

To Assess Effectiveness of Planned Teaching Program on Knowledge and Skills of Staff Nurses with Regard to Use of Devices in Chronic Obstructive Pulmonary Disease Management

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Abstract

Aim: The aim of the study was to assess effectiveness of planned teaching program on knowledge and skills of staff nurses with regard to use of devices in chronic obstructive pulmonary disease (COPD) management.

Materials and Methods: Fifty staff nurses working in medical surgical ward with more than 6 months experience were selected using non probability convenient sampling technique. A self-reported questionnaire and observational checklist were used to collect data before and after planned teaching. Teaching was given for 20 min to staff nurses.

Results: Most of staff nurses were B.Sc. 76% (38), having experience of more than 2 years. In pre-test 66% nurses were aware of problem faced by COPD patient, after planned teaching 100% gave correct response, only few nurses, 4% nurses were aware of various devices method of administration of these medicine using devices which was improved to 100% after teaching. Knowledge of staff nurses about prevention of throat deposition in inhaled medicines improved from a baseline as 2%–88%. Only few nurses, less than 5% nurses were having skills to use metered dose inhaled and nebulizer effectively in pre-test, where as 96% nurses were able to demonstrate dose administration using MDI and nebulizer correctly in post-test period. Calculated plus value for knowledge score $b = 46.47$ and for skill score was $t = 99.44$, both of which indicated that there was significant improvement in knowledge and skills of staff nurses after planned teaching programme.

Conclusion: The planned teaching is an effective method to improve knowledge skill of staff nurse. Correct knowledge and technique will help nurses to administer medicine effectively to the patient.

Keywords: Chronic obstructive pulmonary disease, planned teaching program, inhaled medicines, nebulizer

INTRODUCTION

Breathing is the process of respiration, during which air is inhaled into the lungs through the mouth or nose due to muscle contraction and then exhaled due to muscle relaxation. Chronic obstructive pulmonary disease (COPD) is one of

the most common lung diseases.^[1,2] The American Thoracic society and the European Respiratory society have recently defined COPD as a preventable and treatable disease state characterized by airflow limitation that is not fully reversible. COPD includes disorders such as chronic bronchitis and emphysema or a combination of both. Chronic bronchitis results in abnormal enlargement of airspaces and loss of lung elasticity, with consequent obstruction of airways. A COPD management program includes four components, that is, assessment and monitoring of disease, reduce risk factors, manage COPD symptom, and exacerbations using various inhaled medications.^[3-5]

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Efficient delivery of inhaled medication is essential for the success of COPD therapy.^[6,7] The inhaler device may contribute to optimal drug delivery, wide range of drug delivery devices are available, for example, metered dose inhaler, nebulizer, soft mist, or dry powder inhaler. And staff nurses' plays very important role in administering and demonstrating correct technique of inhaler devices to patient.

Objectives

The objective of the study was to assess effectiveness of planned teaching program on knowledge and skills of staff nurses with regard to use of devices in COPD management.

MATERIALS AND METHODS

A one group pre-test post-test design was use to conduct the study in tertiary health-care hospitals of Mumbai. A total of 50 staff nurses working in medical ward and OPD were selected using non-probability convenient sampling technique. A self-reported questionnaire and observational checklist were used to collect data before and after planned teaching programme. A planned teaching was given for 20 min to staff nurses. The data were analyzed using descriptive and inferential statistics. *t*-test was used to analyze the effectiveness of planned teaching on knowledge and skills.

RESULTS

Data were analyzed using descriptive and inferential statistics. SPSS was used to analyze the data. Among 50 staff nurses' majority of staff nurses had done B.sc nursing 76% (38) and 56% (23) of staff nurses had experience of 2 years working in medical ward and OPD.

Most of the staff nurses, 66% (33) were aware of the problem faced by COPD patient related to various devices use to administer medicine. During pre-test only, 16% (8) staff nurses had correct knowledge regarding concept and technique of administering medicine using metered dose inhale which was improved in post-test as 82% (42) nurses had responded correctly for the same [Table 1].

Related to nebulization, the knowledge was very poor before planned teaching, that is, only 38% (19) staff nurses were correctly knowing how to prepare and administered nebulization while in post-test 90% (45) staff nurses developed correct knowledge and technique for same.

Table 2 illustrates the effectiveness of planned teaching programme on knowledge and skill of staff nurses. There was significant improvement in knowledge score as calculated *t*-value was 46.47 and for skill the *t*-value was 99.44. The planned teaching help in improvement of knowledge and skill of staff nurses regarding use of various devices in COPD [Table 2].

DISCUSSION

COPD is a complex disease with increased morbidity and mortality.^[1,2] It is estimated by year 2020, COPD will be

Table 1: Distribution of staff nurses regarding demographic data. *n*=50

Demographic data	f	%
Educational qualification		
GNM	12	24
B.Sc. Nursing	38	76
Duration of experience		
One-year	01	2
Two-year	28	56
More than 2 year	21	42

Table 2: Effect of planned teaching regarding knowledge and skill. *n*=50

Attribute	Pre-test	Post-test	SED	<i>t</i>
Knowledge	6.78	22.39	0.3359	46.47
Skill	9.16	50.26	0.4133	99.44

leading cause of mortality world while. Current strategy for COPD management recommends the use of inhaled medication for relieving symptoms, preventing complication, and exacerbation. Staff nurses play key role in administering and demonstrating correct technique of inhaled medicine to the patient.

The study reveal that meter dose inhaler and nebulizer are the most preferred method of administrating medication in COPD medicine.^[7,8] Majority of staff nurses were aware of correct technique of preparing and administrating medicine using nebulizer but they lack in knowledge regarding use of meter dose inhaler.^[9-11] The current study suggest that planned teaching will help in significant improvement in knowledge and skill of staff nurses regarding use of various devices in the management of COPD patient.

CONCLUSION

In the present study, we found that the planned teaching is an effective method to improve knowledge skill of staff nurse.

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