Impact of COVID-19 on stress and burnout rates in nursing students

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Background

- The COVID-19 pandemic changed the academic lives of nursing students and contributed to increased reports of stress and burnout symptoms.
- Students reported higher levels of stress related to academics such as lectures, seminars, and clinical practice during the pandemic compared to outside of the pandemic.[1]
- Health and well-being of nurses is an essential preventative measure in maintaining a sustainable, capable nursing workforce.
- In a systematic review done by Hall et. al., 21 out of 30 studies found a positive correlation between healthcare worker burnout and negative patient outcomes.[2]
- It follows that exposure to burnout syndrome in nursing students contributes to the prevalence of burnout in the nursing workforce at large, and preventative measures should be taken.
- Mindfulness-based interventions have been shown to significantly reduce stress in this population.[5]
- Mindfulness meditation has a positive impact on nurses and nursing students in terms of stress, anxiety, depression, burnout, sense of well-being, and empathy.[3]

Research Questions

1. What is the impact of COVID-19 on stress and burnout rates in nursing students?
2. What is the effectiveness of mindfulness interventions on reducing stress and burnout in nursing students?
3. What are some programmatic recommendations?

Methods

- A systematic database search was conducted using PubMed, CINAHL, and PsycINFO scholarly databases. All articles used were published between 2016 and 2021.
- The search terms used were ["COVID-19" OR "Coronavirus" OR "SARS-COV-2"] AND [nurs*] AND [student] AND [burnout] AND [mindful*] AND [stress].
- Inclusion Criteria: Studies that looked at the association between nursing students, nurses, the COVID-19 pandemic, stress, and mindfulness.

Methods Cont.

- Exclusion criteria: studies that grouped results of multiple professions and studies using therapeutic modalities other than mindfulness.
- The reference lists of each study were also reviewed for relevant studies that were not captured in the original database searches.
- Articles were reviewed for relevance and agreed upon by both authors.

Table 1: Description of Selected Systematic Database Search Results

Author, Year	Participants	Methods	Findings
van der Riet, P., Levett-Jones, T., & Aquino-Russell, C. (2018).	N = 9 studies of nurses N = 6 studies of nursing students	Integrative review	Mindfulness meditation has a positive impact on nurses and nursing students in terms of stress, anxiety, depression, burnout, sense of well-being, and empathy.
Mitchell, A. E. P. (2018).	N = 121 nursing students, average age 26, range 18-47	Depression, anxiety, and seeking support scales were used to evaluate symptoms	Ninety percent of students scored over the subclinical threshold for anxiety. Eighty-four per cent of students scored over the subclinical threshold for depression.
Reverté, V. S., Ortega, L., Lavedán, A., Masot, O., Burjalés, M. M. D., Ballester, F. D., Fuentes, P. C., & Botigué, T. (2021).	N = 305 nursing student Pre COVID-19 n = 146, median age 25 During COVID-19 n = 159, median age 22	Transversal descriptive study carried out using data from a larger, multicenter, longitudinal, and prospective study in Spain. Two groups compared: May 2017 and May 2020	59.7% of students in the pandemic scored over 23 on the GHQ compared with 35.9% in pre-pandemic. Students with higher GHQ scores registered higher levels of stress related to academics such as lectures, seminars, and clinical practice
Beltrán-Velasco, A. I., Sánchez-Conde, P., Ramos-Campo, D. J., & Clemente-Suárez, V. J. (2021).	N = 45 nursing student average age 26.48, range 19-40	6 parameters of heart rate variability during 5 specific moments along with the scenario were evaluated	Students showed high sympathetic activation throughout the simulation with no habituation with prolonged exposure. Findings suggest that healthcare workers coping with high-demand and uncertain environments show increased autonomic response and limited capacity to process, store information, make decisions and learn.
Burger, K. G., & Lockhart, J. S. (2017).	N = 52 prelicensure nursing students Average age 69% between ages 18-40	Randomized-control trial	Results support the consideration of meditation training as a strategy for enhancing nursing students' attentional efficiency and other self-regulatory skills necessary for safe nursing practice.

Results

- Student nurses historically experience high levels of stress, anxiety, and depression.[4]
- The COVID-19 pandemic further exacerbated the high levels of stress, anxiety, and depression.[1]
- Mindfulness interventions show potential as an evidence-based solution to reduce stress, burnout, and other negative symptomatology in nursing student and nurses.[3]
- Some recommendations include mindfulness meditation and yoga early in the curriculum of nursing students.[3]

Figure 1: Two nurses engage in mindfulness meditation

Figure 2: A nurse regulating for emotion using mindfulness

Conclusion:

- **During COVID-19, nursing students, who are already a vulnerable population, are at risk for increased stress and autonomic dysregulation leading to burnout.**
- **Stress and burnout has been studied in nurses and linked to poor quality of life for nurses and poor patient outcomes.**
- **Studies of mindfulness meditation in nursing students suggest efficacy as a preventative measure against these negative outcomes.**

Implications

- Universities should implement early curriculum mindfulness interventions for nursing students that address factors which increase anxiety.
- Mindfulness interventions should include meditation, yoga, problem-focused coping, self-compassion training and can be delivered in a virtual or in-person format.
- Pre-and-post evaluations of stress, attention, and emotional status should be delivered to participants periodically.
- Universities should communicate clearly about future changes in the curriculum during uncertain times to decrease stress.

References

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