An Integrated Programme of Exercise, Self-management and Active Coping Strategies for Patients with Knee Osteoarthritis – a Proof-of-Concept Study for a Hong Kong Chinese Speaking Population

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Introduction
Knee osteoarthritis (KOA) is associated with long-term pain and disability, and is ranked as 11th highest contributor to global disability. Practice guidelines recommend exercise, education for self-management, and weight loss if required. An integrated programme of exercise, self-management and active coping strategies (ESCAPE-knee pain) has proved effective and cost-effective in the UK for KOA patients, addressing both physical and psychological needs. This Proof-of-Concept (POC) study aimed to explore whether this programme could be delivered to a Hong Kong Chinese (HKC) speaking population.

Objectives
To deliver the ESCAPE-knee pain programme to a small cohort of KOA patients in a physiotherapy clinic, and to explore their satisfaction.

Methodology
Ambulatory Chinese speaking KOA patients were recruited from the waiting list in the physiotherapy clinic, Prince of Wales Hospital. Exclusions were knee physiotherapy in the previous 12-months or joint replacement surgery. ESCAPE-knee pain, a 10-session group programme was delivered over 5 weeks by a physiotherapist. Each session consisted of 25-minutes discussion on self-management, followed by 50-minutes strengthening and aerobic exercise according to the individual patient’s capability.

HKC outcome measures consisted of the Knee injury and Osteoarthritis Outcome Score (KOOS-HKC); Numeric Pain Rating (NPR); Patient Specific Functional Scale (PSFS); Chinese Self-efficacy for Exercise (SEE-C); Hospital Anxiety and Depression Scale (HADS) and Global Improvement Rating (GIR). Performance tests were
40-meter fast-speed walk test, 30-second chair-stand test and 12-step stair-climb test. Data were analysed descriptively.

**Result**
21 patients (two groups) completed the programme, median age 62, 79% female, BMI 28.0. Median attendance was 9 sessions; two patients dropped out. One adverse event of a hypoglycaemic attack occurred. KOOS-HKC improved significantly on Pain 17.3, PS 10.1 and QoL 14.5 points. Individual functions (PSFS) improved 2.5, self-efficacy (SEE-C) 1, psychologically (HADS) 4.6, pain (NPR) 0.8 and overall (GIR) 5.2 points. The chair-stand, walk and step tests improved by 14.5% to 18.4%. The satisfaction demonstrated of exercise benefits, learned self-management and a willingness to continue exercising independently. ESCAPE-knee pain was translatable, feasible and effective for KOA patients in HK. Patients were satisfied with the programme, and stated they would continue to exercise. A future large scale trial will test the clinical and cost-effectiveness of ESCAPE-pain (HK).