



Service Priorities and Programmes
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The efficacy of Peri-operative Physiotherapy Care Program for patients undergoing abdominal surgery

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Introduction

It has been reported that postoperative pulmonary complications (PPCs) occurred in 9% to 40% of patients undergoing abdominal surgery. These complications prolong postoperative recovery, attribute to additional health care cost and may even lead to death. Physiotherapy is one of the strategies to prevent PPCs. As a continuous quality initiative, Physiotherapy Peri-operative Care Pathway (PPCP) was formulated to prevent PPCs and facilitate timely rehabilitation.

Objectives

To investigate the efficacy of PPCP in preventing PPCs and improve the surgical outcomes among patients undergoing abdominal surgery

Methodology

PPCP was implemented and piloted in one female and one mixed surgical ward in TKOH. From July to December 2012, all patients received elective or emergency major abdominal surgery would enter the program. Pre-operative phase: Patient admitted for elective abdominal surgery was screened according to the modified risk stratification model. Pre-operative education, pamphlet and chest physiotherapy were provided for those at risk patient to develop PPCs. Post-operative phase: Indicated patients following emergency operation were referred by doctors. All patients received intensive chest physiotherapy including breathing exercise and sputum removal technique. They were instructed to perform 10 repetitions of chest expansion exercise with incentive spirometer and 20 repetitions of ankle pumping exercise hourly when awake. A card with pictures illustrating the exercises was placed on bed side to reinforce exercise compliance. Early mobilization started and progressed according to patient's conditions.

Result

Outcome measurements Inspiratory capacity (IC), oxygen saturation (SPO₂), incidents of PPCs, pre and post-operative functional mobility. Results Fifty-four patients participated in the program. Mean age was 61.4±19years. Sixteen received elective surgery while 38 received emergency surgery. The mean IC improved

significantly by 56% on post-operative Day 5 and achieved about 70% of IC of healthy people upon discharge. Mean SpO₂ on post-operative days 1-3 attained 98% which ensure adequate oxygen for tissue healing. PPCs occurred in 3(5.5%) patients. 42(78%) patients regained their pre-morbid functional mobility and 48(89%) patients were discharged home directly. There was no adverse event during treatment. Conclusion The PPCP enhanced patient's engagement, maintained satisfactory oxygen saturation and reduced incidence of PPCs in patients after major abdominal surgery.