



Medical Surgical Nursing

A PRE-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICE REGARDING BIOMEDICAL WASTE MANAGEMENT AMONG G.N.M NURSING STUDENTS IN SELECTED NURSING COLLEGES OF DISTRICT SOLAN, HIMACHAL PRADESH

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ABSTRACT

Background: Hospital generated waste is concerned with growing problem of the disposal of waste product. Surprisingly the recent days enough of attention are not paid to disposal the hospital waste. Proper disposal of hospital waste is paramount importance because of its infections and hazardous characteristics. **Methods:** A pre-experimental study, was conducted in July 2023. Study participants were the students nurse, who were studying in G.N.M 1st year. The data was collected by using a structured questionnaire and checklist. **Results:** In post-test mean knowledge score was 16.52 ± 2.029 which is 77.38% of the total mean knowledge score percentage. The difference in pre-test and post-test mean percentage knowledge score was 40.24%. In post-test mean practice score was 9.35 ± 1.516 which is 77.91% of the total mean practice score percentage. The difference in pre-test and post-test mean percentage practice score was 36.24%. **Conclusion:** Study concluded that G.N.M nursing student knowledge and practice were upgraded after administration of structured teaching program.

KEYWORDS :**INTRODUCTION**

“Let the Wastes of the Sick Not Contaminate the Lives of the Healthy.” - K. PARK.

Unwanted materials generated during diagnosis, treatment, operation, immunization or in research activities including production of biologicals is termed as biomedical waste.^[1] Hospital generated waste is concerned with growing problem of the disposal of waste product.^[2] Bio-medical waste (BMW) has been defined as the “waste generated in the diagnosis, treatment or immunization of human beings or animals, in research or in the production of testing of biological products including all categories of infected and toxic waste that is potential threat to human being and environment”.^[3] The Government of India has promulgated the Bio-chemical waste management & handlings rules in, 1998.^[4] The biomedical waste management policy followed all rules of AIIMS as per the Biomedical Waste Management Rules of 2016, which notified by the Ministry of Environment, Forest and Climate Change, Government of India as per the gazette notification on 28th March 2016.^[2]

Aim Of The Study

This study will enhance the level of knowledge and practice regarding Biomedical Waste Management with the help of structured teaching program.

Objectives Of The Study

- To assess the pre-test level of knowledge and practice regarding Biomedical Waste Management.
- To assess the post-test level of knowledge and practice after implementation of structured teaching programme regarding Biomedical Waste Management.
- To evaluate effectiveness of structured teaching programme regarding Biomedical Waste Management.
- To determine the association between post-test level of knowledge and practice with their selected socio-demographic variable regarding Biomedical Waste Management.

METHODOLOGY

Methodology includes the general pattern of organizing steps of research together, valid and reliable data for investigation.

The research methodology indicates the generalized pattern of organizing the procedure for collecting valid reliable data for investigation.

This Chapter Consist of-

- Research approach
- Research design

- Research variables
- Criteria for sample selection
- Sample and sampling technique
- Development and preparation of tool
- Description of tool
- Content validity
- Pilot study
- Reliability of tool
- Data collection procedure
- Ethical consideration
- Plan for data analysis
- Summary

Research Setting

This study was conducted at Murari Lal Memorial School and College of nursing Solan and Sai Sanjivani Institute of Nursing- Hospital Solan, Himachal Pradesh.

Population

In this study, population were G.N.M students of nursing colleges.

Sample Size

Total sample size comprises of 60 G.N.M. nursing students from selected nursing colleges.

Sampling Technique

Consecutive sampling technique was used for this study.

Description Of Tool

Structured questionnaire consists of three parts

Tool 1: Demographic variables

Tool 2: Knowledge questionnaire

Tool 3: Observational checklist.

Tool to be Used in this Study were:

Part A: Socio-Demographic

It consists of selected Socio-Demographic variables are age, basic education, residential area, occupation of family, education of parents, previous knowledge regarding topic and source of information.

Part B: Knowledge Questionnaire

It consists of self-structured knowledge regarding the Biomedical Waste Management. This part consists of 21 multiple choice questions. Each correct response carries 1 marks and not attempted/ wrong responses carries 0 marks.

Part C: Observational Checklist

Observational checklist consists of 12 items; each correct response was awarded single score according to the predetermined key and zero

to the wrong and omission

Ethical Consideration

- Permission for conducting the research study was taken from research and ethical committee of Murari Lal Memorial School and College of Nursing.
- Prior permission for data collection was obtained from the concerned authority.
- Permission for the study will be taken from the concerned authority of selected area.
- Written consent was taken from study participant.
- knowledge and practice with their selected socio-demographic variables.

Data Analysis and Interpretation

This chapter deal with the details of analysis and interpretation of data collected from 60 G.N.M nursing students to assess the knowledge and practice regarding bio-medical waste management.

Table 4.1 Frequency and percentage wise distribution of G.N.M nursing students according to their socio-demographic variables.

(n=60)

Socio-demographic Variables	Frequency	Percentage
Age in year		
17-20	53	88.3%
21-25	7	11.7%
Basic education		
Medical	5	8.3%
Non- medical	2	3.3%
Commerce	4	6.7%
Arts	49	81.7%
Area of living		
Urban	22	36.7%
Rural	38	63.3%
Education status of father		
Matriculation	20	33.2%
High secondary	26	43.3%
Graduate- post-graduate	11	18.3%
Non-formal education	3	5.1%
Education status of mother		
Matriculation	28	46.7%
High secondary	16	26.6%
Graduate- post-graduate	9	15%
Non-formal education	7	11.7%
Occupation of father		
Govt employee	8	13.3%
Self-employee	20	33.3%
Others	32	53.4%
Occupation of mother		
Govt employee	2	3.3%
Self-employee	15	25%
Others	43	71.7%
Previous knowledge regarding Biomedical waste management.		
Yes	54	90%
No	6	10%
if yes then specify sources of information.		
Mass media	3	5.5%
Studies during time of course	43	79.8%
Attended any BMW conferences	1	1.8%
Through medical staff.	7	12.9%

The findings revealed that out of 60 samples, 88.3% (53) of nursing students were in the age group of 17- 20 years, 81.7% (49) students were from arts stream. Maximum i.e., 63.3% (38) of nursing students resided in rural area where as 36.7% (22) of students were from urban area. Most of the student's father had high secondary education 43.3% (26) and 46.7% (28) of student's mother had matriculation education. 53.3% (32) of student's father had other occupation status and 71.7% (43) of student's mother had other occupation status. 90% (54) of the students had previous knowledge regarding bio-medical waste management. Whereas out of 54 subjects which had previous source of information regarding Biomedical waste management from during time of course study 79.8% (43), through medical staff 12.9% (7), mass media 5.5% (3), through conferences 1.8% (1).

In pre-test knowledge score was 7.80 ± 1.582 which is 37.14% of total

mean knowledge score percentage. In post-test mean knowledge score was 16.52 ± 2.029 which is 77.38% of the total mean knowledge score percentage. The difference in pre-test and post-test mean percentage knowledge score was 40.24%.

In the pre-test practice score was 5 ± 1.461 which is 41.67% of total mean practice score percentage. In post-test mean practice score was 9.35 ± 1.516 which is 77.91% of the total mean practice score percentage. The difference in pre-test and post-test mean percentage practice score was 36.24%.

The calculated paired 't' test value is 27.102 which is greater than the table value (2.009). It shows a highly significant difference between pre-test and post-test knowledge score and the calculated paired 't' test value is 16.25 which is greater than the table value (2.009). It shows a highly significant difference between pre-test and post-test practice score. So, the stated research hypothesis (H_1 and H_2) was accepted.

Significant association was found between the post-knowledge when compared with socio-demographic variables i.e., age in years. The calculated chi-square value was more than table value at the 0.05 level of significance. Hence for the selected variables hypothesis H_3 is accepted.

Apart from it all variables had no significant association found between the knowledge regarding bio-medical waste management in G.N.M nursing students in post-test when compared with selected demographic variables i.e., basic education, area of living, education status of father, education status of mother, occupation of father, occupation of mother and previous knowledge regarding bio-medical waste management. The calculated chi-square values were less than the table value at the 0.05 level of significance. Hence, hypothesis H_4 and H_5 is rejected.

DISCUSSION

In present study shows that the mean difference of pre-test and post-test level of knowledge was 36.24%. The result shows that there was a significant difference between pre-test and post-test level of knowledge score. It was interpreted that structured teaching program was effective in enhancing the knowledge of G.N.M nursing students.

The study was supported by Belur R., Dr. Peerapur M.S., (2020), finding depicts that the mean difference of pre-test and post-test level of knowledge was 22.98%. The result shows that there was significant difference between pre-test and post-test level of knowledge. It was observed that the structured teaching program play a vital role in improving the knowledge regarding bio-medical waste management.

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