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A study to assess the knowledge and identify the practices of B.Sc Nursing 2nd yr students on Bio medical waste management after their clinical posting in Teerthanker Parsavnath College of Nursing (TMU) Amroha, Moradabad Utter Pradesh

Abstract

In the persuasion of the aim of reducing health problems, eliminating potential risks, and treating sick people, healthcare services inevitably create waste which itself may be hazardous to health. A Pre experimental (One group pre-test post-test) study was conducted to assess the knowledge and identify the practices of B.Sc Nursing 2nd yr students on Bio medical waste management after their clinical posting in Teerthanker Parsavnath College of Nursing (TMU) Amroha, Moradabad Utter Pradesh.

INTRODUCTION

In the persuasion of the aim of reducing health problems, eliminating potential risks, and treating sick people, healthcare services inevitably create waste which itself may be hazardous to health. The waste produced in the course of healthcare activities carries a higher potential for infection and injury than any other type of waste. Inadequate and inappropriate knowledge of handling of healthcare waste may have serious health consequences and a significant impact on the environment as well.ⁱ 'Bio-medical waste' (BMW) means any solid and/or liquid waste including its container and any intermediate product, which is generated during the diagnosis, treatment or immunization of human beings or animals or in research pertaining thereto or in the production or testing thereof.ⁱⁱ Due to the increase in the procedures that are carried out at the various health care setups, excessive amounts of waste have been generated at the centers of care.ⁱⁱⁱ For disposing the major and different kind of wastage in hospital color code dustbins are used for discarding the waste and easy to dispose and transport the waste. So therefore it is important to know the bio medical waste management and its uses.

OBJECTIVES

1. To assess the pre test and post test knowledge on Bio medical waste management among B.Sc Nursing 2nd yr students
2. To identify the practices of B.Sc Nursing 2nd yr students on Bio medical waste management

METHOD

A Pre experimental (One group pre-test post-test) design was selected for the present study. Sampling technique adopted was 'Purposive sampling'. Sample size for the present study was 60 B.Sc nursing 2nd yr students. Informed consent was obtained from the students. The data was collected by structured teaching questionnaire for assess the knowledge and Practice checklist on biomedical waste management.

RESULTS

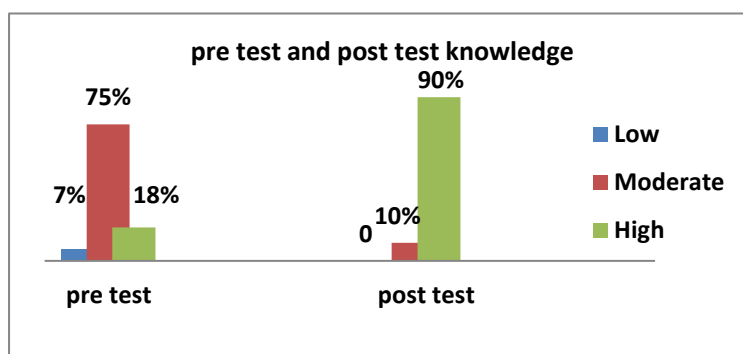
Section I Distribution of pretest & posttest knowledge score

Present study results shows that the mean percentage of pretest and posttest knowledge scores was 55.6 % and 81.7 % respectively in table no.1

Sl. No.	Area of aspects	No. of items	Pre-test		Post-test	
			Mean	Mean %	Mean	Mean %
1	Biomedical waste management	30	16.7	55.6	24.5	81.7

Section II Distribution of pretest & posttest knowledge level

The knowledge level of pretest and posttest was arbitrarily categorized into low, moderate and high and described below in fig .1 below ;



Histogram showing pretest and posttest knowledge level of bsc 2nd yr students on BMW

The above-mentioned **Fig.1** shows that majority 45 (75%) of the students had moderate knowledge in pretest whereas in posttest maximum 54 (90%) students had high knowledge.

Section III Distribution of pre-test practice scores

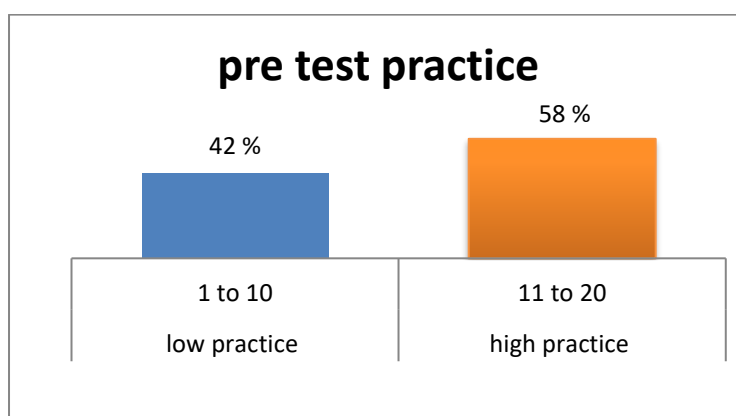
The pre-test practice scores were assessed via self-reported practice checklist. There were 20 items in the questionnaire. The mean, mean % of practice scores was 56.65% described in Table 2 below:-

$$n=60$$

Sl. No.	Area of aspects	No of items	Mean	Mean %
1	Biomedical waste management	20	11.33	56.65

Section IV Distribution of pre test practice level

The practice level of pretest was arbitrarily categorized into low and high and described below in **Fig.2**



Above Fig no 2. shows that majority 35 (58%) of the students had high practice and 25 (42%) had low practice regarding BMWM.

Discussion

In present study researcher found that the mean percentage of pretest and posttest knowledge scores was 55.6 % and 81.7 %. The knowledge level of pretest and posttest was arbitrarily categorized into low, moderate and high that was majority 45 (75%) of the students had moderate knowledge in pretest whereas in posttest maximum 54 (90%) students had high knowledge. The mean, mean % of practice scores was 56.65%. The practice level of pretest was arbitrarily categorized into low and high it shows that majority 35 (58%) of the students had high practice and 25 (42%) had low practice regarding BMWM.

A cross-sectional study was conducted to assess awareness regarding biomedical waste management as well as knowledge of effective recycling and reuse of dental materials among dental students belonging from all dental colleges of Bhubaneswar, Odisha (India) from February 2016 to April 2016. A total of 500 students (208 males and 292 females) participated in the study, which was conducted in two phases. A questionnaire was distributed to assess the awareness of biomedical waste management and knowledge of effective recycling of dental materials, and collected data was examined on a 5-point unipolar scale in percentages to assess the relative

awareness regarding these two different categorizes. Forty-four percent of the dental students were not at all aware about the management of biomedical waste, 22% were moderately aware, 21% slightly aware, 7% very aware, and 5% fell in extremely aware category. Similarly, a higher percentage of participants (61%) were completely unaware regarding recycling and reusing of biomedical waste. There was lack of sufficient knowledge among dental students regarding management of biomedical waste and recycling or reusing of dental materials. Considering its impact on the environment, biomedical waste management requires immediate academic assessment to increase the awareness during training courses.^{iv}

Conclusion

In the opinion of the aim of reducing health problems, eliminating potential risks, and treating sick people, healthcare services inevitably create waste which itself may be hazardous to health. The waste produced in the course of healthcare activities carries a higher potential for infection and injury than any other type of waste. Inadequate and inappropriate knowledge of handling of healthcare waste may have serious health consequences and a significant impact on the environment as well. So it is essential to provide training of the nursing students before sending to clinical areas.

Recommendation

1. Need of strict implementation of biomedical waste management rules
2. It should be made compulsory for healthcare facilities to get their healthcare personnel trained from accredited training centers.
3. These training sessions should not become merely a one-time activity but should be a continuous process depending upon the patient input in different healthcare facilities.

ⁱ Vanesh Mathur, S Dwivedi, MA Hassan, and RP Misra¹ Knowledge, Attitude, and Practices about Biomedical Waste Management among Healthcare Personnel: A Cross-sectional Study Indian J Community Med. 2011 Apr-Jun; 36(2): 143–145.

doi: 10.4103/0970-0218.84135

ⁱⁱ Divya Rao, M. R. Dhakshaini, Ameet Kurthukoti and Vidya G. Doddawad: Biomedical Waste Management: A Study on Assessment of Knowledge, Attitude and Practices Among Health Care Professionals in a Tertiary Care Teaching Hospital

ⁱⁱⁱ Divya Rao, M. R. Dhakshaini, Ameet Kurthukoti and Vidya G. Doddawad: Biomedical Waste Management: A Study on Assessment of Knowledge, Attitude and Practices Among Health Care Professionals in a Tertiary Care Teaching Hospital

^{iv} Ranjan R, Pathak R, Singh DK, Jalaluddin M, Kore SA, Kore AR. Awareness about biomedical waste management and knowledge of effective recycling of dental materials among dental students. J Int Soc Prevent Communit Dent 2016;6:474-9