



Service Priorities and Programmes
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Submitting author: Ms Yee Ping VONG

Post title: Physiotherapist I, North District Hospital, NTEC

Portable Oxygen Concentrator Facilitates Hypoxic Patients' Integration into Society

Vong YP(1), Choo KL(2), Tsang HC (1), Lee YK (1), Tse PY (1), Tang OY (1), Wong WY (1), Lam G(1), Cheung KY(1), Chow A (1), Man CY(3)

(1)Physiotherapy Department, (2)Medical Department, (3)North District Hospital Chief Executive North District Hospital

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Introduction

Oxygen therapy of at least 15 hours a day is known to reduce mortality in COPD patients. However, patients become home-bound due to problems associated with portable oxygen therapy. Oxygen cylinders are heavy, short-lasting in duration and banned from public transport. Refilling requires advanced planning and increases costs. Lack of physical activity can lead to increased mortality. Portable Oxygen Concentrator (POC) is therefore an option for oxygen users to improve their physical activity level.

Objectives

1. To evaluate the introduction of POC to hypoxic patients 2. To assess patient outcome after POC trial

Methodology

Hypoxic patients were recruited from Community Physiotherapist home visits, COPD and other outpatient clinics, and during hospitalisation. Indications and contra-indications of POC were explained to patients. Application and maintenance demonstrations were conducted. Breathing synchronization with POC was tested during six-minute-walk-test (6MWT).

Result

From June 2013 to February 2014, POC was introduced to 39 patients. Mean age was 71 years. Twenty-eight (72%) were outdoor walkers while 11 were indoor walkers. Nineteen (53%) had advanced disease (BODE stage IV) and 16 (44%) were in BODE stage III. Mean 6MWT when using POC was 172.5m. Thirty-three were longterm oxygen users; 13 (33%) of whom required non-invasive-ventilation. Four (66%) out of six non-oxygen-therapy users finally accepted oxygen therapy after POC trial.

Thirty-six (92%) patients preferred using POC to oxygen cylinders because of the light weight and chargeability. Stigmatisation was also reduced for those using pocket-sized devices. Rental cost remained their major concern. Eight patients' subsidy applications were in progress. Six patients (15%) required trial with continuous-flow-mode POC. Ten patients (26%) eventually accepted POC rental after subsidy was granted. Six (60%) had used POC over a month, with mean increase in 6MWT distance by 58.5m. Mean daily oxygen compliance increased by 6.5h, physical activity duration increased by 1.2h and outdoor activity by 1.9h. Mean COPD Assessment Test (CAT) score decreased by 25%. All 10 remained hospitalization-free. Conclusion This study shows that POC could increase oxygen compliance, physical activity level and facilitate safe pursuit of outdoor activities. Major obstacle is still financial while advanced mode such as continuous-flow may be needed for severely ill patients.