THE EFFECTS OF AN INTENSIVE STRENGTH-POWER TRAINING ON SENSE OF COHERENCE AMONG 60-85-YEAR OLD PEOPLE WITH A HIP FRACTURE: A RANDOMIZED CONTROLLED TRIAL

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INTRODUCTION

Older people with somatic illnesses and disabilities are at an increased risk for psychological health decline. Physical exercise is considered as an effective means in reducing e.g. depressive symptoms and increasing quality of life among older people. However, research-based evidence on the effects of physical exercise training on sense of coherence among older people with disabilities is scarce. The purpose of this study was to describe the effects of an intensive strength-power training on sense of coherence among 60-85-year old people with a hip fracture.

METHODS

60-85-year-old patients operated on a hip fracture at the Jyväskylä Central Hospital 1–7 years earlier were informed about the study (n=452). Those with neurological or progressive severe illnesses and inability to walk outdoors independently were excluded. After clinical examination (N=79), persons without contraindications for participation were randomized into the training (n=24) and control group (n=22). The 12-week progressive strength-power training was organized twice a week and the weaker leg was trained more intensively. Sense of coherence (SOC) was assessed using Antonovsky’s short 13-item scale derived from the original 29-item scale. According to Antonovsky, sense of coherence is a way of seeing the world that facilitates successful coping with stressors. The total sum score in the 13-item scale ranges from 13 to 91, higher scores indicating high sense of coherence. A repeated measures ANOVA was used as a statistical method.

RESULTS

The mean score of the SOC-scale at baseline was 73.6 (standard error, SE 2.2) in the training group and 75.4 (SE 2.1) in the control group. After the intervention, the training group had an average decrease of 2.5 (SE 2.8) points and control group of 1.3 (SE 2.1) points with Time p-value 0.292 and Group x Time p-value 0.737. Subgroup analyses suggested changes in the responses to the intervention according to time since participant hip fracture. Among participants with time since fracture under 3-years, the training group had an average decrease of 6.4 (SE 2.8) points and control group of 3.9 (SE 2.3) points (Time p-value p=0.010). Among participants with time since fracture over 3-years the changes were smaller, as training group decreased their score by 1.3 points (SE 4.7) and control group increased by 0.3 points (SE 3.7) (Time p-value 0.885). In both the subgroup analyses, the Group x Time interactions were non-significant.

DISCUSSION

Results indicated little change in sense of coherence after the 12-week strength-power training. The average SOC-scores in the whole study population and in the subgroups based on time since participant hip fracture decreased over the intervention. Further study in sense of coherence among older people with disabilities and potential ways to increase it is needed.

Keywords: Psychology, Elderly