Exercise in treatment and rehabilitation of hip osteoarthritis - A 12-week pilot study

Kirsti Uusi-Rasi1, Saija Karinkanta1, Radhika Patil1, Pekka Kannus1,2, Kari Tokola1, Harri Sievänen1
1UKK institute for Health Promotion Research, Finland | 2Tampere University Hospital, Finland

Background
Osteoarthritis (OA) is a chronic joint disease causing pain and disability in the older population. There is lack of evidence on exercise effects on hip OA.

Purpose
• To test the safety and feasibility of a specifically-designed exercise program in relieving hip pain and improving function in hip OA patients
• To evaluate methods to measure changes in their physical functioning.

Participants
• 13 women with hip OA
• Mean age 71.6 years
• Mean height 163.5 cm
• Mean weight 76.5 kg
• BMI 28.5 kg/m²

Methods
WOMAC: pain, physical function, stiffness
Quality of life: Leipad questionnaire
ROM: hip extension, flexion, abduction
Physical performance:
• Maximal isometric leg extensors muscle strength
• Timed-Up and Go (TUG)
• 4-meter walking speed
• 5-time chair stand
• 9-step stair climb

Training program
• Strength, balance, agility and mobility training 3 times a week for 12 weeks
• Supervised and progressive
• 2 weeks familiarizing period
• 5 weeks group training in the exercise hall and 5 weeks in the gym.

Results
• Main results shown in Figure
• Over 30% reduction in pain
• Slight improvement in joint function and health-related quality of life
• 20% improvement in the leg extensor strength
• 30% increase in the hip extension ROM.

Conclusions
• The exercise training program was feasible and safe, and methods of measurements were appropriate
• The study supports the use of hip-specific-exercise training in reducing hip OA pain and improving function
• Further controlled studies are needed to determine the long-term benefits of exercise and its effects on the progression of the disease.

Figure. Mean changes (95% CI) in the main outcome variables in 12 weeks.