

ORIGINAL RESEARCH

Clinical experiences of final-year RN and BSc nursing students during the first wave of the COVID-19 pandemic in Guyana: A mixed-methods study

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ABSTRACT

Objective: The study aimed to explore the clinical experiences of final-year RN and BSc nursing students from four selected nursing schools in Guyana during the first wave of the COVID-19 pandemic.

Methods: The study utilized a mixed-methods approach. The sampling involved final-year RN and BSc nursing students. The quantitative design included a survey with a convenient sample of 157 students, and the qualitative approach included seven focus group interviews. The survey data were analyzed using inferential statistics and thematic analysis.

Results: The findings revealed the psychological and structural challenges experienced by final-year RN and BSc nursing students during the early months of the pandemic in Guyana. Of the respondents, 82.8% indicated fear of contracting coronavirus, 58% felt depressed, and 56.7% were insecure about daily nursing duties. Structural challenges experienced were that 58% needed PPE readily available, 80.9% felt unsafe in the clinical areas, 71.3% did not receive COVID-19 training, and 70.7% experienced financial burden. Positive responses included 91.7% did not take leave intentionally, and 74.5% felt confident. Thematic analysis yielded categories on stigmatization, fear of contracting, mental stress, shortage of staff and PPE, absence of risk allowance, and disaster planning. Coping strategies indicated were supporting one another, sharing information and resources, and praying, which enabled one to navigate the challenges and highlighted the strength of resilience and teamwork.

Conclusions: Final-year nursing students encountered psychological, social, and structural challenges during their clinical placements in the early months of the pandemic outbreak. The findings underscored the need to strengthen material, academic resources, and mental health support services. Future research should focus on the experiences of registered nurses and male nurses during the pandemic. Cultivating an empowered and resilient nursing workforce is imperative to combat future healthcare challenges in Guyana.

Key Words: Nursing students, Clinical experiences, COVID-19 pandemic, Challenges, Mixed methods study

1. INTRODUCTION

The COVID-19 pandemic exposed numerous healthcare challenges worldwide, including nursing shortages.^[1,2] The increased demand for healthcare workers during this global health crisis exacerbated pre-existing nursing shortages. Ev-

idence supported that nurses experienced increased levels of burnout, emotional exhaustion, depersonalization, anxiety, depression, and fear during the early stages of the outbreak.^[3-8] The pandemic took a significant psychological toll on nurses and nursing students. In many countries, it

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impacted the delivery of nursing education and clinical placements. Additional burden was placed on nursing students by expediting pathways into the workforce, often with limited support. A few healthcare systems deployed graduate nursing students to support healthcare professionals during the early months of the outbreak.^[9] Data indicated that nursing students continued in clinical placements to alleviate staff shortages from year two of their degree program.^[10,11] Due to myriad challenges, some students reported they would not choose to be in a nursing program and considered not going into the nursing profession in the future.^[12,13] Nevertheless, a few studies reported that final-year nursing students showed a remarkable commitment to nursing education and an overall low intention to leave during the first wave of the pandemic.^[14–16]

In the Caribbean region, nurses and nursing students had faced challenges similar to those encountered by global nurses. However, their experiences were compounded by a history of severe, pre-existing nursing shortages.^[17] They experienced high levels of anxiety, depression, and burnout and faced challenges due to inadequate access to Personal Protective Equipment (PPE). These nurses were concerned about infecting their families and witnessing dying patients.^[18,19] Similarly, public healthcare systems in Guyana were particularly affected by nursing and materials shortages. For instance, in October 2020, nurses in Guyana staged a protest demanding risk allowance and an adequate supply of PPE as the overall stocks of PPE were low and the patient load was high.^[20] Additionally, clinical nurses faced stigma, discrimination, and psychological challenges in Guyana. While many global and regional studies exist on the clinical experiences of nursing students during the pandemic, there is limited data on this inquiry concerning nursing students in Guyana. To address this knowledge gap, this research aimed to explore the clinical experiences of final-year RN and BSc nursing students during the first wave of the pandemic in Guyana, from March to September 2020. The findings may inform targeted

strategies in adequately preparing the nursing workforce for future challenges.

1.1 Research questions

This study addressed the following research questions:

- 1) What were the clinical experiences of final-year RN and BSc nursing students during the first wave of the COVID-19 pandemic in Guyana?
- 2) What challenges did final-year RN and BSc nursing students face during the first wave of the COVID-19 pandemic in Guyana?
- 3) What coping mechanisms did final-year RN and BSc nursing students use during the first wave of the COVID-19 pandemic in Guyana?
- 4) What recommendations can be made to prepare for future health emergencies?

1.2 Focus group questions

- 1) Can you explain your clinical experiences during the first wave of the COVID-19 pandemic in Guyana?
- 2) Please describe the challenges you have faced during the first wave of the COVID-19 pandemic in Guyana.
- 3) Can you discuss the coping mechanisms you used during the first wave of the COVID-19 pandemic in Guyana?
- 4) Please explain the recommendations you propose for disaster preparedness.

2. METHODS

The study used a convergent mixed-methods approach.^[21] In this model, the quantitative and qualitative data will be collected simultaneously and analyzed separately. The approach compares data or validates, confirms, or corroborates quantitative results with qualitative findings. In this approach, a method’s weakness constitutes a strength of another approach and provides a valid and substantial conclusion about a single phenomenon.^[21,24] Figure 1 provides a visual representation of the process involved in the convergence model of a mixed methods approach.

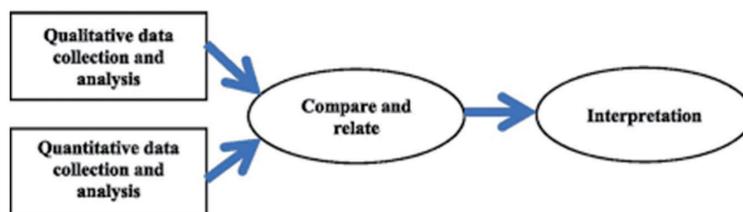


Figure 1. Convergent mixed methods approach

This research study collected quantitative and qualitative data in parallel, analyzed them separately, and ultimately merged them for comprehensive findings. The research team

collected each data independently at the same time and subsequently compared, contrasted, and synthesized it. The mixed methods approach provided comprehensive data and

an in-depth understanding of the research area of inquiry.

2.1 Target population and study settings

The study population included final-year RN and BSc nursing students from four of Guyana's public nursing schools: Georgetown, Linden, New Amsterdam, and the University of Guyana. These students had clinical rotations as part of their nursing programs from March to September 2020 during the first wave of the COVID-19 pandemic. The research team consisted of four nursing lecturers from the University of Guyana. In addition, four other nursing tutors from the nursing schools assisted in the data collection process.

2.2 Sampling technique

The sampling technique for the quantitative approach involved a convenient sampling of 157 final-year RN and BSc nursing students from Guyana's four public nursing schools. These students were placed in clinical settings during the study period. The qualitative study included a purposive sampling with seven focus group interviews. The average number of students participated in each focus group was 6 to 15. Exclusion criteria were nursing students who did not have clinical rotations during the study period and those who are from nurse aid, midwifery programs, and private nursing schools.

2.3 Data collection methods

2.3.1 Quantitative data

This study utilized a pretested structural questionnaire comprising 37 items, including dichotomous (32) and multiple choice (5) questions. The tool was developed based on the data available in the literature.^[15-17] The study pilot-tested the instrument for reliability and validity purposes, involving ten final nursing students from one of the Nursing schools who participated in the study. These students were not involved in the actual research. The data collection methods included administration of the survey tool using Google Forms through email/WhatsApp. Nursing lecturers and tutors shared the links for the survey tool with their students using these platforms. Participation in this survey was voluntary.

2.3.2 Qualitative data

The qualitative design involved focus group interviews which explored nursing students clinical experiences, coping strategies, and recommendations. These were final-year RN and BSc nursing students from the four public nursing schools who volunteered to participate in the study. Interviews were held in the physical classrooms or online using the Zoom platform. Each focus group interview lasted 45 to 60 minutes in length. The interviews were audiotaped and transcribed ver-

batim. Data collection was completed between August and September 2022. The authors obtained confirmability and trustworthiness by employing rigorous approaches including weekly online meetings for debriefing or reflexivity of the data, avoiding personal biases and preferences in interpreting it.^[18]

2.4 Ethical considerations

Prior permission was obtained from the Institutional Review Board (IRB), the Ministry of Public Health, and the Principal Tutors of Nursing Schools to conduct the study. Participation in this study was voluntary. The study did not collect any personal information from the participants. Participants were provided with the consent forms. Prior information was provided to the participants on the study's research objectives, purpose, methods, and benefits. Strict confidentiality procedures were followed throughout the research process. The data were securely stored on password-protected computers, and only the research team could access them.

2.5 Data analysis

2.5.1 Quantitative data

The quantitative survey data were analyzed using SPSS Statistics (version 28). This study used statistical analytical tools, including frequencies, percentages, means, median, standard deviation, cross-tabulation, p-value, and chi-square.

2.5.2 Qualitative data

The qualitative data were analyzed using thematic analysis. In an iterative process, the research team identified, coded, analyzed the data, and developed categories.^[22-24] The team conducted weekly Zoom meetings to discuss the findings and the data analysis process. Collectively, the team members color-coded the data, analyzed it, and generated categories. Finally, the team members compared and synthesized the data from both methods and generated a final report.

3. RESULTS

The study employed a convergent design model by implementing quantitative and qualitative studies during the same phase of the research process. The data was analyzed independently, and subsequently, the results were merged during the overall interpretation using triangulation.

3.1 Quantitative design results

This study involved 157 final-year RN and BSc nursing students, 91.1% (n = 143) female and 8.9% (n = 14) male participants. Of the respondents, 77.7% (n = 122) were pursuing an RN program, and 22.3% (n = 35) were pursuing a BSc nursing program.

Table 1. Demographics of the study population

Item	Response	N (%)
Age	20-30 years	123 (78.3)
	31-40 years	28 (17.8)
	41-50 years	5 (3.2)
	51-60 years	1 (0.6)
Gender	Female	143 (91.1)
	Male	14 (8.9)
Current program of study	Final year of RN diploma program	122 (77.7)
	Final year of BSc nursing program	35 (22.3)
Recently completed program	BSc nursing program	25 (15.9)
	Final year of BSc nursing program	35 (22.3)
	Registered Nurse program	68 (43.3)
	Still a student	64 (40.8)
Current position	Final Year Student	84 (53.5)
	Registered Nurse	64 (40.8)
	Registered Nurse and BSc Nurse	9 (5.7)

3.1.1 Psychological effects

The psychological effects experienced by the respondents revealed that more than half, 51% (n = 80) of the students felt anxious most of the day. Of the respondents, 82.8% (n = 130) feared contracting or spreading the coronavirus during their rotation in the clinical areas. A total of 48.4% (n = 76) of respondents felt helpless. The results showed that more than half of the respondents, 58% (n = 91), felt depressed. The findings reported that 56.7% (n = 89) of the students

were insecure about daily nursing duties. A considerable number of respondents, 77.7% (n = 122), felt overwhelmed by academic work. Of the participants, 70.7% (n = 111) indicated they were financially burdened. However, positive experiences reported were 91.7% (n = 144) did not take intentional leave, and 74.5% (n = 117) felt confident while carrying out patient care. The most used coping mechanism reported in the survey was utilizing spiritual support 75.2% (n = 118), followed by seeking information 69.4% (n = 109).

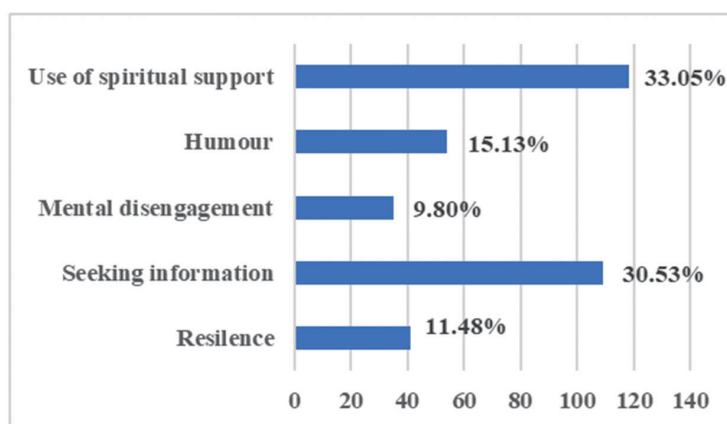


Figure 2. Percentage of nursing student coping strategies

3.1.2 Physical and environmental factors

The following section illustrates nursing students' positive and negative experiences in this study.

The findings revealed that 27% of the respondents did not readily have PPE. Additionally, 37% of the participants felt unsafe in the clinical areas, and 36% of students were not

assisted with transportation home.

3.1.3 Benefits

Regarding the benefits students received, 96.2% (n = 151) reported they did not receive financial assistance, and 97.5% (n = 153) indicated they did not receive any risk allowance.

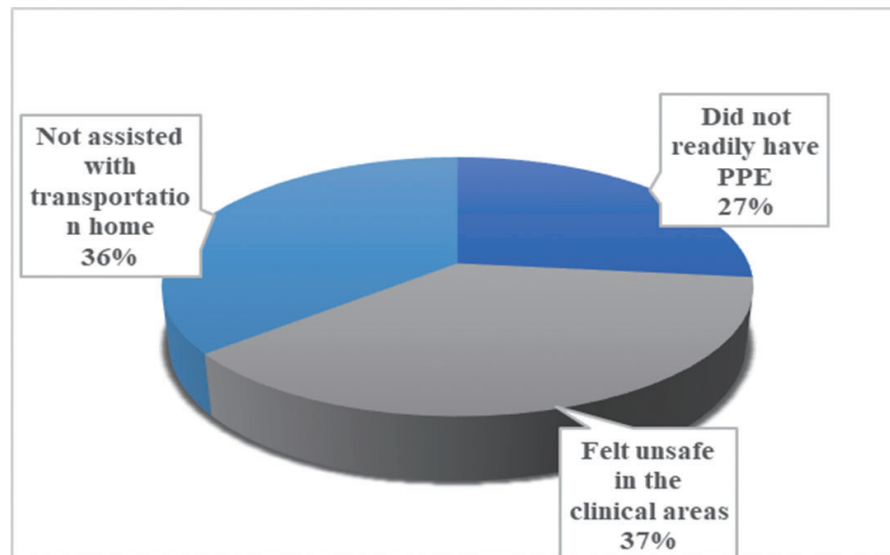


Figure 3. Physical and environmental challenges

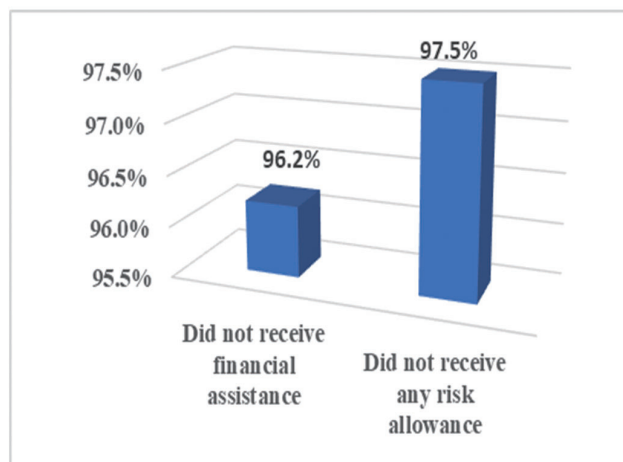


Figure 4. Benefits received by nursing students

3.1.4 Training in disaster management

When asked whether students were taught disaster management before the pandemic, 65% (n = 102) responded that they were. However, 71.3% (n = 112) of students reported not being given help with training on COVID-19 while working in the clinical areas.

3.1.5 Clinical nursing

Among the respondents, 54.1% (n = 85) reported being unprepared for the licensing/final exam. To a question whether they felt prepared to take up their role as a clinical nurse, more than half of the respondents, 53.5% (n = 84), reported they were not prepared. Additionally, 52.9% (n = 83) responded that they were not confident in taking up managerial duties in the case of staff shortages in the units. Of the participants, 54.8% (n = 86) indicated that blended learning was the most common mode of learning used to prepare for

clinical/practical exams.

On a positive note, 73.9% (n = 116) of respondents reported confidence in completing their program and graduating.

3.2 Qualitative design results

The qualitative approach included seven focus groups of final-year RN and BSN nursing students from the four selected nursing schools. The average number of nursing students in each focus group was 6 to 15.

The categories identified in the data analysis are described below. Despite the challenges, students reported positive experiences of resilience and teamwork. The challenges were characterized as social (stigmatization, fear of contracting), psychological (mental stress), and structural challenges (PPE, allowances, information).

3.2.1 Positive experiences

The positive experiences shared included developing resilience, teamwork, and utilizing knowledge. The pandemic allowed nursing students to demonstrate their resilience and ability to cope with adversity. A participant shared: “When COVID hit our land, we became an emergency crew without training or PPE. You have to go online and read the information on social media and safeguard yourself and your family.” (Oneka, Professional nursing student)

3.2.2 Challenges

Data indicated that participants experienced social, psychological, and structural challenges.

1) Stigmatization

Some students shared their experiences of being stigmatized by the public concerning using the public transport system,

such as buses. A participant responded: “Some students concurred that they were being stigmatized by public transportation drivers, refusing to take persons in their white uniform.” (Melani, BSc nursing student)

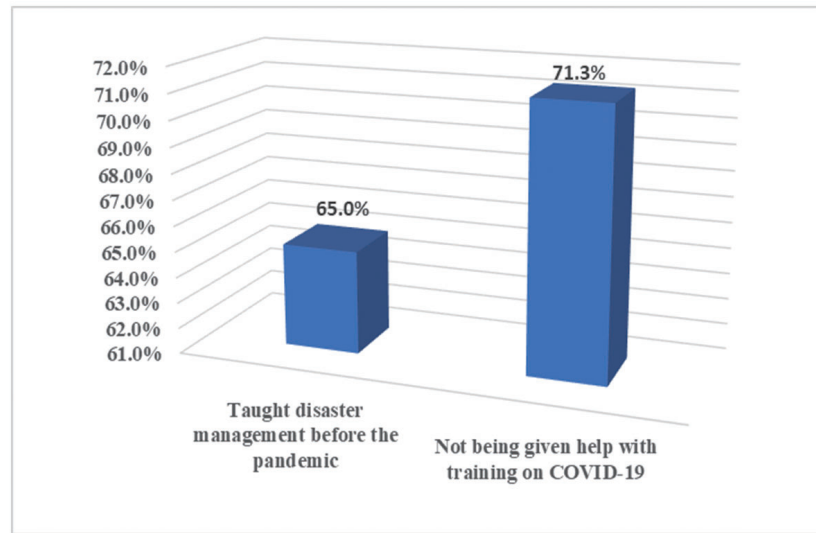


Figure 5. Training received in disaster preparedness

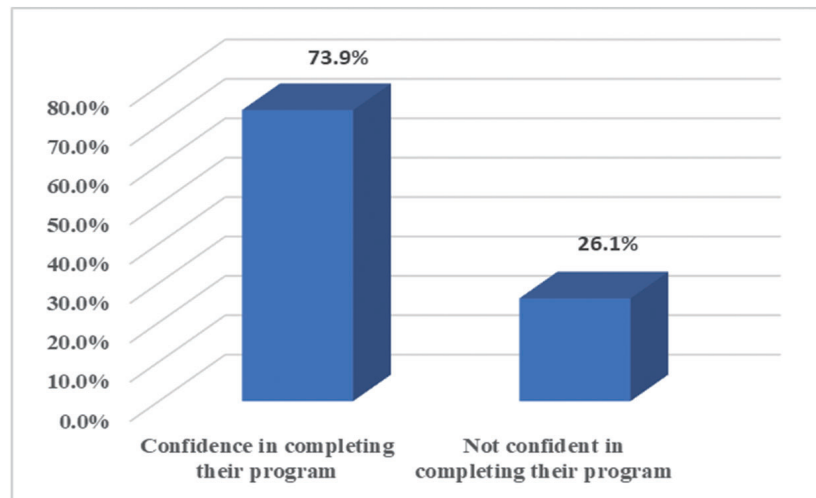


Figure 6. Confidence in completing the nursing program

2) Fear of contracting

Despite providing nursing care, many feared contracting or transmitting the virus to their family members. A participant expressed this: “We had many mothers in the wards who were COVID-positive; as you know, the deadly effects of COVID; we were scared and wondered when our time would be. I wondered if I could take it to my family as the mortality rate was increasing. It was very scary.” (Julee, BSc nursing student)

3) Psychological challenges

Most of the participants experienced psychological challenges, including fear, depression, and mental stress. A

student shared: “I was nervous about my whole health; a large no of staff was also becoming positive, including nurses and doctors; you are limited in the scope of practice since you are not sure if you will contract the virus or be spared.” (Hally, Professional nursing student)

4) Structural challenges

Data revealed that during the clinical placements, students encountered structural challenges, including staff shortage, absenteeism, PPE shortage, relearning proper donning of PPE, and absence of risk allowance. A participant expressed: “We adapt to staying six feet apart (pauses), but nursing is not something you can practice six feet apart; you have to be

among your patients, and you and your colleagues are unsure of the status of people.” (Lona, Professional nursing student)

5) Lack of PPE

Students all agreed that the lack of PPE was a significant challenge. This was one of the concerns that drove fear in students. A participant responded: *“We had limited PPE at times; some of our staff contracted the virus, so there was a staff shortage; it was exhausting!”* (Ayana, BSc nursing student)

6) Lack of allowances

Students responded that the lack of allowances for PPE and transportation was a significant problem. A participant expressed this: *“No risk allowance was allocated for students at this time. Shortage of staff causes nurses to be absent from work.”* (Denis, Professional nursing student)

Another respondent indicated: *“We were looked at as a separate entity. As students, we were affected mentally and socially. Risk assessment for students was not properly assessed, and students were not properly represented.”* (Tiffany, Professional nursing student)

7) Lack of authentic information

Students found it exhausting to adapt and follow the changing restrictions and rules. The lack of authentic information caused frustration and uncertainty. One student commented: *“There was not much information available on the condition and management, to some extent, doctors had no idea what to tell us because it was new, and we did not have adequate information on the pandemic.”* (Leon, Professional nursing student)

Another student responded: *“The information given was not clear. People did not know how or where this thing started, so the information was all over the place, and you had to be baffling to sort yourself out; it was stressful at the end.”* (Sarah, Professional nursing student)

8) Lack of disaster planning

Data revealed a significant challenge, including a lack of disaster planning, workshops, and in-service education. A participant commented: *“Healthcare institutions must create proper disaster preparedness plans. Like, identify groups of people who would disseminate the information and who will take charge in whatever areas so that you have a systematic way of doing things.”* (George, Professional nursing student)

4. DISCUSSION

This study’s findings highlighted challenges similar to those of global and regional studies. Overall, the challenges primarily encompassed psychological, social, and structural problems. The psychological effects of the participants reit-

erated the experiences of nursing students in other countries. For example, a study^[6] suggested that the stress levels of nursing students in Turkey had increased significantly during the pandemic. Another study conducted in China supported the finding that nurses experienced emotional exhaustion and moderate and high levels of anxiety, depression, and fear.^[7] Studies among the staff and trainees in England at the height of the first wave documented similar findings that nurses faced mental health issues of helplessness, hopelessness, and lack of resilience.^[26,27] The findings of these studies resonate with the psychological challenges experienced by the Guyanese nursing students.

Moreover, this study’s findings supported the idea that nursing students encountered structural challenges, consistent with other research studies conducted in various regions. In their study in China, Lin et al. (2021) confirmed reports of high staff turnover and their pledge not to return to nursing, indicating significant challenges within the healthcare system.^[13] A Caribbean study in Jamaica by Umakanthan et al. (2021) illustrated the negative impact on healthcare systems due to COVID-19, including scarcity of PPEs and increased risk for healthcare workers.^[19] Similarly, access to PPE and transportation from worksites emerged as substantial challenges for nurses in Guyana.^[20]

Additionally, the shortage of medical supplies contributed to psychological effects and mental stressors among nursing students, echoing similar findings from other studies.^[1,6-8] The lack of adequate information about the pandemic contributed to heightened levels of stress among nursing students.^[25] In this study, heightened stress levels and low knowledge about COVID-19 were predictors of fear among students, emphasizing the importance of comprehensive education and communication during public health crises. The participants in this study recommended the availability of mental health support services during such outbreaks. Similarly, Majrashi et al. (2021) suggested that a critical element to reducing the fears and stressors was to initiate or add mental health training to the list of relief solutions.^[8]

The challenges of technology adaptation align with findings from other research studies. Transitioning into a new work environment with limited resources has steered the students through academic stress, as observed in other studies.^[30,31] Nursing students in the present study sought a high level of spirituality as a coping mechanism, consistent with findings from Majrashi et al. (2021).^[8] Furthermore, the lockdown during these months forced some nursing students to learn the technology, facilitating social media connections for prayer. This adaption to technology for social support reflects the innovative ways nursing students have coped with

the challenges of the pandemic. The findings underscored the importance of providing counseling services focusing on prevention measures, consistent with recommendations from Hargreaves et al. (2021).^[12]

The study's data found that nursing students continued to provide services despite the challenges, underscoring their dedication and commitment to patient care, as observed in other studies.^[14,15] Students in this study exhibited high confidence and commitment amid fear. Similarly, in a study in Belgium, Duprez and colleagues (2021) demonstrated that the final-year nurses were generally committed to nursing education and exhibited almost negligible intentions to withdraw.^[14] The present study highlighted the importance of spiritual support in strengthening nurses' resilience. Although students experienced challenges, data suggested that the positive emotions of gratefulness, professional responsibility, and opportunities for growth under pressure sustained nurses' commitment to their duties. These findings were consistent with studies by Sun et al. (2020), Swift et al. (2020), and Jackson et al. (2020).^[11,28,29]

The results underscored the importance of applying innovative and preventative measures to mitigate nursing students' challenges during clinical rotations in pandemic outbreaks. By addressing these challenges and providing support, nursing students can continue to fulfill their educational and professional responsibilities effectively. Further evidence-informed interventions could improve connectivity and safety, reinforce critical thinking skills, and advance tele-nursing capabilities.

Recommendations

The study findings underscored the need to strengthen the availability of material resources for students working in clinical settings. Further, the findings indicated that fostering safety in clinical areas is essential to protecting the well-being of nursing students. Measures should be taken to address the challenges of infrastructure and curricula. Providing a positive learning environment by offering academic resources, support, and adequate guidance is vital. The findings supported the importance of providing mental health support services, including counseling and stress management programs.

5. CONCLUSION

Final-year nursing students encountered social, psychological, and structural challenges during their clinical placements in the early months of the pandemic outbreak. The findings emphasized the need for material and academic resources and support services. Future research should focus on the experiences of registered nurses and male nurses during the

pandemic. Cultivating an empowered and resilient nursing workforce is imperative in combating future healthcare challenges.

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AUTHORS CONTRIBUTIONS

Mrs. TM was responsible for the Introduction section. Mr. TR was responsible for the quantitative data analysis. Mrs. MWS was responsible for the qualitative data analysis. Dr. NH was responsible for the discussion section. Mrs. TM drafted the manuscript, and co-authors revised it. All authors read and approved the final manuscript.

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CONFLICTS OF INTEREST DISCLOSURE

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

INFORMED CONSENT

Obtained.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

DATA SHARING STATEMENT

No additional data are available.

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