



Other Abstracts

Self-Monitoring System for Community Dwelling with Knee Pain

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Introduction:

Osteoarthritis (OA) knee is a common musculoskeletal problem in the elderly. Pain, limited range of motion, and muscle weakness are the most common concerns from elderly with OA knees living in the community.

Purpose of the Project:

To explore the feasibility of using a Self- monitoring System for community dwellings with OA knees (SSOA).

Material & Methods:

The project was conducted at The Hong Kong Young Women's Christian Association Ming Yue District Elderly Community Centre. Seventeen community dwellings aged between 60 and 84 were invited to join this project if they had unilateral or bilateral knee pain that had been diagnosed as OA knees. A computerized SSOA for measuring pain, range of knee motion (ROM), muscle strength, time-up-and go (TUG), maximum number of rise from a chair (S-to-S) was developed to measure the physical and functional capability of the clients before and after a 12-week exercise programme.

Results:

Pre-and post programme evaluation using the SSOA took about 20 minutes. About 80% (14 out of 17) of the clients participated in exercise/sports for more than 4 days per week. Nevertheless, all except one had knee pain ranged from 1.2 to 7.8 out of 10. The ROM, muscle strength, TUG and S-to-S were $84.68^{\circ} \pm 25.33^{\circ}$, $11.04 \text{ kg} \pm 4.27 \text{ kg}$, $12.67 \text{ s} \pm 3.1 \text{ s}$, and 10.12 ± 2.91 ; respectively. After 12 weeks of exercise, significant changes were detected using the SSOA on pain (reduced to 1.73 ± 2.04 , $p < 0.05$), ROM (increased by 9 degree, $p < 0.05$); strength by 37.78% ($p < 0.05$).

Conclusion:

The SSOA measures pain, knee range of motion, muscle strength, time up and go and maximum number of chair rise. Changes on these parameters could be quantified using the above system in a community setting on elderly with OA knees.