ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 07 | July - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

EFFECT OF STRUCTURED TEACHING PROGRAMME REGARDING UNIVERSAL PRECAUTIONS AND THE PREVENTION OF BLOOD BORNE INFECTIONS ON THE KNOWLEDGE OF STUDENTS

Nursing

Mrs. Aifa M S RN,M.Sc (N) Associate Professor Azeezia College Of Nursing, Kollam, Kerala

ABSTRACT

BACKGROUND AND PURPOSE: Health care workers (HCWs) are at a high risk of needle stick injuries and blood-borne infections.This study was undertaken to assess the effect of structured teaching programme regarding universal precautions and the prevention of blood borne infections on the knowledge of students. **OBJECTIVES:** 1. Assess the pre-test knowledge regarding universal precautions and the prevention of blood borne infections, 2.Evaluate the effect of structured teaching programme among the students 3. Find out the association between pre-test knowledge score with selected sociopersonal variables. **DESIGN:** An evaluative approach with quasi experimental design. **SAMPLE AND SAMPLE SIZE:** A total of 100 students (25 students each from first year of nursing, dental, pharmacy and medical laboratory technology course).**SAMPLING TECHNIQUE:** Simple random sampling technique. **RESULTS:** The mean post-test knowledge score (25.5) was higher than the pre-test knowledge score (12.455). The calculated„t value (27.388) was greater than the table value (t99=1.960) at 0.05 level of significance. **CONCLUSION:** The structured teaching programme was effective in improving the knowledge of the students.

KEYWORDS

Effect; structured teaching programme; universal precautions

INTRODUCTION

Health is a state of dynamic equilibrium between man and his environment. When this equilibrium is disturbed, it results in illness. Illness can affect many systems of our body and one among this is the immune system. Any disturbance to the immunity results in infection. Infection is one of the most important problems in health care services worldwide. Health care workers (HCW) are at high risk of needle stick injuries and blood-borne infections as they perform their clinical activities in the hospital.

Blood borne infections are the infections that are transmitted through contact with blood and other body fluids. Among these, Hepatitis B, Hepatitis C and Acquired Immune Deficiency Syndrome (AIDS) are the most important. Individuals at special risk for these infections include intravenous injection drug users, sexually active people with multiple partners, frequent blood transfusions, health care personnel and perinatal transmission during pregnancy, delivery or through breast feeding. These blood borne infections can be prevented by different ways. Among these, universal precautions are regarded as an effective method.

Universal precautions are a set of guidelines that aim to protect HCWs from blood-borne infections.They are designed to prevent health care workers from being exposed to potentially infected blood and body fluids through hand washing, utilization of appropriate protective barriers such as gloves, mask, gown, eye wear and safe injection practices.

OBJECTIVES OF THE STUDY

1. Assess the knowledge of the students regarding universal precautions and the prevention of blood borne infections.

2. Evaluate the effect of structured teaching programme on the knowledge of students regarding universal precautions and the prevention of blood borne infections.

3. Find out the association between the level of knowledge and selected socio personal variables.

OPERATIONAL DEFINITION

Structured teaching programme: Refers to systematically organized teaching strategy by the researcher to teach the samples.

Universal precautions: Refers to standards of infection control practices designed to reduce the risk of transmission of infectious diseases like Hepatitis B, Hepatitis C and AIDS.

Blood borne infections: Refers to the infections that are carried or transmitted by blood such as Hepatitis B, Hepatitis C and AIDS.

Students: Refers to the first year students of nursing, dental, pharmacy and medical laboratory technology who are studying in Kannur Medical College campus.

HYPOTHESIS

H1- The mean posttest knowledge score of the students will be higher than their pretest knowledge score.

H2-There will be significant association between levels of knowledge with selected sociopersonal variables.

ASSUMPTIONS

1. The students may have some knowledge regarding universal precautions.
2. Students may have interest to know about the universal precautions.

DELIMITATIONS

1. The study was conducted for a small representative group of the whole population.
2. The study did not use any control group.

METHODOLOGY

Research approach

The research approach used in this study is quantitative in nature.

Research design

Quasi experimental design was adopted for the study.

Setting of the study

The researcher selected Kannur Medical College campus, Anjarakandy as the setting to conduct the study.

Variables

Independent Variable

In this study; the independent variable is the structured teaching programme on universal precautions and the prevention of blood borne infections.

Dependent Variable

In this study, the dependent variable is the knowledge of the students regarding universal precautions and the prevention of blood borne infections.

Extraneous Variable

In this study; extraneous variables are age, gender, educational qualifications, monthly family income and previous knowledge regarding universal precautions.

Population

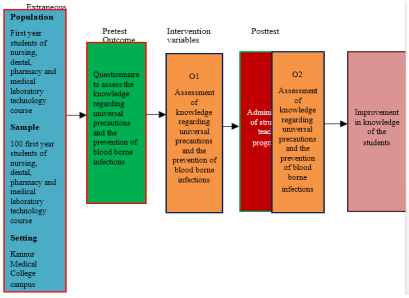
In the present study, population is the first year students which includes nursing, dental, pharmacy and medical laboratory technology students.

Sample

In the present study, the sample includes a total of 100 students, 25 each from nursing, dental, pharmacy and medical laboratory technology students.

Sampling Technique
Simple random sampling technique has been selected for this study.

Fig 3.1: Schematic representation of the study



INCLUSION CRITERIA
- Students of nursing, dental, pharmacy and medical laboratory technology course.
- Students of first year.

EXCLUSION CRITERIA
- Students of other courses like medicine, physiotherapy.
- Students of other years.

TOOL/INSTRUMENTS
The instruments used in this study were:

Section I: - Sociopersonal variables

Section II: -Structured knowledge questionnaire on universal precautions and the prevention of blood borne infections.

Section III: - Structured teaching programme on universal precautions and the prevention of blood borne infections.

DEVELOPMENT OF THE TOOL
Content validity of the tool
The prepared data collection tool along with the problem statement, objectives, operational definitions, blueprint and criteria check list designed for validation was submitted to 7 experts. Among them, 4 were from the Department of Medical Surgical Nursing and 1 each from Departments of Medicine, Surgery and Microbiology.

Reliability of the tool
The reliability of the structured knowledge questionnaire was obtained by Karl-Pearson s correlation coefficient. The tool was administered to 10 students of first year general nursing. The reliability was found to be 0.8 and hence the structured knowledge questionnaire was considered a reliable tool.

Data collection process
The researcher had obtained written permission from the Principal of selected colleges for conducting the research study. The students were approached and the researcher explained the purpose of the study. Consent was obtained from each student. The structured knowledge questionnaire was administered to assess the knowledge on universal precautions and the prevention of blood borne infections. Structured teaching programme was provided on the same day. Post-test was administered on the 8th day using the same knowledge questionnaire.

OVERALL KNOWLEDGE SCORES ANALYSIS OF PRE AND POST TESTS (n=100)

				(n=100)
Level of knowledge		Pretest	Posttest	
	Frequency	Percentage (%)	Frequency	Percentage(%)
Inadequate (0-10)	29	29	-	-
Average (11-20)	71	71	-	-
Adequate (21-30)	-	-	100	100

From the above table,it is evident that in the pre-test,71% of the students had average knowledge (score range of 11-20) and 29% of students had inadequate knowledge (score range of 0-10). Whereas in the post test, all the students had adequate knowledge (score range of 21-30).

Frequency, percentage and cumulative frequency distribution of students according to pre-test and post-test knowledge scores. (n=100)

Range	Pre-test			Post-test		
	f	%	Cf	f	%	Cf
0-5	1	1	1	-	-	-
6-10	28	28	29	-	-	-
11-15	59	59	88	-	-	-
16-20	12	12	100	-	-	-
21-25	-	-	-	17	17	17
26-30	-	-	-	83	83	100
100	100	100	100	100		100

Maximum score: 30

The data in the table shows that in the pre-test, highest percentage (59%) of the students had knowledge scores in the range of 11-15 and only 12 % had scores between 16-20.None of the students had scored marks above 21. Whereas in the post- test, 83% of the students had knowledge score in the range of 26-30 and all the students had scored above 21 marks.

Effectiveness of structured teaching programme on the knowledge of students.

The following research and null hypothesis was stated:
H1- The mean posttest knowledge score of the students will be higher than their mean pretest knowledge score.

H0- There exists no significant difference between the pretest and posttest knowledge score.(n=100)

Mean		SD	Mean difference	Calculated 't'value	Table value
Pre test	12.455	4.764			
			13.045	27.388**	1.960
Post test	25.5	0			

t99 = 1.960; p < 0.05 ** Significant at 0.05 level

The data in the table shows that the mean post-test knowledge score (25.5) was higher than the pre-test knowledge score (12.455). The mean difference was obtained as 13.045.The calculated t value 27.388 was greater than the table value (1.960) at 0.05 level of significance. Hence, the null hypothesis was rejected and the research hypothesis was accepted. Hence, the structured teaching programme was effective in improving the knowledge of the students.

Association of sociopersonal variables and knowledge among students regarding universal precautions and the prevention of blood borne infections To test the association, the following null and research hypothesis was formulated-

H_o- There will be no significant association between the pretest knowledge score and the sociopersonal variables.
H_1- There will be significant association between the pretest knowledge score and the sociopersonal variables.

Chi-square test showing association of pretest knowledge score with sociopersonal variables.

Sl.No.	Variable	2	Table value	df Inference
1	Age Gender Educational status	1.7007	9.488	4 *
2	Monthly family income	0.4524	5.991	2 *
3	Previous knowledge	0.09	9.488	4 *
4		9.7251	12.592	6 *
5		2.209	12.592	6 *

P < 0.05 level of significance * Not Significant

The table shows that there is no significant association between sociopersonal variables and the pretest knowledge of students. So the null hypothesis was accepted. Hence, there is no significant association between sociopersonal variables and the knowledge of the students.

REFERENCES

1. National Institute of Occupational Safety and Health. Preventing needle stick injuries in health care settings. (cited on 2000). Available from http://www.niosh.gov/Publication.
2. Occupational Safety and Health Administration. Occupational exposure to blood borne pathogens. (cited on 2009). Available from http://www.osha.gov/ Publication.
3. WHO. Reducing risk, promoting health life. World Health Report. Geneva. (cited on 2002).Available from http://www.rrphlwho.com/
4. Park, K. (2005). Park's textbook of preventive and social medicine. Preventive Medicine in Obstet, Paediatrics and Geriatrics.
5. Black, J. M., & Hawks, J. H. (2009). Medical-surgical nursing: Clinical management for positive outcomes.
6. Beltrami, E. M., Williams, I. T., Shapiro, C. N., & Chamberland, M. E. (2000). Risk and management of blood-borne infections in health care workers. Clinical microbiology reviews, 13(3), 385-407.
7. Smeltzer, S., Bare, B., Hinkle, J., Cheever, K. B., Townsend, M. C., & Gould, B. B. (2008). Suddarth's textbook of medical-surgical nursing. 10 th ed.) Philadelphia: USA: Lippincott Williams & Wilkins (2004)
8. Vaz1K, McGrowder D, Lindo RA, Gordon L, Brown P, Irving R. Knowledge, awareness and compliance with universal precautions among health care workers at the university hospital of the West Indies, Jamaica. International Journal of Occupational and Environmental Medicine. 2010; 1(4): 171-81.
9. Bennett G, Mansell I. Universal precautions: a survey of community nurses experience and practice. Journal of Clinical Nursing. 2004; 13(4): 413–21
10. Standard/Universal Precautions. Oregon Department of Corrections. (cited on 4 January 2009). Available from http://www.oregon.gov/ DOC/ HR/ srm_ precautions. html