

Introduction

- Stress is defined as a “a physical, chemical, or emotional factor that causes bodily or mental tension, and may be a factor in disease causation” (Merriam-Webster, 2014).
- Education can be very demanding and stressful, which puts a significant amount of pressure on students.
- Stress can put a physical and emotional toll on students completing their requirements in order to graduate.

Clinical Question

Among students starting clinical rotation, does the use of a stress relief app help in relieving stress?

- P: students in their first clinical rotation
- I: stress relief app
- C: stress before and after implementing a stress relief app
- O: decreased stress levels in students
- T: three weeks

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Background and Significance

- Nursing students experience stress in both the academic and clinical aspects of their training programs.
- Stress negatively affects nursing students' experiences in their clinical rotations.
- Nursing students completing clinical rotations experience moderate to severe stress levels, including:
 - Fear of the unknown
 - Fear of clinical incompetence
 - Other daily life stressors (Labrague et al., 2017).
- Social, emotional, physical, psychological, and family problems are thought to be the most common factors affecting students' ability to learn and academic achievement (Al, Alhosain & Alsunaye, 2018).
- Major stressors identified in nursing students are:
 - Lack of time
 - High workload
 - Difficult decision-making
 - Adapting to change
 - Making mistakes (Al et al., 2018)
- The nursing field can be negatively affected by the stress felt by nursing students.
- Causes of current shortage of nursing staff (Fox & Abrahamson, 2009):
 - Tightened admission structure in nursing programs
 - Lack of university-level resources
 - Stress during nursing education may contribute to a shortage of nurses entering into the nursing profession (Labrague et al., 2017)

Methodology

- Study design: pre-/post-test design to measure stress in nursing students before implementing the stress relief app.
- Study setting: A University in Newark, N.J.
- Study measures: Stress level
 - 14-item questionnaire developed by the American Animal Hospital Association to measure stress among veterinary school students (range: 14 to 56).
 - Measured before implementation of the stress relief app and again after the students used the app for 3 weeks.
- Student evaluation questionnaire:
 - How often app used per week
 - Whether use of the app helped decrease their anxiety
- Study analysis: Wilcoxon rank sum test conducted to compare average stress levels pre-/post- intervention.
- Study sample:
 - Students in the DNP program
 - Voluntary participation
 - Inclusion criteria: all nursing students with a smart phone enrolled in doctoral classes who had not started clinical rotations.
 - Exclusion criteria: undergraduate students and DNP students who had enrolled in clinical rotations.
- Consent procedure: Consent form signed by each participant at the start of the intervention.
- Risks/harms/ethics: no personal identifiers were retained, so the study involved minimal risk to participants.
- Subject costs and compensation: there was no cost or monetary compensation to the participants who were involved in this study.
- Subject recruitment: began on September 24th, 2019.

Results

- Implementation: September 24th, 2019 through October 15th, 2019
- 30 students enrolled:
 - All were female
 - 13 students completed the post-test
 - No significant difference in baseline mean stress levels of those who completed the study (34.2) versus those who did not (35.3)
 - Mann-Whitney ($U = 101.0, p = .690$).
- Mean stress levels ($n = 13$)
 - Pre-intervention: 34.2
 - Post-intervention: 28.1
- Wilcoxon rank sum test: indicated a statistically significant decrease in the stress levels before and after implementation ($Z = -2.345, p = .019$)

Discussion and Implications

- The results of this study agree with prior literature.
 - Use of a mindfulness app is associated with decreased stress in students.
- Overall, study shows that incorporating a stress management education intervention into the nursing curriculum would be a feasible way to address stress and anxiety among nursing students.
- Study Implications:
 - High loss to follow-up
 - Small sample size
 - Limited to DNP students starting clinical rotations

References

- Al, G. E., Alhosain, A., & Alsunaye, K. (2018). Stress and coping strategies among Saudi nursing students during clinical education. *Perspectives in Psychiatric Care*, 54(2), 198–205. doi: 10.1111/ppc.12223
- Fox, R. L., & Abrahamson, K. (2009). A critical examination of the U.S. nursing shortage: Contributing factors, public policy implications. *Nursing Forum*, 44(4), 235–244. doi: 10.1111/j.1744-6198.2009.00149.x
- Labrague, L. J., McEnroe-Petitte, D. M., Gloe, D., Thomas, L., Papatthaniou, I. V., & Tsaras, K. (2017). A literature review on stress and coping strategies in nursing students. *Journal of Mental Health*, 26(5), 471–480. doi: 10.1080/09638237.2016.1244721
- Merriam-Webster. (2014). Stress. Retrieved from <https://www.merriam-webster.com/dictionary/stress>