

Original Publication

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Resident Wellness: An Intervention to Decrease Burnout and Increase Resiliency and Happiness

Rashi Aggarwal, MD*, Jill K. Deutsch, MD, Jose Medina, Neil Kothari, MD

*Corresponding author: aggarwra@njms.rutgers.edu

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Abstract

Introduction: Despite the national focus on trainee burnout, effective wellness programs that can easily be incorporated into training curriculums are lacking. Strategies such as mindfulness and positive psychology, linked with deep breathing, have been shown to increase resiliency. We hypothesized that education about the neuroscience literature, coupled with teaching about well-being using short, easy-to-practice evidence-based exercises, would increase acceptance of this curriculum among residents and that providing protected time to practice these exercises would help trainees incorporate them into their daily lives. **Methods:** Residents were asked to attend a 60-minute didactic featuring both the concepts and science behind well-being. Residents then attended 15-minute booster sessions during protected didactic time each week for a 12-week curriculum. The booster sessions were peer-led by wellness champions. Additionally, there were monthly competitions using free phone apps to promote physical fitness through steps and flights challenges. **Results:** The 12-week curriculum was offered to 272 residents across five subspecialties of internal medicine, general surgery, anesthesiology, psychiatry, and physical medicine and rehabilitation. A total of 188 residents (69%) participated in the initial didactic component. The curriculum was positively received, with four of the five residency programs participating in weekly sessions. Residents in four participating departments then chose to continue the weekly sessions on a voluntary basis after the initial 12-week curriculum. **Discussion:** It is feasible to implement a low-cost, peer-led wellness curriculum to educate residents and foster an environment during residency training where mindfulness, optimism, gratitude, and social connectedness are the norm.

Keywords

Curriculum, Self Care, Stress, Psychological Stress, Physician Well-Being, Workplace, Job Satisfaction

Educational Objectives

By the end of the 12-week curriculum, learners will be able to:

1. Identify the scientific basis of the key components of well-being.
2. Describe practical exercises to boost well-being, including gratitude, optimism, social connectedness, and deep breathing.
3. Practice and implement 3- to 5-minute exercises to increase resiliency.

Introduction

With the high demands of a medical career, residents are at increased risk for the development of burnout.¹ Burnout encompasses emotional exhaustion, depersonalization, feeling less accomplished, and poorer physician health.^{1,2} Burnout is often considered a work-related mental health impairment and is correlated with depression and anxiety.¹ Evidence suggests that burnout is rising among U.S. physicians, and burnout has shown negative effects on quality of care, patient satisfaction, and patient safety.¹⁻³

Attending to wellness by improving well-being, quality of life, resilience, and happiness has been associated with decreasing burnout.³⁻⁷ Few studies in the literature describe the implementation of a wellness curriculum during residency training, and none have been identified in the literature as providing protected time dedicated to wellness promotion. Our resource is unique among the handful published on

Appendices

- A. Enhancing Well-Being During Residency.pptx
- B. Leadership Workshop Worksheet.doc
- C. Wellness Handbook.docx
- D. Gratitude Exercise.m4a
- E. Visualization of Optimal Self.m4a
- F. Diaphragmatic Breathing .m4a
- G. Slow Deep Breathing.m4a
- H. Alternate Nostril Breathing .m4a
- I. Balanced Breathing.m4a
- J. Energizing Breath.m4a
- K. Walking for Wellness Spreadsheet.xlsx

All appendices are peer reviewed as integral parts of the Original Publication.

MedEdPORTAL for the multifaceted approach that we provide. Furthermore, we offer the only wellness curriculum that enforces weekly practice of the well-being exercises discussed in the initial didactic session.

Our curriculum provides a low-cost, multidepartment wellness intervention that is feasible and relatively easy to implement. The curriculum focuses on offering residents evidence-based, short, and effective exercises that decrease burnout and increase resiliency and happiness. We implemented an initial 60-minute didactic followed by 15-minute protected sessions on a weekly basis for 12 weeks.

Targeted interventions encompass what the literature highlights as essential skills that foster well-being in both physicians and nonphysicians, from mindfulness to deep breathing to positive psychology (including gratitude and compassion exercises).² For example, it is well known that the amygdala and insula communicate with the rest of the brain to register emotion, perceive it, and modulate it.⁸ Human beings create patterns of behavior out of that emotion and how it is perceived. It has been suggested that happiness is associated with a balanced amygdala response to positive and negative stimuli. Furthermore, happier people respond adaptively, recognizing both the good and bad things in life.⁹

In other areas, emerging evidence shows that unhappy people are inclined to dwell on their negative life events, focus on their own emotions, and feel self-conscious, resulting in a variety of adverse consequences.¹⁰ Gratitude and social connections play key roles in cultivating optimism, as demonstrated by the Framingham social network, which determined that happiness exists in clusters where people are connected.¹¹

Activating the parasympathetic response through deep breathing exercises prevents the hormonal changes and physiological responses to non-life-threatening stressors that, when chronically activated, can lead to poor health.^{12,13} Exercise and emotional and social support are other ways to activate the parasympathetic response. To encourage increased physical activity, all departments announced that the resident who walked the most steps and climbed the most flights per month would win an award at the end of the year. The data were submitted by residents to their coordinators on a voluntary basis using free phone apps.

Methods

All residents attended a mandatory informative and instructional lecture—a 60-minute didactic with a practicum during which residents were taught the concepts and science behind burnout and well-being, as well as the skills to combat burnout and improve resilience and happiness (Appendix A). This 60-minute didactic was led by our faculty advisor, an associate professor in the Department of Psychiatry. The didactic was delivered in a lecture hall or classroom with use of a computer and projector equipment; no additional materials were required. The slides in Appendix A have detailed notes and references to guide presentation of this curriculum for those interested in teaching this lecture. Additionally, the 60-minute didactic was easily adapted in brief at a leadership workshop, where chief residents completed a worksheet to collaborate on how to improve the curriculum (Appendix B).

After the didactic, residents attended booster sessions on a weekly basis for 12 weeks. Booster sessions were run by peer wellness champions within the department. Wellness champions were residents who volunteered their time to lead the booster sessions for the entirety of the curriculum. On average, there was one wellness champion per 10 residents in each department. Prior to the initiation of the curriculum, one meeting was held between the faculty adviser and all the wellness champions to familiarize them with the Wellness Handbook and its exercises (Appendix C). The booster sessions occurred during didactic time and were protected by the participating program directors in the respective departments. During each booster session, two to three exercises outlined in the schedule on pages 2-3 of the handbook were led and reinforced by the wellness champions. Many of the exercises described in the handbook have also been recorded by the authors for convenience of use (Appendices D-J).

The exercises included addressed many aspects of well-being and happiness. For example, the 5 Good Things exercise asked residents to make a list of the positive things that had happened in their lives over

the past 24 hours, allowing them to focus on the positive rather than the negative. The Reframing exercise taught residents to think about their negative thoughts in a different way by incorporating gratitude, compassion, acceptance, and meaning. Finally, the Diaphragmatic Breathing exercise used a simple breathing technique that many physicians find counterintuitive and difficult to maintain but effective for modulating the stress response.

Each month, residents also volunteered flight and step counts to their respective program directors. Each resident's steps and flights were recorded using a free phone app of the resident's choosing. Program directors utilized a spreadsheet to record the monthly totals of their departments' residents (Appendix K). The monthly winner was announced for each department and provided with a reward on a departmental basis. This portion of the curriculum was entirely voluntary, and the reward was an optional component.

Results

Two hundred seventy-two residents across five subspecialties of internal medicine, general surgery, anesthesiology, psychiatry, and physical medicine and rehabilitation were invited to participate in this 12-week curriculum. Residents and faculty from each residency program had the opportunity to attend the initial 60-minute didactic. One hundred eighty-eight residents (69%) participated. Across subspecialties, 85 of 123 (69%) internal medicine residents, 37 of 63 (59%) general surgery residents, 19 of 37 (51%) anesthesiology residents, 26 of 26 (100%) psychiatry residents, and 21 of 23 (91%) physical medicine and rehabilitation residents attended the initial didactic session. While the steps and flights challenge was widely advertised, participation in it was limited. Participation increased only after reinforcement by program leadership.

The 12-week booster sessions, attended by most residents and peer-led by wellness champions in each department, provided exercises in deep breathing, gratitude, optimism, and reframing. These booster sessions were held during protected conference or didactic time decided on by each residency program director and the wellness champions. Faculty members from each residency program were encouraged to attend.

A check-in with residents in each of the five departments at the conclusion of the 12-week curriculum provided subjective feedback on resident participation. Four out of five programs participated; general surgery never implemented the booster sessions due to lack of protected time during weekly didactics and change in program leadership during the 12-week period. Residents from internal medicine commented that

the sessions went well, but enthusiasm to participate varied with time of day (afternoon sessions were better received than morning sessions). Interactive exercises seemed to be popular; however, residents specifically asked to incorporate breathing exercises when they were missing from a particular week's curriculum.

Residents from anesthesiology commented, "The sessions happened, but required some organizing where specific residents were assigned to lead the sessions." Residents in psychiatry commented that "the sessions went very well and the 'wellness champions' were very invested, having made efforts to improve the ambience of each session. The residents wanted to incorporate more exercises to increase variety." Finally, a physical medicine and rehabilitation resident stated that "things went so well since we restructured our didactic day to carve out enough time (20-30 minutes) so that we can include stretching activities. Their favorites seemed to be the quiet, contemplative exercises."

At the end of the 12-week curriculum, wellness champions were encouraged to continue peer-led booster sessions. Residents in all four departments who participated in the 12-week curriculum chose to continue the weekly sessions on a voluntary basis.

Discussion

Enhancing well-being through a low-cost, peer-led, targeted curriculum highlighting essential skills such as mindfulness, positive psychology, gratitude, compassion, and deep breathing during residency training

is feasible. The widespread implementation of programs such as ours should be encouraged, especially in the face of ever-evolving Accreditation Council for Graduate Medical Education–regulated duty hours for residents. While the implementation of this curriculum required a small time commitment from invested coordinators, the payoff at the end of the 12-week curriculum far outweighed the time spent. The didactic was presented in brief at a leadership workshop, where chief residents completed a worksheet to collaborate on how to improve the curriculum (Appendix B).

This curriculum was not without faults, however, as a large portion of its success was driven by the residents' buy-in and motivation to participate. It remained up to each individual program and each individual resident to personalize how the booster exercises affected them. Without enthusiastic wellness champions, program directors, and guidance from the curriculum organizers, keeping all residents actively engaged in both the booster sessions and the voluntary steps and flights challenges was difficult. We learned over the course of this 12-week curriculum that the program's success was contingent upon complete buy-in from program directors, with their understanding that this curriculum could succeed only if time and encouragement to help the wellness champions were provided by a dedicated faculty mentor who could address any challenges as they arose. We chose to focus the curriculum on what is perhaps the least discussed and emphasized piece of a robust wellness intervention. While other components of wellness, including nutrition, exercise, and sleep, should be stressed to physicians in training, they are more commonly discussed and understood by residents.

Our goal is to expand this curriculum to incorporate multiple programs at our institution. Going forward, we hope to formally measure the impact of the curriculum as we disseminate it across multiple programs site-wide. We would like to assess changes in happiness, resiliency, quality of life, and burnout due to participation in the curriculum. Additionally, outside of the medical residency community, the 60-minute didactic and booster sessions can be easily adapted for use anywhere the goal is to offer further opportunities for development of well-being.

Rashi Aggarwal, MD: Associate Professor, Department of Psychiatry, Rutgers New Jersey Medical School

Jill K. Deutsch, MD: Chief Medical Resident, Department of Medicine, Rutgers New Jersey Medical School

Jose Medina: Third-Year Medical Student, Rutgers New Jersey Medical School

Neil Kothari, MD: Associate Dean for Graduate Medical Education, Rutgers New Jersey Medical School; Associate Professor, Department of Medicine, Rutgers New Jersey Medical School

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Ethical Approval

This publication contains data obtained from human subjects and received ethical approval.

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