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A study to evaluate the effectiveness of Self Instructional Module on selected aspects of Universal Precautions among registered nurses in selected hospital at, Bangalore

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Abstract:

“As water reflects a face, knowledge reflects practice”

- Drain, P.K

Modern health care has been acclaimed for accomplishment in preserving life and sustaining dysfunctional organ systems. Regardless of the health care settings, there is always a risk of transmission of microorganisms or disease to clients or health care workers.

KEYWORDS:

India, Agriculture, independence, analysis.

INTRODUCTION:

The nurse's efforts to minimize the onset and spread of infection are based on the principles of Universal Precautions. Pearson (2008) states that the term “Universal Precautions” originated from the Centre of Disease Control (CDC) in Atlanta

According to the concept of Universal Precautions all human blood and certain human body fluids are treated as known to be infections for HIV, HBV and other blood borne pathogens (WHO 2008). Health care workers may also acquire the diseases as a result of contacting infective organism in the work place. The acquisition of Hepatitis B occurs from contact with a contaminated needle. The health team members are at risk of getting and spreading infectious diseases. As nurses have more contact with patients, while so it is necessary that nurses should be aware of this danger and take necessary measures to prevent the sequence of infection.

In order to prevent infection and to promote health safe environment is very important. The waste produced in the course of health care activities carries a higher potential of infection and risk of injury than any other waste. Therefore it is essential to have safe and reliable method for its handling. Inadequate and inappropriate handling of waste may lead to have serious public health consequences. According to Gilmour (2006), Bio-medical waste means any waste which is generated during the diagnosis and treatment period in any client.

Nurses from the largest group of health care workers are at risk of such occupational hazards. This probably reflects the high percentage of nurses in health care system as well as the large number of procedures that they perform or assist daily. However, every one in the critical care unit, including those not involved in direct patient care is at risk.

OBJECTIVES

1. To assess the knowledge and practice on selected aspects of Universal Precautions before and after Self Instructional Module among registered nurses in selected hospital at, Bangalore.
2. To evaluate the effectiveness of the level of knowledge on selected aspects of Universal Precautions among registered nurses before and after Self Instructional Module in selected hospital at, Bangalore.
3. To evaluate the effectiveness of the level of practice on selected aspects of Universal Precautions among registered nurses before and after Self Instructional Module in selected hospital at, Bangalore.
4. To correlate post test level of knowledge with post test level of practice on selected aspects of Universal Precautions among registered nurses in selected hospital at, Bangalore.
5. To associate post-test level of knowledge on selected aspects of Universal Precautions with selected demographic variables among registered nurses in selected hospital at, Bangalore.
6. To associate post-test level of practice on selected aspects of Universal Precautions with selected demographic variables among registered nurses in selected hospital at, Bangalore

HYPOTHESIS

- H1: There will be a significant difference between the pre and post test level of knowledge on selected aspects of Universal Precautions among registered nurses in selected hospital at, Bangalore.
- H2: There will be a significant difference between the pre and post test level of practice on selected aspects of Universal Precautions among registered nurses in selected hospital at, Bangalore.
- H3: There will be a significant relationship between post test level of knowledge and post test level of practice on selected aspects of Universal Precautions among registered nurses in selected hospital at, Bangalore.
- H4: There will be a significant association between post test level of knowledge on selected aspects of Universal Precautions and selected demographic variables among registered nurses in selected hospital at, Bangalore.
- H5: There will be a significant association between post test levels of practice on selected aspects of Universal Precautions and selected demographic variables among registered nurses in selected hospital at, Bangalore.

ASSUMPTION

- The study is based on the assumption that
1. Nurses are expected to protect themselves from cross infection.
 2. Nurses may practice Universal Precautions during work.
 3. Nurses may have some knowledge on Universal Precautions and required to protect them.
 4. Providing an Instructional Module may enhance them to improve knowledge hence their practice can protect themselves and their client.

LIMITATION

1. Only selected aspects of Universal Precautions were assessed.
2. Data collection period was limited to one month.

RESEARCH METHODOLOGY RESEARCH APPROACH

The research approach is an overall planned or blue print, Chosen to carry out the study. The selection of research approach is the basic procedure for conduct of research inquiry. An evaluative research is an applied form of research that involves finding out how will programmes, practice or policy is working.

In this study an evaluative research approach was found to be suitable the effectiveness of Self Instructional Module on selected aspects of Universal Precautions.

DESIGN OF THE STUDY:

Research design incorporates the most important methodology design that a researcher makes in conducting a research study. It helps the researcher in selection of subjects, manipulation of the independent variable. In this study design is Pre experimental One group pre test, post test only design.

Only one group is observed before and after the independent variable is introduced. The study design has a total absence of control group.

O ₁	x	O ₂
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O₁ =Pre test
O₂ = Post test
X= Self Instructional Module

SETTING OF THE STUDY

The study was conducted in Maiya Multi Specialty hospital, Bangalore. The hospital have all the departments like Medicine, surgery, Pediatrics', Neurology, Urology, ICCU,CCU, Maternity, Gynecology, Operation Theatre and Isolation department . This is 350 bedded super specialty hospital. Around 200 staff nurses are working in the hospital, out of which 150 staff nurses are engaged in direct patient care, while the rest are in administrative work. Every ward has minimum 15-20 beds with the nurse: Patient ratio 1:5 .Each wards has minimum of 4-5 staff nurses, and they work for 6 hours per day in each shift. These settings were chosen because of the researcher's accessibility to the sample, convenience and familiarity of the setting.

POPULATION

Population represents the entire group or all the elements like individuals or objects, which meet certain inclusion criteria of the study. Population of the study was all the registered Bsc (N) and G.N.M staff nurses who were working in the wards of Maiya Multi specialty hospital, Bangalore.

SAMPLE

The sample consisted of 60 staff nurses who met the inclusive criteria

SAMPLING TECHNIQUE

In this study the researcher adapted convenient sampling technique. All the subjects who met the criteria for sample selection were selected for the study.

DATA COLLECTION TOOL

The following tools were used for the study

- Ø Demographic profile such as Age, Gender, marital status, educational qualification, designation, years of experience, areas worked, and exposure to Continuing Nurse Education Programme on infection control.
- Ø Knowledge questionnaire to assess the knowledge of staff nurses Regarding Universal Precautions.
- Ø An observational checklist to assess the practices of staff nurses regarding selected aspects of Universal Precautions.

DESCRIPTION OF THE INSTRUMENTS

The questionnaire was prepared on the basis of review of literature and discussion with in the field by the researcher. The initial model of questionnaire was modified by expert in the field of medicine, nursing and statistics.

TOOL: 1

Tool 1 was a structured knowledge questionnaire and it comprised of two parts.

Part- I:

This part consisted of demographic data of staff nurses which includes Age, Gender, marital status, educational qualification, designation, years of experience, areas worked, and exposure to Continuing Nurse Education Programme on infection control.

Part-II

This part consisted of 20 multiple choice questions related to selected aspects on Universal Precautions. Each had three options, out of which one was the correct answer and other two were

distracters. For the structured knowledge questionnaire, the maximum obtainable score was 20. The right answer was given a score of one, and a score of zero were allotted for a wrong answer. Based on the percentage of the score obtained the subjects were arbitrarily grouped into three groups as given below

SCORE KEY:

Level of knowledge	percentage
Adequate knowledge	68-100%
Moderate knowledge	34 – 67%
Inadequate knowledge	1 -33%

TOOL: II

It consisted of an observational checklist regarding selected aspects of Universal Precautions. The entire procedure is broken down into 34 steps. Each action or step had three options correctly done, partially done, and not done.

If the participant carried out a step correctly, she/ he was awarded a score of three for that step, score two was giving for partially done, and if a step was missed out or not carried out, then as score of one was allotted for that step.

The maximum obtainable score for the observational checklist was 102. Based on the percentage of the score obtained, the subjects were classified into three groups as given below.

SCORE KEY:

Level of practice	percentage
Good performance	68-100%
Moderate performance	34 – 67%
Poor performance	1 -33%

THE FINDINGS OF THE STUDY

THE FIRST OBJECTIVE OF THE STUDY IS TO ASSESS THE KNOWLEDGE AND PRACTICE ON SELECTED ASPECTS OF UNIVERSAL PRECAUTIONS BEFORE AND AFTER SELF INSTRUCTIONAL MODULE.

Before the Self Instructional Module among the 60 nurses, figure 2.1 and 2.2 showed that, 87% (52). Subjects had moderate knowledge, 13% (8), Subjects had inadequate knowledge. With regard to practice, 80% (48), Subjects had moderate performance, 20% (12) Subjects had poor performance, regarding selected aspects of Universal Precautions. It was found that the pre test knowledge and practice level of subjects were inadequate in the selected aspects of Universal Precautions and it revealed that there is a need for Self Instructional Module.

After the Self Instructional Module among the 60 Subjects figure 2.1 and 2.2 showed, 77 % (46) Subjects had adequate knowledge, 23% (14) Subjects had moderate knowledge. With regard to practice, 88% (53) Subjects had moderate performance, 12% (7) Subjects had poor performance, regarding selected aspects of Universal Precaution. It was found that the knowledge and practice regarding selected aspects of Universal Precautions low before giving a Self Instructional Module, and better after giving a Self Instructional Module. Hence these findings support the H1 hypothesis.

THE SECOND AND THIRD OBJECTIVE OF THE STUDY IS TO FIND OUT THE EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE REGARDING SELECTED ASPECTS OF UNIVERSAL PRECAUTIONS.

The mean score of pre test and post test of the subjects knowledge regarding selected aspects of Universal Precautions, were 8.7, 14.58, practice were 54.7, 80.17 respectively. From the mean score on selected aspects of knowledge, practice regarding Universal Precautions among subjects showed improvement in the post test compared to pre test. It revealed that the over all't' value is 7.745for knowledge, 16.05 for practice of subjects regarding selected aspects of Universal Precautions. These values are significant at 0.05 levels. Hence these findings support the H2 hypothesis

THE FOURTH OBJECTIVE OF THE STUDY IS, TO CORRELATE POST TEST LEVEL OF KNOWLEDGE WITH POST TEST LEVEL OF PRACTICE ON SELECTED ASPECTS OF UNIVERSAL PRECAUTIONS.

The mean score of knowledge and practice were 14.58, 80.17 and standard deviation of knowledge and practice were 2.616, 9.18. The coefficient correlation ($r=0.55$) between post test knowledge and practice of subjects is positively correlated. Hence these findings support the H3 hypothesis.

THE FIFTH OBJECTIVE IS, TO ASSOCIATE POST-TEST LEVEL OF KNOWLEDGE ON SELECTED ASPECTS OF UNIVERSAL PRECAUTIONS.

Chi-square values were calculated to find the association between post test knowledge of the subjects and selected demographic variables (Age, Gender, Marital status, Educational Qualification, Years of Experience, Designation, Areas worked, whether exposure to Continuing Nursing Education programme regarding infection control). These chi-square Values are less than the table value. There is no significant association between post test knowledge of the subjects and demographic variables. Hence this hypothesis H4 is not supported.

THE SIXTH OBJECTIVE IS TO ASSOCIATE POST-TEST LEVEL OF PRACTICE ON SELECTED ASPECTS OF UNIVERSAL PRECAUTIONS.

Chi-square values were calculated to find the association between post test practice of the subjects and selected demographic variables (Age, Gender, Marital status, Educational Qualification, Years of Experience, Designation, Areas worked, whether exposure to Continuing Nursing Education programme regarding infection control). These chi-square values are less than the table value. There is no significant association between post test practice of the subjects and demographic variables. Hence this hypothesis H5 is not supported.

NURSING IMPLICATIONS

The findings of the study have several implications in the following fields. Like (nursing practice, nursing education, nursing research, and nursing administration)

NURSING PRACTICE

The nurses should follow Universal Precautions for reducing the risk of occupational exposure by taking care of themselves. Clinical field nurses should be given In-service education about preventive strategies on occupational diseases exposure. Constant reinforcement and supervision would help the nursing personnel and supportive staff to Practice Universal Precautions strictly as much possible.

NURSING EDUCATION

- “A stitch in time saves time”
- Ø During the basic period of fundamentals of nursing itself the nursing students should be taught and explained the importance of Universal Precautions. Insisting the use of Universal Precautions helps in prevention of occupation related diseases.
 - Ø The study also enlightens the fact that knowledge of nursing personnel regarding Universal Precautions can promote their practice. To impact this knowledge to the nursing personnel and student nurses, the nurse educator need to be equipped with adequate knowledge regarding Universal Precautions. So the using curriculum should emphasize the role of Universal Precautions in the prevention and control of infection among health personnel. Moreover the institutional curriculum may adopt various methods of teaching like STP, and computer based education to reinforce knowledge regarding Universal Precautions.

NURSING RESEARCH

It is essential to identify the practice and knowledge regarding selected aspects on universal precaution to know the extent of information necessary to be given. This study can motivates researchers to conduct further studies regarding Universal Precautions which ultimately lead the way to many research studies.

NURSING ADMINISTRATION

The nurse administrator should arrange for continuing education programme to nurses regarding the importance of following universal precaution to safeguard themselves from hazardous infectious disease. Nursing administrators should emphasize and encourage the nurse to follow Universal Precautions periodically and conduct conference, workshop etc... The nurse administrator should support the nurses

with needed equipments and supplies which help to protect from infection.

LIMITATIONS

1. The behavior of the nursing personnel may change as they are being observed by the researcher (Hawthorne effect).
2. The study was conducted only among participants from Dr.G.Viswanathan hospital, Trichy. So generalization is possible only for the selected samples.
3. The study is done only in 60 samples; hence generalization is possible only for the selected participants.

RECOMMENDATIONS

- Ø A study can be conducted to find out the factors responsible for improper practice of universal precaution.
- Ø A same study can be conducted among nursing students in the clinical field.
- Ø The same study can be replicated with larger samples.
- Ø The same study can be done among people from other disciplines.
- Ø A study can be done related to factors which hinder the effective practice of universal precaution among staff working in wards.
- Ø Standard protocol can be formulated by hospital infection control committee for all procedures that are commonly done and it can be reinforced.

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