

Clinical Analysis of Hyperammonemia by Perioperative Sodium Valproate Injection Application in Neurosurgery Patients

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Abstract

This study examined the effect of inhaler drug use training administered three different ways on the self-efficacy of individuals with COPD.

The research used a quasi-experimental design with pre-test and post-test follow-up. The research was conducted from December 2017–November 2018 at a state hospital in Turkey. A total of 120 patients divided into three equal groups participated (formed according to research training methods). The data were collected via face-to-face interviews by applying the patient information form, the inhaler drug use chart and the COPD self-efficacy scale. The data were evaluated using means, percentages, Chi-squares, ANOVA analyses, Kruskal–Wallis tests and Wilcoxon tests.

Keywords: COPD; inhaler drug training; self-efficacy

Description

Chronic obstructive pulmonary disease (COPD) is a common and treatable disease characterized by respiratory symptoms and airflow limitation caused by exposure to noxious particles or gases; it is also a public health issue featuring high healthcare costs. COPD is responsible for 6% of all deaths, with over three million people dying due to COPD in 2012. In Turkey, 35,331 people died from respiratory diseases in 2013; this number increased by 48.79% in five years to reach 52,568 deaths in 2018.

Inhaled drugs are used in the pharmacological treatment of COPD. Pressurized metered-dose inhalers (pMDIs), dry powder inhalers and nebulizers are also widely used for the treatment of COPD. Studies have shown that errors involving inhaler drug use are quite high. The causes of these errors are the existence of multiple types of drugs that have different uses and usage steps; following such regimens can be difficult. In addition, it has been reported that elderly patients make more errors than other groups of patients in their inhaler use.

Using inhalers requires technical skill; inhaling the appropriate volume of medication, inhalation rate, compatibility between inspiration and drug inhalation, preparing medication, breathing out before inhaling and holding the breath for a period of time after inhaling are some of the main

skills needed. The incorrect use of inhalers might result in deposition of the medication into the oropharynx, an unnecessary dose, unresponsiveness to treatment, an increase in symptoms and complications or increased mortality and morbidity rates. Incorrect inhaler use also increases the frequency of attacks and overcrowding in emergency departments and hospitals, resulting in a rise in health care costs.

Errors in inhaler drug use can be reduced by using different training methods. Considering individual differences in the training (age, gender, learning speed, level of education, etc.), it can be ensured that the training reaches its goal by using different training methods. According to Edgar Dale's Cone of Learning, people learn 83% of what they learn through the sense of seeing, 11% through hearing, 3.5% through smelling, 1.5% through touching and 1% through tasting.

The present study aimed to minimize the inhaler drug use errors by providing training for visual, auditory and both visual and auditory senses of individuals with different training methods and by considering the individual differences. As a result of the study, it was determined that

the lowest skill scores belong to the pMDI users in all three of the video and sample training material groups by showing before the training and that there was a statistically significant increase in these scores after the training. The steps that made the most mistakes in all three groups in the steps of using metered dose inhalers before the training were determined as shaking the inhaler, giving a deep breath and evacuating the lung, holding the breath for sufficient time after drug inhalation and waiting a certain time for the second dose, and the increase in these steps after the training was determined statistically. It was determined to be significant. It was observed that the self-efficacy scores were low in all three groups before the inhaler medication training, and the mean self-efficacy total score and sub-dimensions increased significantly after the training. By demonstrating, by providing repeated training with video and sample training material, it was observed that the inhaler drug skill scores and self-efficacy of the patients increased, but there was no difference between the groups.

For this reason, it was recommended to use different training methods in COPD patient training, to provide longer training, to follow the patients at home through telephone, and to evaluate the efficiency of show and make, video and sample training materials in different chronic diseases.

Conflict of Interest

The authors declare no conflict of interest.

Acknowledgment

The researchers thank the patients who participated in the study, the hospital in which the study was conducted and the nurses in Chest Diseases clinic.

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Citation: Derya SB (2022) The Effects of Inhaler Drug Training on Self-Efficacy in Chronic Obstructive Pulmonary Disease Patients. *Neurol Clin Therapeut J* 6:001

Received: 02-August-2022, Manuscript No. NCTJ -22-021; **Editor assigned:** 04-August -2022, PreQC No. NCTJ -22-021 (PQ); **Reviewed:** 18-August -2022, QC No. NCTJ -22-021; **Revised:** 23- August -2022, Manuscript No. NCTJ -22-021 (R); **Published:** 30-August -2022, DOI: 10.4172/nctj.001

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