



Service Priorities and Programmes
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Hand-held fan enhances exercise endurance of dyspnoea patients in Palliative Day Care Unit of Shatin Hospital

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Introduction

Dyspnoea is a common and distressing symptom in patients with lung cancer or Chronic Obstructive Pulmonary Disease (COPD). Some evidence showed that facial cooling by hand-held fan (HHF) could reduce the feeling of dyspnoea. However, limited evidence was available to evaluate how HHF could affect exercise endurance and functional status of these patients.

Objectives

This program was (1) to evaluate the effectiveness of hand-held fan in relieving dyspnoea, and (2) to improve exercise endurance in patients with lung cancer or COPD in Palliative Day Care Unit of Shatin Hospital.

Methodology

Patients were recruited from Palliative Day Care Unit of Shatin Hospital. Inclusion criteria were advanced malignant disease (primary lung cancer or secondary lung metastases), COPD [American Thoracic Society (ATS) Dyspnoea Disability Scale class II or below] and the patients who were not in acute exacerbation. Exercise endurance was assessed 2 times for each patient in the same day. One time was assessed with the patient holding HHF which was directed to their face and naso-oral area. Another time was assessed without using the HHF. The sequence of assessment was randomized. Outcome measures for measuring exercise endurance, oxygen saturation and level of dyspnoea were 6 minutes walking test (6MWT), SpO₂ and modified Borg scale. Questionnaire was used to evaluate patients' subjective feeling about the use of HHF in relieving dyspnoea.

Result

11 patients (6 patients with lung cancer and 5 patients with COPD) were recruited from January to February 2013. Their Palliative Performance Scale was ranged from

60 to 80. Their ATS Dyspnoea Disability Scale was mainly in class II and III [class II: 5 (46%), class III: 4 (36%), class IV: 2 (18%)]. All of them were independent walker. Comparison of the different outcomes between 2 tests was analyzed by using paired t-test. With the use of HHF, the patients showed statistically higher exercise endurance ($p=0.049$) and lower level of dyspnoea ($p=0.016$). Desaturation between 2 tests showed statistically no difference. From the questionnaire, 64% of them agreed or strongly agreed that the use of HHF could help to relieve dyspnoea during exertion. In conclusion, this hand-held fan, a simple device, can be advocated as a non-pharmacological intervention to relieve dyspnoea and enhance exercise endurance for patients with advanced lung disease. It can be one of the palliative strategies in managing patients' dyspnoea symptom in our current clinical setting.