

A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Universal Precaution Technique among B.Sc. Nursing 1st Year Students at GSRM Memorial College of Nursing, Sarojini Nagar, Lucknow

Lubna¹, Mata Deen², Sunita Singh³

^{1,2}Principal, ³Lecturer,

¹GSRM Memorial College of Nursing, Sarojini Nagar, Lucknow, Uttar Pradesh, India

²Nishat Hospital & Institute of Paramedical Science & College of Nursing, Barabanki, Uttar Pradesh, India

³Baba Educational Society Institute of Paramedical College of Nursing, Lucknow, Uttar Pradesh, India

ABSTRACT

Background

Blood and body fluids may contain blood-borne viruses (e.g. Hepatitis B and HIV) or other bacterial and other viral pathogens. These can present a risk to other patients and health care workers. As it is not always possible to know who is infected with these pathogens, emphasis on infection control effort should focus primarily on 'universal infection control precautions' (UICP) which prevent the exposure to blood and body fluids, which are presumed to be potentially infective. **Objective:** The study aimed to assess the effectiveness of structured teaching programme on knowledge regarding universal precaution technique among B.Sc. Nursing 1st year students of GSRM Memorial College of Nursing, Sarojini Nagar, Lucknow

Methods: The research design selected for the study was quasi experimental one group pre-test, post-test design. The questionnaire was developed and used for data collection to assess the knowledge. Sample of the study consisted of 40 B.Sc. Nursing 1st year students.

Result: It revealed that the majority 17 (40%) had adequate knowledge and 20 (50%) had moderately adequate knowledge and 4 (10%) had inadequate knowledge. **Conclusion:** Hence it can be concluded that structured teaching program plays a vital role in increasing the knowledge level among B.Sc. Nursing 1st year students on universal precaution.

KEYWORDS: Structure teaching programme, Universal precaution, Student Nurses

INTRODUCTION

Universal precaution is the infection control technique that is recommended to control the infection. Universal precaution is a concept, which develops by centres for disease control [CDC].

Infection is the lodgement and multiplication of organism in the tissue of host constitutes infection. Cross infection when a patient suffering from a disease or a new infection is set-up from another host or external source.

“Universal precaution” is designed to prevent infection from inoculation; contact with mucous membrane such as mouth or eye, or through skin damage such as cuts.

Worldwide, three million HCW’s experience percutaneous exposure to blood- borne viruses each year [20, 000, 00 hepatitis B, 9, 00,000 hepatitis c and 300,000 human immunodeficiency virus]. Exposure to BBF can occurs through a percutaneous injury [needle stick injury NSI], or mucocutaneous incident.

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This study is needed because as only currently 33.3 million people worldwide are living with HIV. Also 90% of infections are in the developing countries. This is why we need to aware the health care workers or future health care workers about the universal precaution techniques.

OBJECTIVES:

- To assess the level of knowledge regarding universal precaution among B.Sc. Nursing 1st year students of GSRM Memorial College of Nursing, Lucknow
- To evaluate the effectiveness of structured teaching programme on knowledge regarding universal precaution.
- To find out the association between the post-test level of knowledge score with their selected demographical variable.

HYPOTHESIS:

H1: -There will be significant difference between pre-test score and post test score regarding universal precaution technique among B.Sc. Nursing 1st year students.

H2: -There will be significant association between pre-test knowledge score with their selected demographical variables.

OPERATIONAL DEFINITIONS

Assess: -

In this study assessment refers to the organized and systematic process of collecting information about universal precaution from B.Sc. Nursing 1st year students.

Effectiveness: -

It refers to gain in knowledge score of B.Sc. Nursing 1st year student regarding universal precaution after administration or the implementation of structure teaching programme.

Structure teaching programme: -

It is a systematically developed structure question added with teaching aids designed for a group of students to provide information on universal precaution technique.

Student Nurses: -

In this study student nurses refers to those studying for first year B.Sc. nursing courses in (selected Nursing college of) GSRM Memorial College of Nursing, Lucknow

Knowledge: -

It refers to written response of participants regarding universal precaution technique, which is measured by questionnaire method.

Universal precaution: -

Universal precaution refers to the practice in medicine of avoiding contact with patient bodily fluids by means of using barrier techniques in which wearing of non-porous articles such as medical gloves, goggles and face shield, careful handling and disposal of sharp medical instruments.

MATERIAL AND METHOD:

Research approach:

Quantitative research approach.

Research design:

pre-experimental one-group pre-test – post-test research design.

Variables:

Independent variable: - Structured teaching programme.

Dependent variable: - Knowledge regarding universal precaution.

Demographic data- Age, religion, type of family, socioeconomic status, education of father, education of mother and source of knowledge.

Research setting:

The study was conducted in GSRM Memorial College of Nursing, Lucknow.

Population:

Target Population- B.Sc. Nursing 1st year student from GSRM Memorial College of Nursing, Lucknow.

Accessible Population- B.Sc. Nursing 1st year student who are present at the time of research study.

Sample:

B.Sc.Nursing 1st year student

Sample size:

Sample size comprised of 40 B.Sc. Nursing 1st year students

Sample techniques:

Non probability sampling (convenient sampling)

Criteria for sample selection:

Inclusion criteria: -

- B.Sc. Nursing 1st year students,
- Interested students.
- Willing to participate student.

Exclusion criteria: -

- GNM and ANM students.
- Students who were not willing to participate.
- Students who were not present.

Tool and method of data collection:

Part 1. Demographic variable.

Part 2. Multiple choice questions to answer the knowledge of universal precaution.

Selection and development of tool: Multiple choice questions was used for the study. Questionnaire is used to get exact and complete information from the subject. It was felt that questionnaire would encourage the subjects to give frank information and help in collecting data from literate subject. A questionnaire schedule was prepared to assess the knowledge level of students regarding universal precaution. The tool was developed after extensive review of literature, internet search and expert advice.

Description of the tool: The tool comprised of two part:

Part 1: -It consist of the demographic data of the B.Sc. Nursing 1st year students such as age, religion, type of family, socio economic condition, education of father, source of knowledge includes questions related to demographic data of universal precaution technique.

Part 2: -It consist of 20 multiple choice questions to answer the knowledge of universal precaution.

A score of “one” was given for every correct answer and score of “zero” was given for every wrong answers. The total score was converted into percentage and interpreted as follows.

Level of knowledge	Score
Adequate knowledge	76- 100 %
Moderately adequate knowledge	51- 75%
Inadequate knowledge	Less than 50%

Reliability of tool:

The reliability was calculated by Karl Pearson’s Correlation coefficient formula for estimation of reliability score was 0.86.

Data collection procedure- Before starting the study the researcher has obtained a formal permission from the Principal of Baba College of Nursing. Prior to data collection the investigator had obtain formal permission from the management after getting the permission, the nature and purpose of the study was explained to the students. The researcher initially obtains consent from each student the pre-test knowledge questioner was administered on each of the samples including the demographic data. On the same day the researcher had administered STP for the student. The post test was carried out after the 7 days using the same questioner to know the effectiveness of structured teaching programme.

Ethical consideration:

Ethical Clearance will be obtained from the Principal of GSRM Memorial College of Nursing, Lucknow. Consent will be taken from the study subjects after giving proper explanation of the purpose of the study. Informed consent will be developed in English as well as in Hindi language. Confidentiality and anonymity of the subjects will be maintained throughout the study.

Plan for data analysis:

The plan for data analysis includes descriptive statistics i.e., frequency, percentage, mean and standard deviation whereas for inferential statistics, it includes the t value and chi square test.

RESULTS

Table-1 Distribution of subjects according to their demographic variables

S.NO	DEMOGRAPHIC VARIABLE	FREQUENCY	PERCENTAGE
1.	Age		
	a.19-20 yrs	38	95%
	b.21-22yrs	02	05%
	c.23-24yrs	00	00
	d.25 above	06	00
2.	Religion		
	Hindu	40	100%
	Muslim	00	00
	Sikh	00	00
	Christian	00	00
3.	Type of family		
	Nuclear	16	40%
	Joint	20	50%
	Extended	04	10%
4.	Socioeconomic status		
	More then 5000	04	10%
	5000-10000	05	12.5%
	10000-15000	08	20%
	15000-20000	23	57.5%

5.	Educational status of father.		
	Illiterate	01	02%
	12 th	08	20%
	UG	15	37%
	PG	16	40%
6.	Source of knowledge		
	Personal experience	10	25%
	During clinical posting	08	20%
	Mass Media	02	05%
	Other sources	20	50%

Table1described about the frequency, percentage distribution of demographic variable.Distribution of the subject by age revealed that majority of the subject, i.e. out of 40 participants 38 (95%) of them were in the age group of 19-20 years, 2 (5%) of them were in the age group of 21- 22 years. As per the finding of the study, the majority of the subject, i.e. 40 (100%) of them were Hindu. With regard to With regard to the type of family16(40%) of them were from nuclear family 20 (50%) were from joint family and 4(10%) were from extended family. Out of 40 participants 10% students have more then 5000 income per month, 12.50% have 5000 -10,000, 20% have 10,000-15,000, 57.50% have 15,000-above. Out of 40 participants 2% student`s fathers are illiterate, 20% student`s fathers are 12th pass, 37% student`s fathers are graduate, and 40% student`s fathers are post graduated. With regards to source of knowledge 10 (25%) students have source of knowledge from personal experience, 20% have from during clinical posting, 5% have from mass media, and 50% have from other sources.

Table2-Frequency percentage and distribution of samples on the basis of level of knowledge among B.Sc. Nursing 1st year students. N=40

Level of knowledge	Range	Frequency	Percentage
1. Inadequate	0-6	04	10
2. Moderate	7-13	20	50
3. Adequate	14-20	17	40

Revealed that distribution of level of knowledge of B.Sc. Nursing students that 4 (10%) of them had inadequate level of knowledge, 20(50%) of students are having moderate level of knowledge, and 17 (40%) of them have adequate level of knowledge. it indicated that there was an improvement in the level of knowledge among B.Sc. Nursing student after the structure teaching programme

Table 3: Obtain range of score, maximum score, mean, median, standard deviation and mean percentage on level of knowledge of B.Sc. Nursing 1st year students.

Range of score	Mean	Median	Standard Deviation	Mean percentage
8-18	13.2	14	2.5438	0.66%

Table-4 Comparison of mean pre- test and post-test score: -. N=40

Group	Mean	SD	“t” value	“p” value
Pre- test	11.25	2.79	0.62	0.05 *** (s)
Post -test	13.2	2.5438		

S* significant at p < 0.05 level**

Table 5: Association between level of knowledge and demographic variables

Demographical Variable		Inadequate		Moderate		Adequate		Df	chi-square χ^2	Level of significance
		f	%	f	%	f	%			
Age (in year)	19-20	0	0	19	47.5	19	47.5	3	3.046	3.046≤3.18 Significant
	21-22	0	0	0	0	2	5			
	23-24	0	0	0	0	0	0			
	25- above	0	0	0	0	0	0			
Religion	Hindu	0	0	19	47.5	21	52.5	3	40	40≥3.18 N/S
	Muslim	0	0	0	0	0	0			
	Sikh	0	0	0	0	0	0			
	Christian	0	0	0	0	0	0			

Type of family	Nuclear	0	0	7	17.5	9	22.5	3	0.129	0.129 ≤ 3.18 Significant
	Joint	0	0	8	20	12	13			
	Extended	0	0	4	10	0	0			
	Child less family	0	0	0	0	0	0			
Socio economic status	More than 5000	0	0	2	5	2	5	3	40	40 ≥ 3.18 N/S
	5000-10,000	0	0	3	7.5	2	5			
	10,000-15,000	0	0	3	7.5	5	12.5			
	15,000- 20,000	0	0	11	27.5	12	30			
Education of father	Illiterate	0	0	1	2.5	0	0	3	41.775	0.05 ≥ 3.18 N/S
	12th pass	0	0	3	7.5	5	12.5			
	Graduate	0	0	9	22.5	6	15			
	Post graduate	0	0	6	15	10	25			
Source of knowledge	Personal experience	0	0	4	10	6	15	3	42.375	42.375 > 3.18 N/S
	During clinical posting	0	0	5	12.5	3	7.5			
	Mass media	0	0	2	5	0	0			
	Other source	0	0	9	22.5	11	27.5			

At 0.05 level of significant # non-significant * significant

The table 5 also revealed that there was no significant association between the knowledge score and the remaining variables such as age, religion, and type of family, education of father education of mother, socioeconomic status and source of knowledge except age and type of family.

Conclusion:

The study finding expressed that the most of the B.Sc. Nursing 1st year student had moderate knowledge and there is association between pre-test score and level of knowledge in selected demographical variables.

Recommendations:

- The same study can be conducted in different institution.
- The study can be done on small population
- Increased focus on nursing staff and nursing students through media channel, seminar and workshops.

Conflict of interest: No

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