Poster presentation

MACHINE BASED TRUNK MUSCLE STRENGTHENING IN THE PREVENTION OF LOW BACK PAIN IN ACTIVE NURSES AGED 45+: RESULTS OF A FEASIBILITY RANDOMIZED CONTROLLED STUDY.

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Background and Aims

Active nurses aged 45+ are at very high risk for low back pain (LBP). As evidence-based recommendations of regular trunk muscle training to prevent LBP in nurses remains unclear, this pilot study sought 1) to ascertain the feasibility of machine-based trunk muscle strengthening at the workplace to prevent LBP and disability and 2) to identify suitable and sensitive health and functional measures to be included in a confirmatory RCT.

Methods

Thirty-three active nurses older than 45yrs who reported LBP on at least six of 30 monitored days (intensity ≥3 on 11pts RSA) participated in this randomized, controlled cross-over trial. The intervention engaged participants to train back extensor and trunk flexor muscles for five months (2x/week) using machines. Controls remained without intervention. After six months, groups were switched. Evaluations were performed at baseline, five, and 11 months later. The primary outcome measures included daily pain and disability ratings, the Roland Morris Disability Questionnaire (RMDQ), the Multidimensional Pain Inventory (WHYMPI), and the Work Productivity and Ability Index (WPAI). Secondary outcomes were trunk strength, endurance and activity measures, and satisfaction with the intervention.

Results

82% of the participants completed the training sessions, 81% of whom expressed satisfaction with the intervention and indicated a willingness to repeat it. No significant changes were observed for the RMDQ or the WPAI at the conclusion of the intervention. The MPID exhibited a clinically relevant improvement among participants when allocated to the intervention. No correlation was found between secondary outcome and primary outcome measures.

Conclusion

A confirmatory study with active 45+ nurses who experience LBP that does not require medical attention would likely demonstrate that regular trunk muscle training would positively effect on psychosocial life aspects as measured with the WHYMPI. However, the efficacy of this intervention in enhancing back-related health (RMDI), or workability (WPAI), in these individuals appears improbable.

Keywords: Low, back, pain, prevention, training