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COMPARISON OF YOGA AND CORE STRENGTHENING PROGRAMS ON FLEXIBILITY, STRENGTH AND ENDURANCE OF TRUNK MUSCLES IN UNIVERSITY STUDENTS.

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Background: Trunk muscle function is essential for posture, stability, and physical performance. Sedentary lifestyles are commonly observed among university students. Yoga and core strengthening are commonly used interventions, but evidence is limited.

Purpose: To compare the effectiveness of yoga and core strengthening program on trunk muscle flexibility, strength and endurance in female university students.

Methods and Materials: 30 female participants (aged 18-25) were randomly assigned into two groups. Group A performed yoga protocol (45 minutes) while Group B performed core strengthening protocol (45 minutes) for 12 sessions each. Trunk muscle Flexibility (sit and reach test), Strength (Kraus Weber test) and Endurance (Biering Sorenson test and Bent knee sit up) was assessed before and after completion of 12 sessions.

Results: Within-group (pre-post) analysis using paired t test revealed a significant improvement ($p \leq 0.05$) in trunk muscle flexibility, strength and endurance in female university students in both yoga and core strengthening groups. Comparison suggested a significantly greater improvement in trunk flexibility among participants who underwent Yoga program (Sit and Reach, $t = 3.77$) and on the other hand a significantly greater improvement was observed in trunk strength and endurance of participants in Core strengthening group (Kraus Weber 1($t=0.80$), Kraus Weber 2($t=0.41$) Kraus Weber 3($t=2.78$) Kraus Weber 4($t=3.90$) Kraus Weber 5($t=4.96$) Kraus Weber 6($t=2.69$), Biering Sorenson test ($t=2.83$) and Bent Knee Sit up($t=2.57$).

Conclusion: Both yoga and core strengthening exercises are effective in enhancing trunk muscle function in terms of flexibility, strength and endurance in female university students. However, Yoga has advantage or improving flexibility, whereas core strengthening is predominantly more effective to enhance endurance and strength of lower abdominals and back extensors. These interventions are cost effective methods for improving the trunk muscle function in terms of flexibility, strength and endurance which can be effectively used among various populations.

Keywords: Yoga, Core Strengthening, Flexibility, Strength, Endurance.