

## Women Just Wanna Have Time: Wellness Innovation Research

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### ABSTRACT

**Introduction:** Studies show that the stress that resident physicians endure, particularly female residents, can have a negative impact on one's overall well-being. Many interventional studies have explored the impact that mindfulness, meditation, and exercise have on stress, a negative influencer of well-being. The purpose of this study was to demonstrate how short, self-led mindfulness, meditation, and movement exercises impacted OB/GYN residents at a university-based program.

**Methods:** Participants voluntarily enrolled in a self-led program (fall 2019 – spring 2020) encompassing movement, mindfulness, and meditative activities, for which they received instructions by email detailing six 21-day cycles (requiring 15 minutes of daily participation). Periodically, re-engagement reminders were sent. A total of four surveys tracking impact and well-being were utilized via REDCap throughout the study (incentivized by Amazon gift cards).

**Results:** Initial voluntary participation was 29% of the residency program (8/28, 100% women); however, after a precipitous drop (75%, 6/8) following the first survey, and minimal participation thereafter, the study terminated early due to lack of participation. Investigations into the nature of the early termination revealed that time was the major limiting factor for participation, along with the cumbersome nature of the REDCap survey methodology.

**Conclusion:** Future studies and interventions that seek to impact the well-being of already busy clinicians should consider both their perceived and real effects on free time. Otherwise, stress reduction interventions paradoxically and inadvertently can increase stress and perceived daily burdens.

### INTRODUCTION

Many studies have shown that the stress / mental tension that residents endure in the workspace and within the familial domain (particularly female residents) can have a negative impact on their well-being [4-6, 9-10, 12-15, 17, 20-21]. Well-being originates from positive emotion, flow or the ability to be fully consumed by an activity, and from perceived life purpose [4-6, 9-10, 12-15, 17,20-21]. Over recent years, there has been an emphasis on improving well-being amongst medical residents in response to observed high burnout rates. Often, this well-being improvement focused on stress reduction [6].

Many of the interventional studies that sought to impact stress perception in residents utilized techniques such as mindfulness, meditation, and movement, often running several weeks, sessions lasting 1 – 2 hours [4-5, 9-10, 12-15, 17-18, 20-21]. Although many of these studies showed positive outcomes, we sought to evaluate how 15 minutes a day of

self-led movement, meditation, and mindfulness exercises could improve the experience of stress in the obstetrics and gynecology (OBGYN) resident population at a university associated medical center residency program.

### APPROACH

During the Summer of 2019, a study solicitation email was sent to every resident in a university associated medical center OBGYN residency program. If the resident chose to participate, they received a unique study number and URL to engage in the study through REDCap (Research Electronic Data Capture) where the four study surveys, intervention instructions, and data were maintained (i.e., log of activities completed, heart rate before and after study) [1, 18].

All official study contact was performed via REDCap once the participant signed the consent. There was an incentive of

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a \$5 Amazon gift card for each of the four surveys completed. The tools used to measure stress were the Stress Coping and Perceived Stress surveys [1, 18]. Each participant received a pdf file with the movement, mindfulness, and meditative activity instructions for the entire study period (e.g., **Table 1**) in addition to reminder emails every 21 days (or as needed) reiterating engagement with the study. The original plan was to run the study from the Fall of 2019 to the Spring of 2020. IRB approval was received from the Automating University-wide Research Administration Institutional Review Board prior to the start of the study.

Table 1: Movement, Mindfulness, and Meditative Activities

	Movement	Meditation	Mindfulness
1	CNN (Cable News Network) Five Minute Morning Yoga	Breathing meditation	Gratitude journaling
2	5 min stretch	Body and Sound	Mindfulness journaling
3	5 min nature walk	Body Scan	Mindful Day in Review
4	5 min of shoulder, neck rolls, shrugs	5 Affirmations	Mindful Eating
5	Chair Yoga	Beach Visualization	Intentional walking
6	NY Times Seven Minute Workout	Heading to Work	Daily Thank You Note

### Activity Schedule

These represent the movement, meditation, and mindfulness exercises outlined for each of the weeks of the six 21-day cycles during the active participation. Using 15 minutes, each intervention component – mindfulness, meditation, and movement – would account for 1/3 (5 minutes) of the daily intervention time required. There was no specific algorithm used to pick each intervention exercise, instead they were selected via principals of previous use and exposure by the primary study investigator.

## DISCUSSION

There were 8 participants (100% female) out of 28 total residents (29% response rate) who chose to participate in the research (e.g., **Table 2**). However, 6 out of 8 dropped out after the first survey, while the remaining 2 out of 8 participated minimally in 3:6 cycles and then dropped out thereafter. We evaluated the turnout of the study, mainly elicited in a final narrative survey of all eligible participants after the closure of the study. One of the main factors for either not participating in the study initially, or dropping out of the study once enrolled, was attributed to time or lack thereof.

In 2017, the Council on Resident Education in Obstetrics and Gynecology (CREOG) surveyed residents to investigate factors that influenced wellness, an umbrella term that incorporates well-being and reduced burnout, such as stress experienced in the professional setting leading to depersonalization, emotional exhaustion, and low personal achievement [2, 11, 16]. When asked what single intervention residencies should provide to improve wellness and decrease burnout, 41.2% of the participants chose to receive dedicated time to wellness maintenance, which incorporates physical, mental, and social well-being [2, 11]. One respondent replied, "...please do not add further

requirements... just give us half a day every once in a while, to [take care of ourselves, our life]" [2, 11]. This could be an intervention implemented at all OBGYN residency programs. It does not require any additional resources besides the time residents spend away. In that, it requires the willingness of residency programs to support their residents in having access to more free time. This half-day style had already been incorporated into the university associated medical center OBGYN residency programs that was the location of this research study and it is a coveted 'wellness' component. On specific rotations, the resident has a clinical-research day, where half the day is dedicated to clinical experience while the other half can be utilized for research as well as personal needs. Residents have shown appreciation for the intervention.

In brainstorming the intervention design, we thought it would be more feasible to apply a short daily intervention. Using 15 minutes, each intervention component - mindfulness, meditation, and movement - would account for 1/3 of the daily intervention time required (5 minutes each). Therefore, by incorporating three strategies that have been found to help reduce stress, we hypothesized that well-being would also improve.

Similar to the respondent from the CREOG survey mentioned above, the eight participants in this study indicated that the intervention we attempted still required too much of their personal time. Participants could have become discouraged or overwhelmed, believing they could not fully complete the tasks every day, even if total time required was 15 minutes.

Table 2: Demographic Data and Participant Characteristics

Variable	(%)
Sex	
Female	100
Male	0
Age Range	
25-30 yo*	75
31-35 yo*	25
PGY*	
1	25
2	25
3	25
4	25
RS*	
Married	50
Single	37.5
Partnered	12.5
Race	
Asian/Pacific Islander	25
Black/African American	25
Other	12.5
White	37.5
Ethnicity	
Non-Hispanic Latino	87.5
Hispanic Latino	12.5

\* yo = years old; PGY = postgraduate year; RS = relationship status

We speculate that similar to other studies in the literature, consolidating the time spent with the intervention to one time a week with longer, but possibly more attractive, activities (e.g., wine and paint nights, free massages, a group counseling sessions); or decreasing the intervention tasks to one activity per day, could increase participation rates by simplifying perceived daily tasks.

The decision for the cycle time was influenced by the popularized theory of habit formation, which states that performing a task consistently for 21-days can make it habitual, thus incorporating the task into a person's future daily routine. However, studies have shown that it can take 66 days to form a habit [7-8, 21]. Given the rigor of medical residency, we believed that a 66-day intervention may have been too long for participants. Yet, in retrospect, two 1-month blocks of time may have been more appropriate with an intervention and an observation block to assess lasting effects of the intervention.

It is also noted that improving the platform used for participant engagement could make it easier to report data from each participant in future studies. The data information platform created by the study team via REDCap was seen as cumbersome by study participants.

Well-being is often seen as a measure of overall happiness. It is multifactorial, including components that detail overall life-satisfaction, professional and emotional satisfaction, and is often associated with the individual's attitude [6]. In that, it is thought that much of one's perception of well-being does not vary in the long term based on external influences. Neither life stressors nor physical health / activity predictably impact subjective well-being [6]. Yet, in a group that is often more adversely affected by the stressors of resident life (i.e., women), it stands to reason that efforts to decrease chronic stress magnitude will also confer positive well-being benefits. Mihaly Csikszentmihalyi, one of the world's leading researchers on positive psychology and well-being, writes in his 1999 paper "If We Are So Rich, Why Aren't We Happy?" that "people are happy not because of what they do, but because of how they do it" [3]. He remarks that the pathway to happiness and well-being comes by way of doing interesting and fulfilling activities. Otherwise, the activities themselves become an imposition that increases, rather than decreases, stress level [3]—which is suggested by the current study findings.

It is essential that work continues in the investigation related to stress reduction, especially among fields dominated by women (e.g., obstetrics and gynecology). Further work should heed the findings of this intervention, specifically that time was the major limiting factor for participation, along with the cumbersome nature of the REDCap survey methodology. Future studies and interventions that seek to impact the well-being of already busy residents and attending clinicians should consider both the prospective intervention associated perceived and real effects on free time, while also considering the effect on daily task burdens. Otherwise, aims to decrease stress may only exacerbate the problem.

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