

Effects of Deep Breathing Exercise on Patient with Chronic Obstructive Pulmonary Disease

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Abstract

Chronic Obstructive Pulmonary Disease (COPD) is one of the most frequent chronic respiratory diseases. An electronic searching was performed in the electronic database: CINAHL, EBSCO, Google Scholar, and PubMed. The review illustrate that breathing exercises may decrease dyspnea, reduce hyperinflation, and increase respiratory muscle performance and exercise tolerance, and QoL in COPD patients. Future studies is necessary to verify the effectiveness of each types of breathing exercises in the management of COPD patients.

Keywords: *Breathing Exercises; Dyspnea; Chronic Obstructive Pulmonary Disease*

Introduction

The chronic respiratory diseases were the third primary cause of death, following cardiovascular diseases in addition to neoplasm [1]. Globally, Chronic Obstructive Pulmonary Disease (COPD) is one of the most frequent chronic respiratory diseases, and it is a main contributor in the increasing burden of chronic diseases [2]. It is described as a progressive irreversible airway illness distinguished by chronic bronchitis and emphysema, that result in cough, sputum and breathlessness [3], that could be a prevented and treated [4], and the treatment should focus on management of the disease and symptoms [5].

There are many different breathing techniques were used in COPD patients, including diaphragmatic breathing (DB); pursed lip breathing (PLB); active expiration; relaxation breathing; and ventilation feedback training [2-6]. Breathing exercises try to modify respiratory muscle recruitment that decrease dyspnoea, reduce hyperinflation, and develop respiratory muscle performance and exercise tolerance, and quality of life (QoL) in COPD patients [6-19].

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Aim of the Study

This review intends to investigate the main literature to identify the effects of deep breathing exercise in patients with COPD.

Method

Search methods

The searching was performed in several electronic databases: CINAHL, EBSCO, Google Scholar, and PubMed. The search keywords were: 'chronic obstructive pulmonary disease', 'Breathing exercise', 'Breathing technique'.

Inclusion criteria were: (a) studies discuss the breathing exercises in COPD patients (b) published between 2000 and 2020, (c) published in English.

Results and Discussion

This review was conducted to evaluate the effects of breathing exercise among COPD patients. Breathing exercises is an efficient and cost-effective technique that improves the physical ability and wellbeing of COPD patients. The pulmonary rehabilitation exercises can significant reduces dyspnea, improve pulmonary function and QoL among COPD patients [7].

The impact of breathing exercises in COPD patients may differ according to the technique used. For example, a comparative study was conducted to detect the effect of pursed-lip breathing (PLB) and breathing control among 30 Indian COPD patients. The study found that pursed lip-breathing technique appeared to be more effective than breathing control technique [8]. It was shown to develop ventilation, dyspnea, exercise endurance, and QoL among COPD patients [9]. However, the data propose that not every COPD patient may respond similarly to PLB, moderate to severe COPD patient being mainly to get benefit [9]. A randomized crossover study found that PLB can develop exercise tolerance, breathing pattern and arterial oxygenation and decrease dynamic hyperinflation among COPD patients [10]. Also, the PLB is useful in reducing respiratory rate and minute ventilation in exercise among COPD patients [11].

The breathing exercises techniques could be used individually, or in combination [6]. The DBE, VF plus exercise, PLB, in combination with breathing exercises might be used to develop ventilation and QoL [12].

In addition to dyspnea, fatigue is a major symptom commonly complained by the COPD patients [13]. A quasi-experimental study was carried out on 60 hospitalized patients with COPD found that respiratory exercise is helpful in decrease the level of fatigue in COPD patients [14-27].

Conclusion

The present review investigated the effects of deep breathing exercise in COPD patients.

Dyspnea and fatigue are important symptoms regularly complained by the COPD patients. Breathing exercises may decrease dyspnea, reduce hyperinflation, and increase respiratory muscle performance and exercise tolerance, and QoL in COPD patients. There are many different breathing techniques were used in COPD patients. The impact of breathing exercises in COPD patients may differ according to the technique used, so future studies is necessary to verify the effectiveness of each types of in the management of COPD patients. This review provides helpful data to all health care providers regarding breathing exercise which may guide in the management of COPD patients.

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