

The Impact of a Mindfulness Bracelet on Emotional Affect in Medical Students

LoBasso M., Jones I., Shapiro J. PhD, Saadat S. MD, MPH, PhD, Wray A. MD

Research Question

This study attempts to answer two principal questions:

- (1) Does the use of a mindfulness reminder effect emotional affect in medical students?
- (2) How does the emotional affect of medical students change over the first two months of medical school?

Principal Hypotheses

- Medical students who wear a mindfulness bracelet more frequently will have a higher positive emotional affect score as determined by the PROMIS Short Form v1.0.
- Medical students will decrease in positive affect as they transition into medical school in comparison to their baseline affect, as measured by PROMIS Short Form v1.0.

Introduction

Mindfulness has been described as the awareness and non-judgmental acceptance of one's moment-to-moment experience to combat the common forms of psychological distress - namely anxiety, fear, anger, rumination, etc. [1,2,3] There is concern that negative changes in emotional outlook among medical students may impair the behavior of students, diminish learning, and ultimately affect patient care during schooling and after graduation.

[4] Over the past two decades there has been increasing interest in mindfulness as a form of clinical intervention, with growing evidence for its positive impact on well-being. [1,5] Incorporation of mindfulness techniques including reflection, meditation, and journaling have demonstrated significant positive changes in self-reported empathy and kindness among first year medical students. [8]

Study Timeline

Baseline Affect Survey

AUGUST 10TH, 2020



The PROMIS Positive Affect short form v1.0 survey with demographic information was administered at the introduction of the study. 104 students completed the survey.

Description of Bracelet and Project

AUGUST 10TH, 2020



Students received the mindfulness bracelet along with a presentation of the utility of the bracelet and project.

Second Affect Survey

SEPTEMBER 22ND, 2020



Students completed the PROMIS Positive Affect short form v1.0 survey and were asked about the percentage of bracelet usage. 78 students completed the survey.

Third Affect Survey

OCTOBER 16TH, 2020



The final distribution of the PROMIS Positive Affect short form v1.0 survey. Students were asked to provide the percentage of usage of the bracelet. 68 students completed the survey.

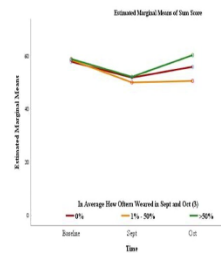
Statistical Analysis

Continuous variables are presented as mean \pm Standard Deviation(SD). Discrete variables are presented as N (%). The change of **sum score** (please use the right term for this) over the time was tested by using repeated measurement analysis. P-value < 0.05 was considered statistically significant. SPSS 27 (IBM Corp. Released 2020. IBM SPSS Statistics for Windows, Version 27.0. Armonk, NY: IBM Corp) was used for data analysis.

Study Outcomes

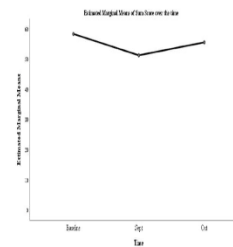
Assessment of Positive Affect Dependent on Mindfulness Bracelet Use

- Students who wore the mindfulness bracelet with greater frequency did not demonstrate a statistically significant change in positive affect over the first 2 months.



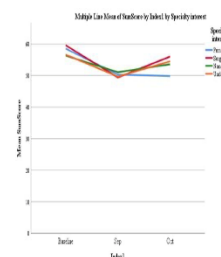
Assessment of Positive Affect Over 2 months

- Combined scores of positive affect for first year medical students was highest at baseline, significantly declined at 1 month, and then significantly improved at 2 months, albeit not to baseline levels.



Exploratory Outcome: Assessment of Positive Affect by Specialty Interest

- Specialty interest did not play a role in progression of emotional outlook over a two-month period.



Conclusion

Although we did not identify significant improvement in emotional affect with mindfulness bracelet usage, the positive trend identified with increased usage justifies further exploration of simple, inexpensive, and time-efficient interventions such as the mindfulness bracelet. The study design can be improved by involving multiple medical schools including osteopathic programs, increasing the length of the study period, and integrating qualitative responses. Increasing the awareness and importance of mental health in the medical student population continues to be an important topic and requires further research to explore alternative interventions to improve the overall mental health for our future physicians and their patients.

Limitations

- The results found in the study may be confounded by academic performance, socioeconomic factors, and personal events that may limit the survey results.
- Difficult to understand the explanations for the trends in the study without qualitative data to draw from.
- The results are from a single medical school and within one class year, which may not be generalizable to the national medical student population.

Acknowledgements/References

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