID-19 positive person or that they were infected with COVID-19 due to direct exposure or contact. We also assessed if the participants had any comorbidities, such as chronic illness, allergies, or taking any maintenance medications (94.8%).

TABLE 1 Participants' demographic profiles (*n* = 484)

Demographic profile	Frequency	Percentage
Age (21–35 years old)		
Gender		
Male	154	31.8
Female	330	68.2
Residence		
Urban	464	95.9
Rural	20	4.1
Comorbidity/ies		
No	459	94.8
Yes	25	5.2
COVID-19 testing		
Not tested	435	89.9
Tested	49	10.1
The action was taken upon diagnosis		
No action	470	97.1
Yes, self-quarantined	14	2.9
Known COVID-19 positive		
None	470	97.1
Family member, friend, not related	14	2.9

3.2 | Participants' responses to the CAS, COVID-19ASS, and SHAI

The responses of the participants to the three instruments were presented in Table 2. The CAS, COVID-19ASS, and SHAI yielded overall mean scores of 3.26, 2.45, and 1.94, respectively. Item 1 "I feel bad when I think about COVID-19" (4.18), Item 2 "I feel my heart racing when I read about COVID-19" (4.11), and Item 3 "I feel anxious about COVID-19" (3.92) had the highest means in the seven-item CAS. Similarly, the items with the highest means in the 11-item COVID-19ASS were Item 11, "I have imagined what could happen to my family members if they contracted coronavirus (COVID-19)" (4.90), Item 2, "I have checked myself for symptoms of coronavirus (COVID-19)" (4.80), and Item 10, "I have been paying close attention to others displaying possible symptoms of coronavirus (COVID-19)" (4.05). Finally, Item 17 "A serious illness could ruin many aspects of my life" (3.53), Item 1 "Worry about health" (2.87), and Item 10 "Wondering about what body sensations may mean" (2.83), were the three items with the highest means in the 18-item SHAI.

3.3 | Differences in the responses of the participants to CAS, COVID-19ASS, and SHAI

The participants' gender, residence, and COVID-19 data, such as testing status, action taken after testing, and known COVID-19 positive, including information about comorbidities and being on maintenance medication, were compared to their responses to the three instruments (CAS, COVID-19ASS, and SHAI), as shown in Table 3. It was discovered that when individuals were categorized according to their demographic profiles, there was no significant difference in their responses for the CAS and SHAI. With p values of 0.05 for both, the COVID-19ASS profiles "known positive" and "action done after testing" showed a significant difference.

3.4 | Predictors for CAS, COVID-19ASS, and SHAI

Only the CAS questionnaire, as indicated in Table 4, showed to have a predictive variable. According to the regression analysis, having known a COVID-19 positive person, such as a family member or friend, is the only significant predictor of CAS ($p = 0.015$). Moreover, considering the other two survey instruments, the COVID-19ASS and SHAI, indicated no predictive variables. Thus, it is unnecessary to present in this study.

4 | DISCUSSION

Our study results showed that there is no significant difference in terms of gender on the anxiety related to health and COVID-19. However, previous studies discussed that women experience anxiety more often and in a higher intensity compared with men.[32–35] Some literature reported that men experience more anxiety than women.[36] Accordingly, the higher androgen in men results in a higher anxiety level.[37] Though we reported in our study that 94% of the participants are not suffering from chronic illness, it was found that chronic illnesses (e.g., respiratory problems) are not correlated to high anxiety towards the COVID-19.[32] On the contrary, the US Centers for Disease Control[38] warned that people with health conditions, such as cancer, chronic kidney disease, and obesity (body mass index of 30–40 kg or higher) are at higher risk of contracting the COVID-19 and will have a poorer prognosis.

University students, such as NSs, are vulnerable in more ways to the impact of the COVID-19. Not only it is a threat to their physical health but significantly to their psychological and emotional well-being. This is further intensified by the demands of their academic commitments. The abrupt shift from the usual face-to-face teaching and learning process to an online mode of study where additional adjustments are necessary at the quick phase proved to be stressful.[39] Most of our participants live in the city proper (95.87%). Literature show conflicting reports whether the urban or rural areas are more COVID-19 susceptible. Across many countries, cities are more affected than the rural areas,[40,41] while others argue that rural areas have more COVID-19 cases than the cities.[42] However, the Global Institute Development pointed out that it is the overcrowding that makes the place vulnerable to COVID-19 and not population density.[43]

Our study included determinants to COVID-19 to determine the participants' risk and vulnerability to COVID-19 such as testing status, the action was taken after testing and having close contact with a known positive. With these data, we assessed the connection between their general health and their perceived anxiety related to COVID-19. The multifactorial impact of COVID-19 on general health includes specific manifestations of anxiety symptoms. This is shown in the finding of our study using the CAS instruments where the majority of the participants feel bad even the thought of COVID-19, heart racing when reading anything written about COVID-19, and just the word COVID-19 makes them anxious. The responses of our study's participants are parallel to the findings of studies published on COVID-19.[44–47]

In terms of the COVID-19ASS responses, the participants have differing opinions when it comes to the action taken after testing and about known positive COVID-19. Studies that reported on results of people's anxiety related to H1N1, Middle East respiratory syndrome-related coronavirus, and Swine flu found the anxiety became more apparent to those who encountered someone with the disease[48] and that the anxiety related to the pandemic will persist even after the pandemic is eradicated.[49]

The responses to the SHAI, which measures the health anxiety of the participants showed that there was no significant difference to all the profiles of the participants and that their health anxiety is low. Our findings contradict the study of Karim et al.[32] where there is high anxiety among their participants. The participants in our study are more concerned about the possibility that an illness, such as COVID-19, would ruin their life.

TABLE 2 Participants' responses to CAS, COVID-19ASS, and SHAI (n = 484)

Item	Instrument	Mean	SD
	CAS		
1.	I feel bad when thinking about COVID-19	4.18	0.946
2.	I feel heart racing when I read about COVID-19	4.11	0.927
3.	I feel anxious about COVID-19	3.92	1.161
4.	I feel uneasy when reading news about COVID-19	3.71	0.834
5.	I have trouble relaxing when I think about COVID-19	1.95	0.367
6	I feel like I may panic when I update myself about COVID-19	1.20	0.597
7.	I am afraid of being infected with COVID-19	3.75	0.557
	Total	3.26	0.458
	COVID-19ASS		
	Factor 1 (perseverance)		
2.	I have checked myself for symptoms of coronavirus (COVID-19)	4.80	0.641
4.	I have been concerned about not having adhered strictly to social distancing guidelines for coronavirus (COVID-19)	3.72	0.726
6.	I have read about news relating to coronavirus (COVID-19) at the cost of engaging in work (such as writing emails, working on word documents or spreadsheets)	1.24	0.811
7.	I have researched symptoms of coronavirus (COVID-19) at the cost of off-line social activities such as spending time with friends/family	1.12	0.380
8.	I have avoided talking about coronavirus (COVID-19)	1.59	0.883
9.	I have checked my family members and loved ones for the signs of coronavirus (COVID-19)	3.22	0.808
10.	I have been paying close attention to others displaying possible symptoms of coronavirus (COVID-19)	4.05	0.986
11.	I have imagined what could happen to my family members if they contracted coronavirus (COVID-19)	4.90	0.378
	Total	3.08	0.266
	Factor 2 (avoidance)		
1.	I have avoided using public transport because of the fear of contracting coronavirus (COVID-19)	1.28	0.844
3.	I have avoided going out to public places (shops, parks) because of the fear of contracting coronavirus (COVID-19)	1.60	1.115
5.	I have avoided touching things in public spaces because of the fear of contracting coronavirus (COVID-19)	2.54	0.922
	Total	1.81	0.549
	SHAI		
1.	Worry about health	2.87	0.337
2.	Noticing aches/pains	1.21	0.480
3.	Awareness of bodily sensations or changes	2.06	0.463
4.	Resisting thought of illness	1.18	0.532
5.	Fear of having a serious illness	2.03	0.320
6.	Images of myself being ill	1.18	0.461
7.	Difficulty in taking my mind off thoughts about health	1.11	0.371

TABLE 2 (Continued)

Item	Instrument	Mean	SD
8.	Relief if the doctor says nothing is wrong	1.04	0.194
9.	Hearing about an illness	2.02	0.657
10.	Wondering about what bodily sensations may mean	2.83	0.449
11.	Risk of developing a serious illness	1.14	0.471
12.	The belief of being seriously ill	1.07	0.256
13.	Thinking about other things when I feel bodily sensations	1.95	0.377
14.	Perception of family and friends about my health concerns	2.07	0.375
15.	Ability to enjoy life if I had a serious illness	2.81	0.475
16.	The probability of a cure if I had a serious illness	2.57	0.528
17.	A serious illness could ruin many aspects of my life	3.53	0.660
18.	Loss of dignity due to having a serious illness	2.21	0.408
	Total	1.94	0.104

Abbreviations: CAS, COVID-19 anxiety scale; COVID-19ASS, COVID-19 anxiety syndrome scale; SHAI, short health anxiety scale inventory.

TABLE 3 Differences in the responses of the participants to the CAS, COVID-19ASS, and SHAI (n = 484)

Profile variables	n	CAS Mean ± SD	Median (IQR)	p^*	COVID-19ASS Mean ± SD	Median (IQR)	p^*	SHAI Mean ± SD	Median (IQR)	p^*
Gender										
Male	154	3.27 ± 0.44	3.29 (0.71)	0.84	2.72 ± 0.25	2.73 (0.27)	0.22	1.94 ± 0.11	1.94 (0.11)	0.58
Female	330	3.25 ± 0.46	3.29 (0.71)		2.74 ± 0.22	2.73 (0.27)		1.93 ± 0.10	1.94 (0.11)	
Residence										
Urban	464	3.25 ± 0.46	3.29 (0.71)	0.12	2.73 ± 0.22	2.73 (0.27)	0.39	1.94 ± 0.10	1.94 (0.11)	0.12
Rural	20	3.44 ± 0.40	3.43 (0.71)		2.80 ± 0.33	2.77 (0.54)		1.97 ± 0.09	1.94 (0.17)	
Comorbidity/ies										
No	459	3.26 ± 0.45	3.29 (0.71)	0.69	2.73 ± 0.23	2.73 (0.36)	0.74	1.94 ± 0.10	1.94 (0.11)	0.26
Yes	25	3.19 ± 0.59	3.29 (1.00)		2.74 ± 0.21	2.73 (0.22)		1.96 ± 0.14	1.94 (0.25)	
COVID-19 testing										
Not tested	435	3.26 ± 0.46	3.29 (0.71)	0.49	2.73 ± 0.23	2.73 (0.36)	0.88	1.93 ± 0.10	1.94 (0.11)	0.11
Tested	49	3.22 ± 0.46	3.14 (0.57)		2.74 ± 0.24	2.73 (0.27)		1.96 ± 0.13	1.94 (0.17)	
Action taken upon diagnosis										
No action	470	3.26 ± 0.46	3.29 (0.71)	0.30	2.73 ± 0.23	2.73 (0.27)	0.05*	1.93 ± 0.10	1.94 (0.11)	0.87
Yes, self-quarantined	14	3.36 ± 0.54	3.43 (0.60)		2.87 ± 0.28	2.77 (0.48)		1.94 ± 0.10	1.94 (0.18)	
Known COVID-19 positive										
None	470	3.26 ± 0.46	3.29 (0.71)	0.30	2.73 ± 0.23	2.73 (0.27)	0.05*	1.93 ± 0.10	1.94 (0.11)	0.87
Family member, friend, not related	14	3.36 ± 0.54	3.43 (0.60)		2.87 ± 0.28	2.77 (0.48)		1.94 ± 0.10	1.94 (0.18)	

Note: Mann–Whitney U test.

Abbreviations: CAS, COVID-19 anxiety scale; COVID-19ASS, COVID-19 anxiety syndrome scale; IQR, interquartile range; NS, not significant; S, significant; SHAI, short health anxiety scale inventory.

*p > 0.05 (NS); p ≤ 0.05 (S).

TABLE 4 Predictors of COVID-19 anxiety (n = 484)

Variable	β	SE	95% CI	p
Gender (male)	0.018	0.022	−0.027 to 0.062	0.434 (NS)
Diagnosed of other illness (yes)	0.016	0.047	−0.077 to 0.108	0.742 (NS)
Place of residence (urban)	0.068	0.052	−0.035 to 0.171	0.194 (NS)
COVID-19 testing (tested)	−0.040	0.041	−0.119 to 0.040	0.328 (NS)
Known COVID-19 positive (with)	0.178	0.072	0.035–0.320	0.015 (S)*

Note: Linear regression analysis.

Abbreviations: CI, confidence interval; NS, not significant; S, significant.

*$p > 0.05$ (NS); $p \leq 0.05$ (S).

Since the participants in our study perceived that the vulnerability towards the COVID-19 is the same, it did not show any distinction whether it is anxiety about COVID-19 or to other diseases. Increasing anxiety is related to the participant's thought that there may be a second wave of the COVID-19 is coming. Moreover, if their immune system will weaken at any point in time due to some reasons, doubtful or skepticism of a vaccine in the coming months or years; or a combination of all, these aggravate the level of perceived anxiety.[50]

Only CAS exhibited a predictive variable from the participants' demographic profiles. The COVID-19 specific profile "known COVID-19 positive" was an important predictor of participants' COVID-19 anxiety. In a letter to the editors of the European Journal of Psychiatry, Lippi et al.[51] reported an increase in online searches related to COVID-19, primarily due to the disease's negative psychological repercussions, which induce worry in many people. Similarly, COVID-19 is linked to a multitude of psychosocial problems in addition to physical health issues. The emergence of the novel coronavirus may affect people's mental health in many regions.[52] Furthermore, the amount of stress it causes students, particularly NSs, cannot be understated. As a result, during pandemics, the psychological interventions for healthcare students are critical to maximizing their mental well-being and ensuring that the learning process continues normally.[53]

The COVID-19 pandemic aggravated the anxiety of NSs for a variety of reasons, including clinical duties, academic requirements, or the program of study itself.[54] Understanding anxiety in NSs on a multidimensional level would enable early detection of the causes and manifestations of a particular type of anxiety. To lessen the adverse effects of anxiety, NSs can use the same coping skills and self-management techniques in both clinical and instructional settings.

Anxiety is omnipresent in the practice of nursing. The COVID-19 pandemic magnified the state of anxiety of NSs. Recognizing the multidimensionality of anxiety in NSs will help to identify the origins and presentations of a certain form of anxiety at an early stage. Accordingly, to develop future professional nurses, nurse educators should provide formal support to NSs. Specifically, including tangible plans in the curriculum that will address NSs anxiety reduction not only during a pandemic is recommended. An explicit and shared vision in strengthening the holistic well-being of NSs among nurse educators and administrators by utilizing evidenced-based research to improve NSs academic and clinical practice achievement.

As anxiety is a multidimensional construct, undestanding anxiety in NSs will establish an early identification of sources and manifestations of a specific type of anxiety. Therefore, NSs can use congruent coping mechanisms and self-management techniques to mitigate the negative effects of anxiety. As NSs practice as professionals, whether in the presence or absence of a pandemic, they can provide quality care while maintaining their psychological well-being and integrity.

5 | LIMITATIONS

This study was conducted in a single nursing college at a state-run university in Saudi Arabia. Given the clear findings on anxiety perceived by NSs, there is an intelligible understanding that anxiety impacts their life as students during the COVID-19 pandemic. Yet, this study can generalize only among the participants. This study utilized a cross-sectional design that only allows inferring the current state of anxiety of the NSs with no inference to the past nor a prediction of its future state.

6 | CONCLUSION

Our study clearly shows that anxiety symptoms are experienced by NSs. Their anxiety runs along a continuum of severity. This may be anxiety specific to COVID-19 or as a set of similar anxiety symptoms (COVID-19 anxiety syndrome). Additionally, the health anxiety, clinically diagnosed as hypochondriasis or the thought of having a serious illness, was also present in a nonclinical state among the participants. Although there is no distinction among their responses to the three instruments that measure the different contexts of anxiety except to COVID-19ASS, it is still substantially significant to note that anxiety state continuously fluctuates from mild-to-fatal panic level. These fluctuations are unpredictable oftentimes.

7 | RECOMMENDATIONS

The findings of this study recommend that nursing colleges undertake quantitative and qualitative studies to explore the anxiety state of their NSs, both as a way to fully understand their current state of mind and

predispositions to mental distress during the COVID-19 pandemic. The data from their assessment will serve as an impetus to create policies that will assist NSs in adjusting to the new normal, knowing their current psychological well-being as well as their coping mechanisms.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

ETHICS STATEMENT

This study received approval from the University of Ha'il Research Ethics Committee approval number H-2020-250 (approved December 29, 2020).

AUTHOR CONTRIBUTIONS

Rizal Angelo N. Grande and Daniel Joseph E. Berdida led the conceptualization of the topic focus, searched relevant literature and studies, and provided research materials. Rizal Angelo N. Grande and Daniel Joseph E. Berdida developed the study design, sampling plan, and collected and organized the data for analysis. Rolan Rodolfo Jr C. Paulino, Eric A. Anies, Reinhard Roland T. Ebol, and Roger R. Molina participated in data gathering and implementation of the study protocol. Daniel Joseph E. Berdida and Rizal Angelo N. Grande provided support studies and literature in the derived results, wrote the initial and final draft of the article, and organized the discussion according to the assessment of the result. All authors participated in the overall implementation of the research protocol, provided substantial contributions to the conception or design of the work, and the acquisition, analysis, or interpretation of data for the work. Furthermore, all authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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