Physiotherapy physical fitness and weight management program – a self-empowerment exercises program in primary health care service for chronic disease

Chan W(1,3), Kwan M(1,3), See E(1,3), Yong R(2), Kwong S(1), Sin MC(3), Wong J(3), Wong M(3), Chu D(3)
(1)Physiotherapy Department, (2)Dietetics Department HKEC, (3)FM & PHC Department HKEC

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Introduction
Obese patients are at a higher risk for chronic diseases like diabetes, high blood pressure, heart disease and OA knee. A combined program led by physiotherapist and dietitian may reduce the risk on chronic disease and achieve a healthier status. The program aims at physical fitness and weight management, and focuses on empowering self exercises, dietary advices and lifestyles modification in primary health care setting.

Objectives
(1) To minimize health risk for chronic metabolic disease (2) To facilitate self-participation and self-empowerment of exercise habit (3) To promote physical fitness and healthy life style

Methodology
Patient seen in General Out Patient Clinic (GOPC) at HKEC with HT, DM, BMI >25 and motivated were included into the Physical Fitness and Weight Management Program. Patients with recent stroke, recent surgery, COPD, IHD, CHF, unstable medical condition or age above 70 were excluded. This program was run in group format and consisted of 4 sessions held in 2 months' time. The content included education on weight management concepts, proper exercises planning, disease-based exercise precaution, modified exercises circuit training and home based exercises practices. Individually based exercise prescription, exercise progression, fitness consultation and advices were given by physiotherapist during
the program. Education on dietary control was also conducted by dietitian in the 3rd session of the program. Outcomes were measured at the first session and the 4th session.

**Result**

Patients were recruited during September 2013 to August 2014. 71 patients, including 9 female and 13 male patients from age 36 to 68, completed the program. 7 major outcomes were monitored during the program: body weight, Body Mass Index (BMI), waist circumference, Chinese Self-Efficacy for Exercise Scale (SEE-C), 2-minutes step exercise tolerance test, blood pressure (BP) and heart rates (HR). Upon 2-months follow-up, significant improvement were shown in body weight (↓78.72 to 78.06kg, P ≤ 0.05), BMI (↓30.56 to 30.26, P ≤ 0.05), exercise tolerance (↑155 to 170 steps, P ≤ 0.05), resting systolic blood pressure (SBP) (↓131 to 126mmHg, P ≤ 0.05), resting diastolic blood pressure (DBP) (↓79 to 76mmHg, P ≤ 0.05) and post-exercise DBP (↓91 to 86mmHg, P ≤ 0.05) when comparing with the first session. Improvements were also shown in the pre/post mean values of Waist circumference (↓103 to 100cm), resting HR (↓78 to 76 bpm) and post-exercise HR(↓93 to 91 bpm) though the differences were not statistically significant. Conclusion A physiotherapy self-empowerment exercise program incorporated with a dietetic advice session effectively improved the physical fitness of obese patients and decreased the risk of chronic disease in primary health care setting. The medical costs associated with secondary care of chronic diseases may be saved in the long run. Further studies with longer periods of outcome monitoring and adjustment on the number of training sessions would be worthwhile.