

Effectiveness of planned teaching programme on knowledge regarding biomedical waste management among 2nd year BSC (N) students in a selected college of nursing at Mangalore

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Abstract

Background: It is estimated that about 60% infectious waste less often disposed improperly, which makes a path for the transmission of infection such as HIV, HBV etc. to health care providers unknowingly.

Material and Methods: An evaluative research approach, pre experimental one group pre-test and post-test design was used for the study. 30 student nurses were selected by convenient sampling technique from Athena College of nursing, Mangalore. Significant difference between pre-test and post-test knowledge scores were analyzed by using paired t-test

Results: The results of the study shows that the pre-test knowledge score regarding biomedical waste management with the mean pre-test of (13.97).whereas post-test score with a mean of (17.67) .The mean difference between the pre-testand post-test knowledge score was found to be significant ($t_{29}=2.05, P<0.05$)level of significance.

Conclusion: Study can be concluded that planned teaching programme is an effective strategy for providing information regarding biomedical waste management and to improve the knowledge of 2nd year Bsc nursing students.

Keywords: effectiveness, students, biomedical waste, planned teaching

Introduction

Good health depends on a safe environment. Practices or techniques that control or prevent transmission of infection help to protect client and health care workers from disease. Client in all health care settings are at risk for acquiring infections. The hospital is one of the complex institutions that are frequented by people from every lifestyle in the society without any distinction between age, sex, race and religion. This is over and above the normal inhabitants of hospital that is patients and staff. All of them produce waste that is increasing in its amount and type due to advances in scientific knowledge and creating its impact. The hospital waste, in addition to the risk to patients and personal who handle these wastes poses a threat to public health and environment [1]. Medical care is vital for our life and health but the wastes generated from medical activities represent real problems of living nature and human world. Every day relatively large amount of potentially infectious, hazardous waste is generated in the hospitals, and nursing homes in discriminate disposal of biomedical waste and exposure to such waste possess serious threat to environment and to human health. The waste produced in course of health care activities carries a higher potential for infection and injury than any other type of waste. Inadequate and inappropriate knowledge of handling of health care waste may have serious health consequences and a significant impact on the environment as well. According to Biomedical Waste (management and handling) rules, 1998 of India "Biomedical Waste is defined as any waste which is generated during the diagnosis, treatment or immunization of human beings or animals in research activities pertaining there to or in the production or testing or biological" [2].

Objectives

1. To assess the level of knowledge regarding biomedical

waste management among 2nd year, B.Sc. nursing students by using structured knowledge questionnaire.

2. To evaluate the effectiveness of planned teaching programme regarding biomedical Waste management among 2nd year B.Sc. nursing students in terms of gain in the mean Post-test knowledge scores.

Materials and Methods

The data collection period started from July 1st 2019 to July 30th to2019. The samples were selected by convenient sampling technique, in Athena College of nursing, Mangalore, Karnataka, India. In this study population consist of 2rd year B.sc nursing students who were studying at Athena College of nursing. Permission was taken from the principal and concerned class coordinator before administering the questionnaire. Pretest data was collected from the subjects from July 1st to July 30th2019. The Planned teaching programme was administered on July 23rdafter conducting pretest and post test was conducted on 30thJuly after a week. An evaluative research approach, pre experimental one group pre-test and post-test design was used for the study. 30 student nurses were selected by convenient sampling technique from Athena College of nursing, Mangalore. Significant difference between pre-test and post-test knowledge scores were analyzed by using Paired t-test.

Results and Discussion

In this study the data was analyzed based on the objectives and hypothesis of the study using descriptive and inferential statistics. Knowledge level of 30 2nd year Bsc nursing students, regarding biomedical waste management was assessed with a structured knowledge questionnaire and was analyzed using descriptive statistics, which is presented in table 1 and figure 1.

Table 1: Frequency and Percentage Distribution of Pre-test and post-test knowledgescore.

Grading	Pre-test		Post-test	
	Frequency(f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor (≤ 9)	2	6.66%	0	0
Average (10-14)	16	53.33%	3	10%
Good (15-23)	12	40%	26	86.66%
Excellent(24-30)	0	0	1	3.33%

Maximum score = 30

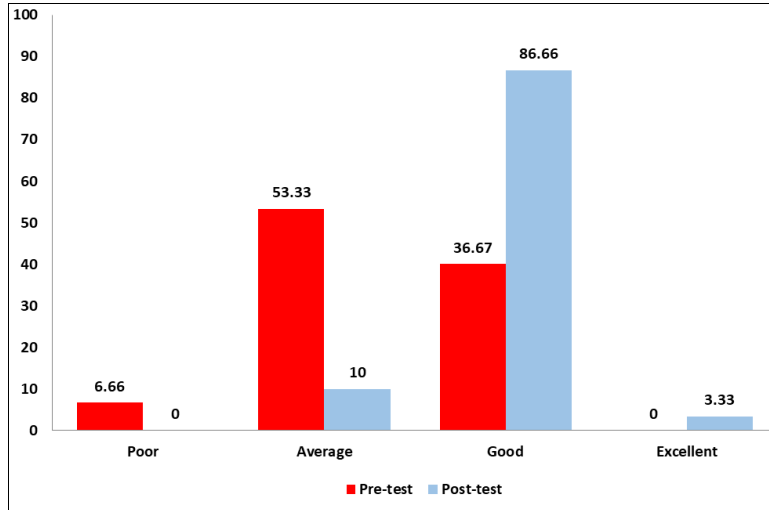


Fig 1: Bar Diagram Representing Distribution of Subjects According to the Level of Knowledge

Data in table 1 and figure 1 shows that majority of the subjects (86.6%) scored between 51-80% and 3.33% of subjects scored between 81-100% in the post-test as compared to pre-test where half the subjects (53.33%) scored 31-50% and 6.66%

Table 2: Mean, Mean difference, Standard difference and ‘T’ value of pre-test and post-test knowledge score

	Mean score	Mean difference	SD difference	t value
Pre-test	13.97	3.7	0.14	6.64
Post-test	17.67			

Maximum Score =30, $t_{29}=2.05$ $P<0.05$ *Significant

Data in table 3 shows that mean post-test knowledge score (17.67) is higher than mean pre-test knowledge score (13.97).The computed ‘t’ value ($t_{29}= 6.64$) is higher than the table value ($t_{29}= 2.05$) at 0.05 level significance. Thus its inferred that the planned teaching programme was highly effective in improving the knowledge score of Bsc nursing students regarding biomedical waste management.

Conclusion

The present study can be concluded that the planned teaching programme had great influence in effectively increasing the knowledge of nursing students on biomedical waste.

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