The Implementation and Evaluation of a Smartphone Mindfulness-Based Application on the Mental Health of Critical Care Nurses

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Introduction

- Nurses working in high-intensity areas are constantly exposed to elevated levels of stress, trauma, and moral dilemmas.
- Accentuated by the COVID-19 pandemic
- Increases in medical errors, staffing turnover, and decreased patient satisfaction.
- Mindfulness, a practice of paying attention to present experiences with non-judgmental awareness, facilitates adaptive responses to stress and trauma.
- Shown to reduce stress, improve decision making, improve productivity and resiliency in the workplace.
- Mindfulness activities translated onto digital platforms.
- The Insight Timer® smartphone application has thousands of free mindfulness-based activities users can participate in
- Use of the Insight Timer® application amongst nurses working in stressful hospital environments decreased levels of burnout and stress while improving levels of self-care.

Background and Significance

- Moral distress and lack of mental health support have caused more nurses to leave the hospital or the profession altogether.
- At a Level One Trauma Center in Ocean County, NJ, there was been a 4% increase in staffing turnover in the MICU/CCU in 2020 from 2019 as a result of the pandemic.
- Left due to stress, anxiety, burnout and PTSD secondary to their experiences from the first SARS-CoV-2 surge.
- Many have left to work in different units, different hospitals, or have left bedside nursing altogether.
- With the current pandemic many people are turning to smartphone applications providing mental health support
- Limited studies focusing on the use of these applications on the mental health of healthcare professionals

Insight Timer® application

Clinical Question

- Does the implementation of a smartphone mindfulness-based application decrease mental health outcomes of anxiety, stress and burnout amongst critical care nurses?
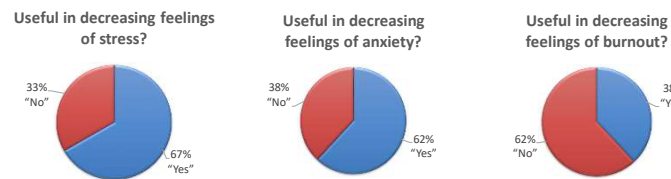
Methodology

- **Design:** This project was a quality improvement initiative aimed at planning, implementing, and evaluating a smartphone mindfulness-based application to improve the mental health of critical care nurses.
- **Setting:** MICU/CCU of a Level-One Trauma Center in Ocean County, NJ
- **Study Population:** Open to all nurses in the MICU/CCU (79 total). Anticipated sample size of 50 to participate.
- **Aim:** Reduce stress, anxiety and burnout of critical care nurses by using the Insight Timer® smartphone application
- **Intervention:** MICU/CCU nurses were educated on mindfulness and oriented to the Insight Timer® smartphone application. Usage was tracked on a weekly basis by sending surveys via Qualtrics at the end of each week. Feedback evaluation of the intervention and demographic data were collected at the end of the intervention via a Qualtrics survey.
- **Outcomes Measured:** Utilization of the Insight Timer® application, demographic data, feedback evaluation of the application

Results

- **Weekly Usage Survey (N=21)**
  - Increase in usage = better mental health outcomes (stress, anxiety & burnout)

Useful in decreasing feelings of stress? — 33% "No", 67% "Yes"
Useful in decreasing feelings of anxiety? — 38% "No", 62% "Yes"
Useful in decreasing feelings of burnout? — 38% "Yes", 62% "No"

- **Feedback Evaluation Survey (N=5)**
  - **40%** of nurses reported that the application decreased feelings of **stress**
  - **60%** of nurses reported that the application decreased feelings of **anxiety**
  - **40%** of nurses reported that the application decreased feelings of **burnout**
  - Majority of nurses reported easy to access and use
  - Lavender Room = offers escape, but no time to use
  - Low response rate = interpretation with reservations

Discussion

- **Weekly Usage Survey**:
  - Majority of participants felt that the application helped with feelings of stress and anxiety, but not burnout.
  - More participation = better outcomes
- **Limitations**:
  - Sample size (access to emails, surveys open for short time)
  - Competing projects, COVID-19 surge
  - Nurses could use the application without participating in surveys (underestimate/overestimate data)
- Burnout: access to more sources?
- Earlier access, better outcomes?

Clinical Implications

- **Clinical Practice:**
  - Better mental health → improved critical thinking, greater communication and listening skills
- **Healthcare Policy:**
  - Workplace initiatives to improve well-being of all employees
- **Quality & Safety:**
  - Stress reduction, increase job satisfaction → improve quality of patient care and outcomes
- **Education**
  - Mindfulness programs for hospitals and schools (nursing, medical, etc)
- **Economic Costs/Benefits:**
  - Reduction in costs owing to nursing turnover, travel contracts
  - Affordable intervention

References

Attached within the QR code