Service Priorities and Programmes

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Long-term Effect of Intensified Pulmonary Rehabilitation on Health Care Utilization and Functional Outcomes

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Introduction

Despite there was international evidence supporting that pulmonary rehabilitation program (PRP) can help decrease health care utilization, several recent studies reported controversial outcome. Our team postulated that the difference might be contributed by the less number of PRP sessions and the short time span across the sessions (i.e. 8 weeks). Also, evidence of long term effect of PRP in functional outcomes and health-related quality of life (QOL) were limited.

Objectives

This study intended to explore if a higher number of PRP sessions could produce better outcomes. Functional outcomes and health-related QOL were measured.

Methodology

This was a retrospective review comparing two cohorts: the 1st cohort “2008-2009 Conventional PRP (12-PRP) with 12 sessions over 6 months” and the 2nd cohort “2010-2011 Intensified PRP (20-PRP) with 20 sessions over 6 months”. The primary outcomes for comparison were health care utilizations including: emergency department (AED) attendance, respiratory-related hospital admissions and length of stay (LOS), in one year after program completion. The secondary outcomes were those functional outcomes and QOL measured immediately, 6-month and 18-month after program. Comparisons of primary outcomes were conducted among 3 groups - patients who completed the respective PRP and a non-completer group as control. One-way and Repeated ANOVA (with Bonferroni as post-hoc test) were utilized for data analysis between the cohorts.

Result

The 20-PRP significantly reduced AED attendance (-0.76 unit, $p<0.023$) and LOS (-18.84 days, $p<0.001$) than the control. When comparing with the 12-PRP, it reduced

more AED attendances (-0.80 unit, $p<0.029$). Tremendous improvement (> Minimal Clinical Important difference) in the 20-PRP was noted in 6-minute walk test (6MWT) (100 meters vs 44 meters, $p<0.001$) and in QOL than those in the 12-PRP on program completion. Repeated ANOVA result showed that the improvement in functional outcomes were sustained till the 6-month follow-up only, in which there was further mean improvement in the 6MWT (33 meters, $p<0.02$) and in the Activity of Daily Living (ADL) level (0.91 unit, $p<0.001$) in the intensified 20-PRP.