Comparison of three physical conditioning strategies for chronic low back pain: A randomized controlled trial

Y. Ronzi, A. Petit, L. Bontoux, V. Dubus, G. Roche, Y. Roquelaure, I. Richard

LUNAM Université, Université d’Angers, laboratoire d’ergonomie et d’épidémiologie en santé au travail (LEEST), CHU d’Angers, 4, rue Larrey, 49933 Angers, France

Centre régional de rééducation et de réadaptation fonctionnelles Les Capacins, rue des Capacins, Angers, France

Keywords: Chronic low back pain; Functional restoration program; Physical conditioning program

Objective.— Even though they widely demonstrated their effectiveness for chronic low back pain (CLBP), multidisciplinary functional restoration programs remain time-consuming, expensive and capacity limited. The objective of this study was to compare short-term outcomes of three physical conditioning programs: ambulatory individual physiotherapy (AIP), AIP mixed with multidisciplinary coordination, and multidisciplinary functional restoration program (FRP).

Methods.— Design: prospective 6-months randomized controlled trial.

Population.— Ninety-one CLBP workers (53 males, mean age 42.6 ± 8.8 years) with 225.7 ± 106.5 days mean duration of sick leave during the preceding 24 months.

Interventions.— For five weeks. (1) AIP: 15 one hour physiotherapy sessions, delivered in the community by private practice physiotherapists; mixed program: (2) AIP mixed with 5 one-day session, in a rehabilitation center providing coordination by a physiatrist, contact with the occupational physician, advice by an occupational therapist and a psychologist, group interaction; (3) FRP: 25 days of intensive and multidisciplinary spine-specific functional restoration program in a rehabilitation center.

Main outcome measures.— Sick leave duration during the next six months versus the preceding 6 months and quality of life (SF36), pain (AVS), psychological impact (Dallas, HAD, FABQ), at the end versus beginning of program.

Results.— Twenty-one patients were randomized in AIP, 33 in mixed program and 37 in FRP. There was no initial between-group difference. Preliminary results show that all outcomes measures improved after treatment. Better results were observed in FRP and mixed program without between-programs significant difference. Sick leave duration decreased of 74.8, 74.9 and 70.3 days/months respectively in RFP, mixed program and AIP (P < 0.005).

Quality of life and psychological impact improved significantly (P < 0.05) excepted for mental-SF36, anxiety/depression and social behavior-DPQ, HAD and FABQ in AIT. Pain improved significantly in all programs (respectively – 1.4; –1.4 and –1.2; P < 0.01).

Discussion.—Mixed program significantly improve social participation, quality of life and psychological impact of CLBP, as well as RFP. Developing this type of mixed programs could improve cost-effectiveness and allow the treatment of a greater number of CLBP patients with a given quantity of resources.

http://dx.doi.org/10.1016/j.rehab.2013.07.821

CO38-003-e

Care related pain and functional restoration for chronic low back pain: A prospective study

J. Beaudreuil, D. Zerkak, J.C. Métivier, A. Yelnik, B. Fouquette

CHU Saint Louis, Lariboisière, Fernand Widal, 2, rue Ambroise Paré, Paris 75010, France

Keywords: Care related pain; Functional restoration; Chronic low back pain

Objective.— Care related pain is often unrecognized in our clinical practice. Care related pain can be defined as the increase or the induction of pain during a clinical investigation or during a treatment. Data about care related pain in the context of functional restoration for chronic low back pain are sparse. The aim of the study was therefore to assess care related pain during a program of functional restoration for chronic low back pain.

Material and methods.— Chronic low back pain patients were prospectively included in a 4-week program of functional restoration. The program was comprised of 7 hours of exercises each day: stretching, strengthening, aerobic activity, handling; five days per week. Low back pain was recorded before and after each morning and afternoon sessions, all over the program of functional restoration, for equivalence study. Equivalence was admitted if 95% confidence interval of the difference in pain intensity fell wholly in the interval ± 10/100 mm. Medication was recorded during the program. Progression of the patients during the program and 3-month effectiveness were also recorded for internal validity.

Results.— Thirty seven patients were included in the study: age 41 (SD 1.4) years, females 15, sick leave duration 13 (11) months, Low back pain intensity (0–100) 46 (19). They underwent a progression in load and spent energy during the program. Follow-up indicated improvement of functional ability and quality of life at 3 months. Main results indicated that there was no variation in pain intensity during the program of functional restoration. Indeed, all differences in pain intensity before and after each session remained in the equivalence interval ± 10 mm. Furthermore the variations in pain intensity were less than ± 5 mm and all 95% confidence intervals included the zero value. However medication intake increased during the program. There were more patients taking level II pain killers and antidepressants at the end of the program.

Conclusion.— There was no significant care related pain during our 4-week program of functional restoration for chronic low back pain. This may be due to adaptation of the medication and suggests the importance of close medical management of patients during functional restoration. These points should be underlined when proposing to patients functional restoration for chronic low back pain.

http://dx.doi.org/10.1016/j.rehab.2013.07.822