INTRODUCTION

- Pain conditions are the most frequently reported health concern in Veterans who served in Afghanistan (OEF) or Iraq (OIF) (1,2), and are highly comorbid with traumatic brain injury (TBI) (3). However, availability of specialized pain care is limited and few treatment options have been found to be effective for long-term management of chronic pain (4). This pilot study examined the effectiveness of mindfulness meditation (MM) for chronic pain in OEF/OIF Veterans who sustained a TBI during deployment.

METHODS

- Study participants were recruited at the Veterans Affairs Medical Center (DC VAMC). IRB approval was granted by DC VAMC and American University. Inclusion criteria included 20-60 years old, male, deployment to OEF/OIF, and self-reported pain ≥ 5 of 10. Exclusion criteria were alcohol consumption >3 oz/day, other substance use, or prescription medications that could influence pain perception (over the counter analgesics were permitted).

- Self-report metrics included the following:
  1) Visual Analog Scale (VAS) to measure intensity from ‘no pain’ to ‘worst pain imaginable’ (0-100mm)
  2) Defense and Veterans Pain Rating Scale to assess:
     a) pain intensity from ‘no pain’ to ‘as bad as it could be’ [0-10 (10)]
     b) interference of pain with activity, sleep, mood, stress from ‘none’ to ‘completely’ [0-10 (10)]
  3) Patient Global Improvement (PGI) to evaluate changes in pain rating:
     a) activity limitations and overall quality of life from ‘no change’ [0-10 (10)]
     b) symptoms behavior (does ‘it seem to be better’ or ‘worse’ or ‘the same’ or ‘don’t have this problem’)

- Veterans were randomly assigned to 8 weeks of iRest® or standard care alone (n=5). Measures were given at baseline (B), endpoint (E) and 4-week follow-up (F).

RESULTS

- Veterans in the iRest group reported decreased pain intensity on the VAS (25.0% decrease; Figure 1) and DVPRS (28.9% decrease; Figure 2), and lowered pain interference (52.6-41.7% decrease; Figure 3), and was greater than for the control group across all measures. Significant decreases were found in VAS pain intensity from B to E (p=0.041) and pain interference from B to E or F (p<0.013). No significant differences were seen among controls (Table 1).

- Large effect sizes were observed for pain interference within the iRest group from B to E (d=1.12) and B to F (d=1.09; Table 1). In contrast, changes in DVPRS pain intensity were smaller in size (d=0.77-0.88). Effect sizes between groups were primarily medium for intensity (d=0.43-0.88) and small for interference (d=0.45-0.42).

CONCLUSION

- The iRest group reported a moderate decrease in pain intensity (18%); this is the first study to research iRest® for chronic pain after TBI.

- Despite the limitations, this study provides initial support for the therapeutic potential of iRest for those living with chronic pain after TBI. Self-management of pain should be emphasized by disseminating techniques such as iRest® to help patients cope with and reduce pain-related symptoms (4). Self-management fosters self-efficacy by enabling chronic pain patients to acquire cognitive, behavioral, and emotional skills (6) that develop a sense of empowerment and a belief they can control their experience of pain under many circumstances (9).

- iRest is a promising, multi-faceted self-management approach well-suited to empower chronic pain patients to apply the skills and techniques learned to proactively manage their condition and improve overall quality of life. Further research is warranted on larger samples to confirm the effectiveness of iRest for managing chronic pain. Babies of mothers who were obese during pregnancy had a higher risk of later obesity. The study suggests that interventions to prevent obesity during pregnancy could help reduce the risk of obesity in children. Babies of mothers who were overweight during pregnancy had a lower risk of later obesity compared to those who were normal weight. This finding highlights the importance of addressing maternal weight during pregnancy to prevent childhood obesity. The study underscores the need for interventions that target maternal weight during pregnancy to promote healthy outcomes for future generations. Babies of mothers who were underweight during pregnancy were found to have a lower risk of later obesity. This suggests that interventions to improve maternal nutrition during pregnancy could help prevent later obesity. The study highlights the potential role of maternal nutrition in reducing the risk of obesity in children. Babies of mothers who were healthy weight during pregnancy had a lower risk of later obesity compared to those who were overweight or underweight. This finding underscores the importance of maintaining healthy weight during pregnancy to prevent obesity in children. The study suggests that interventions that promote healthy weight during pregnancy could be effective in reducing the risk of obesity for children.