

Effectiveness of Respiratory Care Bundle on Dyspnea among Patients with Respiratory Problems Admitted at MMIMS & R Hospital

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Abstract: *The objective of the study was to assess the effectiveness of respiratory care bundle on dyspnea among Patients with respiratory problems. A quasi experimental study was conducted on patients with respiratory problems (n=60) at MMIMSR & Hospital, were divided into two groups experimental and control group. The data was collected by Modified Borg Dyspnea Scale. There was statistically significant difference between the two groups in terms of dyspnea score (p=0.01) after administration of respiratory care bundle. Respiratory Care Bundle is an effective therapy to reduce dyspnea.*

Keywords: Respiratory care bundle, dyspnea.

1. Introduction

Chronic obstructive pulmonary disease (COPD) is a major cause of health care burden worldwide and the only leading cause of death that is increasing in prevalence. Prevalence of COPD in India in 2001 is 149.35 Lakhs of total population and it is expected to increase to 222.16 Lakhs in the year 2016. [1] The asthma and bronchitis prevalence rate in Karnataka, Gujarat, Haryana, Madhya Pradesh, Uttar Pradesh and Kerala are above national average. The result shows that Asthma and Bronchitis was a leading cause in last 3 decades accounting about 9-11% of all deaths.[2] Respiratory diseases are a major cause of morbidity and death in the UK and worldwide. Asthma affects one child in seven in the UK and 300 million individuals worldwide; chronic obstructive pulmonary disease (COPD) is the fourth most common cause of death worldwide [3]

An incentive spirometer is a medical device used to help patients improve the functioning of their lungs. Incentive spirometry is a method of deep breathing that provides visual feedback to help the patient inhale slowly and deeply to maximize lung inflation and prevent or reduce atelectasis. [4] Incentive spirometry is designed to mimic natural sighing or yawning by encouraging the patients to take long, slow, deep breath. This is accomplished by using a device that provides patients with visual or other positive feedback when they inhale at a predetermined flow rate or volume and sustain the inflation for a minimum of 3 seconds. Incentive spirometry is also referred to as sustained maximal inspiration, is a component of bronchial hygiene therapy [5].

2. Material and Methods

A quasi experimental nonequivalent pretest posttest comparison group design was used. The study population comprised of the patients with respiratory problems at TB chest and medicine unit of MMIMSR, Mullana, Ambala, Haryana. Prior to the study, (1) ethical approval was

obtained from the institutional ethical committee (2) the participants were informed about the purpose of the study, guaranteed anonymity and the voluntary nature of the study. After the patients agreed to participate, written informed consent was obtained from each of them. 60 patients were selected using purposive sampling technique. The data was collected by using Modified Borg Dyspnea Scale. The data collection was done from the patients with respiratory problems. The patients were asked to perform mouth care 2 hourly, first with tooth paste and brush in the morning, mouth wash with chlorhexidine 2 times/day i.e. at 10am and 4pm and rest of the times mouth rinse with plain water every 2 hourly and incentive spirometry every 2 hourly for 7 times/day. Dyspnea was assessed using Modified Borg Dyspnea Scale before and after administration of respiratory care bundle. The data was analyzed using SPSS 20 using descriptive and inferential statistics (mean, frequency distribution, median, standard deviation, range, coefficient, unpaired and paired 't' test and chi square).

3. Findings

3.1 Demography and sample characteristics

Both the groups were similar with respect to age, gender, tobacco chewing, smoking, BMI, diagnosis, associated disease and presence of sputum whereas are heterogenous in terms of use of respiratory therapy.

3.2 Findings related to the effectiveness of the respiratory care bundle in terms of Dyspnea Score.

Table 1: 't' test showing Comparison of Experimental and Comparison Group in terms of Dyspnea Score After Administration of Respiratory Care Bundle, N=60

Selected Variable	Group	Mean	SD	MD _D	SE _{MD}	t Value	p Value
Dyspnea Score	Experimental Group (n=30)	3.53	0.629	0.467	0.184	2.536	0.014*
	Comparison Group (n=30)	4.00	0.788				

“t”(58)=2.00

*- Significant(p≤0.05)

Table 1 reveals that the Mean Dyspnea score of patients in experimental group (3.53±0.629) was lower than in comparison group (4±0.788).

The computed 't' value (0.01) was found to be statistically significant ('t'= 2.00, p=0.01) at 0.05 level of significance. This shows that the mean difference of Dyspnea Score after administration of Respiratory Care Bundle between experimental and comparison group was a true difference.

4. Discussion

In the present study, there was significant difference in the dyspnea score among patients in experimental group (3.53±0.629) and comparison group (4.00±0.788) after the administration of respiratory care bundle. The mean post-intervention dyspnea score was 3.53 in experimental group lesser than 4.00 in comparison group with the mean difference of 0.46. the computed 't' value ('t'= 2.53, p=0.01) was found to be statistically significant at 0.05 level of significance. The study findings were inconsistent with findings of a study conducted by **Basoglu OK, Atasever A, Bacakoglu F** who evaluated the effects of incentive spirometry (IS) on dyspnea in patients hospitalized for COPD. Assessment of dyspnea by visual analogue scale (VAS) at admission and after 2 months of treatment. There were no significant differences between the measurements made pretreatment and after 2 months of medical therapy in the medical treatment group, with regards to dyspnea [6]

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