

Wellness Curriculum in the Pediatric Clerkship

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Abstract

Psychological distress leading to burnout is an important issue during medical school. While studies have researched interventions in the pre-clerkship years, very few have targeted the clerkship years. To improve the wellness of third year medical students, the following interventions were implemented: (1) prompted students to identify two wellness goals in the areas of personal and physical well-being and (2) encouraged students to participate in meditation and chair yoga sessions during their pediatrics clerkship. Students completed pre- and post-clerkship wellness surveys. The interventions led to a small but significant improvement in the wellness of students, particularly in mental, physical, emotional, social, and spiritual well-being. Further expansion of a wellness curriculum to all clerkships during the entire third and fourth years may result in reduced burnout and sustained improvements in wellness during post graduate training and practice.

Keywords

Pediatric clerkship, Wellness, Well-being

Introduction

Medicine is a demanding profession that can be a major source of stress, particularly during medical school and residency training. Psychological distress, including burnout, depression, stress, low mental and physical quality of life, and fatigue are common among medical students.^{1,2} As many as 50% of medical students report burnout during medical school and 11% report suicidal ideations.³ Stressors for medical students are multifaceted and include factors such as pressure to perform academically, difficulty navigating relationships with faculty, and balancing personal life with responsibility to patients.⁴ These stressors become magnified in the third year of medical school, when students begin their clinical rotations. Due to time constraints, third-year medical students struggle with making healthy choices, being good role models for patients, and applying the information they learn to their own health and wellbeing.⁵ Additionally, studies have shown that medical students, residents, and physicians have higher rates of burnout and depression compared to the general population because of these common stressors.⁶ The patterns of distress appear to be accentuated during medical school. Brazeau, et al, found that matriculating medical students who had not yet started medical school had lower rates of burnout and depression symptoms as compared to recent graduates.⁷ Thus, medical training is a contributing factor to the high rates of distress reported among developing physicians. These high rates of physiological distress are alarming because they increase the risk of negative

consequences, including higher rates of substance abuse, less empathy and regard for ethical conduct, and higher rates of relationship problems among physicians.⁸

Over the past decade, schools have initiated wellness programs into their curriculum to address high levels of psychological distress among students, especially during the preclinical years. Santen, et al, showed that high levels of social support helped to decrease burnout among first and second year medical students.⁹ A comprehensive wellness program initiated in the preclinical years at Vanderbilt University School of Medicine in 2005 included three components: (1) career and wellness advising, (2) a Student Wellness Committee to develop wellness activities, and (3) a longitudinal wellness curriculum with workshops and open discussions designed to spur student thoughts about wellness and self-care. This program was widely popular among medical students at Vanderbilt and became a national model for student wellness programs.¹⁰ Dr. Slavin, the keynote speaker at the 2015 Council on Medical Student Education in Pediatrics conference, implemented a preventive approach to student stressors at Saint Louis University School of Medicine in 2010. The goal of the intervention was to prevent stressors from occurring, rather than simply viewing them as an inevitable consequence of medical school. The implemented changes included (1) a pass/fail grading system, (2) simplifying pre-clinical course curriculum, (3) longitudinal electives, and (4) learning communities, such as service and wellness interest groups.¹¹ Comparison of pre- and post-curriculum change showed decreased rates of depression, anxiety, and stress in students.

While preclinical wellness programs adopted by medical schools have shown positive impact, less research has been done on the effect of initiating a wellness program during the clerkship years. We sought to foster wellness behavior in the third year of medical school, a time of learning and change for medical students as they adjust from preclinical to clinical activities. The purpose of this study was to build upon previous knowledge of successful wellness programs in the pre-clerkship years and evaluate a time-efficient and effective wellness program for medical students during their third-year pediatric clerkship that would help reduce burnout and improve overall quality of life.

Methods

This study instituted a wellness program for all third-year medical students at the John A. Burns School of Medicine during their Pediatric Clerkship rotation. The wellness program began

with a 15-minute orientation emphasizing the high incidence of burnout and the importance of maintaining wellness throughout medical training, and students were asked to identify two wellness goals in personal and physical well-being. Additionally, two wellness sessions were conducted approximately 2 weeks apart during the clerkship. Students discussed progress on their wellness goals at the wellness sessions. The clerkship administrator taught relaxation techniques during these two 30-minute sessions; the first session covered meditation techniques, and the second, chair yoga. At both sessions, the students were reminded of their wellness goals and the importance of maintaining physical and personal well-being throughout the clerkship. Students completed surveys, pre- and post-clerkship, and were assigned study subject numbers. The study subject numbers were only accessible to the clerkship administrator and kept in a locked office with a password protected computer; data was deidentified prior to analysis. The survey used was a shortened version of the American Association of Medical Colleges Medical Student Life Survey that has been validated by past research; scores range from 0-10 (Table 1).¹²⁻¹³ The electronic surveys were only sent to the students once before and once after the clerkship. A written consent was sent to the students with the electronic survey, informing them of the option for voluntary participation to complete the surveys. All students were allowed to participate in the wellness program regardless of their completion of the pre- and post-surveys. Reminder emails were not sent to students who did not complete the survey. All procedures were approved by the Institutional Review Board of the University of Hawai'i at Mānoa.

Data was compared for 108 (out of the 194) students who completed both the pre-clerkship and post-clerkship survey between July 2015 to August 2019. Pre- and post-intervention results were analyzed via paired t-tests. The change in scores for Fall (blocks 1-4, 63 students) vs the Spring (blocks 5-7, 45 students) were compared using t-tests. Data analysis was performed using AcaStat version 10.1.20 (AcaStat: Winter Garden, FL).

Table 1. Pre- and Post-Wellness Intervention Survey Questions
On a scale from 0 to 10 (where 0 = As bad as it can be and 10 = As good as it can be), how would you describe your:
Question 1: Overall quality of life?
Question 2: Overall mental (intellectual) well-being?
Question 3: Overall physical well-being
Question 4: Overall emotional well-being
Question 5: Level of social activity?
Question 6: Spiritual well-being?
Question 7: Your level of fatigue on average?
Question 8: Your level of social support from friends and family?

Results

The results are summarized in Figures 1-4. The error bars represent the 95% confidence interval of the mean (95%CI). Overlapping bar ranges indicate non-statistically significant difference whereas nonoverlapping bar ranges indicate statistically significant differences (ie, $P < .05$). Wellness scores improved in six out of eight areas including quality of life, mental well-being, physical well-being, emotional well-being, social activity and spiritual well-being; no improvements were noted for level of fatigue and social support from family and friends (Figure 1). Figures 2 and 3 summarize the pre-and post-scores for the fall and spring separately, where differences in wellness scores appear more evident in the spring.

Figure 4 shows that while the pre- and post-changes appear greater in the spring than in the fall, they were not significantly different.

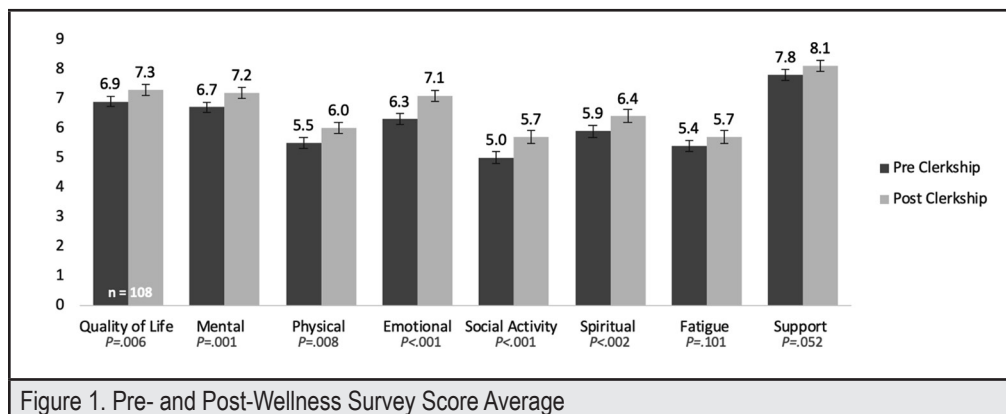


Figure 1. Pre- and Post-Wellness Survey Score Average
Error bars indicate 95% confidence interval of the mean. Paired t-test used with a one-tailed probability.

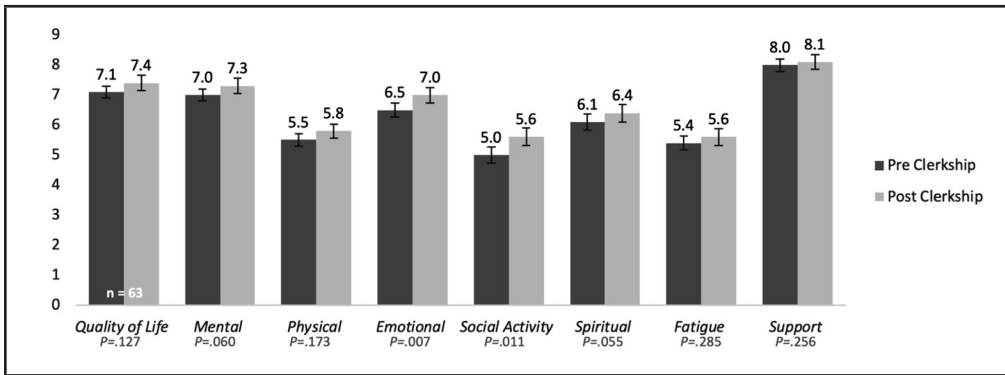


Figure 2. Fall Pre- and Post-Wellness Survey Score Averages

Error bars indicate 95% confidence interval of the mean. Paired t-test used with a one-tailed probability.

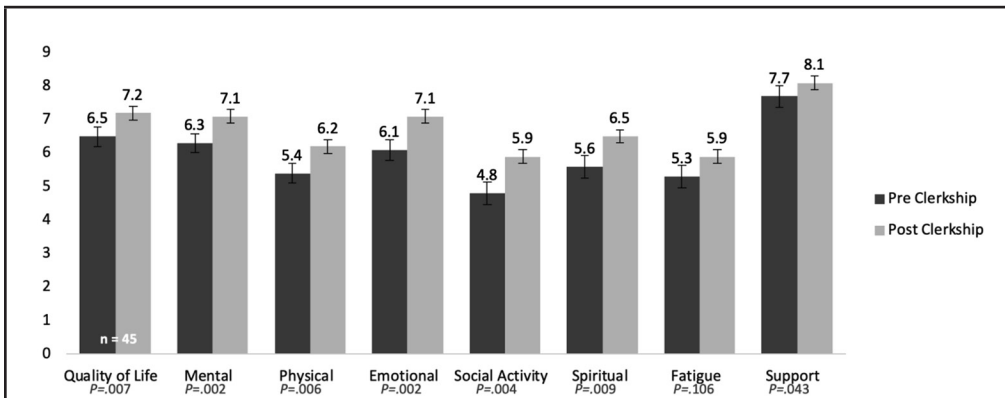


Figure 3. Spring Pre- and Post-Wellness Survey Score Averages

Error bars indicate 95% confidence interval of the mean. Paired t-test used with a one-tailed probability.

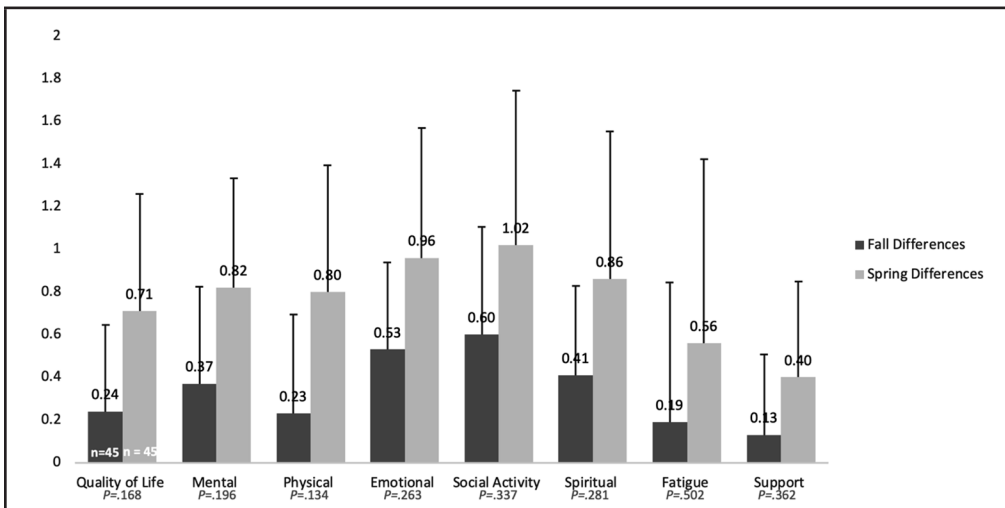


Figure 4. Fall vs Spring Wellness Survey Score Improvements

Error bars indicate 95% confidence interval of the mean. Only the positive bars are shown on this figure. T-tests were used with a two-tailed probability.

Discussion

The wellness program was associated with a small but statistically significant improvement in the participants' overall wellness scores, particularly in mental, physical, emotional, social, and spiritual well-being. It appears that the simple exercises of identifying two wellness goals, and participation in a meditation session and a chair yoga session throughout the 7-week pediatric clerkship improved student wellness by helping students to balance the business of third year medical school responsibilities with their personal wellness. Emotional well-being and social activity showed the highest increases, highlighting the importance of the wellness sessions as a social activity to increase emotional well-being and foster peer relationships. The two values that did not show significant overall improvement were fatigue and social support. This is probably because the curriculum was unable to address the long hours required during the clerkship or medical student's lack of sleep. Furthermore, while only requiring a bit of time, adding this wellness program may have contributed to increased fatigue. The curriculum did not improve social support because the intervention did not specifically target the family and friends who support medical students. In the future, more focus could be made on social support, especially since it has been shown to decrease medical student burnout.⁹

The pre- and post-clerkship scores of students that completed their pediatric clerkship in the fall were compared to those who completed it in the spring. Students generally started at a lower average in each category in the spring compared to the fall. This could be attributed to burnout over the course of the third year, causing students to have overall lower wellness scores in the latter half compared to the beginning. The study also found that there were more categories that increased significantly in the spring (7 of 8) compared to fall (2 of 8). This suggests that the intervention had a greater efficacy in the spring. However, when evaluating this difference between the fall and spring, these differences were not statistically significant (Figure 4). Power testing gave values between 0.10 and 0.30, which shows that the sample size was insufficient to draw any valid conclusions.

Nearly 200 students completed the pre-survey, but only 108 students completed both the pre- and post-curriculum surveys. The poor response rate may have been related to the collection method where only a single request to complete the survey was sent to students, in order to avoid increasing their workload burden. The study may contain some selection bias because of the possibility that those completing the survey might be more positively affected by the wellness program, and hence more likely to complete the second survey. This study lacked a control group since the research team did not want to limit access of our wellness curriculum to the medical students.

Few studies exist on improving student wellness during the clerkship years of medical school. Chung, et al, examined the effect of implementing a mindfulness curriculum during a fourth-year emergency medicine clerkship.¹⁴ Students participated in 4, 1-hour weekly mindfulness sessions with supplemental reading and video assignments, individual meditation practice, and development of a personalized wellness plan with a mentor. Results showed that students who meditated more often during the intervention were more likely to meditate than other medical students, even 6 months after the intervention. The main limitations of their study was the small sample size ($n = 20$), the fact that positive improvements were limited to practicing meditation, and that changes in burnout after the intervention were not measured. Another study by the University of Hawai'i John A. Burns School of Medicine in 2003 implemented interventions among third-year medical students such as individual counseling, faculty education on how to address student stress and burnout, and a personalized student wellness handbook.⁴ That study showed a significant decrease in the number of students reporting depression and suicidal ideation post-intervention. Their study focused on depression and suicidal ideation in students rather than wellness during their clerkships.

This study is the first to show positive improvements in wellness scores by employing simple wellness techniques during the clerkship years. The wellness curriculum involves short interventions requiring minimal resources, making it easy to administer. Since positive improvement in wellness scores was shown during the pediatric clerkship, the next step might be to employ wellness interventions across all clerkships. If students continue to have improvements in their wellness scores in multiple clerkships, a wellness curriculum sustained throughout the third year and beyond could maximize the benefit to students. In addition, further studies could modify the curriculum to address fatigue and social support. They could also potentially include wider interventions in the spring semester to address higher levels of burnout.

Overall, the study was a simple, efficient intervention that was associated with improvements in wellness scores of third year medical students during their pediatric clerkship rotations. This is one of a few studies that describes a wellness curriculum during the clerkship years of medical school. Further expansion of a wellness curriculum to all clerkships during the entire third and fourth years may result in reduced burnout and greater long-lasting improvements in wellness into the post graduate training years and conceivably into practice.

Conflict of Interest

None of the authors identified any conflicts of interest.

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