

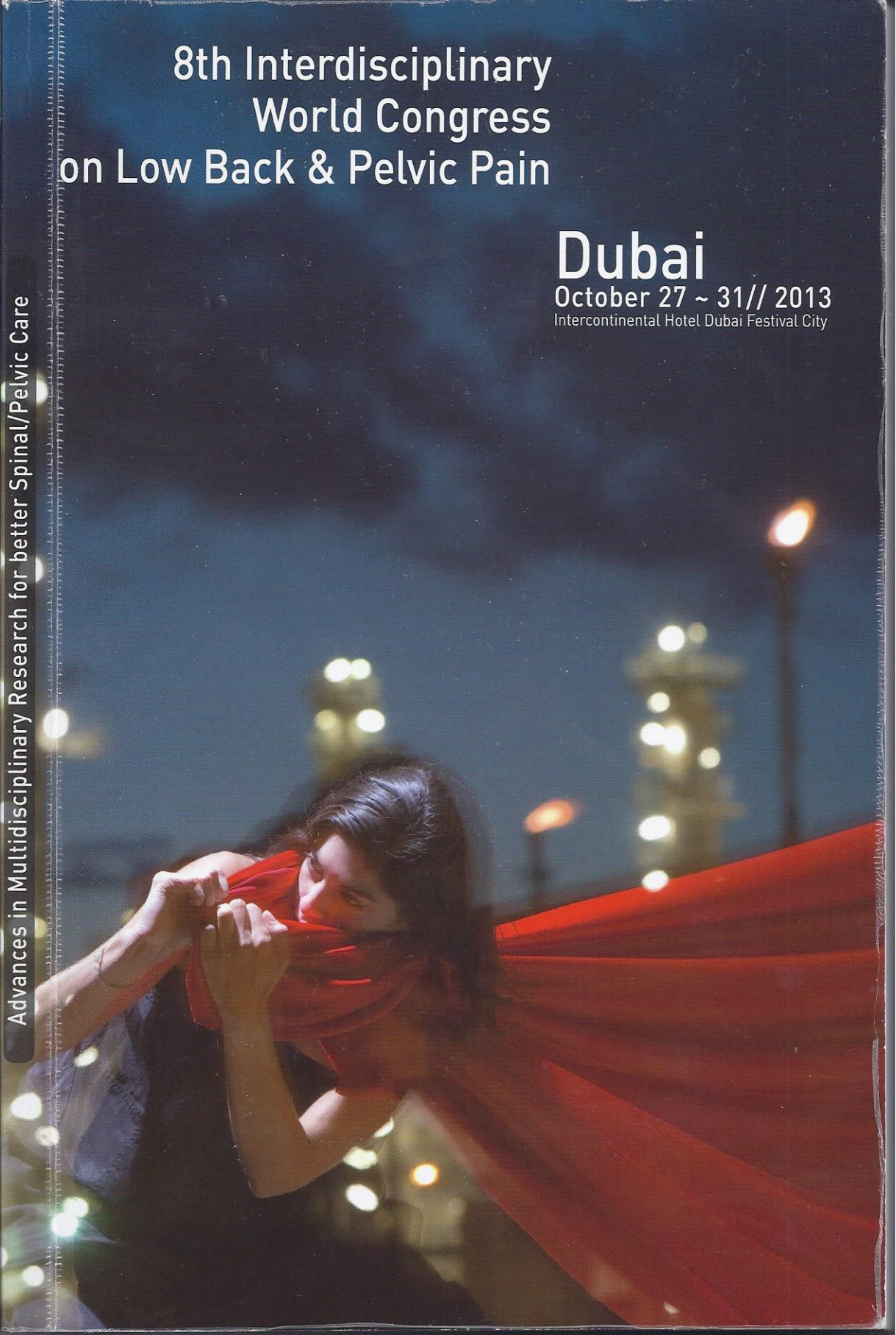
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EFFECTIVENESS OF NON-PAIN CONTINGENT SPINE REHABILITATION IN FEMALES WITH CHRONIC LOW BACK PAIN: A RANDOMIZED CONTROLLED TRIAL

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Introduction

Evidence suggests that intensive multidisciplinary rehabilitation programs (>100 hours) reduce pain and functional disability in chronic low back pain (CLBP) patients. However, less intensive, effective interventions are needed. A non-pain contingent rehabilitation incorporating lifting training has been suggested, but its efficacy remains questionable.

Purpose

To evaluate the effectiveness of non-pain contingent spine rehabilitation in decreasing pain and functional disability, and in improving physical performance in females with chronic low back pain (CLBP).

Materials and Methods

This was a parallel group design, prospective, randomized controlled trial. Fifty-four females with CLBP were randomized to receive either a spine rehabilitation program (n=28) or conventional physiotherapy (n=26). Both groups received treatment twice a week for 6 weeks. Primary outcome measures were the visual analogue scale, and the Oswestry Disability Index. Secondary outcomes included range of motion for trunk flexion, extension and straight leg raising; Ito and Shirado tests; and progressive isoinertial lifting evaluation. All outcomes were assessed at baseline, week 4, and at discharge.

Results

Both groups significantly improved in pain, functional disability, and all physical measures, but clinically relevant improvement was achieved only in the spine rehabilitation group. The spine rehabilitation group also showed significantly greater improvement in trunk muscle endurance and lifting capacity. Four weeks post-treatment, maximal attainment of pain reduction was observed in the spine rehabilitation group, while the greatest improvement in flexibility scores was found in the conventional physiotherapy group.

Relevance

We advise physiotherapists to extend their recommendations beyond pain-free exercises, and encourage patients to remain active during the course of treatment.

Conclusion

Patterns of improvement suggest that the spine rehabilitation approach is more effective than conventional physiotherapy in this subgroup of patients. Implementing well-designed physiotherapy biopsychosocial programs for CLBP that incorporate lifting training is recommended.

Discussion

Both treatment programs were effective. However, only patients who completed the spine rehabilitation program attained clinically relevant improvements of pain and functional disability, faster pain recovery time, and greater improvement in almost all of the physical capacity measures; suggesting that the spine rehabilitation program is more effective, at short-term, than the conventional physiotherapy in treating females with CLBP. Our physiotherapists addressed patients' fear-avoidance behavior and pain beliefs during the spine rehabilitation program, especially during lifting training. They also encouraged patients to work within their pain limits and to return to normal activities that they have

avoided because of LBP. Such motivational factors may have added value to the spine rehabilitation approach over the conventional physiotherapy.

Implications

Currently, it is challenging for clinicians and patients to choose among the numerous treatment options for CLBP. Such findings may help clinicians select the best approach for each patient and, hence, to minimize the expense and time of treatment.

Key words

Low back pain, exercise, functional disability, rehabilitation, lifting training, conventional physiotherapy

- 08.15 Effectiveness of non-pain contingent spine rehabilitation in females with chronic low back pain: a randomized controlled trial
Lolwah Al Rashed
- 08.25 The effectiveness of a novel multidimensional behavioural-based intervention on people with non-specific chronic low back pain: a case series
Kieran O'Sullivan
- 08.40 Two year follow-up of a spinal stabilization exercise regime in subjects with chronic non-specific low back pain: a case series study
Trish Wisbey-Roth
- 08.50 Isolated lumbar extension resistance reduced lumbar kinematic variability during gait in chronic low back pain patients
James Steele
- 09.00 Exercise program targeting aerobic endurance, muscle strength & motor control in dancers: a randomized controlled trial
Nathalie Roussel
- 09.10 Fascial manipulation for chronic low back pain: a randomized controlled trial
Mirco Branchini
- 09.20 Sifting the evidence and 'seeing' the patient in front of you: examining the 'fundamental patterns' of spino-pelvic control in health and dysfunction
Josephine Key
- 09.30 Establishing a spinal training classification system for use in elite sport rehabilitation, injury prevention and performance development
Simon Spencer
- 09.40 Clinical outcomes and mechanisms of action following Pilates exercise or stationary cycling for patients with chronic non-specific low back pain
Paul Marshall
- 09.50 Twelve month results of a randomized controlled trial comparing specific physiotherapy versus advice for people with sub-acute non-reducible discogenic pain
Alexander Chan
- 10.00 Predictors of short-term outcome in patients with chronic non-specific low back pain undergoing an education and exercise rehabilitation
Rita Fernandes
- 10.10 Evaluation of a comprehensive empowering pre-operative and post-operative physiotherapy management program for back pain patients
Teresa Cheung
- 10.20 A structural physiotherapy treatment model can give rapid relief to patients who qualify for lumbar disc surgery
Gunilla Limback Svensson
- 10.30 Discussion
- 10.45 Morning Break**