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Randomized Controlled Trial [J Clin Endocrinol Metab.](#) 2013 Jul;98(7):2984-92.

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PTSD symptom reduction with mindfulness-based stretching and deep breathing exercise: randomized controlled clinical trial of efficacy

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Abstract

Context: Abnormal cortisol levels are a key pathophysiological indicator of post-traumatic stress disorder (PTSD). Endogenous normalization of cortisol concentration through exercise may be associated with PTSD symptom reduction.

Objective: The aim of the study was to determine whether mindfulness-based stretching and deep breathing exercise (MBX) normalizes cortisol levels and reduces PTSD symptom severity among individuals with subclinical features of PTSD.

Design and setting: A randomized controlled trial was conducted at the University of New Mexico Health Sciences Center.

Participants: Twenty-nine nurses (28 female) aged 45-66 years participated in the study.

Intervention: Sixty-minute MBX sessions were conducted semiweekly for 8 weeks.

Main outcome measures: Serum cortisol was measured, and the PTSD Checklist-Civilian version (PCL-C) was performed at baseline and weeks 4, 8, and 16.

Results: Twenty-nine participants completed the study procedures, 22 (79%) with PTSD symptoms (MBX, n = 11; control, n = 11), and 7 (21%) without PTSD (BASE group). Eight-week outcomes for the MBX group were superior to those for the control group (mean difference for PCL-C scores, -13.6; 95% confidence interval [CI], -25.6, -1.6; P = .01; mean difference for serum cortisol, 5.8; 95% CI, 0.83, 10.8; P = .01). No significant differences were identified between groups in any other items. The changes in the MBX group were maintained at the 16-week follow-up (P = .85 for PCL-C; P = .21 for cortisol). Our data show that improved PTSD scores were associated with normalization of cortisol levels (P < .05).

Conclusions: The results suggest that MBX appears to reduce the prevalence of PTSD-like symptoms in individuals exhibiting subclinical features of PTSD.

Trial registration: ClinicalTrials.gov [NCT01462045](#).

Figures



Figure 1. Flow diagram of the study...

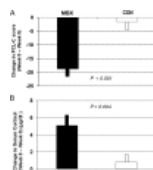


Figure 2. Change in PCL-C score (A)...

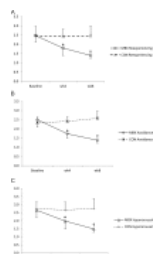


Figure 3. Changes in PTSD symptom subtypes...

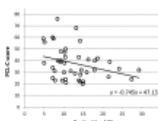


Figure 4. PCL-C data from baseline and...

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