

Oxygen Therapy for Children

Need-Based Preparation and Evaluation of a Self-Instructional Module for Staff Nurses on Care of a Child Receiving Oxygen Therapy

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Introduction

Respiratory diseases are the major causes of morbidity and mortality among children in India. The overall respiratory dysfunction in children tend to be more serious than adults. Children are sensitive groups who require care from efficient and competent Nurses to meet their special needs. As small children are unable to express their breathing discomfort, Paediatric Nurses are required to develop observation skill to assess the needs for Oxygen Therapy.

Until recently, the Nursing courses offered in General Nursing and Midwifery (GNM) programme emphasised more on adult care; it is expected that those Nurses, who have completed training before the current revised syllabus, have a very brief course in Paediatric Nursing. This emphasises the need for inservice education in paediatric care procedures.

Though there are various methods for oxygen administration, Nurses are not familiar with methods other than those practised in their hospitals. In general it is observed that they also have limited knowledge and skill in Oxygen Therapy.

Since respiratory illnesses are very common and oxygen is also indicated for secondary problems, it is one of the most common procedures carried out in the management of children with respiratory illness. Hence, the present study was undertaken with the purpose of identifying learning needs of Staff Nurses with a view

to preparing and testing the effectiveness of self-instructional module on care of child receiving Oxygen Therapy.

The present study was carried out with the objectives of determining the learning needs of Staff Nurses regarding care of children receiving Oxygen Therapy; finding association between learning needs and selected variables: age, total years of experience, experience in Paediatric Ward, married with or without children; determining validity of self-instructional module, on "care of child receiving Oxygen Therapy", and evaluating the effectiveness of the self-instructional module or SIM. The study was conducted in two phases. A survey approach was used for Phase-I and one group pre-test post-test design was adopted for Phase-II. The total sample of the study was 30 Staff Nurses, of 6 months experience in Paediatric Ward. The findings of the study showed high learning need status in most of the areas and the Staff Nurses also expressed the desirable need for learning in detail. It was found that age, total years of experience, experience in Paediatric Ward and married with or without children were independent of their learning need. SIM was effective in terms of gain in knowledge score as well as acceptability and utility scores of Staff Nurses.

Objectives of the Study

The study was undertaken with the following objectives:

To determine the learning needs of Staff Nurses regarding care of children receiving Oxygen Therapy; to find association between learning needs and selected variables: age, total years of experience, experience in Paediatric Ward, marital status and married with or without children; to determine the validity of self instructional module on "care of a child receiving Oxygen Therapy" developed on the basis of learning needs and to evaluate the effectiveness of self-instructional module as measured by gain in knowledge and acceptability scores.

Research Methodology

The conceptual framework for the study was developed based on "systems model". The study was conducted in two phases. Phase I of the study aimed at identifying learning needs through a survey. In Phase-II the SIM on "care of a child receiving Oxygen Therapy" was developed and evaluated. One group pre-test post-test design was adopted to evaluate the SIM.

It was hypothesised that:

1. There will be a significant association between learning needs of Staff Nurses and their age, total years of experience, years of experience in Paediatric Ward, marital status, and married with or without children; and
2. The mean post-test knowledge scores of Staff Nurses completing the SIM on "Care of a Child Receiving Oxygen Therapy" will be significantly higher than their mean pre-test

knowledge score.

The Staff Nurses who have had at least six months of experience in Paediatric Wards were selected. Total population was 33. Purposive Sampling Technique was used for selection of sample elements.

The instruments used for data collection were: proforma on background data, checklist to identify learning needs, knowledge questionnaire, and an acceptability and utility opinionnaire.

Checklist to identify the learning needs was distributed to 30 Staff Nurses. Based on identified learning needs, SIM was prepared. A knowledge questionnaire was prepared and administered to the participants. SIM was given for one week after which post-test was administered.

Self-Instructional Module

The Self-Instructional Module

(SIM) was titled 'Care of a Child receiving Oxygen Therapy'. The SIM has 6 units, with a glossary and answers to the exercise. Each unit has three Sections. Section-I deals with self-instructional material for individual learning. Section-II presents review questions, Section-III contains references. The units are organized in the sequence of oxygen as a drug, indications for Oxygen Therapy, methods for oxygen administration, procedure, safety precautions, Nursing responsibilities and complications of Oxygen Therapy.

Description of Sample

The study findings show that 43% of Staff Nurses belong to the age group 26-30 years, 23.3% of them were between 31-35 years, 23.3% were above 36 years and 10% were between 21-25 years. Fortyseven per-

cent of Staff Nurses were married and having children whereas 33% were unmarried.

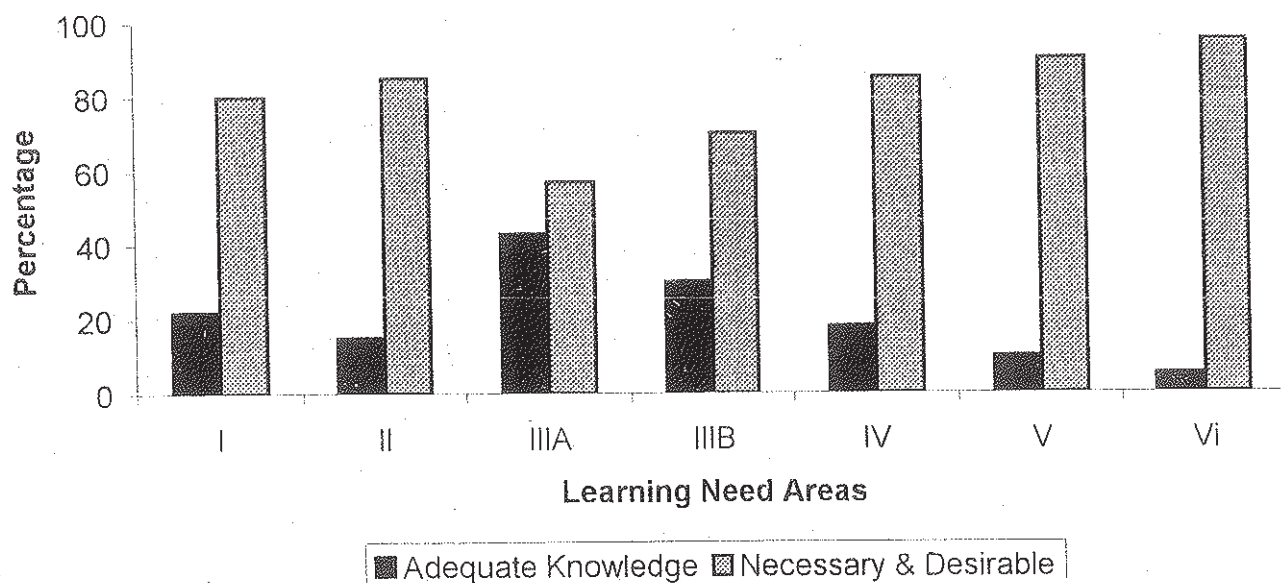
The data also showed that 47% of Staff Nurses had more than 3 years of experience. 30% had 1-2 years, 10% had 2-3 years and 13% had less than one year of experience in the Paediatric Wards.

Findings of the Study

Learning Needs: Staff Nurses had expressed their learning need status as "necessary and desirable" in all the areas. The maximum learning need was related to complications of Oxygen Therapy (95%) and nursing care responsibilities (90%). Minimum learning need was in the area of methods (56.1%) and procedures (68.7%) of administering Oxygen Therapy, as given in Fig-1.

Association Between Learning

Fig. 1 Bar Graph Showing Areawise Percentage of Learning Need Status



I. Oxygen as a drug; II. Indications for Oxygen Therapy; IIIA. Methods of Oxygen administration; IIIB. Procedures of Oxygen administration; IV. Safety precautions; V. Nursing responsibility; VI. Complications of Oxygen Therapy

Needs and Selected Variables: The selected variables such as age, years of experience in Paediatric Ward and married with or without children were independent of their expressed learning needs related to care of children receiving Oxygen Therapy.

SIM was found to be effective in increasing the knowledge of Staff Nurses [$t(29) = 6.315, P \leq 0.05$]. The maximum gain (62%) was in the area of safety precautions and minimum (18%) in Nursing care responsibilities.

The scores on the opinionnaire indicated that SIM was acceptable and had utility as expressed by Staff Nurses (83-90%) to a great extent.

Discussion

Since independent and individual learning method was used in the study, findings point out that much attention need not be paid to personal variables while organizing the staff development programme.

Length of experience was not an influencing factor to determine their learning needs. Therefore any inservice education programme should be based on their priority learning needs as expressed by the learner. The learning need assessment of Staff Nurse shows that the desire to learn is more in the area of "complications of Oxygen Therapy" (95%) and "Nursing care responsibilities" (90%). While comparing the gain in knowledge it is observed that minimum modified gain has been seen in the area of Nursing care responsibilities, whereas the gain has been high in the area of complications. In the area of "safety precautions" both expressed need and gain were high (modified gain was 0.62).

Itemwise analysis for each Staff Nurse indicates that a majority of the Staff Nurses correctly responded, 22 out of 40 items both in pre-test and

post-test indicating consistency in cognitive behaviour. In three items they were wrong both in pre-test and post-test indicating probability of not understanding the question or the module content. These items were questions in relation to Nursing care responsibilities, methods and the procedure of Oxygen administration, one question from each of the areas.

Findings on acceptability and utility of the SIM reveal that SIM was acceptable and usable for the Staff Nurses. At the present situation, probably any form of continuing education programme would be liked by the Staff Nurses since there are very few programmes available to them. A high acceptability seemed to indicate the need for developing more independent learning materials for Staff Nurses.

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