Original Research Article

# Psychological Effect of the COVID-19 Pandemic on Nursing Students: Palestinian Perspective

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## Abstract

**Introduction:** COVID-19 has had an important effect on nursing students, with some having their clinical practice cancelled or suspended and others suffering from the virus.

**Objective:** The purpose of this study was to assess the psychological status in terms of stress, anxiety, and depression of nursing students during COVID-19 pandemic.

**Methods:** The study was cross-sectional, carried out by a convenience sample of 320 participants of nursing students between May and June 2020. Data collection was performed by "Depression Anxiety Stress-21 Scale" (DASS-21).

**Results:** The results revealed that 78 (24.3%) of participants reported stress; 121 (37.8%) reported anxiety; and 72 (22.5%) reported depression. Also, grade and socioeconomic status had statistically significant effect on anxiety, stress, and depression. In addition, age had statistically significant effect on depression, place of residence had statistically significant effect on anxiety, and gender had statistically significant effect on stress.

**Conclusion:** The study confirmed an alarming number of nursing students who experienced anxiety, stress, and depression. This study serves as an evidence concerning nursing students' mental health issues as a consequence of the COVID-19 pandemic.

## Introduction

The world's economy, politics, health, and education have all been put at risk by COVID-19 (Huang et al., 2022; Kar et al., 2023; Khankeh et al., 2022; Kukreti et al., 2023; Liu et al., 2022; Prasiska et al., 2022). University students from several countries have been significantly impacted by the epidemic; according to UNESCO, 60% of students worldwide have been placed under national lockdowns (Patelarou et al., 2021). This has forced the transition to a virtual teaching approach and the suspension of vital educational activities. The academic health science community consequently had a significant impact, with clinical practices interrupted mostly as a result of transmission anxiety and illness uncertainty (Reverté-Villarroya et al., 2021). The anxiety, stress, and depression levels of students were directly impacted by this situation. According to Marcén-Román et al. (2021), social interaction predicts clinically severe social anxiety, stress, and depression.

Nursing students have been significantly impacted by COVID-19, with some seeing their clinical rotations canceled or halted and others contracting the virus (Patelarou et al., 2021; Ulenaers et al., 2021). Many fourth-year nursing students decide to work in healthcare settings for moral and professional reasons, putting their health in danger while doing so (Roca et al., 2021). Additionally, employment pressure and uncertainty related to the pandemic affected nursing students who were prepared to graduate and become professional nurses, which caused them to experience psychological distress (Ayed et al., 2021; Zhu et al., 2021).

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Nursing students should always be seen as a high-risk population that might experience psychopathology as a result of the pandemic. It is generally known that academic life has a negative impact on mental health and that the commencement of university studies is a critical time period for the onset of mental illness. Additionally, it has been shown that students pursuing health-related degrees, such as nursing, are more likely to experience this predicament (Reverté-Villarroya et al., 2021). They must complete several academic tasks, in-depth theoretical coursework, and clinical practice, all of which may add to their psychological burden (Cheung et al., 2016).

Technical and theoretical components are common in nursing bachelor's programs. Because clinical experiences are an essential component of technical progress, second-year nursing students at various Palestinian institutions undergo their first training in hospitals. For instance, at the Arab American University, nursing students have approximately half the credits representing mandatory clinical practice, where six credits must be completed during the first semester of the second year.

## Literature Review

Numerous studies have revealed that the last year of university and the time preceding clinical practice make healthcare students more apprehensive (Ahorsu et al., 2021; Pramukti et al., 2020; Toqan et al., 2023). Many students find that going to class at school helps them manage and maintain social connections. Unfortunately, now that formal lectures have been stopped, students are at risk of loneliness and a lack of contacts (Reverté-Villarroya et al., 2021). Students during the COVID crisis were twice as likely to have mental health issues, according to research that analyzed mental health issues among nursing students in 2017 before COVID-19 and in 2020 during the pandemic in Spain (Reverté-Villarroya et al., 2021). A survey done in Turkey during the pandemic also revealed that 71.5% of nursing students were prone to developing mental illness.

Anxiety, stress, and depression are the three mental illnesses that university students experience most frequently (Cheung et al., 2016). Additionally, the COVID-19 pandemic had created a climate of anxiety, fear, and uncertainty (Yıldırım et al., 2021).

One year after the pandemic, a study in Spain that examined stress among health students discovered that 71.4% and 81.8% of them had anxiety and depression, respectively. This finding suggests that work status was a greater risk factor because 81.8% of those who did not work had stress (Marcén-Román et al., 2021). However, a study of Chinese nursing students during the COVID-19 epidemic found that there was a 55.0% anxiety rate, a 56.4% depression rate, and a 31.6% comorbid anxiety and depression rate. Poor family function has been associated with comorbid anxiety and depression, self-esteem difficulties, social anxiety, and bad moods (Zhu et al., 2021).

Additionally, Spanish students (59.1%) were more depressed than Greek students (21.8%) and Albanian students (34.5%) in a COVID-19 comparative study of depression among nursing students, pointing out that demographics are a strong predictor of depression, which may be related to heightened public anxiety caused by the rise in mortality in the area (Patelarou et al., 2021).

Numerous studies were carried out to determine the psychological impact of COVID-19 on various populations, including the general public, the health care profession, university staff, university students, and the elderly (Alimoradi et al., 2022; Aljaberi et al., 2023; Chen et al., 2020; Lin et al., 2022; Meng et al., 2020; Nayan et al., 2022; Sangma et al., 2022; Shouli et al., 2022; Tsai et al., 2023; Vicerra, 2022; Wang et al., 2020).

## The Current Study

Palestine has a dense population, a high unemployment rate, particularly among young people, and stagnating economic and academic environments (Albarqouni et al., 2018). The situation aggregated with COVID-19 and its consequences. There are lack of studies on psychological effect of COVID-19 on nursing students in Palestine. As a result, the goal of this study was to assess the psychological status in terms of stress, anxiety, and depression of nursing students during COVID-19 pandemic.

## Methods

### Design and Setting

A cross-sectional study was conducted between May and June 2020 at Arab American University. Arab American University is the largest nursing school in Palestine, with a student body of 1,500 bachelor and graduate nursing students. The bachelor program is four years obtaining a baccalaureate in nursing.

### Research Question

What is the psychological status in terms of stress, anxiety, and depression of nursing students during COVID-19 pandemic?

### Population and Sample

Raosoft software was used to compute the sample size, which kept the population size at 1,500 and the response distribution at 50%, while the confidence interval and margin of error were fixed at 95% and 5%, respectively. The sample size calculated was 306. The study enrolled a convenient sample of 320 participants from the Baccalaureate Nursing Program.

### Inclusion and Exclusion Criteria

All bachelor's nursing students and those without illnesses that would prohibit them from finishing the study were

eligible. Students in the first year were excluded since they had not yet enrolled in the nursing program's practical component.

## Instruments

The questionnaire was divided into three parts, the first of which includes demographic information including age, gender, grade, place of residence, and economic status. The second part asked students to answer two yes-or-no questions about their health and COVID-19 characteristics, including if they had a chronic disease or a COVID-19-diagnosed relative. The "Depression Anxiety Stress-21 Scale" (DASS-21), developed by Lovibond and Lovibond (1995), formed the third part. There are 21 items total, each evaluated on a "4-point Likert scale." The DASS-21 total scores are divided into four categories: normal (0–7), mild (8–9), moderate (10–14), severe (15–19), and very severe (20+) for the anxiety subscale; normal (0–14), mild (15–18), moderate (19–25), severe (26–33), and extremely severe (34+) for the stress subscale; and normal (0–9), mild (10–13), moderate (14–20), severe (21–27), and extremely severe (28+) for the depression subscale." The "DASS-21" has shown good psychometric properties globally in different languages (Cao et al., 2023a, 2023b; Chen et al., 2023).

## Data Collection

Nursing students were recruited to participate in the study once the researcher received approval to carry it out. Upon meeting the vice dean of the nursing school, the researcher requested that he act as a liaison for approaching nursing program students. The vice dean's duties were restricted to addressing students, explaining the study's goals and methodology, and extending an invitation for them to participate. The researcher was then invited by the vice dean to provide students who indicated a willingness to participate with related study information. The aims of the study were then discussed with the nursing students by the researcher. The students completed the paper-based questionnaire in English language after signing the informed consent form. Participants put on masks while answering the surveys for pandemic control.

## Data Analysis

Data was statistically analyzed using SPSS version 23. Data were provided as a percentage and frequency using descriptive analysis. The $\chi^2$ was used to assess the differences between the variables.

## Ethical Considerations

It was ethically approved by the Arab American University. The possibility of leaving the study at any moment was made known to the students. An informed consent form was assigned by students who agreed to participate in the study. Students were verbally reassured that participating in the study was optional and would not have any impact on their academic experience.

# Results

## Participants' Characteristics

Three hundred and twenty nursing students out of 336 participated in the study. The findings revealed that approximately 270 (84.4%) of students' age were 20–25 years old and 191(59.7%) were males. Also, more than one-third of them 119 (37.2%) were in third year and 180 (56.3%) live in a village or town. Most of the participants 214 (66.9%) reported that their socioeconomic status were bad, as shown in Table 1.

Also, the analysis revealed that 299 (93.4%) of the participants had no chronic diseases and 217 (67.8%) had no any relative diagnosed with COVID-19, as shown in Table 2.

## Research Question Results

According to mental health of nursing students, the analysis revealed that 78 (24.3%) of participants reported stress; 121

**Table 1.** Demographic Characteristics of the Participants (N = 320).

| Variable | | N (%) |
|---|---|---|
| Age/year | <20 | 39 (12.2) |
| | 20–25 | 270 (84.4) |
| | >25 | 11 (3.4) |
| Gender | Male | 191 (59.7) |
| | Female | 129 (40.3) |
| Grade | Second year | 100 (31.3) |
| | Third year | 119 (37.2) |
| | Fourth year | 101 (31.6) |
| Place of residence | City | 86 (26.9) |
| | Village or town | 180 (56.3) |
| | Camp | 54(16.9) |
| Socioeconomic status | Good | 29 (9.1) |
| | Average | 77 (24.1) |
| | Bad | 214 (66.9) |

**Table 2.** Students' Health and COVID-19 Characteristics (N = 320).

| Variable | | N (%) |
|---|---|---|
| Presence of a chronic disease | Yes | 21 (6.6) |
| | No | 299 (93.4) |
| COVID-19 diagnosed relative | Yes | 103 (32.2) |
| | No | 217 (67.8) |

(37.8%) reported anxiety; and 72 (22.5%) reported depression symptoms, as shown in Table 3.

The $\chi2$ analysis revealed that grade and socioeconomic status had statistically significant effect on anxiety, stress, and depression ($p < .05$). Also, age had statistically significant effect on depression ($p < .05$), place of residence had statistically significant effect on anxiety ($p < .05$), and gender had statistically significant effect on stress ($p < .05$), as shown in Table 4.

## Discussion

The present study assessed the psychological status in terms of stress, anxiety, and depression of nursing students during COVID-19 pandemic. The current study, which used the DASS-21, revealed that 22.2% of nursing students had stress, 36.1% had anxiety, and 23.1% had depression. This outcome was consistent with a number of earlier investigations. According to research by Hai et al. (2022), stress, anxiety, and depression were present in 22.2%, 36.1%, and 23.1% of nursing students, respectively.

**Table 3.** Characteristics of Mental Health of Nursing Students (N = 320).

| Level | Stress N (%) | Anxiety N (%) | Depression N (%) |
|---|---|---|---|
| Normal | 242 (75.6) | 199 (62.2) | 248 (77.5) |
| Mild | 26 (8.1) | 26 (8.1) | 25 (7.8) |
| Moderate | 24 (7.5) | 53 (16.6) | 26 (8.1) |
| Severe | 16 (5.0) | 20 (6.3) | 11 (3.4) |
| Extremely severe | 12 (3.8) | 22 (6.9) | 10 (3.1) |
| Total | 78 (24.3) | 121 (37.8) | 72 (22.5) |

The current findings, however, were higher than those of earlier investigations. The prevalence of anxiety, stress, and depression was found to be 4.5%, 10.1%, and 8.3%, respectively, in nursing students at Bach Mai Medical College (Điệp et al., 2021). According to Kính (2017), depression, stress, and anxiety were present in 10.42%, 26.0%, and 20.8% of nursing students at Tien Giang Medical College, respectively.

The literature indicated that because of their well-informed choices, nursing students already experience high levels of stress (Ayed, 2022; Toqan et al., 2022). These students' anxiety levels might rise if pandemic hazards are included (Kuru Alici & Ozturk Copur, 2021). According to a Japanese study, nursing students were more impacted by COVID-19-related anxiety than nurses were (Hasuike et al., 2021). This could be attributed to the financial instability, infection fear, social isolation, and uncertainty about the future of their academic careers that nursing students encountered during the pandemic (Sultana et al., 2021).

Therefore, the current findings are plausible in light of the COVID-19 pandemic, and WHO has stated that implementing measures like social isolation may cause people to feel stressed, anxious, or angry (WHO, 2020). According to Matthews et al. (2019), social isolation has been associated with sadness, anxiety, self-harm, and suicidal thoughts. In addition to the fundamental elements mentioned above, clinical training interruption may be a significant aspect of mental health.

The problems that nursing students face with stress, anxiety, and depression differ by nation. In a study on Turkish nursing students' mental health done in 2021, it was found that 38.2% of them had stress, 58.8% had anxiety, and 56.3 had depression (Dastan et al., 2021). Rasmussen and colleagues further examined the mental

**Table 4.** Differences Between Nursing Students Socio-Demographic and Mental Health.

| Variable | | N (%) | Stress | | Anxiety | | Depression | |
|---|---|---|---|---|---|---|---|---|
| | | | $\chi2$ | p-value | $\chi2$ | p-value | $\chi2$ | p-value |
| Age/year | <20 | 39 (12.2) | 42.2 | .375 | 10.1 | .261 | 20.1 | .010* |
| | 20–25 | 270 (84.4) | | | | | | |
| | >25 | 11 (3.4) | | | | | | |
| Gender | Male | 191 (59.7) | 11.9 | .018 | 1.5 | .836 | 4.1 | .395 |
| | Female | 129 (40.3) | | | | | | |
| Grade | Second year | 100 (31.3) | 31.4 | .001 | 68.1 | .001 | 32.5 | .001* |
| | Third year | 119 (37.2) | | | | | | |
| | Fourth year | 101 (31.6) | | | | | | |
| Place of residence | City | 86 (26.9) | 13.3 | .102 | 17.5 | .025 | 9.2 | .329 |
| | Village or town | 180 (56.3) | | | | | | |
| | Camp | 54 (16.9) | | | | | | |
| Socioeconomic status | Good | 29 (9.1) | 31.2 | .001 | 74.8 | .001 | 26.2 | .001* |
| | Average | 77 (24.1) | | | | | | |
| | Bad | 214 (66.9) | | | | | | |

*Significant at the .05 level.

health of Australian nursing students in 2021, finding that 63.8% had depression, 52.7% had anxiety, and 55.1% had stress (Rasmussen et al., 2022). The previous studies indicated greater results than the ones seen in the current study. The period of time during the epidemic when the data collection was done can be used to explain this disparity.

However, compared to the Juan Gao study, which was conducted in China in April 2020 (Gao et al., 2021), there were more nursing students in this study who reported feeling stressed, anxious, or depressed. Even though the DASS-21 scales were utilized in all of the previous studies, differences in the COVID-19 epidemic's state, national culture, student lifestyle, educational program characteristics, and other factors led to disparities in mental health levels.

The results of the present study showed that socioeconomic status and grade had a statistically significant impact on stress, anxiety, and depression. Also, age had a statistically substantial effect on depression, place of residence had a statistically significant effect on anxiety, and gender had a statistically significant effect on stress. According to a study by Cao and his colleagues published in 2020, families' steady income is thought to be a defense mechanism against the symptoms of anxiety. Low socioeconomic status may also be linked to increased viral infection risk and inadequate preventive and treatment options, leading to considerably worse illness outcomes. Students with higher monthly expenses had more psychological stress, according to a study by Zhi et al. (2022) in China among nursing students. Similar earlier research suggested that men and women had different levels of stress (Wang et al., 2020). Additionally, there was no difference between men and women in terms of anxiety (Huang & Zhao, 2020; Nemati et al., 2020) or depression (Shevlin et al., 2020).

## Strengths and Limitations of the Study

Study limitations were identified, including the cross-sectional design and self-reported measurements. A cross-sectional approach did not investigate the causal-effect relationship between variables, and self-reported questionnaires have the challenge of subjectivity. Therefore, it is necessary for future longitudinal studies to be conducted. The study was conducted in one university and this may limit the generalizability of the study.

## Implications for Practice

During remote learning, it is critical to evaluate the effect of the COVID-19 pandemic on nursing students' mental health. Furthermore, it is critical to give psychological support and counseling to nursing students in order for them to be able to overcome problems caused by pandemics.

## Conclusion

The results of this study on nursing students' mental health indicated that a concerning percentage of them experienced anxiety, stress, and depression. According to the results of the current study, anxiety, stress, and depression were statistically significantly influenced by grade and socioeconomic status. Also, the COVID-19 pandemic has been responsible for mental health issues in nursing students. As a result, families and society should take this issue seriously and emphasize putting effective strategies in place to reduce anxiety, stress, and depression in nursing students, who are crucial to advancing the general public's health. Universities in particular should consider focused, approachable strategies for supporting student mental health, such as details about on-campus mental health resources and integrated student mental health services. These findings recommend that universities and nursing schools investigate the creation of effective social networks, such as psychological counseling websites or hotlines, to help nursing students cope with complex situations and prevent mental health problems.

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