

Descriptive Study to Assess the Knowledge of B.Sc. Interns Regarding Biomedical Waste Management in Selected Colleges of Nursing, Punjab

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ABSTRACT

Material and Method: A descriptive research approach and design was used to assess knowledge of B.Sc. Nursing Interns. A total sample of 150 students was taken through the research study. Self structured questionnaire was used for collection of data. The data was collected by adopting a purposive sampling technique. Descriptive and Inferential statistics were used to analyse the data. The findings of present study revealed that out of 150 subjects, 68.66% of the subjects have adequate knowledge and 31.33% of the subjects have inadequate knowledge. Study concluded that majority of students were having good knowledge about Biomedical Waste Management

Results: 68.66% subjects of the study were having adequate knowledge and 31.33% subjects of the study were having inadequate knowledge regarding Biomedical Waste Management. B.Sc. Nursing students studying in government colleges of nursing have higher knowledge (73.33%) than students studying in private college of nursing (61.66%).

Conclusion: Most of the B.Sc. Nursing Interns studying in nursing colleges of Punjab is having adequate knowledge about Biomedical Waste Management. Majority of subjects studying in private colleges of nursing are having adequate knowledge. The study included total of 60 subjects from private college of nursing, out of which 37 subjects have adequate knowledge and rest 23 subjects have inadequate knowledge regarding Biomedical Waste Management.

KEYWORDS: Assess, Biomedical Waste, Knowledge, Management, Nursing Student

INTRODUCTION AND NEED OF THE STUDY

Health care waste is a unique category of waste by the quality of its composition, source of generation, its hazardous nature and the need for appropriate protection during handling, treatment and disposal. Mismanagement of the waste affects not only the generators, operators but also the common people too.¹

The waste management is one of the important public health measures. If we go into the historical background, before discovery of bacteria as cause of disease, the principle focus of preventive medicine and public health has been on sanitation. The waste produced in the course of health care activities carries a higher potential for infection and injury than any other type of waste. Therefore, it is essential to have

safe and reliable method for its handling. Inadequate and improper handling of health care waste may have serious public health consequences and a significant impact on the environment. Appropriate management of health care waste is thus a crucial component of environmental health protection. It should become an integral part health care service.²

Hospital is a place of almighty, a place to serve the patient. Since beginning, the hospitals are known for the treatment of sick persons but we are unaware about the adverse effects of the garbage and filth generated by them on human body and environment. Now it is a well established fact that there are many adverse and harmful effects to the environment including human beings which are caused by the "Hospital Waste" generated during the patient care

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'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 its hazardous nature and the need for appropriate protection during handling, treatment and disposal.³

The hospital waste like body parts, organs, tissues, blood and body fluids along with soiled linen, cotton, bandage and plaster casts from infected and contaminated areas are very essential to be properly collected, segregated, stored, transported, treated and disposed of in safe manner to prevent nosocomial or hospital acquired infection.

MATERIAL AND METHODS

Quantitative non-experimental Descriptive research design was adopted to conduct a study in selected colleges of nursing (university college of nursing, Faridkot, dashmesh college of nursing, Faridkot, Adesh college of nursing, Shri Muktsar sahib, and university institute of nursing, jalalabad) in Punjab . Using purposive sampling technique, 150 samples were enrolled. Permission was taken from the institute, and ethical clearance was obtained from the ethical committee, UION, jalalabad. A self-prepared questionnaire was developed to collect the data from samples. Analysis of data was done in accordance with the objectives laid down for the study using descriptive and inferential statistics in SPSS.

RESULT

Table 1: Demographic profile of subjects

N=150

S. No.	Variables	Frequency	Percentage distribution	
1	Age (in years) of subject	a) 20-21	28	18.66%
		b) 21-22	60	40%
		c) 22-23	53	35.33%
		d) 23-24	9	6%
2	Sex of subject	a) Male	29	19.33%
		b) Female	121	80.66%
3	Residence of subject	a) Rural	63	42%
		b) Urban	58	58%
4	Whether the institute of nursing is	a) Government	90	60%
		b) Private	60	40%
5	Whether the subject has attended any seminar or conference related to Biomedical Waste Management	a) Yes	55	36.66%
		b) No	95	63.33%

Table 1 shows Maximum 40% participants were in the age group (in years) of 21 to 22, followed by 35.33% in 22 to 23, 18.66% in 20 to 21, .Among the subjects, 80.66% were female and 58% were residence of rural area. A total of 63.33% subjects never attended any seminar or conference related to biomedical waste management.

TABLE 2 : Frequency and percentage distribution of subjects according to sex of the subjects.

N=150

Sex of the subject	Frequency	Percentage distribution
a) Male	29	19.33%
b) Female	121	80.66%

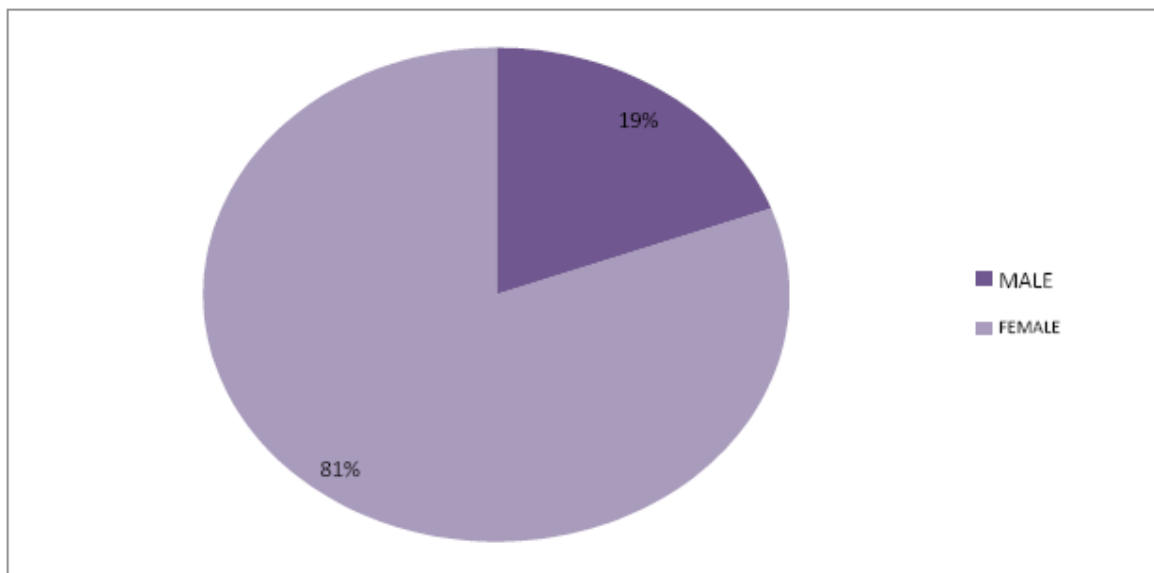


Figure 1 : Frequency and percentage distribution of subjects according to sex of the subjects.

Table-2 and Figure-1 shows that 19.33% of subjects under study are Male and 80.66% of subjects under study are Female. It was concluded that majority of students are Females i.e., 80.66%.

Table-3: Frequency and percentage distribution of subjects according to the Institute of nursing.
N = 150

Institute of Nursing	Frequency	Percentage distribution
a) Government	90	60%
b) Private	60	40%

Table-3 shows that 60% of the subjects under study belong to Government college of Nursing and 40% of the subjects under study belong to Private college of Nursing. It was concluded that majority of students belong to Government college of Nursing i.e., 60%.

Table- 4: Frequency and percentage distribution of subjects according to the attending of the seminar or conference related to Biomedical Waste Management.

N = 150

Whether the subject has attended any seminar or conference related to BMW Management	Frequency	Percentage distribution
a) Yes	55	36.66%
b) No	95	63.33%

Table-4 shows that 36.66% of the subjects have attended any seminar or conference related to BMW Management and 63.33% of the subjects have not attended any seminar or conference related to BMW Management. It was concluded that majority of students have not attended any seminar or conference related to BMW Management i.e., 63.33%.

TABLE -5: Measures of knowledge score of subjects.

N = 150

Area	Maximum score	Maximum score obtained	Minimum score obtained	Mean	Median	Mode	Standard deviation
Knowledge	35	32	9	24.99	26	25	3.767

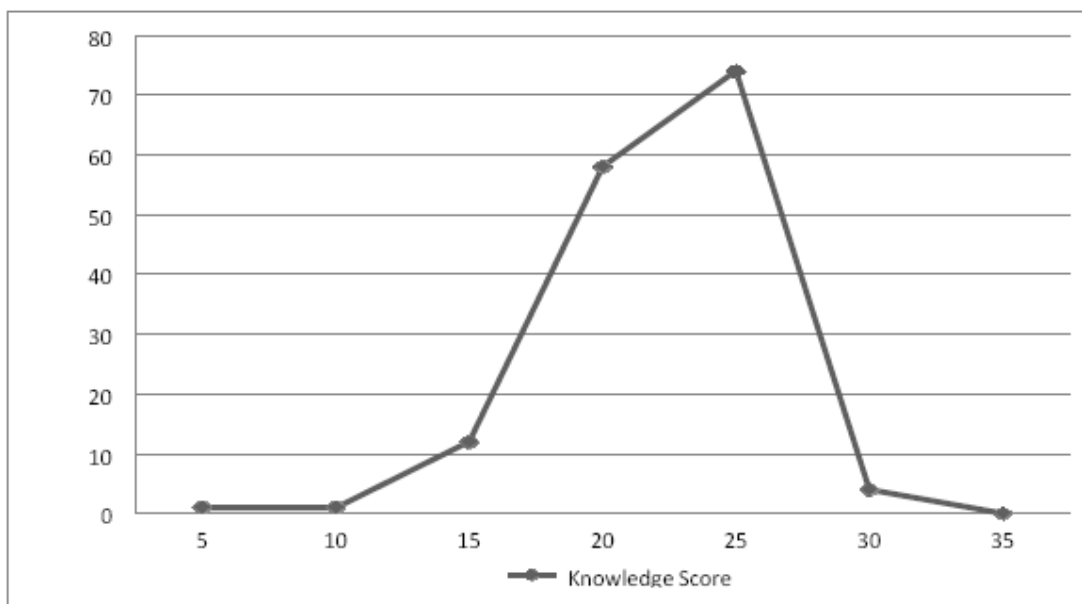


Table -6: Frequency and percentage distribution of knowledge score of B.Sc. Nursing Interns of selected Private and Government colleges of Nursing, Punjab.

N= 150

Level	Frequency of Government Interns	Percentage	Frequency of Private Interns	Percentage
Adequate	66	73.33%	37	61.66%
Inadequate	24	26.66%	23	38.33%

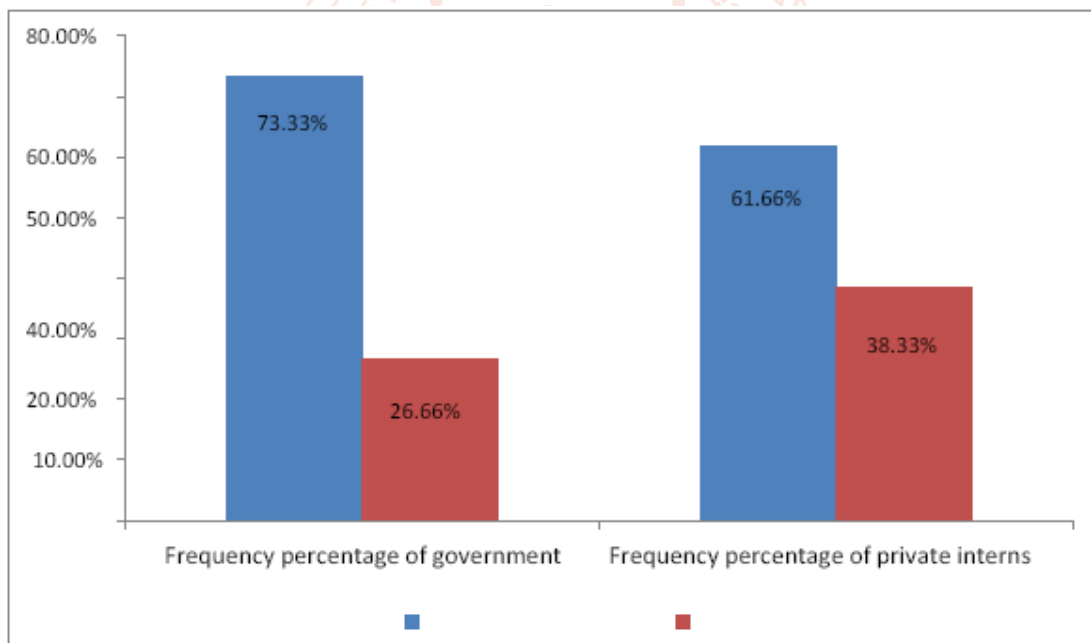


Fig-2: Frequency and percentage distribution of knowledge score of B.Sc. Nursing Interns

Table-6 and Figure 2 :depicts that 73.33% (above mean of 24.99) of nursing students of government colleges are having adequate knowledge and 26.66% (below mean of 24.99) of nursing students of government colleges are having inadequate knowledge ; 61.66% (above mean of 24.99) of nursing students of private colleges are having adequate knowledge and 38.33% (below mean of 24.99) of nursing students of private colleges are having inadequate knowledge.

MAJOR FINDINGS OF THE STUDY:

➤ The highest attained score is 32 and lowest attained score is 09, mean is 24.99, median is 26, mode is 25 and standard deviation is 3.767. The knowledge score above the mean was considered as criteria for adequate knowledge and below the

mean score was considered as criteria for inadequate knowledge. Among 150 subjects, 103 (68.66%) subjects were found to have adequate knowledge and 47 (31.33%) subjects were found to have inadequate knowledge about Biomedical Waste Management.

- Majority of subjects studying in government colleges of nursing are having adequate knowledge. The study included total of 90 subjects from government college of nursing, out of which 66 subjects have adequate knowledge and rest 24 subjects have inadequate knowledge regarding Biomedical Waste Management
- Majority of subjects studying in private colleges of nursing are having adequate knowledge. The study included total of 60 subjects from private college of nursing, out of which 37 subjects have adequate knowledge and rest 23 subjects have inadequate knowledge regarding Biomedical Waste Management.

The comparison of government and private college reveals

The comparison of knowledge of subjects studying in government and private college of nursing reveals

- Mean knowledge score of government college students is 25.73 which is more than total mean 24.99 where as mean knowledge score of private college students is 23.88 which is less than total mean.
- Majority of government college students have adequate knowledge i.e., 73.33% students whereas in private college 61.66% students have adequate knowledge.
- In government college of nursing, 26.66% of students have inadequate knowledge whereas in private college of nursing 38.33% of students have inadequate knowledge.
- Standard deviation of government college students is 3.01 and that of private college students is 4.51.

DISCUSSION:

This part of the chapter deals with decision of findings of present study in accordance with objectives of research problem. These findings of study are discussed with references of results observed by other investigators.

Analysis of the data regarding first objective, to assess the knowledge of B.Sc. Nursing Interns regarding Biomedical Waste Management in selected colleges of nursing, Punjab. The findings of present study revealed that out of 150 subjects, 68.66% of the subjects have adequate knowledge and 31.33% of the subjects have inadequate knowledge. Study conducted by Arora Lalita and Agarwal Sunita (2001)⁴ revealed that the knowledge, attitude and practice of university students of Jaipur regarding Biomedical Waste Management was low, less favourable and co-relation between knowledge and attitude was not found but significant relation was found between knowledge and practice. This shows

that the above study lies in contrast with our present study as since then there is significant increase in the knowledge and practice standards of students studying in different colleges of nursing.

Analysis of data regarding second objective, to compare the knowledge of B.Sc. nursing interns of selected private and government colleges of nursing in Punjab. The study revealed that among the 90 students of government college of nursing, 66 have adequate knowledge and 24 have inadequate knowledge while those among the 60 students of private college of nursing, 37 have adequate knowledge and 23 have inadequate knowledge. The study done by P.Hanumantha Rao(2008)⁵ revealed that awareness of bio-medical waste

management rules was better among government hospital staff in comparison with private medical practitioners. This shows that above study lies in contrast with our present study as since then private colleges of nursing have done great work in enhancing their knowledge as the difference achieved between the knowledge score is much less than the previous study.

Findings of our study also revealed that knowledge of students belonging to age group (21-22) is higher than other age groups taken under study. The students who reside in rural areas have more knowledge than those residing in urban areas.

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