

Effect of Balance Training on Pain Intensity and Disability Among Chronic Low Back Pain Individuals - A Randomized Controlled Trial

Dinesh R¹, Soundararajan K², Antony Leo Aseer P³

¹Post Graduate Student, ²Assistant Professor, ³Professor and Principal, Faculty of Physiotherapy, Sri Ramachandra Institute of Higher Education and Research, Chennai.

E-mail Id: soundararajan.k@sriramachandra.edu.in

Abstract

Introduction: Chronic Low Back Pain (CLBP) is the most expensive healthcare disorder, exceeding all other health problems with a recurrence rate of up to 60–80%. The sensorimotor pathways are believed to be altered in CLBP, affecting the motor response behaviour of CLBP sufferers and reducing body balance ability.

Methods: The CLBP group comprised an experimental group of 42 subjects, and the control group of 42 subjects was taken using purposive sampling and block randomisation. The control group participants were trained with low back strengthening exercises. The experimental group was trained in balance using BPSS (Balance & Postural Stability System) and balance exercises. The outcome measures (Oswestry Disability Index Scale, Visual Analogue Scale) were measured at baseline and after 3 months.

Results: A significant difference between groups from two weeks to four weeks ($p = 0.03$) was found, with the balance exercises group demonstrating higher ODI and VAS composite scores than the GEs group. However, there were no significant between-group differences from baseline to 4 weeks ($p = 0.431$) and from 8 weeks to 12 weeks ($p = 0.0001$).

Conclusion: Subjects trained in balance using BPSS and balance exercises had better balance and control of postural sway than those taught with low back strengthening exercises. However, low back strengthening exercises appeared to have an effect equivalent to balance exercises after a 12-week intervention.