Title - EFFECT OF SUPERVISED MEDICAL YOGA THERAPY ON PAIN SENSITIVITY, FLEXIBILITY AND RANGE OF MOTION OF FIBROMYALGIA PATIENTS

Background: Fibromyalgia is an idiopathic chronic pain syndrome affecting 1-2% of the global population; predominantly females [1,2]. Besides musculoskeletal pain; cognitive impairment, and sleep disturbances predominates. Patients have to rely completely on medications which give symptomatic relief only, as there is no permanent cure of the disease [3]. Yoga is a non-invasive and cost-effective lifestyle intervention, beneficial in various chronic pain conditions [4,5].

Aim of the study was to investigate the effect of supervised medical yoga therapy on pain sensitivity, flexibility and range of motion in fibromyalgia patients.

Materials and Methods: We assessed pain catastrophization, pressure pain parameters using quantitative sensory testing and flexibility and range of motion with Schober's test and goniometry in 22 fibromyalgia patients before and after 2 days of supervised medical yoga therapy.

Statistical Analysis: Data was analyzed using SPSS software too; paired t-test were done for comparing effect between two time-points after normality check.

Results: 22 fibromyalgia patients with mean VAS score 7.05±0.8, age 35.5±14.5 years and weight 60.5±8.5 Kg; completed the intervention. VAS score after intervention was 3.3±1.3 ($p<0.05$). Flexibility (cm) (Baseline: 2.1±0.8; Post-yoga: 3.9±1.3) and range of motion (^{O}) were significantly increased (Baseline: 16.7±4.3 (Left), 17.4±4.3 (Right); Post-yoga: 22.4±3.5 (Left); 22.4±3.6 (Right)). Pressure pain parameters in KPa were also found significantly increased for half of the parameters and at half of the sites; when pressure pain threshold and pressure pain tolerance at reference site, left shoulder, right shoulder and L5 area were compared for baseline and post-yoga. Moreover, significant decrease in pain catastrophizing scale (PCS) score after the medical therapy was found.

Conclusions: Supervised medical yoga therapy can partially ameliorate pain and improve flexibility and range of motion of fibromyalgia patients.

Discussion: Fibromyalgia is a psychosomatic disease of the middle age population, predominantly women; with symptoms such as severe musculoskeletal pain along with morning

stiffness, fatigue, anxiety, depression and sleep problems. Specific tender points are present at 19 locations on body surface from neck to toe in the patients [1,2]. Moreover, chronic low back pain patients have a restricted movement along their lumbar axis; yoga can enhance the flexibility and range of movement [6]. Chronic pain leads to cortical plasticity due to alteration in the corticomotor excitability of the patients, which is further because of continuous inhibition of the movement of painful areas of the body. Yoga improves corticomotor pathway and consequently modulates the musculoskeletal activity by modulating pain inhibition pathways [3,5].

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