

Effect of In-kitchen Culinary Medicine Intervention on Emergency Medical Service Personnel

Sara Palmieri, MD₁; Catherine Holt, DO₁; Derek Scott, DO₁; Alaina Elder-Correa, ; Anne Dudley, DO₁; Alexander Hinckley, DO₁; Lindsey Kinney, DO₁; Rachele Pichot, PhD₁
1. Corewell Health Lakeland, Graduate Medical Education

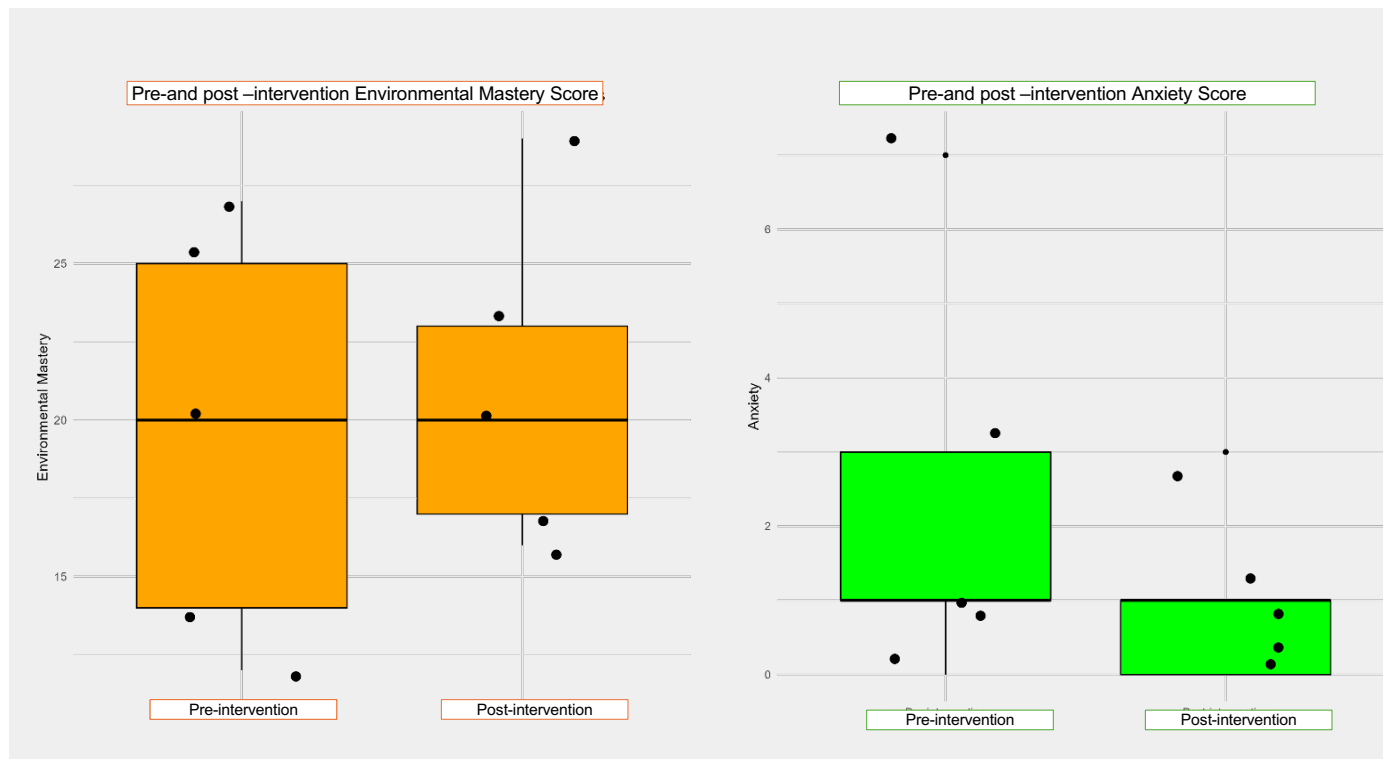
Purpose

- According to the CDC, the prevalence of obesity in the US has increased from 30.5% to 41.9% from 2000 to 2017 (2022)
- The Emergency Medical Services (EMS) community work long and unpredictable hours (making food preparation difficult) and more than 70% of EMS personnel are either overweight or obese, and at risk for metabolic disease, diabetes, cardiovascular disease, and circadian rhythm sleep-wake disorders, all of which have been shown to have grave health effects (Boston University, 2009; Mansouri et al., 2022; Mountfort & Wilson, 2022)
- EMS often partake in Food Away from Home (FAFH), which contains fewer fruits and vegetables and has more calories, fat, and sodium than food prepared at home and is associated to obesity (Saksena et al., 2018)
- Providing a practical, hands-on intervention combined with education on nutrition, can enhance a patient's dietary choices (Razavi et al., 2020a; Razavi et al., 2020b; Sharma et al., 2021)
- No studies to date have assessed the impact of a culinary medicine intervention on EMS personnel
- The aim of the current is to:
 - Evaluate the impact of a culinary medicine intervention on the dietary habits and overall well-being of EMS personnel
 - To offer insights into the effectiveness of culinary medicine as a preventive health strategy for shift workers, particularly in high-stress occupations such as emergency medical services

Methods

The current study utilizes a prospective quantitative approach, leveraging pre- and post-intervention surveys to assess the impact of a culinary medicine course on EMS personnel. EMS personnel in Southwest Michigan were invited to participate in the study, which included a pre-intervention survey, a culinary medicine course (1 hour of lecture on nutritional principles by culinary medicine specialists, 1.5 hours of hands-on cooking with a licensed chef, and 1 hour for a shared meal/discussion), a post-intervention survey (within 48 hours) and a second post-intervention survey to be completed 4 weeks after the culinary medicine course. Surveys included:

- Mediterranean Diet Adherence Screener (MEDAS; Estruch et al., 2013) - a 14-item self-reported survey designed to assess adherence to the Mediterranean diet
- Connor-Davidson Resilience Scale (CD-RISC; Campbell-Sills & Stein, 2007) - a 10-item psychological instrument that measures resilience
- Psychological Well-Being Scale (PWBS; Ryff, 1989) - a 42-item comprehensive measure used to assess psychological well-being across six dimensions: autonomy, environmental mastery, personal growth, positive relationships with others, purpose in life, and self-acceptance
- Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999) - a 4-item scale, which assesses an individual's overall level of happiness
- Depression Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1995) - a 21-item psychological instrument used to assess depression, anxiety, and stress
- Demographic information



Results

At this point in time, participants have been given a pre-intervention survey and a post-intervention survey (to be completed within 48 hours after the culinary medicine course). A second follow-up survey will be administered 4 weeks after the intervention. Although 23 participants initially signed up for the study, 9 participants filled out the pre-intervention survey and completed the culinary medicine course. Of those individuals, 6 filled out the first post-intervention survey. While there were no significant findings, environmental mastery from the PWBS and Anxiety from the DASS approached significance ($p = .296$ and $.160$, respectively). Bars graphs for pre- and post-surveys for the environmental mastery from the PWBS and Anxiety from the DASS are shared below:

Conclusions

Due to small sample size, no significant findings were present. Environmental mastery (an aspect of psychological well-being) and anxiety did, however, approach significance, suggesting that completing a culinary medicine course made EMS personnel (1) feel better about their ability to manage their environment, which contribute to a sense of control and competence, and (2) less anxious, which may be linked to a sense of control and competence. This study serves as an interesting pilot study in this important population. Future work will investigate the effects of culinary medicine interventions on nursing staff and among other groups in the local community.

References

