

To Assess the Knowledge, Attitude and Practice of Nursing Students Regarding Biomedical Waste Management in Selected Hospital, Punjab

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ABSTRACT

Introduction: A study to assess the knowledge, attitude and practice of nursing students regarding Biomedical Waste Management in selected Hospital, Punjab.

Materials and Methods: The study was conducted on 45 students of GNM second year to check the knowledge, attitude and practice in nursing students related to BMW in selected Hospitals of Punjab. In this convenient purposive sampling was used. The method of data collection was questionnaire, rating scale and observation.

Result: The result of the study was out of 45 subjects the knowledge is(60%) i.e. 27 subjects had good knowledge (35.5%) i.e. 16 subjects had average knowledge,(2%) i.e. 1 subject had v. Good knowledge whereas (2%) i.e. 1 subject had poor knowledge regarding biomedical waste management. Rating scale shows that 93% of subjects had positive attitude reading biomedical waste management. An observation criterion was carried out for three days per student 3 observations were done. Finding reveals that (44%) i.e. 20 subjects had good practice, (38%) i.e. 17 subjects had average practice, (13%) i.e. 6 subjects had very good practice, (2%) i.e. 1 subject had poor practice.

Conclusion: The study reveals that nursing students have good knowledge, positive attitude and good practice regarding biomedical waste management.

Key Words: Hospital, Biomedical waste, management.

INTRODUCTION

Medical care plays a vital role in our life, health and well-being. This field has done wonders by creating miracles for saving human life. But on the other side we have in front, the dangerous aspect that is the

waste generated from medical activities which is highly contagious.

The waste which generates from medical activities is termed as “biomedical waste” which is the burning issue of the time. Biomedical waste includes solid and liquid form of waste includes any median products which are formed during investigation, medical treatment or immunization in case of humans, animals or research experiments during production and the time of testing.

A study conducted by Lahiri K.K, Jera, Kapila K, showed that if segregation of biomedical waste is not done there it can pose a serious hazard to the directly to the community and environment at the highest. Biomedical waste products are one of the major reasons which encourage growth of various pathogens which promotes disease condition like HIV/(AIDS), plague, cholera etc. Which pose grave threat to public healthier? So the need is come out with string solutions to manage with biomedical waste.

The rules formed by the ministry or environment and forests [MOEF], Govt. Of India, introduced as BMW management & handling rules, 1978 notified on 20th July 1998, provides uniform guidelines and code of practice of the entire nation. Rules are clearly mentioned in this the occupier.[or person who has linked over any institution, generating biomedical waste (e.g. hospital, home, health clinic, blood bank, etc.) shall be responsible for taking mandatory actions to ensure that such waste is segregate without any side effect to health of humans & environment.

According to the study conducted by S. Saini

These enrolled 156 respondents showed a significant vacuum in the knowledge of physicians, nurses and laboratory technicians so the major responsibility falls on the shoulders of the medical and paramedical professionals includes doctors, nurses and technicians. Nurses are the one who are direct contact while providing patient care and so are the other practitioners & paramedical staff. The proper knowledge of the medical as well as the Para medical staff adds a new revolution regarding safe dispose of the BMW.

BMW management is the answer of this problem. Segregation plays an important role in disposing of the biomedical waste. The toxic parts on an important role in disposing of the biomedical waste. The toxic parts of the waste from health care activities compose of the infectious material which increases the risk of hazard if they are not segregated or disposed off. In the study of Singh and Ritu it was found that information booklet was effective in improving knowledge and skills nursing staff to keep health personnel's abreast with the changes.

In short necessary steps should be taken to ensure that biomedical waste is segregated without adverse effect to the human health and environment.

Need of Study

While working in the clinical area of selected hospital of Punjab the investigators observed that segregation of biomedical waste is an indispensable part of our life, which involves all health care providers, a part of which includes nursing students who come for clinical experience. So the investigators felt the need to assess the knowledge, attitude and practice of nursing students regarding BMW.

Problem Statement

A study to assess the knowledge, attitude and practice of nursing students regarding biomedical waste management in selected Hospital, Punjab.

Objectives

To assess the knowledge, attitude and practice of nursing students regarding biomedical waste management in selected hospital, Punjab.

Sub -Parts

- To develop a tool regarding biomedical waste management in selected hospital, Punjab.
- To implement a tool regarding biomedical waste management in selected hospital, Punjab.
- To analyze the data by using statistical measures.

Operational Definitions:-

HOSPITAL: An institution in which sick or injured persons are treated.

BIOMEDICAL WASTE: is defined as waste which is formed during investigation, treatment or vaccination of human beings or animals or in research activities or in biological testing.

MANAGEMENT: To manage collectively.

Delimitations

The study is limited to the GNM 2nd year nursing students of selected college.

The study is concerned only to assess knowledge, attitude and practice of GNM 2nd year students regarding BMW.

MATERIALS AND METHODS

The study was conducted on 45 students of GNM second year regarding topic BMW management in selected hospital of Punjab. The convenient purposive sampling was used. The method of data collection was questionnaire, rating scale and observation to check the knowledge, attitude and practice of the students regarding BMW.

Data Analysis: The statistical analysis was done mean, mean score, mean%, SD.

RESULTS

Table-1: Socio-Demographic Profile Of Subjects

S.NO	SOCIO DEMOGRAPHIC	NO. OF SUBJECTS	% AGE
1.	Academic Qualification		
	10+2	42	93%
	GRADUATE	3	7%
	ANY OTHER	0	0
2	Professional Qualification		
	ANM	1	2%
	Gnm11 year	44	98%
3	Family Income		
	Rs. (50,000-1,00000)	35	78%
	Rs(100000 -above_)	10	22%

Table 2: Percentage Distribution Of Knowledge Of Subjects According To Scores

Scores	No. of subjects	%age	Remarks
(0-4)	1	2%	Poor
(5-9)	16	35.5%	Average
(10-14)	27	60%	Good
(15-19)	1	2%	v. good

Table 3: Percentage Distribution Of Attitude Of Subjects According To Scores

Scores	No. of subjects	%age	Remarks
Below 50	3	7	-ve
Above 50	42	93	+ve

Table 4: Percentage Distribution Of Practice Of Subjects According To Scores

Scores	No. of subjects	%age	Remarks
6-10	1	2%	Poor practice
11-15	17	38%	Average practice
16-20	20	44%	Good practice
21-25	6	13%	Very good practice
26-30	1	2%	Excellent practice

Table 5: Mean Knowledge Score Of Subject According To Socio Demographic Profile

Sr. no	Academic qualification	No. of subjects	Mean scores	Mean % age	SD
1.	10+2	42	10.3	69%	2.47
2.	GRADUATE	3	10	77%	2.16
3	ANY OTHER	0	0	0%	0
	PROFESSIONAL QUALIFICATION				
1	ANM	1	12	100%	0
2	GNM II year	44	10.3	69%	2.4
	FAMILY INCOME				
1	Rs. (50,000-1,00000)	34	10.1	72%	2.5
2	Rs(100000 -above_)	11	11	73%	2.17

Table 6: Mean Attitude Score Of Subject According To Socio Demographic Profile

Sr. no	Academic qualification	No. of subjects	Mean scores	Mean % age	SD
1.	10+2	42	62	82.6%	7.4
2.	GRADUATE	3	64	90%	4.9
3	ANY OTHER	0	0	0%	0
	PROFESSIONAL QUALIFICATION				
1	ANM	1	66	100%	0
2	GNM II year	44	63	84%	7.4
	FAMILY INCOME				
1	Rs. (50,000-1,00000)	34	63.5	84.6%	7.2
2	Rs(100000 -above_)	11	63	84%	3

The result of the study was out of 45 subjects the knowledge is (60%) i.e. 27 subjects had good knowledge (35.5%) i.e. 16 subjects had average knowledge,(2%) i.e. 1 subject had v. Good knowledge whereas (2%) i.e. 1 subject had poor knowledge regarding biomedical waste management. Rating scale shows that 93% of subjects had positive attitude reading biomedical waste management. An observation criterion was carried out for three days per student 3 observations were done. Finding reveals that (44%) i.e. 20 subjects had good practice, (38%) i.e. 17 subjects had average practice, (13%) i.e. 6 subjects had very good practice, (2%) i.e. 1 subject had poor practice. The study reveals that nursing students have good knowledge, positive attitude and good practice regarding biomedical waste management.

DISCUSSION

The present study's findings have been discussed in accordance with the objectives. The current study was undertaken to assess the knowledge, attitude and practice of 45 subjects of general nursing students regarding biomedical waste management in selected hospital of Punjab. The individual socio-demographic characteristics' includes (a) Academic qualification (b) Professional Qualification (c) family income (Annually).

The result of the study was out of 45 subjects the knowledge is(60%)i.e 27 subjects had good knowledge (35.5%) i.e 16 subjects had average knowledge, (2%) i.e 1 subject had v. Good knowledge whereas (2%) i.e. 1 subject had poor knowledge regarding biomedical waste management. Rating scale shows that 93% of subjects had positive attitude reading biomedical waste management. An observation criterion was

carried out for three days per student 3 observations were done. Finding reveals that (44%) i.e. 20 subjects had good practice, (38%) i.e. 17 subjects had average practice, (13%) i.e. 6 subjects had very good practice, (2%) i.e. 1 subject had poor practice. The study reveals that student's nurses have good knowledge. Positive attitude and good practice regarding biomedical waste management. However study conducted by Deepali Rao, Tak SB, Murde S.S showed that average score was high in para- medical staff (3.46) followed by medical staff(2.97) and least in non medical staff (2.35) while a study conducted by S. Saini, S.S Nagarajan, R.K Sharma showed that knowledge among nurses is 60% and that of sanitary staff . O.T and Lab staffs have respectively 14%, 14% and 12%.

Attitude regarding BMW results in the present study showed that 93% of subjects have positive attitude whereas 3 % of subjects have negative attitude regarding biomedical waste management. According to study conducted by Deepali Deo, Tak S.B Munde S.S showed that 78.63% medical professional have positive attitude and 31.67% non-medical staff's attitude is negative. While study conducted by s. Saini, S.S Nagarajan, R. K Sarma showed that nurses had positive attitude with score 100% is set 1,2 and 95% in set 3 while O.T staff scored 90%, 95%, 86% and sanitary staff have 81%, 81%,76% and lab staff have the rate of 56%, 88% and 32% on the same count.

In the present study the percentage for practice gained by subjects are as 2% of subjects have excellent practice, 13 % have very good practice, 44% had good practice, 38% had average practice only 2% of subjects had poor practice regarding biomedical waste management, As per the study done by S.S Saini, S.S Mahajan, R.K Sarma findings showed nurses to be the best with 100% of them are practicing acc to rules.

CONCLUSION

A study was conducted on 45 students of GNM second year nursing

students regarding biomedical waste management in selected hospital of Punjab.

The research findings of the study reveal:

Socio Demographic Data:

1. The maximum no. of subjects (93%) is 42 subjects had education up to +2 levels and (7%) i.e. 3 subjects were graduate.
2. The maximum no. of subjects (98%) i.e. 44 was GNM Second year students whereas (2%) i.e. 1 is ANM.
3. Majority of subjects i.e. 35 (78%) belongs to family earning rupees (50000-100000) &10 (22%) belongs to family earning rupees (100000& above)

Percentage score among subjects regarding BMW management according to knowledge:

- 1) (60%) i.e. 27 subjects Had good knowledge whereas (35.5%) i.e. 16 subjects had average knowledge, (2%) i.e. 1 had v. Good knowledge & only (2%) i.e. 1 had poor knowledge.
- 2) The mean knowledge score was 10.3 among subjects who had 10+2 whereas 10 who are graduate.
- 3) The max means knowledge score was 12 who had done ANM whereas 10.3 who had done GNM.
- 4) The maximum mean score was 11 belong to family earning(100000& above) &10.1 belong to family earning Rs. (50.000-100000)

Percentage Score among Subjects Having Positive Attitude Regarding BMW Management.

- 1) 93% of subjects having positive attitude regarding BMW Management.
- 2) According to academic qualification subject have positive attitude.
- 3) According to professional qualification subject have positive attitude.
- 4) According to Family income subject have positive attitude

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REFERENCES

- Mathur, Umesh B. et. al. Effects of vermicomposting on microbiological flora of infected biomedical waste. Journal of the Indian society of hospital waste management, volume 5, issue 1; April 2006. p 21-26.
- Bhat, Chetan et.al. Evaluation of in house systems of health care waste management intervened health care settings of the Malleshwaram pilot project. Journal of the Indian society of hospital waste management, volume 5, issue 1; April 2006. p 31-37
- A.D Patil. et. al. Health-care waste management in India. J Environ Manage. 2001 Oct;63(2):211-20.
- Singh, R., J. Kishore, R.G. Mathur, K. Mandai and S. Puri, 2002. Role of an information booklet on biomedical waste management for nurses. Nurs. J. Ind. Dec., 93(12): 271-2.
- Rao, S.K.M., Ranyal, R.K., Bhatia, S.S. and Sharma, V.R. 2004. Biomedical waste management: an infrastructural survey of hospitals. Medical Journal Armed Forces India, 60, 379-382.
- Deepali Deo, Tak S B, Munde S S. A study of knowledge regarding biomedical waste management among employees of a teaching hospital in rural area. Journal of ISHWM. 2006 April; 5(1): 12-5.
- S. Saini, S.S. Nagarajan, R.K. Sarma. Knowledge, attitude and practice study of biomedical waste management in tertiary hospital in India". Journal of the Academy of Hospital Administration. 2005; 17(2).
- Kewalramani, Neera. Biomedical waste management waste in laboratory medicine. Journal of the Indian society of hospital waste management, volume 5, issue 1; April 2006. p 6-8
- KK Lahiri et al. Issues in management of biomedical waste in laboratory medicine. Journal of the Indian society of hospital waste management, volume 5, issue 1; April 2006, p 6-8
- Bhat, Kiran, et al. Efficacy of chemical treatment of biomedical waste like sharps and tubing's in GMC Jammu. Journal of the Indian society of hospital waste management, volume 5, issue 1; April 2006. p 17-20.
- Prabhakar, Usha and Makhija, Neelam. Biomedical waste management: a study to assess the knowledge of nursing personnel. The nursing journal of India. Volume XCV, no.8 August 2004. p173-174.

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