How to Cite:

Nursing students' burnout, stress, and coping during the COVID-19 Pandemic: A systematic review

Sudesh Devi
PhD research scholar in JJTU University Rajasthan
Email: sudeshdhillon91@gmail.com

Nandaprakash P
Professor & Research Guide, JJTU University Rajasthan
Email: nandu8670@gmail.com

Abstract---Nursing students are not immune to the stress that comes with being a student nurse. Despite the fact that there is a lot of literature on the issue, there has been little attention paid to stress in student nurses. This study examined a number of scientific papers on nursing student burnout, stress, and coping techniques. This was done through the use of a systematic review and the collection of publications. This systematic study relied on the databases CINAHL, PubMed, Medline, and Google Scholar. These databases were selected for bibliographic information for publications on the study topic: burnout syndrome, stress, and coping skills, all of which were considered. Searches in English, during the previous two years (2020 & 2021). This systematic review revealed that nursing students were experiencing moderate to severe stress as a result of a shift in the way they were taught, a lack of clinical skills, and a concern of getting COVID 19. Nursing students, on the other hand, dealt with stress in a variety of ways. The review findings might help nursing educators build stress management strategies that are both scientifically verified and culturally suitable for their students.

Keywords---COVID–19, Nursing Students, Pandemic, Burnout, Stress, Coping.

Introduction

In March 2020, as in the wake of the lockdown 1.6 billion students education was affected, and they were not able to go to college in 2020. The introduction of electronic Learning Management Systems (LMS) in schools and colleges has been made mandatory. Students are required to own their education even though they
interact with their teachers via internet channels. People who were unhappy were doing so because of the fears of pandemics as well as personal transformations (Data.europe.eu. 2020; Pokhrel and Chhetri, 2020; Lis et al. in 2020).

Many studies have been conducted to study the impact of COVID-19 on nurses’ health and the repercussions for the students as well as their families. The research was conducted in various locations across the globe. A variety of significant study paths were found. Concerning health-related issues and challenges the primary items that were examined included anxiety, stress and depression, among other factors. The study found that once COVID-19 was in the process of spreading, students across the globe became more scared and depressed, and less joyful (Korkmaz and Toraman in 2020; Fujiwara, 2020; Ahmed, 2022; Li et al., 2021 Ye et al., 2020).

People or groups are not capable of managing external or internal pressures or a mixture of both, either when they are on their own and in a group setting. According to the American Psychological Association. When they attend schools, nursing students can be under a number of pressures. Nursing students may be subject to many different kinds of stress. Although work and school obligations are the most common however, there are many other types of stress. When students are in school, they must to perform a lot of assignments, exams and other assignments. Another cause of stress for nursing students working in the clinical environment is the feeling that they do not have the appropriate professional competencies or are not sufficiently knowledgeable regarding the patient’s diagnoses medical histories, diagnoses, or the treatment options for Covid 19 illness (AlAteeq et al., 2020; Hoyt et al. 2021 Aslan as well. in 2020).

Second, research on the causes of stress can be described. People must consider a range of factors, including anxiety about loneliness, job prospects, and their educational prospects. According to one study being diagnosed with COVID-19 in the field, and not receiving education on the prevention of COVID-19 can be a significant factor in nursing students their performance. This is due to the fact that nursing students face lots of pressure because of their roles as caregivers to sick patients (Thai et al., 2021; Aslan et al. 2021; Chhetri et al., 2021).

Nursing Students who take online nursing courses often complain about their inability to focus on discussions in class, complete homework on time, and adhere to deadlines for academics. Fear of not getting adequate knowledge while earning an education via distance learning could negatively impact the prospects of students for employment when they graduate. These traits, the study concludes, could cause stress for students to be higher (Bourion-Bedes et al., 2021, Abram Andersen. 2021, Petrides 2021).

The third study on the issue of the effects of burnout on students were discussed. Students were found to be more likely to burnout because of their self-evaluation and perfectionism, the need for help in managing their time, and an absence of encouragement of their educators. Burnout Syndrome is a chronic condition of stress marked by increased anxieties. It is characterized by a lot of emotional exhaustion as well as depersonalization in the workplace, however there is a lack of professional effectiveness. Stress can be detrimental to the
academic performance of nursing students due to the sheer volume of work they have to complete and the pressure to do effectively at the classroom. Nursing students working in health care settings suffer an increased amount of stress that can increase their anxiety (Woods 2021, Shafiq 2021, Ejdys 2021).

Strategies for coping that people can utilize to build their resilience to challenges. When faced with a challenging circumstance, people may resort to coping mechanisms triggered by an issue or emotional. Problem-solving is the most commonly used method for stress management among students, while the avoidance technique is not the most frequently utilized strategy for stress management among nursing students. It is among the students’ strategies for coping to deal with COVID-19 and they have demonstrated remarkable resilience in dealing with it.

**Purpose of the study**

The goal of this investigation was to find out if research was conducted on how nursing students responded to burnout, stress and other problems during the COVID-19 outbreak.

**Methods**

This in-depth review was conducted in accordance with PRISMA principles. It has standards for reporting systematic reviews and meta-analyses that are supported by evidence. PRISMA offers a framework for researchers to ensure the integrity and correctness of systematic reviews and meta-analyses that are published (Liberati et al., 2009).

**Strategy for Search**

Four databases on the internet, CINAHL, PubMed, Medline, Google Scholar, were selected for this comprehensive review. The databases selected include the bibliographic details of articles that cover the topic of study Burnout syndrome Stress and Coping strategies. A pair of members from the research team scoured the databases selected in December 2021. First, the term "nursing Students, stress, burnout syndrome, coping strategies" were searched for to locate the MeSH phrases on PubMed. The command line that was used when the search on PubMed is ("Nursing students"[Mesh][Mesh]) and "Burnout, "[Mesh]) and "Coping strategies" [Majr]. The restrictions on searching included English language journal, scholarly journals, and two years of publications (2020 and 2021).

**Keywords for Search**

Articles were considered included if (1) the principal goal was to investigate burnout, stress and coping strategies in nursing students, and (2) articles were published within the English language (3) released from 2020 and beyond.
**Search results**

The initial search revealed the publication of two hundred sixty-seven (267) papers that were relevant to the review. According to the eligibility criteria the abstracts and titles were scrutinized and compared against the inclusion criteria, which resulted at eighty-three (83) articles. After reviewing the methodology of the papers seventeen (17) were selected as important to our review.

---

**Assessment of quality**

To assess the credibility, rigour and methodological validity of the articles included by comparing them to the twelve (12)-item checklist created in
collaboration with the Center for Evidence-Based Medicine. The authors calculated the quality score of 0, 1, NA and NEI based on this process (not enough data). Every research study falls into three categories: medium, high medium or low (high medium, low, and high low) (Hafsteinsdottir et al., 2017).

Data extraction

The data gathered from the research comprised: the authors' names, the publication year and the country, as well as the size of the sample/sampling technique as well as the research methodology and the most important results were all derived directly from the research's outcomes and findings. The authors addressed any differences regarding the quality evaluation results by debating each aspect in depth before coming to an agreement on the overall. Since there was a wide range in the research methods, design and methods for data collection An inductive thematic analysis that was based on the research by Clarke as well as Braun was applied to determine the most important themes. The following six steps were employed to carry out the analysis: familiarization with the data, development of initial codes; identification of themes; examination of themes; identification as well as labeling of the themes and the writing of the report. Every participant in the research team discussed, re-examined and agreed on the overarching themes identified. The following three (3) topics emerged during the study including levels of stress and burnout factors, stress triggers, and strategies for coping.

Results

The review's first section provides a summary of the information discovered during the research process and the sources chosen to be reviewed. The review's methodology is explained and the main conclusions and the most significant issues that were identified from seventeen papers.

Specifications in the Reviewed Studies

Studies using cross-sections, mixed-methods as well as observational studies were all employed as investigative techniques during the review of research. The findings of the study were more applicable to other studies in nursing due to the sample of this study, which is comprised mainly student nurses. In addition, the study subjects hail from a broad variety of locations which include both advanced and emerging healthcare systems. In addition to India as well as Turkey, Saudi Arabia and Spain were represented in addition to those from the United States, Israel, China and Jordan.

Theme 1. Stress levels and Burnout

Six articles were published, and the authors focused on the stress and exhaustion of nursing students were during the time of pandemic. Stress perception mental health, stress, and perceived support contributed over half of the variations in the level of personal burning out experienced by students who participated in this study as per the study from 1044 students in the nursing field. The study also found that the students' experiences with stress education, support, and stress
were the reason for 40% of variance regarding their burnout. The level of physical health and education of nursing students accounted for about 6% of the variance in the level of burnout among their students, while other factors contributed to 9% of the variance.

In a cross-sectional study conducted at 14 Turkish institutions, 56% participants were female. The three types of tests employed in this study were the Perceived Stress Scale (PSS-10), the Physical Activity Scale (PA), and the Sociodemographic Questionnaire. The moderate anxiety, and life dissatisfaction among students were all high. Generalized anxiety disorder (GAD), which affects more than half of students, or depression (52%).

Thirdly, the study looked at the impact of the COVID-19 pandemic the psychological wellbeing of Bangladeshi students, particularly their attitudes and perceptions of the outbreak. Nursing students were invited to take part in an online cross-sectional study. Based on the results of the survey, 26.66% and 61.97% of the respondents respectively, had experienced moderate to severe anxiety symptoms and 57.05% reported having mild to severe symptoms of stress. Based on an analysis of multivariate logistic regression the age of students and gender, income of the family along with the place of residence, as well as family size were all connected with mental health issues. Researchers discovered that negative attitudes towards the effects of the pandemic on daily activities and mental health, as well as disturbances in health care, physical health problems and COVID-19-like symptoms were all related to low mental health.

**Theme 2: Stress Triggers**

Five articles dealt with research on stress-related factors for nurses during Covid 19 Pandemic. With 1116 students of 13 nurse schools from Nepal an investigation of cross-sectional nature was conducted. The main goal of the study was to assess the effect of online learning on students in nursing during the COVID-19 epidemic across the United States. Based on the findings of the study that a lot of students’ online courses were disrupted because of technological problems that have emerged when higher education institutions started offering online courses. 63% of nursing students reported experiencing issues in obtaining the power. According to the study 66% of nursing students reported problems with their internet connection, while only 64.4% reported having internet access at home to take online courses. Another study that was conducted cross-sectionally in Israel focused on how 244 pupils from Ashkelon Academic College regarding the COVID-19 epidemic. Based on the findings of the study nursing students were experiencing higher levels of anxiety because of the challenges inherent in the distance learning environment.

Another study that was cross-sectional discovered that respondents felt as stressed and less attentive. The study interviewed 662 nursing students from Turkey to assess their attitude towards the COVID-19 epidemic and their stress levels. The study revealed that nurses experienced some amounts of stress. However, students who had been previously assessed reported higher levels of stress. Nursing students were worried about their practice in the clinic.
and their lack of clinical expertise in the midst of the pandemic, since they were compelled to quit the college and study via online learning.

**Theme 3. Strategies for coping**

Six articles focused on research into coping strategies for nursing students during the Covid 19 Pandemic. The cross-sectional study, which was carried out with 244 students in nursing, discovered that there was a significant amount of anxiety among nurses in general, and not just due to the illness itself as well as the interruption of their everyday life, financial challenges as well as the time they spend away from family and friends and the new model of education being conducted online through remote learning. The study revealed that nurses that maintained an optimistic mindset in seeking information and communicating with their peers had better mental well-being.

Only 2.6% of nursing students in a cross-sectional research of 38 participants reported moderate stress, whereas 97 % reported moderate stress and the majority reported using moderate coping mechanisms (97.4%). In this study, there was no statistically significant relationship between participants' coping mechanisms and their emotional stress.

Table 1: Summary of Literatures studied and Quality score

<table>
<thead>
<tr>
<th>Author year, Country</th>
<th>Study Design</th>
<th>sampling methods and sample size</th>
<th>Instruments used</th>
<th>Principal Findings</th>
<th>Quality Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valiuniene et al. (2021) Poland, Turkey and India</td>
<td>Cross-sectional design</td>
<td>Convenient Sampling Technique, N=1097, Nursing Students</td>
<td>Psychological stress test (PSM-9), Copenhagen Burnout inventory</td>
<td>There was a moderate relationship between burnout and stress ($r=0.581, p=0.001$). An moderately positive correlation ($r = 0.500, P = 0.001$) is observed between exhaustion in students and their overall wellbeing. Stress as well as mental health support explain 51% variance in burnout levels of students. In addition, students' reports of stress as well as support levels predicted 42 % of their burnout adversity. It was found that burnout from personal</td>
<td>5 **</td>
</tr>
<tr>
<td>Sveinsdottir et al. (2021) Iceland</td>
<td>Cross-sectional design</td>
<td>Convenient Sampling Technique, N=1044, Nursing Students</td>
<td>Copenhagen Burnout Inventory</td>
<td></td>
<td>6 **</td>
</tr>
<tr>
<td>Study</td>
<td>Design</td>
<td>Sample</td>
<td>Measure</td>
<td>Findings</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------------------</td>
<td>--------------------------------------------------</td>
<td>----------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Aslan et al. (2020), Turkey</td>
<td>Cross-sectional design</td>
<td>Purposive sampling, N= 358 Nursing Students</td>
<td>Perceived stress Scale (PSS-10), A</td>
<td>Experiences was positively related to the academic stress (r = 0.61) collaborating with other students (r = 0.222, p 0.001). The academic burnout also was associated positively with burnout when it came to working with other students (r = 0.343 and p 0.001). Physically inactive and female students were more likely to have higher PSS-10 scores, suggesting high levels of stress moderate generalized anxiety and low satisfaction with their lives.</td>
<td></td>
</tr>
<tr>
<td>Savitsky et al. (2020) Israel</td>
<td>Cross-sectional design</td>
<td>Convenient Sampling, N=244, Nursing Students</td>
<td>Coping Behavior Questionnaire C</td>
<td>By utilizing factor analysis, variable rotation and an unlimited quantity of variables. Scores for describing strategies for coping were developed. Self-esteem, seeking information and guidance, mental distancing more spiritual than science-based sources of help, and Humour was all mentioned as effective ways to cope.</td>
<td></td>
</tr>
<tr>
<td>Aslan &amp; Pekince (2021), Turkey</td>
<td>Cross-sectional design</td>
<td>Simple random sampling N=662 Nursing Students</td>
<td>Perceived Stress Scale</td>
<td>A PSS scores averaged 31.69 with SD of 6.91. This suggests that the pupils were not stressed to the extent they are. The gender and age were also shown to be significant differences in PSS scores (P&lt;0.001). The study also revealed it was clear that news stories, fears of infection</td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Design Type</td>
<td>Sample Size</td>
<td>Measurement Tools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------</td>
<td>-------------</td>
<td>------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Husky et al. (2020), France</td>
<td>Cross-sectional design</td>
<td>Con: 291</td>
<td>Not Mentioned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sayeed et al. (2022), Bangladesh</td>
<td>Cross-sectional design</td>
<td>Con: 689</td>
<td>The Anxiety and Stress Scale (DASS 21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hamadi et al. (2021), USA</td>
<td>Repeated measures design</td>
<td>Con: 130</td>
<td>Perceived Stress Scale (PSS) Coping Behavior Inventory (CBI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tiwari et al. (2021), India</td>
<td>A cross-sectional design</td>
<td>Pur: 38</td>
<td>Perceived Stress Scale as well as the Brief Coping Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Khoshaim et al. (2020), Saudi Arabia</td>
<td>A cross-sectional design</td>
<td>Con: 400</td>
<td>Zung Self-rating Anxiety Scale, Brief Coping Scale</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results showed that students experience an increased risk of having severe overall stress (27.6% against 15.5%, $X^2=7.67$, $p=.031$) and stress levels regarding the health of their loved relatives (32.5% as compared to 16.3%, $X^2(1)=7.67$, $p=.006$). Around 26.66% and 61.97% of students reported moderate to severe depression and anxiety symptoms respectively. In addition, 57.05% reported mild to severe levels of stress.

Prior to COVID-19 the stress score stood at 1.32 (low tension) as well as 1.95 (moderate tension) in COVID 19.

Based on the findings that the vast majority of pupils (92.1%) were aged between 19 to 25. The study revealed that only (2.6%) of students experienced mild stress-related feelings, (97.4%) experienced moderate stress and most students reported moderate coping strategies (97.4%).

According to the research findings 35% of students were afflicted with anxiety. There were a few instances of four coping strategies: seeking social support...
<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Sampling Method</th>
<th>Measurements</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gupta et al. (2020), Nepal</td>
<td>A cross-sectional design</td>
<td>Conventional Sampling, N=148 nursing students</td>
<td>DASS (Depression, anxiety scale, the stress scale) and ISI (Insomnia Index Scale).</td>
<td>The study found that the COVID-19 epidemic had a severe effect on nurses in Nepal. One of the major COVID-19-related worries for this group is the fear of not able to complete their studies in time.</td>
</tr>
<tr>
<td>Begam and Devi (2020), India</td>
<td>Cross-sectional design</td>
<td>Conventional Sampling, N=244 nursing students</td>
<td>Perceived Stress Scale</td>
<td>Based on the results in the study, the participants been experiencing mild levels of stress due to COVID-19.</td>
</tr>
<tr>
<td>Mashaal et al. (2020), Jordan</td>
<td>Mixed methods</td>
<td>Conventional Sampling, N=335 nursing students</td>
<td>Higher Education Stress Inventory</td>
<td>According to this study COVID-19 is a major cause in stress to nursing school students taking part in online learning.</td>
</tr>
<tr>
<td>Fitzgerald &amp; Konrad (2021), USA</td>
<td>Descriptive study</td>
<td>Conventional Sampling, N=50 nursing students</td>
<td>Ten-item Stress anxiety The symptoms to look out for. Check the list.</td>
<td>Nursing students were worried and stressed from having to balance the stress of academics and the anxiety caused by a lack of PPE at work. According to the study, which aimed to identify the anxiety and stress experienced by nurses during COVID-19.</td>
</tr>
<tr>
<td>Abolfotouh et al. (2020), Saudi Arabia</td>
<td>Cross-sectional design</td>
<td>Conventional Sampling, N=284 nursing students</td>
<td>Emotional Intelligence Scale and the Intolerance Uncertainty Scale</td>
<td>The COVID-19 epidemic, emotional intelligence was shown to be an essential ability to cope for nursing students from the two countries.</td>
</tr>
<tr>
<td>Gallego-Gomez et al. (2020), Spain</td>
<td>The observational</td>
<td>Conventional Sampling, N=142 Nursing students</td>
<td>Student Stress Inventory-Stress Manifestations (SSI-SM)</td>
<td>During the lockdown, anxiety levels of the nursing students grew. In the course of this, they also had to contend with familial and financial problems as well as their primary...</td>
</tr>
</tbody>
</table>
Discussion

Numerous studies show that student nurses are often subject to major stress in their clinical practice. The stress levels can vary in severity from light to extreme (Blomberg and al. 2014; Hamaideh et al., 2017). A qualitative review of 13 research studies found that around 50% of the studies studied found that nursing students were stressed. A cross-country study found that nurses studying from India, Nigeria, and the Philippines all reached a similar amount of achievement. The PSS score found was higher than the midpoint of its score, indicating that the people are anxious and stressed.

The authors of this study found that students were afflicted with a lot of stress throughout their nursing education and training. This is in line with other student nurses who have had similar experiences (Sheu et al., 2002; Yamashita et al. 2012). In terms of nurse education is generally recognized as being among the top stressful and emotionally draining areas of study. There plenty of evidence to prove this. As nursing students start treating patients, they have to deal with a lot of academic and professional obligations which further complicate the circumstance (Reeve, 2013).

The absence of the necessary expertise and knowledge regarding treatments, or the overall responses to COVID-19 infection could result in severe effects, as evidenced by the strain of training in clinical practice. As already explained in this article, maintaining a social distance, wearing masks or washing the hands is all effective methods to prevent the spread of the infection. They have to deal with microaggressions, and must make decisions about their health similar to those they make in a setting of active care or in a virtual learning setting (Ramos-Morcillo et al., 2020).

In addition to making a difference the nursing schools and universities allow nursing students to be in high-risk health conditions without equipping the required skills. Nursing students have gained the capacity to manage anxiety and stress due to the anxiety and stress associated with high-risk or learning situations. Based on the findings of the review students relied heavily on advice and information when preparing for the COVID-19 epidemic. This information allows them to escape from the confines of as well as to clear up confusion and help students learn different strategies to deal with COVID-19-related mental health issues (Cleofas 2021).
A variety of technological issues were triggered due to an increasing amount of universities and colleges providing online courses. A lot of students were forced to abandon online courses because of these problems. More than 63.2% of nursing students experienced issues with electricity, and 63.6% reported having issues in accessing the internet. Just 64.4% of nursing students were connected to the internet at home to take their online classes. The disruption in education and the switch towards online education during the epidemic led to the absence of clinical experience and skills that were in the hands of nursing students (Klainin-Yobas et al., 2020).

The ability to deal with a range of life situations and stressors is dependent on the creation of positive coping strategies. In studies that the coping methods must be either emotionally or problem-focused. A stress-focused approach to management is deemed superior since it targets the main cause stress right away and offers an effective solution for stress over the long term and anxiety, each of them essential for a person's health as well as wellbeing (Ramos-Morcillo et al., 2020).

The results of this research revealed that nurses who were students had a higher likelihood than nurses of other professions to use positive coping strategies and to seek solutions to issues. Additionally, it helps nurses cope with anxiety. Due to the fact that positive coping strategies not only reduces student nurses feeling stressed however, it also helps them keep from the negative effects that pressure on their physical and mental wellbeing, they learn to deal with anxiety and stress in various ways through the guidance of the nursing faculty, who provide students with strategies for coping and stress management classes as well as a mentoring program for students on campus and a structured introduction to the field (Naveena et al., 2020; Lathamangeswari, et al. 2021).

**Conclusion**

The comprehensive review focused on the level of stressors as well as coping mechanisms that nursing students faced during the COVID-19 epidemic and methods they employed to deal with the situation. The study adopted an evidence-based method. Based on the results in 17 study research papers. The review's inclusion of 17 studies and the subsequent examination of data revealed important stresses faced by nursing students as well as numerous strategies to manage the disruptions to the learning process brought on by the pandemic generally. Introduction of a novel technologically-based alternative method for providing nursing education has raised questions regarding internet connectivity, technical issues, as well as inadequate administration of sessions online. Nursing students face difficulties because of choosing traditional education over online and remote learning alternatives. The study's strategies for coping emphasize the necessity of maintaining a well-controlled learning environment to maximize the outcomes of nursing students as well as reducing their vulnerability to stress and burnout in their clinical training.

**Funding**

This is a self-funded.
Acknowledgement:
We acknowledge all the investigators that were mentioned in the review.

References


a cross-sectional study from India. Journal of Taibah University Medical Sciences, 16(2), 260-267.


