RESEARCH MANUSCRIPT

NURSING FORUM AN INDEPENDENT VOICE FOR NURSING WILEY

Transition in learning during COVID-19: Student nurse anxiety, stress, and resource support

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Abstract

The purpose of this study was to explore anxiety and stress experienced by first-semester nursing students and identify sources of support during a transition from a face-to-face to an online learning platform during the first months of the COVID-19 pandemic. This descriptive study used a web-based survey distributed to nursing students 2 months after the completion of their first semester. The survey questions were adapted from the Anxiety Symptoms Checklist and the College Student Stress Scale. The survey link was emailed to 79 students, with 56 consenting, and 50 completing the survey. The most commonly reported symptoms were difficulty concentrating (90%) and feeling anxious or overwhelmed (84%). Most respondents reported anxiety related to the pandemic, with 84% being concerned about a friend or relative contracting COVID-19, and with 70% fearful of becoming infected themselves. The majority of respondents expressed concerns related to difficulty handling academic workload (62%), and the need to perform well in school (56%). To decrease anxiety and stress, the faculty should foster a structured learning environment; abide by the course schedule; communicate changes or updates in a timely fashion; adapt assignments to fit the learning environment; utilize campus, local, state, and national resources; practice self-care; and extend grace.

KEYWORDS
anxiety, COVID-19, nursing students, stress, survey

1 | INTRODUCTION

In March 2020, the COVID-19 pandemic began to seriously disrupt educational systems in the United States and had a profound effect on the delivery of nursing education, particularly at the prelicensure registered nursing level. As stay-at-home orders were instituted due to social distancing requirements, face-to-face lectures were abruptly changed to online platforms and some courses canceled altogether. Numerous student clinical placements and school of nursing simulation and skills laboratory activities were canceled or altered. This resulted in many nondirect patient care clinical activities being adapted based on State Board of Registered Nursing regulations and governmental waivers.

The tumultuous changes in prelicensure nursing education and the national health-care crisis associated with the COVID-19 pandemic created an uncertain path for nursing faculty, many of whom had no experience teaching in an online format. The faculty were promptly trained to educate using new technologies (e.g., Zoom) and virtual simulation software (e.g., ATI and iHuman) as well as how to develop case studies to meet the course learning objectives.

Nursing students faced challenges that created the potential for psychological distress related to perceptions of their ability to fulfill academic and personal responsibilities. Faculty questioned whether this altered educational experience, particularly the clinical training aspects, would adequately prepare students for the nursing role responsibilities and functions and if timely graduation was feasible.[1,2]

At the start of the pandemic, the authors and their faculty colleagues were dealing with sudden and extreme changes in nursing

education as they knew it; disruptions that at times were stressful and anxiety-producing. They were concerned about how the pandemic affected their students' lives both personally and academically. Researchers suggest that learning occurs best when a state of mild anxiety exists[3]; however, the authors were aware that this novice group of nursing students was facing uncertain times that could potentially increase their anxiety levels and negatively affect their ability to perform academically.

The impetus for this study arose from the authors' experiences during this teaching-learning transition. At the beginning of each online clinical day, the instructor reviewed the agenda and timeline, then asked each student "How are you doing?" This was not intentionally planned; it evolved as a need of the instructor to "check in" with the students. This initially felt intrusive' however, as the weeks passed students said they looked forward to the weekly "how are you doing?" sessions. The students expressed a need for an outlet to discuss what it was like living during the start of a pandemic and the class was an ideal platform.

The purpose of this study was to explore anxiety and stress experienced by first-semester baccalaureate nursing students and identify sources of support during a transition from face-to-face to online learning during the first months of the COVID-19 pandemic.

2 | LITERATURE REVIEW

Published research on the COVID-19 pandemic and its effects on college students is rapidly emerging. A U.S. survey of 1010 participants conducted in May 2020 on behalf of The Education Trust[4] found that 72% of students reported higher levels of stress than usual, and 73% expressed fears related to anxiety, depression, or other mental health issues related to COVID-19. More than 75% of respondents reported concern about staying on track to graduate. Respondents also experienced anxiety regarding personal finances, housing, and basic needs such as food; students identifying as Black or Latinx reported the highest rates of anxiety related to these areas. A second nationwide study[5] surveyed 725 full-time college students, aged 18–22 years, about the impact of COVID-19 on their lives. More than one-third of participants either agreed or somewhat agreed with the statement, "I am so anxious about COVID-19 that I can't pay attention to anything else." The students also expressed concerns about the economic and employment impact on their lives.

The reported levels of student anxiety related to the COVID-19 pandemic have varied widely, depending on geographic location. COVID-19 college-based studies were first conducted in China and showed mixed levels of reported anxiety. Yang et al.[6] found that college students who experienced or witnessed stressful events related to COVID-19 reported negative psychological symptoms such as a sense of tension, fear of infection, insomnia, and low mood. Feng et al.[7] surveyed 1346 college students in Beijing and found that 26% had symptoms of anxiety. Li et al.[8] conducted a longitudinal study of college students 1 month before and 1 month after the outbreak of COVID-19 and found symptoms of anxiety and depression increased

after 2 weeks in confinement. Other studies in China found low levels of anxiety after the COVID-19 pandemic was declared.[9,10] Research in Turkey also found low-to-moderate levels of stress after COVID-19.[11-13] However, a study conducted in Australia[14] found higher levels of stress with 42.8% of participants experiencing moderate to high anxiety.

Studies conducted before the COVID-19 pandemic demonstrate that nursing students experience higher levels of stress and anxiety than students in other disciplines.[3,15] Often instructors do not realize the causes or extent of stress that students experience; however, deliberate engagement with students about their stress or anxiety and offering interventions was found to be beneficial.[16] Knowledge of and the use of positive coping strategies are linked with lower levels of stress in nursing students.[17,18] Furthermore, interventions such as short self-care exercises at the beginning of class, opportunities to debrief, or stand-alone activities can encourage a culture of self-care.[5] Therefore, it is critical for faculty to assess students' stress and anxiety levels and provide opportunities for frequent debriefing sessions, particularly during times of a local, national, or global disaster or crisis such as a pandemic.

3 | METHODS

3.1 | Design, survey, and sample

This descriptive study used a web-based survey developed by the authors with Qualtrics software. The survey questions were based on and adapted from the Anxiety Symptoms Checklist,[19] which is based on diagnostic and statistical manual of mental disorders-IV-revision criteria to assess general and panic anxiety, and the College Student Stress Scale,[20] which was adopted from Holmes and Rahe's Stress Scale. The internal consistency[21] of the Anxiety Symptom Checklist was examined using Cronbach's α (α = .80). The validity[21] of the Anxiety System Checklist was assessed using Promax oblique factor analysis and calculated to have an area under the receiver operator characteristic curve of .80. Cronbach's α[22] for the College Student Stress Scale was .87 and validity was assessed using Pearson's r and calculated to be 0.76. The reliability and construct validity of these scales is documented in the literature and were acceptable to the authors.

The Anxiety Symptoms Checklist consists of 10 items assessing perceived anxiety and related symptoms of anxiety. Three questions of the 11-item survey assessed symptoms and sources of stress and anxiety. Other survey questions inquired if participants were concerned about graduating on time and if the student consulted with a mental health professional. The authors also sought information about students' perceptions of the instructor and peer support during the educational process that occurred during the spring 2020 semester. Demographic data were collected, and a comment box was included for anecdotal notes.

Convenience sampling was used in this study and included 79 potential participants. The survey was distributed via email, using

the university's learning management system. Participants were students who recently completed the first semester of a five-semester nursing program. A recruitment email with a survey link was sent twice, 14 days apart; the survey was available for 28 days. The survey was conducted in a nationally accredited baccalaureate state school of nursing in Southern California during July and August of 2020.

3.2 | Ethical considerations and consent

Permission to conduct this study was obtained from the university's Internal Review Board. The assigned project code was 1625321-1; this study conformed to the Belmont Report principles and guidelines for conducting research. Data were collected anonymously, and no personal identifiers were collected. Participants had options to stop the survey, change responses, and skip items. The author's provided local and national mental health resources upon completion of the consent.

The link to the Qualtrics survey was included in the emails; upon opening, the informed consent was visible. At the bottom of the consent statement, a box was available to check stating the participant would voluntarily complete the survey, all information about the survey was understood, and questions were answered. The survey would not open until the box was checked. Participants received no compensation for completing the survey.

4 | RESULTS

4.1 | Survey findings

The study sample (n = 50) included students who recently completed a nursing fundamentals clinical course. The survey was sent to 79 students, of which 56 consented. Fifty completed surveys were submitted, for a return rate of 63.3%. Most respondents were between ages 18 and 21 (56%) and most were females (84%). The respondents represented a variety of ethnicities, with 42% Asian, 28% White, 24% Latinx, and 6% Black. All respondents reported feeling at least one symptom of anxiety related to COVID-19, to a maximum of 12 out of 14 symptoms with a mean of 4.32 symptoms per respondent. The most commonly reported symptoms were difficulty concentrating and feeling anxious or overwhelmed, in 90% and 84% of cases, respectively. The least commonly reported symptoms were dizziness and shortness of breath (0.5% each) (Table 1). Women noted symptoms of anxiety more often than men, and the younger the participant, the more likely they were to report symptoms.

Respondents described their anxiety as coming from a variety of sources. Eighty percent felt anxious or distressed about the effect of COVID-19 on their academics often or very often, and 70% replied they often or very often felt anxious or distressed because events were not going as planned. Respondents were least anxious or distressed about being away from home during COVID-19 (Figure 1).

TABLE 1 Commonly reported symptoms

Symptoms	Percentage with symptoms	Percentage of total symptoms	Totals
Difficulty concentrating	90	20.83	45
Feeling anxious or overwhelmed	84	19.44	42
Restlessness	50	11.57	25
Irritability	48	11.11	24
Being easily fatigued	40	9.26	20
Fear of losing control	38	8.80	19
Sleep disturbance	32	7.41	16
Palpitations or accelerated heart rate	16	3.70	8
Panic attack	10	2.31	5
Nausea or abdominal distress	10	2.31	5
Trembling or shaking	10	2.31	5
Shortness of breath	2	0.46	1
Dizziness	2	0.46	1
Total		100	216

Internal correlation showed that those who stated they "felt overwhelmed by difficulties in [their] life" also felt anxiety or distress in all other areas, with lower correlation for housing (.232) and personal relationships (.228) and the highest correlations for "ability to attain personal goals" (.784) and "ability to handle difficulties" (.722).

When asked about the public health effects of COVID-19, 84% were concerned about a friend or relative contracting COVID-19, while 70% were fearful of contracting COVID-19 themselves. Academic concerns were frequently noted as a source of anxiety, including difficulty handling academic workload (62%), and difficulty due to the need to perform well in school (56%). Respondents were least concerned about difficulty with peers treating them differently from others (Table 2).

Students responded positively regarding "instructor's response and handling of the clinical course," with 88% describing it as good or excellent. Respondents had positive responses to support from classmates and instructors, with 85% describing classmate support as good or excellent and 90% describing instructor support as good or excellent. Finally, only 10% of respondents had sought the advice of a mental health professional due to experiences with COVID-19.

Correlation testing showed multiple areas with statistical significance (p = .05). Students who described symptoms of anxiety and distress also rated highly on elements of stress, with the strongest correlation between symptoms of anxiety and stress about academic
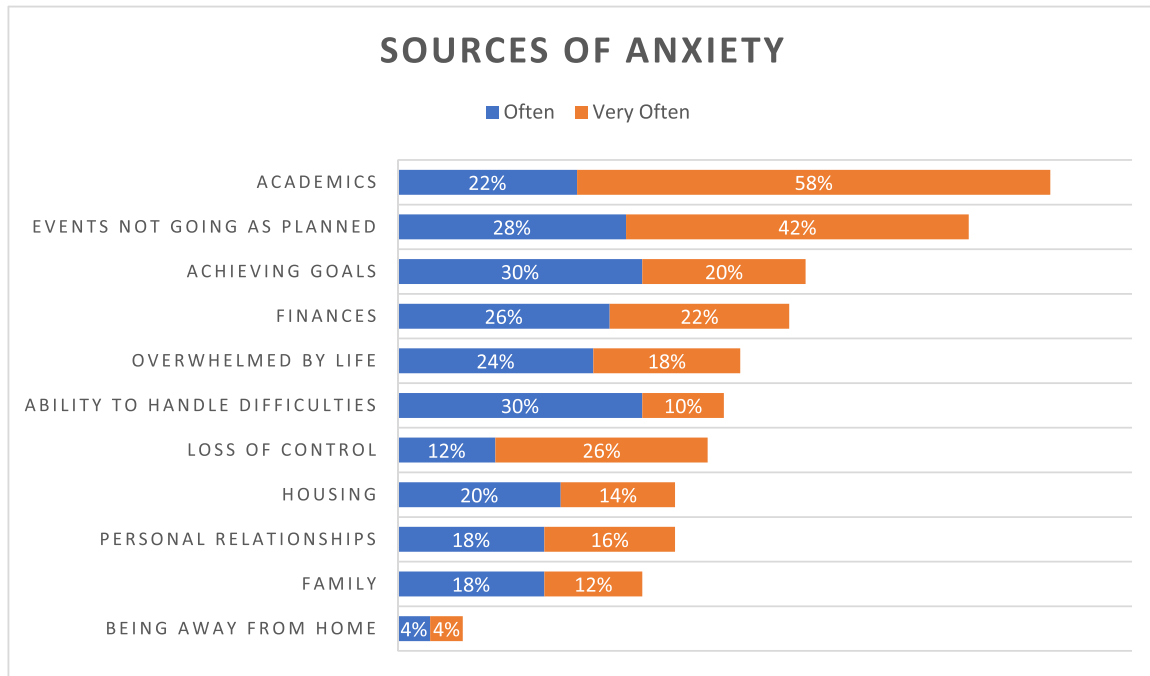
SOURCES OF ANXIETY

■ Often ■ Very Often

Category	Often	Very Often
ACADEMICS	22%	58%
EVENTS NOT GOING AS PLANNED	28%	42%
ACHIEVING GOALS	30%	20%
FINANCES	26%	22%
OVERWHELMED BY LIFE	24%	18%
ABILITY TO HANDLE DIFFICULTIES	30%	10%
LOSS OF CONTROL	12%	26%
HOUSING	20%	14%
PERSONAL RELATIONSHIPS	18%	16%
FAMILY	18%	12%
BEING AWAY FROM HOME	4%	4%

FIGURE 1 Sources of anxiety [Color figure can be viewed at wileyonlinelibrary.com]

TABLE 2 Effects of anxiety

Effects	% of total symptoms	Total	% of participants
Total	100	322	
Fear of loved one contracting COVID-19	13	42	84
Fear of contacting COVID-19	11	35	70
Difficulty taking exams	10	32	64
Difficulty handling academic workload	10	31	62
Difficulty with home and school responsibilities	9	29	58
Difficulty due to the need to perform well in school	9	28	56
Difficulty participating in class	9	28	56
Fear of failing to meet family expectations	6	18	36
Difficulty with family financial issues	5	17	34
Difficulty handling relationships	5	15	30
Difficulty meeting deadlines for schoolwork	3	11	22
Difficulty writing assignments	3	10	20
Difficulty paying university fees	3	10	20
Difficulty paying for entertainment	2	8	16
Difficulty paying for food	1	4	8
Difficulty living in local community	1	3	6
Difficulty with peers treating you differently	0	1	2
Grand total	11%	644	

matters (.420). Statistically significant correlations ($p = .05$) were demonstrated between effects on activities and relationships and areas of anxiety and distress. Respondents who described "difficulty handling relationships," had greater anxiety and stress about family matters (.400), questioned their ability to handle difficulties in life (.423), and attain their personal goals (.473). Other areas strongly correlated were those with fear of failing to meet family expectations and those who questioned their ability to handle difficulties in their life (.574) or questioned their ability to attain personal goals (.479).

Respondents who indicated support by the instructor as good or excellent showed fewer symptoms (−.314, with a statistical significance at the $p = .05$ level). Those who indicated support by the instructor as good or excellent were also less concerned about being on track to graduate (−.151) and were less likely to have sought the advice of a mental health counselor (−.086). In addition, those noting support from classmates were more likely to approve of the instructor's response and handling of the course (.459, with a statistical significance at the $p = .05$ level).

There were relatively few open-ended comments. The most frequently mentioned concerns were frustration about last-minute changes ($n = 2$) and a lack of communication on the part of the school of nursing and the university ($n = 2$). One student commented that the lack of communication increased their sense of isolation.

4.2 | Virtual debriefing sessions

The virtual debriefing sessions during the spring academic sessions were not part of a formal project. Rather the student narratives and remarks became driving factors that led to the present project. The weekly informal "how are you doing?" sessions provided rich narrative data with emerging themes the authors believe were important to share. Students talked about their fears of financial instability, the health of their friends and families, and the recent deaths of friends, one from COVID-19. One student worked as a nurse's aide, and her anxiety was palpable as she described the lack of personal protective equipment and leadership at her employment facility.

5 | DISCUSSION

The advent of the COVID-19 pandemic and the change to an online learning platform during the spring semester of 2020 brought new stressors to this group of novice nursing students. Fears of contracting COVID-19 or having a loved one contract COVID-19 were a new concern and the transition to virtual clinicals was linked to academic stress and feelings of isolation by many students. The most commonly mentioned symptoms of anxiety, difficulty concentrating, and feeling anxious or overwhelmed have the potential to sidetrack students in their academic studies. Mind-wandering, as described by Boals and Banks,[23] competes with working memory and other elements of executive functioning as does difficulty concentrating. This study[23] demonstrates that mind-wandering correlates with worse

academic performance and impaired workplace functioning, making students vulnerable to academic decline.

The effect on academics was apparent in the strong correlation between symptoms of anxiety and distress and concerns about academic matters. Respondents who described greater effects on activities and relationships during the study period most strongly questioned their ability to attain their personal goals and felt anxious or distressed about academic matters. This shows that the pandemic and the transition to all-online instruction may have a potentially negative impact on these students' ability to move forward in the program.

This study also showed the importance of potentially mitigating factors, such as instructor support, on the students' handling of the anxiety-provoking events, with 90% describing instructor support as good or excellent. In addition, those who described good or excellent support from instructors had fewer sources of anxiety. Students described feeling support from their peers as well, with 85% describing classmates as good or excellent support. This coupled with the finding that respondents were least concerned about "difficulty with peers treating you different from others" (2%), shows the potential mitigating effect of peers as well as instructors. These findings show that despite increased stressors and signs of anxiety, students can feel they have had a successful experience in a clinical course that moved from an in-person format to completely online.

6 | PRACTICE IMPLICATIONS

The debriefing sessions allowed the students to discuss their feelings in a safe, supportive environment, allowed them to further bond with each other, and cleared their minds so they could focus on completing their required coursework. It also allowed the students to talk about any mental health concerns they wished to share and gave the instructor the opportunity to offer support and resources. Faculty have an important role in helping to mitigate students' feelings of anxiety and stress. The positive results regarding instructor support and instructors' response and handling of the course show that instructors can intervene to lessen the stress students experience.

During conversations with nursing faculty about lessons learned during this transition, the authors discovered that in addition to debriefing with students, there are a variety of changes instructors can make to mitigate student stress. Providing a stable and structured learning environment helps to decrease feelings of anxiety and stress related to academic responsibilities. Reminders about upcoming assignments can assist students who are having trouble focusing and keeps them abreast of their responsibilities. Adapting expectations about assignments can help students cope. Some letter-grade assignments may need to be changed to pass/fail. Extending grace and being generous with extensions for students who need additional time due to difficulties concentrating, obligations outside of school or for those having issues with Wi-Fi or technology may decrease school-related stress and anxiety.

Faculty follow-up with students beyond academic concerns can be of great support. When a student misses class or an assignment, faculty should inquire about what is behind the behavior and, as appropriate, offer support and resources. Faculty keeping virtual office hours is another way to connect with students. Announcing in class that office hours may be used for personal or academic issues and that groups are welcome sends a message of support. When students know that faculty are regularly available and that peer support is allowed, engagement increases. Virtual office hours allow students to discuss academic and personal concerns and allows faculty an opportunity to offer support and to assess what resources may benefit the student.

Faculty need to be aware of the online, campus, local, and national resources to share with students. Many campuses have implemented COVID-19 resources and developed COVID-19 resource lists, including campus mental health services and testing locations. It is imperative that faculty are educated and aware of these resources to support the students as well as the organizations.

Other resources faculty suggested include state and local agencies. The National Alliance for Mental Illness is an excellent resource and offers a COVID-19 Resource and Information Guide (https://www.nami.org/Support-Education/NAMI-HelpLine/COVID-19-Information-and-Resources/COVID-19-Resource-and-Information-Guide), with information on how to manage anxiety, how to create structure when working from home, and where to find support and resources. Rise is another national resource, which offers a COVID-19 Student Navigator Network (https://risefree.org/covid-19-help/). This is a portal for college students affected by COVID-19, where students can connect with a caseworker to apply for benefits and connect with local resources.

Faculty should guide students to trusted sources of COVID-19 news and updates, such as the National Institutes of Health (https://www.nih.gov/coronavirus) and the Centers for Disease Control and Prevention COVID-19 website (https://www.cdc.gov/coronavirus/2019-ncov/index.html). As role models for future health-care providers, faculty should demonstrate behaviors of keeping up to date in a rapidly changing environment. This can decrease anxiety while keeping the students informed of current health-care practices.

Faculty can suggest activities that promote well-being and decrease stress and anxiety. These include journaling and expressive writing, mindfulness practice and meditation, and expressing gratitude. Staying connected to friends is also beneficial during this time of isolation. Reminding students to include social activities by phone, text, or online meetings. Exercise, sleep, and good nutrition are more important than ever. Faculty should encourage students to keep to a schedule that includes regular well-balanced meals, daily activity, and a minimum of 7 hours of sleep a night.

A caring attitude and showing compassion—for students, colleagues, and for self—are key attributes needed when navigating these unprecedented times. Students benefit from faculty who are compassionate, realistic, and transparent about the current academic state of affairs, have balance and support in their own lives, and role model these behaviors with students. This guidepost aids students to maintain focus and a sense of new normalcy that allows for completion of the course while helping to manage anxiety and stress. Most important is to remember that each of the tips and resources shared with students may also be beneficial for faculty.

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