

Title: Patient education on the correct technique of pressurized Metered Dose Inhaler (pMDI) with volumatic use in a respiratory unit: Does it serve the purpose?

Abstracts

Inhalation therapy is widely applied for the Chronic Obstructive Pulmonary Disease (COPD) victims. The therapeutic effect of pressurized metered dose inhaler (pMDI) will be significantly reduced if incorrect inhalation technique is performed. A health education program aimed to promote effective inhalation technique had been carried out more than six years in a Respiratory Unit. This study was served the purpose to evaluate the effectiveness of the program. The research was in quantitative design and tried to discover the changes in people undergoing the education of inhalation technique in simple quasi-experimental evaluation. 40 experienced pMDI with Volumatic users were selected by convenience sampling. Six types of instruments and operating tools had been applied during the study. The validity and reliability of the instruments were tested by experienced medical and nursing professionals. The outcome measurements for the study mainly included three parts. They involved comparisons of Volumatic technique before and after health education, measurements for SaO₂ and Borg's Scale before and after the first test and last audit, amount of CNS referral and readmission rate after discharge. There also had other concerns about the relationship between demographic variables, experience of inhaler- use details, physical condition, health related behavior and correct technique of pMDI with Volumatic use and; the comments to the education program from respondents. Sign Test was used to compare pretest and posttest scores of the inhalation process. A significant improvement ($P < 0.001$) in total scores was concluded. Results of objective physical data {SaO₂} and subjective feeling measurements {Borg Ratio Perceived Exertion} were consistent with the results of inhalation technique scoring. Although the amount of CNS referral and the readmission rate after discharge were not found so meaningful; the health education program still could be proved as effective. The most deficient information for Volumatic users was the knowledge involved inhalation therapy rather the operation of inhalation process. Simple mathematics was applied to explore the relationship between the demographic variables and correct- use of pMDI with Volumatic. It revealed that most respondents were in satisfactory

physical condition and seemed really in control of their illness. However the respondents with different group of demographic characteristics performed inhalation technique in the first test, optimal results were eventually achieved in the last audit. Implementation of similar evaluation regularly in future was encouraged. The study also recommended sustaining patient's inhalation technique by reinforcing the exact concept for their disease and drug therapy. Further appropriate strategies in health education were expected to be developed for patients with different characteristics.