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A Study to Assess the Effectiveness of a Planned Teaching Programme on Maintenance of Cold Chain for Vaccines in terms of Knowledge and Practice among the Health Workers of P.H.C.'s of Selected Districts of Gujarat State

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ABSTRACT

Immunization is important to reduce vaccine-preventable diseases in children, and consistent control of vaccine-preventable diseases depends on fairly high immunization coverage. In order to provide effective immunization services, primary health care workers should have up-to-date information about immunization. A study to assess the effectiveness of Planned Teaching Programme on Maintenance of Cold Chain for Vaccines in terms of Knowledge and Practice among the Health workers working in P.H.Cs of selected Districts of Gujarat State. Objectives of the Study were 1) To assess the knowledge of the health workers before and after administration of planned teaching programme related to maintenance of cold chain for vaccines in P.H.Cs of selected districts of Gujarat state.2) To assess the practice of the health workers before and after administration of planned teaching programme related to maintenance of cold chain for vaccines in P.H.Cs of selected districts of Gujarat state. The study was quasi experimental in nature with one group pre-test post-test design. A sample of 30 health workers was selected through purposive sampling technique. A structured knowledge questionnaire and structured observational checklist was prepared to assess the knowledge and practice of the samples. The Mean Post-test knowledge Score 23.2 was higher than the Mean Pre-test knowledge Score 18.6 with Mean difference of 4.6. The Mean Post-test practice Score 15.3 was higher than the Mean Pre-test Practice Score 11.3 with Mean difference of 4. Significance of the difference between pretest and post test knowledge and practice was statistically tested using paired‘t’ test and it was found significant. Hence, Investigator concluded that a Planned Teaching Programme was effective in improving of Knowledge and Practice among the Health workers working in P.H.Cs of selected Districts of Gujarat State.

KEYWORDS

Health workers, Knowledge, Practice, Planned teaching programme, Cold chain, vaccines, Primary health center

INTRODUCTION

Immunization is important to reduce vaccine-preventable diseases in children, and consistent control of vaccine-preventable diseases depends on fairly high immunization coverage. In order to provide effective immunization services, primary healthcare workers should have up-to-date information about immunization. One of the elements for improving the immunization is cold chain and vaccine logistic management which is backbone of immunization program. Cold chain and vaccine management are the left and right hands of immunization program. As cold chain handlers, health workers play a very important role in improving the immunization coverage of mothers and children by providing safe vaccines. The cold chain handlers are the key person for maintenance of cold chain and responsibility

for safe storage of vaccines. (**Handbook for Vaccine Cold Chain Handlers,2010)**

Cold chain is the system of transporting, storing and distributing vaccine in a potent state at recommended temperature till it is administered to an individual. It is the vital link between the child and immunity in immunization against vaccine preventable diseases (VPD). However a potent vaccine may be, if cold chain is not maintained from the manufacturer to the place of vaccination, the vaccine efficacy greatly suffers. Most vaccines lose their potency by heat and sunlight and hence need protection from both**.**

Cold chain maintenance is an essential activity to maintain the potency of vaccines and to prevent adverse events following immunization. One baseline study highlighted the unsatisfactory cold chain status in city of Kolkata in India. The success of intervention included significant improvement of cold chain status including creation of a designated cold chain handler. Cold chain handlers need reorientation training regarding heat & cold sensitive vaccines, preventive maintenance and correct contingency plan.

STATEMENT OF PROBLEM

"A Study to Assess the Effectiveness of Planned Teaching Programme on Maintenance of Cold Chain for Vaccines in Terms of Knowledge and Practice among the Health workers working in P.H.Cs of selected Districts of Gujarat State".

OBJECTIVES OF THE STUDY

1. To assess the knowledge of the health workers before and after administration of planned teaching programme related to maintenance of cold chain for vaccines in P.H.Cs of selected districts of Gujarat state.
2. To assess the practice of the health workers before and after administration of planned teaching programme related to maintenance of cold chain for vaccines in P.H.Cs of selected districts of Gujarat state.

HYPOTHESES

H1: The mean post test knowledge score of Health workers will be significantly higher than their mean pre test knowledge score after administration of planned teaching programme related to maintenance of cold chain as evidence from structured

knowledge questionnaire at 0.05 level of significance.

H_2: The mean post test practice score of health worker will be significantly higher than their mean pre test practice score after administration of planned teaching programme related to maintenance of cold chain as evidence from structured observation check list at 0.05 level of significance.

METHODOLOGY

Research approach: quasi experimental approach

Research design: Research design selected for the present study was pre-test and post-test control group design.

Variables:

Independent Variable: a planned teaching programme on maintenance of cold chain.

Dependent Variable: Knowledge and Practice of Samples.

Research Setting:

This study was conducted in the selected primary health centres of the selected district of Gujarat State.

Target Population:

In this study the target population s consisted of the Health workers working in the primary health centre of all the selected districts of Gujarat state.

Criteria for sample selection

1. Health Workers who are working in the selected Primary health centers.
2. Health Workers who are willing to participate in the study.
3. Health workers who are available at the time of data collection.

Preparation of Lesson Plan

Planned Teaching Programme

Part-1: Knowledge portion administration of maintenance of cold chain the topic included was Cold chain concept, Transportation, Immunization session and Storage. The investigator used lecture and group discussion as the method of Teaching along with poster and object as A.V.Aids.

Part-2: Practice portion administration of maintenance of cold chain the topic included was preparation and actual session. Demonstration cum discussion with return demonstration used as the method of teachings.

Development of Structured Knowledge Questionnaire

A structured questionnaire developed to assess the knowledge towards maintenance of cold chain among health workers of P.H.C.s of selected districts of Gujarat state. In this section questions related maintenance of cold chain were included in form multiple choice question Total 30 multiple choice questions were developed to find out the knowledge regarding maintenance of cold chain.

Development of Structured observational checklist

A Structured observational checklist was developed to assess the practice of maintenance of cold chain among health workers of P.H.C.s of selected districts of Gujarat state. In this total 20 items were included in this section.

Plans for Data Analysis

The Investigator planned to analyse the data in the following manner

Section I personal data analysed using frequency and percentage and presented in the form of the table

Section II The data from structured knowledge questionnaire before and after administration of planned teaching programme to be analysed using mean,standard deviation(SD) and _t'test and presented in the form of tables and graphs.

Section III The data from structured observation checklist before and after administration of planned teaching programme analysed using mean,standard deviation(SD) and t'test and presented in the form of tables and graphs

FINDINGS

The data were analysed and interpreted in terms of objectives of the study. Descriptive and inferential statistics were utilized for the data analysis.

After analysis the data major findings of the study were as follows,

1. The Mean Post-test knowledge Score 23.2 was higher than the Mean Pre-test knowledge Score 18.6 with Mean difference of 4.6.
2. The Mean Post-test practice Score 15.3 was higher than the Mean Pre-test Practice Score 11.3 with Mean difference of 4. Significance of the difference between pretest and post test knowledge and practice was statistically tested using paired't' test and it was found significant.

CONCLUSIONS

The data indicated that there was significant increase in the knowledge and practice of the Health Workers after the administration of the planned teaching programme on Maintenance of Cold Chain for Vaccines. Hence it is concluded that planned teaching programme was effective in improving the knowledge and practice of the Health Workers Working in Primary Health centers.

IMPLICATION AND UTILIZATION OF THE STUDY

Health workers are frontline health care providers working directly with individuals, families and community who can play a vital role in national health care delivery system.

The findings of study have several implications for nursing education, nursing practice, nursing administration and nursing research.

NURSING EDUCATION

In-service and continuing education on maintenance of cold chain for vaccines needs to be planned from time to time for all categories of health workers working in primary health centers, community health centers and sub canters. A nurse educator need to lay emphasis on teaching students regarding maintenance of cold chain system for vaccines for providing quality immunization services, integrate the nursing curriculum and orient the health workers about maintenance of cold chain systems for vaccines.

There should be adequate guidance, supervision and evaluation of nursing students in clinical area as regards the education of maintenance of cold chain system for vaccines.

NURSING PRACTICE:

The findings of the study imply that there is a need for continued and intensified efforts to ensure that health workers enquire knowledge necessary to provide quality immunization service, are aware of effects of cold chain maintenance and are engaging inappropriate precautionary problems.

A constant supervision of cold chain maintenance is necessary. Periodic evaluation of the practice of maintenance of cold chain system for vaccines.

NURSING ADMINISTRATION:

Nurse administrator should be take the initiative in organizing an in-service education, continuing education programme for health workers regarding maintenance of cold chain system for vaccines.

Appropriate teaching learning materials needs to be prepared and made available for health workers.

NURSING RESEARCH:

Nursing research should be conducted to prepare various educational materials for health workers and evaluate their effectiveness.

Nursing research should be directed to further explore and update knowledge and practice of health workers towards maintenance of cold chain system for vaccines. This can enhance quality of immunization services.

Recommendation

The following recommendations are made on the basis of the findings of the present study.

1. The study can be replicated on a large samples, thereby findings can be generalised for a large populations.
2. A similar study can be conducted with experimental and control group.
3. Follow up or present study subjects can be done to evaluate the long term effects of guidelines.
4. A similar study can be done using another teaching strategies e.g. guideline, self instructional module etc.
5. A study may similar study can be done using another teaching strategies e.g. guideline, self instructional module etc.
6. A study may be conducted on problem faced by and cost effective techniques of maintenance of cold chain system for vaccines.

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