Efficacy of movement control exercise versus general exercise on recurrent sub-acute low back pain in a sub-group of patients with movement control impairment: A randomized controlled trial.

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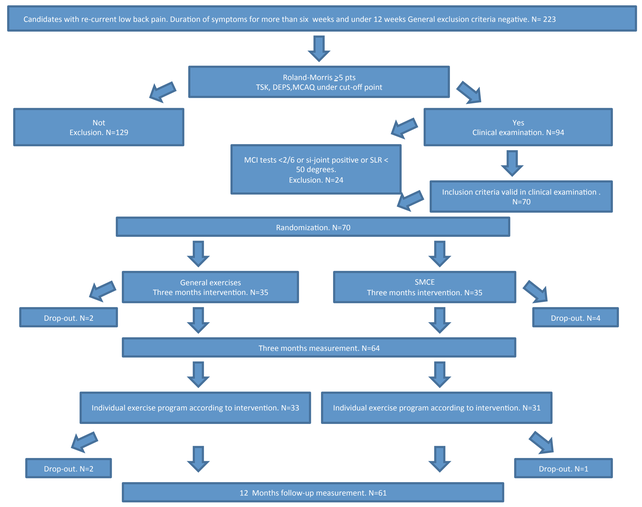


Backround

Clinical guidelines recommend research on sub-groups of low back pain (LBP), but only few studies have been published. One sub-group of LBP is movement control impairment (MCI) and clinical tests to identify this sub-group have been developed. As a whole, general exercise seems to be beneficial for management of chronic LBP (CLBP), but very little is known about the management of a sub-acute LBP.

Methods

A randomized controlled trial (RCT) was conducted to compare the effects of general exercise versus specific movement control exercise (SMCE) on disability and function in patients with MCI within recurrent sub-acute LBP. Participants attended for up to five treatment sessions of manual therapy and either specific or general exercise. The primary outcome was disability assessed by the Roland-Morris Disability Questionnaire (RMDQ). The measurements were taken at baseline, immediately after three months intervention and at twelve months follow-up.



Appendix 1.
General exercises program.

Appendix 2.
Specific Movement Control Exercises for a patient, who has Flexion and Side-flexion-rotation control impairment.

Results

70 patients met the inclusion criteria and were eligible for the trial. Measurements of 61 patients (SMCE n= 30 and general exercises n= 31) were completed by twelve months (drop-out rate: 12.9 %). Both groups significantly improved with their respective therapeutic interventions. Mean changes of groups in the RMDQ from baseline to twelve months measurement showed significantly superior improvement for SMCE group -1.7 points (-3.9 to -0.5) 95 % (CI).

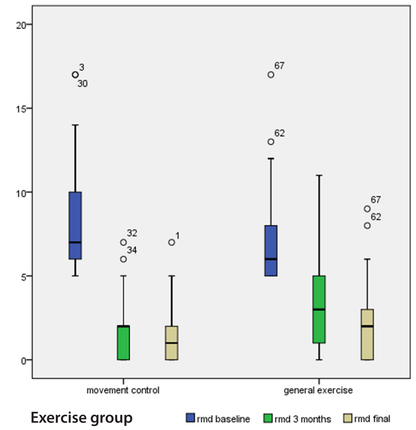


Table 1.
Mean Change (SD) in disability and function at twelve month follow-up for treatment groups

	Mean change in score (CI95%)		Between group difference (CI95%)	p	Mean scores (CI95)			
	SMCE (n=30)	General Exercises (n=31)			SMCE (n=30) baseline	SMCE twelve months	General Exercises (n=31) baseline	General Exercises twelve months
RMDQ	-6.9 (-8.4 to -5.4)	-5.2 (-5.6 to -3.9	-1.7 (-3.9 to –0.5)	<0.01	8.3 (7.1 to 9.4)	1.4 (0.7 to 2.1)	7.5 (6.4 to 8.6)	2.3 (1.4 to 3.2)
PSFS	9.5 (7.6 to 11.5)	6.4 (3.2 to 6.7)	3.1 (0.2 to 6.0)	0.03	13.9 (12.1 to 15.6)	24.0 (22.1 to 25.9)	15.0 (13.5 to 16.4)	22.0 (20.1 to 23.8)
ODI	-14.5 (-17.4 to -11.6)	-12.4 (-15.6 to -8.7)	-2.1 (-6.7 to -2.4)	0.35	22.5 (20.0 to 25.0)	7.1 (4.8 to 9.4)	24.4 (21.7 to 27.2)	11.7 (8.2 to 15.1)

RMDQ is Roland-Morris Disablity Questionnaire, PSFS is Patient-Specific Functional Scale and ODI is Oswestry Disability Index.

Conclusion

Combination of manual therapy and SMCE is likely to be superior to manual therapy and general exercise following the intervention and twelve moths follow-up for subjects with non-specific recurrent sub-acute LBP with movement control impairment.

Acknowledgements: Authors acknowledge Tuula Kesseli, Tero Somervuori, Anita Toikka, Paula Lindqvist, Heidi Hyötilä, Johanna Ruuhijärvi, Anu Kaksonen and Ilkka Korhonen for their contributions. The budget of this study was 30 900 euros. Kela – The Social Insurance Institution of Finland and Finnish Cultural Foundation have funded this study with a total of 25 000 euros.
Conflict of interest: No conflict of interest is involved in this trial.

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