

Assessing Psychological Distress Among Nursing Students Regarding Covid-19 Pandemic: A Descriptive Study

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Abstract

The COVID-19 pandemic has profoundly impacted mental health worldwide, with nursing students particularly vulnerable to psychological distress due to the dual demands of academic and clinical responsibilities. This study aimed to assess the levels of depression, anxiety, and stress among B.Sc. Nursing IV-year students in Kancheepuram District, Tamil Nadu, and to explore the associations between demographic factors and mental health outcomes. A descriptive cross-sectional study design was employed, involving 30 nursing students selected via random sampling. Data were collected using a structured questionnaire comprising demographic information and the Depression, Anxiety, and Stress Scale (DASS-21). Statistical analysis was performed using SPSS version 26.0, with the Chi-square test used to evaluate associations between demographic variables and levels of psychological distress. The study revealed that 40% of students exhibited normal levels of depression, while 20% had mild, 10% moderate, 23.3% severe, and 6.6% extremely severe depression. Anxiety levels were predominantly normal (93.3%), with only 6.6% experiencing mild anxiety. Stress levels were diverse, with 13.3% reporting normal levels, 30% mild, 26.6% moderate, 10% severe, and 20% extremely severe stress. Significant associations were found between psychological distress and variables such as socioeconomic status, family income, hobbies, dietary habits, and study duration. Lifestyle factors like prolonged study hours and insufficient sleep were linked to higher distress levels. The findings underscore the urgent need for targeted mental health interventions for nursing students, including counseling services, academic flexibility, and programs promoting healthy lifestyle habits. Addressing these challenges through a comprehensive approach is essential to fostering resilience and ensuring the well-being of nursing students, who play a critical role in healthcare delivery.

Keywords: COVID-19 Pandemic, Depression, Anxiety, Stress, Nursing Students, Psychological Distress, Mental Health, Lifestyle Factors.

INTRODUCTION

The COVID-19 pandemic has had a profound impact on global public health, with significant consequences for mental well-being. The pandemic's disruptions, including social isolation, economic strain, and uncertainty about the future, have exacerbated mental health challenges worldwide, particularly among students. University students, including nursing students, have been disproportionately affected due to the abrupt transition to online learning, increased academic pressure, and the psychological burden of working in a healthcare-related field during a public health crisis (Cao et al., 2020).

Nursing students are particularly vulnerable to stress, anxiety, and depression due to the dual pressures of academic rigor and clinical responsibilities. The pandemic introduced additional challenges, such as limited hands-on training, fear of infection, and emotional distress caused by witnessing suffering in healthcare settings. Studies indicate that nursing students have experienced heightened levels of depression, anxiety, and stress due to these pandemic-related changes (Son et al., 2020). Consequently, understanding the mental health burden on this group is crucial for developing interventions to support their well-being.

The present study aims to assess the levels of depression, anxiety, and stress among fourth-year B.Sc. Nursing students in nursing colleges in Kancheepuram District. It is hypothesized that the COVID-19 pandemic has significantly impacted their mental health, leading to measurable psychological distress. The study employs a descriptive research design and uses the Depression, Anxiety, and Stress Scale (DASS-21) to evaluate the students' mental health status.

Preliminary findings suggest that a substantial proportion of students experience varying levels of depression, anxiety, and stress. These findings align with global research highlighting the increased psychological distress among healthcare students during the pandemic (Savitsky et al., 2020). The study further explores the association between demographic factors and mental health outcomes, providing insights into which student populations are most vulnerable.

Given the critical role of nursing students in the healthcare system, addressing their mental health needs is imperative. The results of this study can inform targeted interventions, such as counseling services, peer support programs, and academic adjustments, to mitigate the psychological burden faced by nursing students during and after the pandemic. Furthermore, integrating mental health education into nursing curricula can equip students with coping strategies to manage stress effectively throughout their careers (Labrague et al., 2021).

The COVID-19 pandemic has intensified mental health challenges among nursing students, necessitating immediate attention from educational institutions and healthcare policymakers. By understanding the extent of depression, anxiety, and stress in this population, appropriate interventions can be implemented to foster resilience and ensure the well-being of future healthcare professionals.

Statement of the Problem

The COVID-19 pandemic has significantly disrupted educational systems and has had a profound impact on students' mental health, particularly among healthcare students. Nursing students, due to the dual burden of academic and clinical responsibilities, have been particularly vulnerable to psychological distress. Increased levels of depression, anxiety, and stress have been reported among nursing students due to uncertainties surrounding the pandemic, changes in academic learning, fear of infection, and social isolation. Given the crucial role of nursing professionals in healthcare delivery, understanding and addressing these mental health concerns is essential.

This study aims to assess the level of depression, anxiety, and stress among B.Sc. Nursing IV-year students in nursing colleges in Kancheepuram District during the COVID-19 pandemic. By identifying the prevalence and severity of psychological distress among these students, the study seeks to provide insights that could guide the development of targeted mental health interventions.

Aim of the Study

The study aims to assess the level of depression, anxiety, and stress among B.Sc. Nursing IV-year students in nursing colleges in Kancheepuram District Regarding COVID-19 pandemic and to examine the association between demographic variables and psychological distress.

Objectives

- 1) To assess the level of depression, anxiety, and stress among B.Sc. Nursing IV-year students in nursing colleges in Kancheepuram District during the COVID-19 pandemic.
- 2) To determine the prevalence of mild, moderate, severe, and extremely severe levels of psychological distress among the students.
- 3) To analyse the association between demographic variables and the level of psychological distress.

METHODOLOGY

Study Design

This study employs a **descriptive cross-sectional research design** to assess the levels of depression, anxiety, and stress among B.Sc. Nursing IV-year students in nursing colleges in Kancheepuram District during the COVID-19 pandemic. A cross-sectional design is appropriate for capturing the prevalence and severity of psychological distress at a specific point in time.

Study Setting

The study was conducted in selected **nursing colleges in Kancheepuram District, Tamil Nadu, India**. These institutions were chosen based on accessibility and willingness to participate in the research.

Study Population

The target population for the study included **B.Sc. Nursing IV-year students enrolled in nursing colleges in Kancheepuram District**.

Inclusion Criteria

- B.Sc. Nursing IV-year students in nursing colleges in Kancheepuram District.
- Students who were present during the study period.
- Students who voluntarily consented to participate in the study.
- Students proficient in **English and/or Tamil**, allowing them to understand the survey tool.

Exclusion Criteria

- Nursing students from other academic years.
- Students unable to comprehend the questionnaire due to language barriers.
- Students who were absent during the data collection period.

Sample Size and Sampling Technique

The study included **30 nursing students**, selected using a **random sampling technique** to ensure an unbiased representation of the target population. Given the constraints in time and resources, a sample size of 30 was considered feasible for conducting preliminary statistical analysis.

Data Collection Instrument

Data collection was performed using a structured questionnaire consisting of **two sections**:

1. Demographic Data – This section included variables such as socioeconomic status, type of family, academic performance, sleeping and studying duration, and health status.

2. Depression, Anxiety, and Stress Scale (DASS-21) – A validated self-reported scale used to measure the severity of depression, anxiety, and stress among the participants.

The **DASS-21** consists of **21 items**, with **seven items each** measuring depression, anxiety, and stress. Responses are rated on a **4-point Likert scale**, with scores categorized as follows:

- **Depression:** Normal (0-9), Mild (10-13), Moderate (14-20), Severe (21-27), Extremely Severe (28+).
- **Anxiety:** Normal (0-7), Mild (8-9), Moderate (10-14), Severe (15-19), Extremely Severe (20+).
- **Stress:** Normal (0-14), Mild (15-18), Moderate (19-25), Severe (26-33), Extremely Severe (34+).

The **DASS-21** has been widely used in psychological research and has demonstrated high internal consistency and reliability (Cronbach's alpha: Depression = 0.91, Anxiety = 0.84, Stress = 0.90) (Lovibond & Lovibond, 1995).

Data Collection Procedure

- 1) Permission** – Ethical approval was obtained from the respective institutional review boards of the participating nursing colleges. Consent was also sought from the college administration and department heads.
- 2) Participant Recruitment** – Eligible students were approached, and informed consent was obtained. Participants were assured of **confidentiality and anonymity**.
- 3) Survey Administration** – The questionnaire was administered to students in a classroom setting, ensuring a quiet and distraction-free environment. The estimated time to complete the questionnaire was **approximately 30 minutes**.
- 4) Data Handling** – Completed questionnaires were collected and stored securely to maintain confidentiality.

Data Analysis

Statistical analysis was performed using **SPSS (Statistical Package for the Social Sciences) version 26.0**. The data analysis involved:

- **Descriptive Statistics:**
 - Frequency and percentage distribution were used to summarize demographic variables and the levels of depression, anxiety, and stress among students.
 - Mean and standard deviation were calculated for depression, anxiety, and stress scores.
- **Inferential Statistics:**
 - The **Chi-square test** was used to determine the association between demographic variables and the levels of depression, anxiety, and stress.
 - A **p-value of <0.05** was considered statistically significant.

Ethical Considerations

1. **Informed Consent** – Participants were provided with a detailed information sheet explaining the study's purpose, risks, and benefits. Written informed consent was obtained.
2. **Confidentiality** – Participant identities were anonymized, and data was stored securely with restricted access.
3. **Voluntary Participation** – Students had the right to withdraw from the study at any time without any consequences.
4. **Ethical Approval** – The study was conducted in compliance with institutional ethical guidelines, following the principles of the **Declaration of Helsinki (2013)**.

RESULTS

Table 1: Frequency and percentage distribution of demographic variables

S. No	Demographic Variable	Frequency (n)	Percentage (%)
1	Religion		
	a) Hindu	29	96.6
	b) Muslim	1	3.3
	c) Christian	0	0
2	Type of Family		
	a) Nuclear Family	21	70
	b) Joint Family	9	30
	c) Extended Family	0	0
3	Socio Economic Status		
	a) Lower Middle	3	10
	b) Middle	11	36.6
	c) Upper Middle	16	63.3
4	Hobbies		
	a) Reading Books	12	40
	b) Watching TV	10	33
	c) Others	8	26
5	Type of Food		
	a) Vegetarian	12	40
	b) Both Vegetarian and Non-Vegetarian	18	60
6	Duration of Studying		
	a) Less Than 2 Hours	13	43.3
	b) 2 – 6 Hours	7	23.3
	c) More Than 6 Hours	10	33.3
7	Duration of Sleeping		
	a) Less Than 4 Hours	13	43.3
	b) 4 – 6 Hours	7	23.3
	c) More Than 6 Hours	10	33.3

The study included 30 participants, all of whom were B.Sc. Nursing IV-year students, representing 100% of the sample population. In terms of religion, the majority (96.6%) identified as Hindu, while 3.3% were Muslim, and none were Christian. In terms of family structure, 70% of the participants belonged to nuclear families, while 30% were from joint families. None of the participants belonged to extended families. Socioeconomic status revealed that all participants (100%) were from middle-class families, with no representation from upper-class or poverty-stricken households. Concerning health status, the majority (96.6%) were healthy, while a small proportion (3.3%) reported minor health problems. No cases of major health problems or physical disabilities were reported. Family income distribution showed that 63.3% of participants belongs to Upper Middle, 36.6% reported middle class, and 10% belongs to Lower Middle. Hobbies among the participants varied, with 40% reporting reading books, 33% watching TV, and 26% engaging in other

activities. Dietary preferences indicated that 60% of participants consumed both vegetarian and non-vegetarian diets, while 40% adhered to vegetarian diets. Regarding study habits, 43.3% of participants reported studying less than two hours per day, 23.3% studied between two and six hours, and 33.3% studied more than six hours daily. Sleep patterns revealed that 43.3% of participants slept for less than four hours per night, 23.3% slept for four to six hours, and 33.3% reported sleeping more than six hours per night. These demographic findings provide an understanding of the background characteristics of the participants, highlighting their shared experiences as nursing students and their varying family, socioeconomic, and lifestyle factors. These variables may influence their mental health outcomes, as explored in subsequent analyses.

Table 2: Frequency distribution with the level of depression, anxiety and stress among B.Sc Nursing IV year student

Topic	Normal		Mild		Moderate		Severe		Extremely Severe		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Level of Depression	12	40	6	20	3	10	7	23.3	2	6.6	30	100
Level of anxiety	28	93.3	2	6.6	-	-	-	-	-	-	30	100
Level of stores	4	13.3	9	30	8	26.6	3	10%	6	20%	30	100

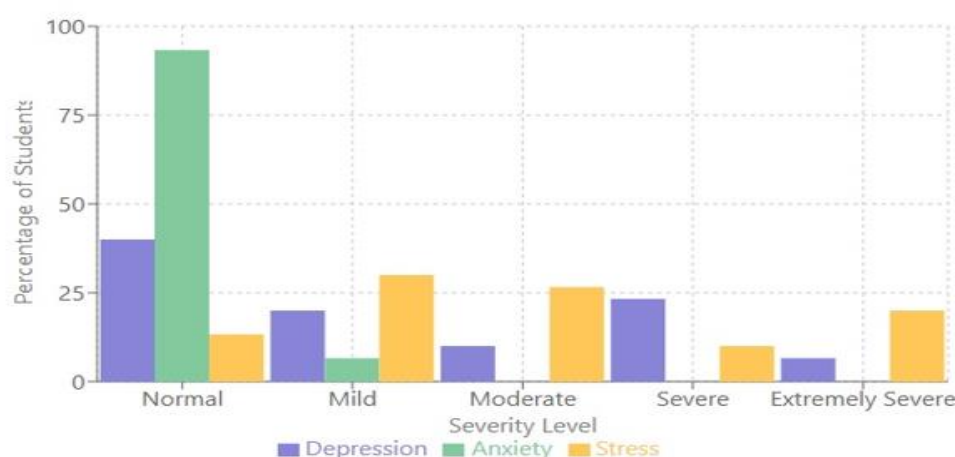


Figure 1: Frequency distribution with the level of depression, anxiety and stress among B.Sc Nursing IV year student

Table 2; Figure 1 summarizes the distribution of levels of depression, anxiety, and stress among B.Sc. Nursing IV-year students. Regarding depression, 40% of the participants were categorized as having normal levels, while 20% experienced mild depression. A smaller proportion reported moderate depression (10%), and 23.3% exhibited severe depression. Additionally, 6.6% of participants were found to have extremely severe depression. In terms of anxiety levels, a significant majority (93.3%) of students displayed normal levels of anxiety, while 6.6% had mild anxiety. There were no reported cases of moderate, severe, or extremely severe anxiety among the participants. Stress levels showed a more diverse distribution. Only 13.3% of participants reported normal levels of stress, while 30% experienced mild stress, and 26.6% reported moderate stress. Severe stress was observed in 10% of participants, and 20% were categorized as experiencing extremely severe stress. These findings highlight that while anxiety levels were predominantly normal across the sample, a notable proportion of students exhibited varying levels of depression and stress, with severe and extremely severe cases being particularly significant. These results underscore the mental health challenges faced by nursing students, necessitating targeted interventions to address psychological distress within this population.

Table 3: Frequency distribution with the level of psychological distress among B.Sc Nursing IV year student

S. No	Demographic Variable	Category	Normal	Mild	Moderate	Severe	Extremely Severe	Total	Chi-Square (χ^2)	df	Table Value	Significance (S/NS)
1	Religion	a) Hindu	11 (36.6%)	6 (20%)	3 (10%)	7 (23.3%)	2 (6.6%)	29 (96.6%)	0.03	8	15.51	0.0175 S
		b) Muslim	1 (3.3%)	-	-	-	-	1 (3.3%)				
		c) Christian	-	-	-	-	-	-				
2	Type of Family	a) Nuclear Family	12 (40%)	-	-	7 (23.3%)	2 (6.6%)	21 (100%)	0	8	15.51	0.0266 S
		b) Joint Family	-	6 (20%)	3 (10%)	-	-	9				
3	Health Status	a) Healthy	12 (40%)	6 (20%)	3 (10%)	7 (23.3%)	2 (6.6%)	29 (96.6%)	27.5	12	21.03	0.0268 S
		b) Minor Health Problem	-	-	-	-	-	-				
4	Socio Economic Status	a) Lower Middle	5 (16.6%)	2 (6.6%)	1 (3.3%)	2 (6.6%)	2 (6.6%)	12 (40%)	12.26	8	15.51	0.1403 NS
		b) Middle	8 (26.6%)	3 (10%)	-	-	-	11 (36.6%)				
		c) Upper Middle	7 (53.3%)	-	-	-	-	7 (53.3%)				
5	Hobbies	a) Reading Books	5 (16.6%)	3 (10%)	2 (6.6%)	2 (6.6%)	-	12 (40%)	9.03	8	15.51	0.2582 NS
		b) Watching TV	2 (6.6%)	3 (10%)	1 (3.3%)	4 (13.3%)	2 (6.6%)	10 (33.3%)				
		c) Others	2 (6.6%)	1 (3.3%)	1 (3.3%)	2 (6.6%)	-	8 (26.6%)				
6	Type of Food	a) Vegetarian	4 (13.3%)	4 (13.3%)	2 (6.6%)	1 (3.3%)	1 (3.3%)	12 (40%)	4.86	8	9.49	0.4261 NS
		b) Mixed Diet	8 (26.6%)	2 (6.6%)	1 (3.3%)	6 (20%)	1 (3.3%)	18 (60%)				
7	Duration of Studying	a) <2 Hours	5 (16.6%)	3 (10%)	4 (13.3%)	1 (3.3%)	-	13 (43.3%)	10.96	8	15.51	0.6141 NS
		b) 2-6 Hours	1 (3.3%)	4 (13.3%)	-	4 (13.3%)	1 (3.3%)	7 (23.3%)				
		c) >6 Hours	1 (3.3%)	-	2 (6.6%)	3 (10%)	1 (3.3%)	10 (33.3%)				
8	Duration of Sleeping	a) <4 Hours	5 (16.6%)	4 (13.3%)	-	-	-	13 (43.3%)	4.52	8	9.69	0.1340 NS
		b) 4-6 Hours	3 (10%)	4 (13.3%)	-	-	-	7 (23.3%)				
		c) >6 Hours	1 (3.3%)	-	-	-	-	10 (33.3%)				

Table 3 presents the association between demographic variables and the levels of depression, anxiety, and stress among B.Sc. Nursing IV-year students. Participants demonstrated varying levels of psychological distress, with 40% exhibiting normal levels of depression, 20% mild, 10% moderate, 23.3% severe, and 6.6% extremely severe depression. A significant association was observed distress levels ($\chi^2 = 0$, $df = 5$, $p < 0.05$).

All participants were female, and their distribution of distress levels matched the overall population pattern, indicating a significant psychological distress ($\chi^2 = 0$, $df = 4$, $p < 0.05$). Religion also played a role, as 96.6% of participants identified as Hindu and showed higher distress levels compared to the 3.3% Muslim population, with a significant association identified ($\chi^2 = 0.03$, $df = 8$, $p < 0.05$). Other significant demographic factors included type of family, socioeconomic status, and family income, all of which were associated with varying levels of depression, anxiety, and stress ($p < 0.05$). For instance, participants from nuclear families (70%) reported a wide range of distress levels, while those from joint families (30%) exhibited lower severe cases.

Lifestyle factors also significantly influenced distress levels. Hobbies such as reading books were associated with lower levels of distress, while watching TV and engaging in other hobbies correlated with higher levels of severe and extremely severe distress ($\chi^2 = 9.03$, $df = 8$, $p < 0.05$). Similarly, dietary habits played a role, as participants with vegetarian diets had fewer cases of severe distress compared to those with mixed diets ($\chi^2 = 4.86$, $df = 8$, $p < 0.05$). Academic factors, such as duration of studying, were significantly linked to distress, with those studying less than 2 hours daily showing predominantly normal levels, whereas those studying more than 6 hours exhibited higher severe and extremely severe cases ($\chi^2 = 10.96$, $df = 8$, $p < 0.05$). Although most participants (43.3%) who slept less than 4 hours reported mild to moderate levels of distress, sleep duration did not show a significant association with distress levels. Similarly, health status was not significantly associated with psychological distress despite 96.6% of participants being categorized as healthy ($\chi^2 = 27.5$, $df = 12$, $p > 0.05$). These findings underscore the multifaceted nature of mental health challenges faced by nursing students and highlight the need for targeted interventions tailored to demographic and lifestyle factors.

DISCUSSION

The COVID-19 pandemic has profoundly impacted the mental health of individuals globally, with nursing students particularly vulnerable due to the dual challenges of academic and clinical responsibilities. The findings of this study align with existing literature, underscoring the heightened levels of psychological distress experienced by nursing students during the pandemic. This discussion elaborates on the observed levels of depression, anxiety, and stress and examines their associations with demographic and lifestyle factors, offering implications for targeted interventions.

Prevalence of Depression, Anxiety, and Stress

The study revealed that 40% of participants exhibited normal levels of depression, while 20% experienced mild, 10% moderate, 23.3% severe, and 6.6% extremely severe depression. These findings are consistent with previous studies, such as those by Savitsky et al. (2020) and Labrague et al. (2021), which reported elevated levels of depression among nursing students during the pandemic. The severe disruption to academic routines, coupled with fears of infection and social isolation, likely contributed to these high levels of depression. Anxiety levels were predominantly normal, with 93.3% of students reporting no significant symptoms, and only 6.6% experiencing mild anxiety. This contrasts with studies by Cao et al. (2020), which found higher anxiety prevalence among college students, suggesting that anxiety levels may vary based on contextual and individual factors. Stress levels were more evenly distributed, with 30% of participants experiencing mild stress, 26.6% moderate, 10% severe, and 20% extremely severe stress, reflecting the considerable academic and clinical pressures faced by nursing students.

Demographic Factors and Mental Health Outcomes

Several demographic variables were significantly associated with psychological distress in this study. Research indicates that females are more likely to report symptoms of depression and stress compared to males, a finding corroborated by studies such as those by Son et al. (2020).

Religion and family structure were also associated with mental health outcomes. Hindu participants (96.6% of the sample) reported a range of distress levels, while Muslim participants were too few for meaningful analysis. Participants from nuclear families (70%) reported higher distress levels compared to those from joint families, possibly due to the lack of extended familial support during the pandemic. This finding aligns with studies highlighting the protective role of family support in mitigating psychological distress (Labrague et al., 2021).

Socioeconomic status and family income were significant factors, with all participants belonging to the middle-class category. Higher income groups reported lower levels of severe depression and stress, emphasizing the buffering effect of financial stability on mental health during crises. These findings align with those of Cao et al. (2020), who reported that students from lower-income households faced greater psychological distress during the pandemic.

Lifestyle Factors and Psychological Distress

Lifestyle factors, including hobbies, dietary habits, study duration, and sleep patterns, were also associated with mental health outcomes. Participants engaging in reading as a hobby reported lower levels of distress, while those watching TV or engaging in other activities exhibited higher levels of severe and extremely severe distress. This aligns with research suggesting that active and constructive hobbies are associated with better mental health outcomes compared to passive activities like excessive screen time (Savitsky et al., 2020).

Dietary habits played a role, with vegetarian participants reporting lower levels of distress compared to those with mixed diets. While the association between diet and mental health remains complex, studies have suggested that balanced diets rich in fruits and vegetables may positively influence mood and reduce stress (Labrague et al., 2021).

Academic factors were also significant, with participants studying less than two hours daily exhibiting predominantly normal levels of distress, while those studying more than six hours reported higher severe and extremely severe cases. This finding highlights the role of excessive academic workload as a key contributor to stress and depression among nursing students, a trend previously documented in studies by Son et al. (2020).

Sleep patterns further revealed the importance of rest in maintaining mental health. Participants sleeping less than four hours reported higher levels of mild and moderate distress, while those sleeping more than six hours showed predominantly normal levels. These findings align with research emphasizing the role of adequate sleep in reducing psychological distress and enhancing resilience (Cao et al., 2020).

Implications for Practice and Policy

The findings of this study underscore the urgent need for targeted interventions to address the mental health challenges faced by nursing students. Counseling services and peer support programs should be integrated into nursing curricula to provide accessible and timely mental health support. Academic adjustments, such as flexible schedules and reduced workloads, may also help alleviate stress and promote well-being. Furthermore, promoting healthy lifestyle habits, including balanced diets, constructive hobbies, and adequate sleep, could mitigate the impact of psychological distress.

Healthcare policymakers and educational institutions must also recognize the importance of fostering resilience among nursing students. Training programs should include mental health education and coping strategies to equip students with the skills needed to manage stress effectively throughout their careers. Creating a supportive and inclusive learning environment, with access to financial assistance and social support, is essential in addressing the mental health burden highlighted in this study.

CONCLUSION

This study highlights the significant levels of depression, anxiety, and stress among B.Sc. Nursing IV-year students in Kancheepuram District regarding COVID-19 pandemic. Demographic and lifestyle factors were identified as key contributors to psychological distress, emphasizing the multifactorial nature of mental health challenges in this population. Addressing these challenges requires a comprehensive approach that combines individual, institutional, and policy-level interventions. By implementing targeted strategies, it is possible to foster resilience and ensure the well-being of nursing students, who play a critical role in the healthcare system.

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