

## THE EFFECT OF ONLINE MINDFULNESS-BASED STRESS REDUCTION ON MINDFULNESS, PAIN SEVERITY, FUNCTIONALITY, AND SOMATOSENSORY TEMPORAL DISCRIMINATION ABILITY IN PATIENTS WITH FIBROMYALGIA SYNDROME

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**BACKGROUND AND AIM:** Fibromyalgia syndrome (FMS) is a chronic condition characterized by widespread pain, sleep disturbances, mood disorders, and cognitive difficulties. Pharmacological treatments alone are often insufficient; therefore, multidisciplinary approaches are recommended. This study aimed to evaluate the effects of an online MBSR program in FMS patients.

**METHODS:** This parallel-group, randomized controlled trial included 94 FMS patients (18–65 years) and was approved by the Ethics Committee of Ankara Training and Research Hospital (23.11.2023, No: E-93471371-514.99-229969354). Participants were equally randomized into intervention (N=47) and control (N=47) groups. Only the intervention group completed the original 8-week MBSR program developed by Kabat-Zinn via an online platform, while both groups continued their standard treatments. Baseline and post-intervention assessments included validated clinical scales and somatosensory temporal discrimination threshold (STDT) measurements. Randomization and STDT evaluations were conducted in a blinded manner

**RESULTS:** Baseline sociodemographic and clinical characteristics, including BMI, MoCA scores, pain duration, FMS diagnosis duration, and medication use, did not differ significantly between the groups. Compared to the control group, the intervention group showed significant improvements in HADS, FIQ, PCS, VAS, and SSS scores ( $P<0.001$  for all). Mindfulness subscales significantly increased in the intervention group ( $P<0.001$  for all), except for Acting with Awareness. While no significant change was observed in STDT values in the control group, the intervention group exhibited significant improvement in STD ability. A moderate positive correlation was found between changes in STDT and PCS scores ( $r = 0.300$ ,  $P<0.05$ ).

**CONCLUSIONS:** Online MBSR positively influenced clinical symptoms, functionality, and pain catastrophizing in FMS patients. Significant improvements in depression, mindfulness, and pain severity were observed after completing at least seven sessions. Moreover, the reduction in pain catastrophizing was associated with enhanced STD ability. Online MBSR appears to be an effective and safe adjunctive treatment for FMS patients.

**Keywords:** Mindfulness, fibromyalgia syndrome, somatosensory temporal discrimination