



## Service Priorities and Programmes Electronic Presentations

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### **The benefit of an intensified pulmonary rehabilitation program in a pulmonary centre**

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#### **Introduction**

The pulmonary rehabilitation (PR) program in Kowloon Hospital is a multidisciplinary treatment program for chronic chest patients. It has been shown to improve exercise capacity and health status and reduce health care utilization. Studies have shown that PR program with a higher number of training sessions is associated with better outcomes, e.g., programs with at least 28 rehabilitation sessions improve exercise capacity more than those with lesser sessions. Taking into consideration of manpower and available resources, we have increased the total number of PR sessions from 12 to 20 for our program since April 2010.

#### **Objectives**

To compare various treatment outcomes between our new 20-session program and the old 12-session program.

#### **Methodology**

a retrospective study

#### **Result**

Fifty-nine patients had completed the new program (recruited from 1st April 2010 to 31st March 2012), whereas forty-eight patients had completed the old one (recruited from 1st April 2008 to 31st March 2010). The baseline characteristics were similar in both groups. Quality of life measurement and functional capacities were comparable in both groups. After the PR, statistical improvement was noted in both groups. The health-related quality of life, as measured by St. George respiratory questionnaire (SGRQ), was improved in both groups after the completion of their programs. The 20-session group was doing much better than the 12-session group in the symptom (-17.32, and -7.58 respectively,  $p=0.023$ ), activity (-19.00, and -5.74 respectively,  $p=0.002$ ), and impact (-21.59, and -8.51 respectively,  $p<0.001$ ) (Table 3). Regarding their aerobic capacity and health status, the 20-session group outperformed the 12-sessions group in both six-minute walk test (6MWT) (mean distance +100.59 metres, and +44.17 metres respectively,  $p<0.001$ ) and metabolic equivalent of task (MET) (+0.8071 MET and +0.2607 MET respectively,  $p<0.001$ ). The ADL (activity of

daily living) functioning score was also further enhanced in the 20-session group (+1.17, and +0.60 respectively,  $p=0.044$ ), despite that no such further improvement was detected in the Monitored Functional Task Evaluation (MFTE) (+2.284, and +1.658 respectively,  $p=0.129$ ). The level of dyspnoea, as measured by modified Medical Research Council (MMRC) dyspnoea score, was similar in both groups, Remarkably, the overall superiority of the 20-session group was reflected by the better, composite, BODE index (-1.5424 and -0.3404 respectively,  $p<0.001$ ). Apart from a decrease in the number emergency department (AED) visit (1.29 to 0.77 per year,  $p=0.037$ ) and the total number of hospitalization (1.26 to 0.74 per year  $p=0.024$ ) in the 20-session group, no reduction of other health care utilization was observed in both groups after the completion of the PR programs. Comparing the two groups, there was a trend of further benefit in the 20-session group in reducing health care utilization, although it was not statistically significant. Conclusion: A more intensive PR program is associated with better health status, improved aerobic capacity and a higher level of activity of daily living, and BODE index though no significant further reduction of health care utilization was observed.