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Meditation and Empathy in Osteopathic Medical Students: A Longitudinal Randomized Controlled Trial

Bhuma Krishnamachari PhD, Ramya Pendyala OMS-1, Suzanna Shermon OMS-4, William Blazey DO, Jerry Balentine DO

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ABSTRACT

- Physician empathy is associated with positive clinical experiences for patients.
- Meditation may promote empathy.
- The specific aim of this study was to use validated measures to investigate whether use of a guided meditation app will be associated with higher levels of self-rated empathy.
- We hypothesized that osteopathic medical students who participated in a program utilizing a meditation app would have higher levels of empathy than those who did not participate.
- Students were randomized into an intervention group (use of the Headspace meditation app) or control group (no use of the app). Empathy was measured prior to study initiation, and after 3 months.
- This study found that meditation using the headspace app may be effective for improving empathy levels among osteopathic medical students, particularly amongst female medical students.
- If future research shows that student empathy increases with use of a meditation app, osteopathic medical schools may consider implementation of this interventions to promote stronger empathy in students, and ultimately better health outcomes for future patients of these students.



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INTRODUCTION

Physician empathy is strongly associated with positive clinical experiences for patients. Fostering long-lasting empathy in medical students is important as they go on to become future healthcare providers. It is therefore important to identify and utilize modalities that may decrease burnout and increase empathy in medical students. One possible modality is meditation. While there is some research that shows an association between meditation and empathy, few studies have examined this idea through strong research methodology.

The specific aim of this study was to use validated measures to investigate whether use of a guided meditation app will be associated with higher levels of self-rated empathy. If research shows that medical student empathy increases with use of such an app, medical schools may choose to incorporate this feature in their curriculum.

We hypothesized that osteopathic medical students who participated in a program utilizing a meditation app would have higher levels of empathy than those who did not participate.



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This study was IRB approved. First and second year osteopathic medical students were recruited into the study. A pilot study was initiated in January 2017, and continued as an AOA grant funded study (AOA grant number 2851807727). Data from three separate study cohorts were combined for this analysis. Students were randomized into an intervention group (use of the Headspace meditation app) or control group (no use of the app). The study included 54 students in the intervention group and 54 controls. Students in the intervention groups used the app 3 days a week, 10 minutes each session. Empathy was measured prior to study initiation and after 3 months using the Jefferson Scale of Empathy (JSE). This scale is a 20-item instrument specifically developed to measure empathy in the context of healthcare. Higher scores on the JSE scale indicate higher empathy.

DATA ANALYSIS T-tests were used to compare the intervention group and control group on all continuous variables. Chi-square tests were used to compare the two groups on categorical variables. A p-value under 0.05 was considered statistically significant.

Headspace App



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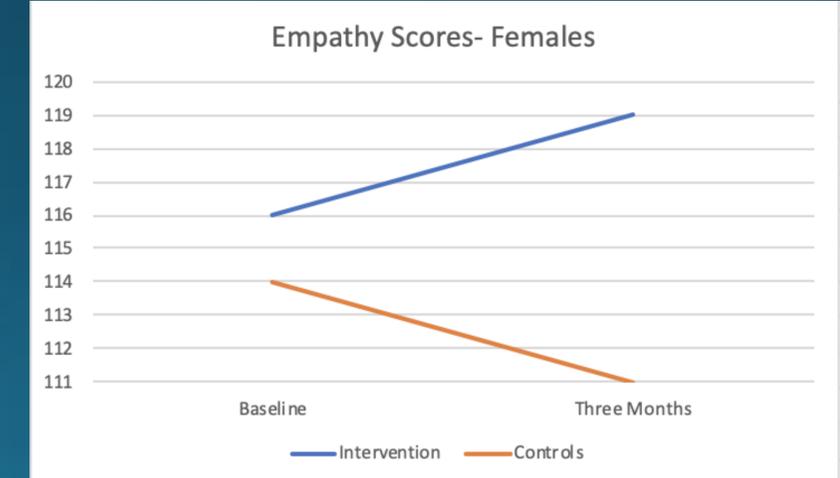
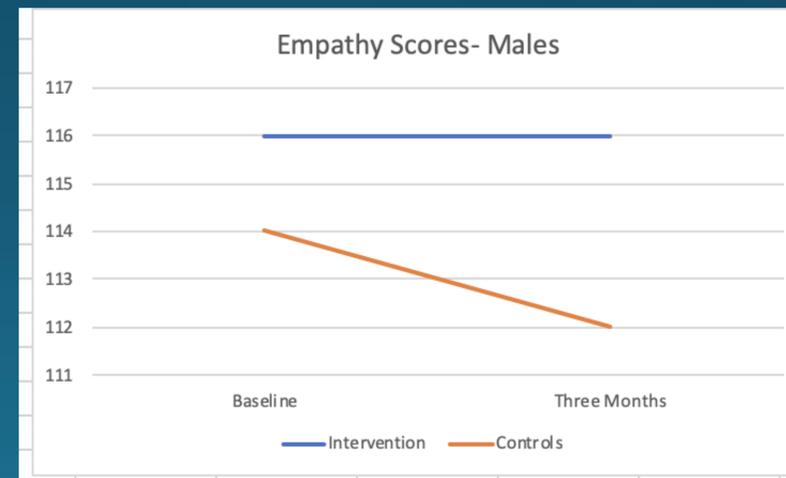
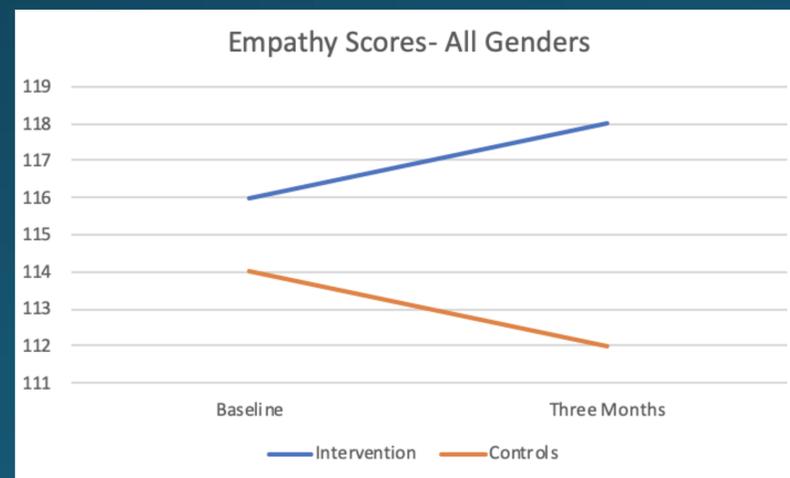
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The mean age was 24.9 (SD 4.5) in the intervention group and 24.3 (SD 3.5) in the control group. 60.7% (n=32) of the intervention group and 52.83% (n=28) of the control group were female. Age and gender were not significantly different between the intervention and control groups. At baseline, there was no statistically significant difference between the intervention and control groups in terms of mean empathy score (p= 0.29). In the intervention group, the mean score was 116.6 (SD 11.0). In the control group, the mean score was 114.8 (SD 10.6). When analyses were stratified by gender, no difference was found at baseline, in either the female only or male only cohort. After three months of meditation, the intervention group had a score of 118.1 (SD 9.4) while the control group had a score of 112.0 (SD 12.6), and this difference was statistically significant (p=0.01). When 3-month analyses were stratified by gender and conducted separately in males and females, there was no significant difference found (p=0.33) between males in the intervention group (JSE 116.4, SD 9.9) and males in the control group (JSE 112.8, SD 12.2). However, at 3 months, there was a significant difference (p=0.01) between females in the intervention group (JSE 119.7, SD 8.9), and females in the control group (JSE 111.3, SD 13.3).



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This study found that meditation using the headspace app may be effective for improving empathy levels among osteopathic medical students, particularly amongst female medical students. Existing research suggests that there are differences between genders in terms of empathy. (This is consistent with previous research that found a difference in baseline performance on the JSE scale between males and females (7,8). It is possible that males and females may process and react to emotional situations differently, and thus may need different tools to help maintain or grow their empathy levels. In order to better understand long term potential effects of meditation on improving empathy levels among medical students, this study will continue over a longer period of time. Future analyses will consider other pertinent issues such as the impact of timing in the school year (Fall, vs Spring vs Summer) and preferences in areas of medicine (e.g. Surgery vs Internal medicine). If future research shows that student empathy increases with use of a meditation app, osteopathic medical schools may consider implementation of this interventions to promote stronger empathy in students, and ultimately better health outcomes for future patients of these students.

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