



A Study To Assess Knowledge And Attitude Regarding Bio-Medical Waste Management Among The Staff Nurses Working In Selected Hospital Of Kheda District, Gujarat

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INTRODUCTION: The BMW waste produced in health care activities can be a high risk for infection and injury in compare to any other type of waste so, it is very important to have safe and reliable method to handle. It can be serious public health consequence and a significant impact on the environment if handle practice in inappropriate and inadequately.¹ It has seen that management of bio medical waste is still very poor all over the world. Lack of awareness about the health hazards and its improper management of biomedical wastes were seen which is due to insufficient financial and human resources and poor control of waste disposal health care is vital for our life and health.²

METHOD AND MATERIAL: A quantitative research approach through descriptive research design was adopted, non-probability convenient sampling method was used to enroll 80 staff nurses at Nadiad, Kheda District. The data were collected structured knowledge questionnaires and Likert scale used for Attitude on Bio medical waste management. Data was done by descriptive inferential statistics. **RESULT:** The study Show that frequency and percentage distribution of samples according to the knowledge score of Staff Nurses regarding biomedical waste management. It reveals that 0% of Staff nurses had inadequate knowledge, 48.75% of Staff Nurses had moderate level of knowledge, and 51.25% of paramedical workers had adequate knowledge. And also, Study shows that frequency and percentage distribution of samples according to the Attitude score of Staff nurses regarding biomedical waste management. It reveals that of, 44% of Staff nurses had good level of Attitude, and 56.25 % of paramedical workers had adequate Attitude, none of the Staff nurses had poor level of Attitude score of Staff nurses regarding biomedical waste management. It reveals that of, 44% of Staff nurses score of Staff nurses regarding biomedical waste management. It reveals that of, 44% of Staff nurses had good level of Attitude, and 56.25 % of paramedical workers had adequate Attitude, none of the Staff nurses had poor level of Attitude.

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Keywords: Assess, Knowledge, Hospital, Staff nurse, Attitude, Biomedical waste, management.

INTRODUCTION

All human activities produce waste. It is a known fact that such waste may be dangerous and needs safe disposal. Industrial waste, sewage and agricultural waste pollute water, soil, and air. It can also be dangerous to human beings and environment. Similarly, hospitals and other care facilities generate lots of waste which can transmit infections, particularly HIV, hepatitis B and C and tetanus, to the people who handle it or come in contact with it. Healthcare waste has been seen, among all health problems the infections are more common like HIV/AIDS hepatitis B and C.³

For the effective management of biomedical waste, it is a legal necessity as well as social responsibility, Therefore, resource is needed, administrators should prove it to the institution and help the healthcare personnel. The main purpose of BMW management is to reduce waste generation, to ensure its efficient collection, handling and safe disposal in such a way that it can control infection and improves safety for healthcare worker as well as general community in the system.⁴

NEED OF THE STUDY

A acceptable management of biomedical waste management begins from the initial stage of generation of waste, segregation at the sources, storage at the site, disinfected and transfer to the terminal disposal site plays a critical role in the disposal of waste hence adequate knowledge, attitude and practices of the staff of the health care institutes play a very important role.⁵ According to WHO (2011), the inappropriate healthcare waste management globally caused 21 million hepatitis B virus(HBV) infections (32% of all new infections); 2 million hepatitis C (HCV) infections (40% of all new cases); 260,000 HIV infections (5% of all new cases) in 2000. Epidemiological studies indicate that a person who experiences one needle stick injury from a needle used on an infected source patient has risks of 30%, 1.8%, and 0.3% respectively of becoming infected with HBV, HCV and HIV.⁶

AIM: This descriptive study aims to improve the level of knowledge and attitude of the staff nurse related to bio medical waste management in Kheda district, Gujarat, India.

OBJECTIVE

1. To assess the level of knowledge of staff nurses related to biomedical waste management in selected hospital of Kheda District. To assess the Attitude of the staff nurses regarding biomedical waste management in selected hospital of Kheda district.
2. To find out association between the knowledge of staff nurses and selected demographic variable. To find out the association between the attitude of staff nurses and selected demographic variable.
3. To find out relationship between the knowledge and attitude of staff nurses regarding bio medical waste management in selected hospital of Kheda district.
4. To find out the association between the attitude of staff nurses and selected demographic variable.
5. To find out relationship between the knowledge and attitude of staff nurses regarding bio medical waste management in selected hospital of Kheda district.

HYPOTHESIS

H1. There is a significant association between the knowledge and selected demographic variable.

H2. There is a significant association between the attitude and selected demographic variable.

METHODOLOGY

RESEARCH APPROACH: A Quantitative research approach

RESEARCH DESIGN: Descriptive research design (cross sectional)

VARIABLE:

Research Variable: Knowledge and attitude regarding bio medical waste management among staff nurse.

Demographic variable: Demographic variable for staff nurses such as age, gender, religion, year of experience, education, training on BMW, working hours, duty site.

RESEARCH SETTING

“Research setting is the location in which the research study was conducted in the selected hospital of Kheda district.

The study was conducted in the selected hospital of Kheda district. For the research setting the researcher has selected Nadiad. Where samples have been fulfilling the inclusion criteria.

TARGET POPULATION

In this study target population consisted hospital of Kheda district. Sample is the part of population selected to participate in research study. There is limitation in sample size, but minimum 80 and maximum as much as we can get at selected hospital of Nadiad. The investigator adopted non probability sampling technique to select the samples. The investigator had selected N. Desai hospital, Nadiad.

SAMPLING TECHNIQUE:

Convenience sampling technique.

SAMPLE SIZE: The sample consist of 80 staff nurses at N.D. Desai hospital Nadiad, Kheda district, Gujrat.

The non -probability convenient sampling method was used to data collection using demographic data and structured knowledge questionnaires and Likert scales for attitude on bio medical waste management. Data analysis was done mainly using descriptive statistics. the process of validity was done between 11/02/2023 to 02/03/2023. Data collection tool to 5 experts for the content validity. The process of reliability was done after the validity of tool by advice from 5 experts. The score of reliability is 0.01 so the study was feasible to conduct.

RESULT

SECTION I: This section deals with analysis and assessment of distribution of sample characteristics according to socio demographic variable of participants.

Table- 1: Frequency and percentage distribution of the samples according to their selected demographic variables.

Table I –Shows frequency and percentage distribution of samples based on the demographic variables such as age, Gender, Religion, Year of experience, education, Training on Bio medical waste management, Working hours, Duty site. The data presented in the above table shows that 68(54.4%) sample were between 21-30 years, 10(12.5%) samples were between the age group of 31-40 years ,2(1.6%) samples were between the age group of 41-50 years and 0 sample were between the age group of above 51 years. About Gender 19(15.2%) samples were males and 61(48.8%) samples were females. Among religion Majority 49(39.2%) samples were Hindu's, 2(1.6%) samples were Muslim's and 29 (23.2%) samples were Christians' and others are 0. Regarding experience, 40 (32%) samples were < 1 years of Staff nurses, 29(23.2%) of samples were 1 to 5 years, 9(7.2%) sample were 6 to 10 year and above 2(1.6%) of samples were above 10 years. In training 39 (31.2%) samples were attended the Biomedical waste management training and 41(32.8%) sample were not attended Biomedical waste

management training. Related working hours 36(28.8%) sample were >8 hours ,15(12%) sample were <8 hours or 29(23.2%) sample were 8 hours. About Duty site 52(41.6%) sample were work in ward,

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 4(3.2%) are work in ICU,12(9.6%) Are work in OPD and 12(9.6%) were work in another Department.
 And there are no one work in OT.

SECTION II:

Table 2: Distribution of samples based on level of knowledge regarding biomedical waste management.

Level of Knowledge	Frequency	Percentage
Adequate knowledge	41	51.25
Moderate knowledge	39	48.75
Inadequate knowledge	0	0

Table II – Show that frequency and percentage distribution of sample according to knowledge score of staff Nurses regarding biomedical waste management. It reveals that 0% of staff nurses had inadequate knowledge, and 51.25% of staff nurses had adequate knowledge, 48.75% staff nurses had moderate level of knowledge.

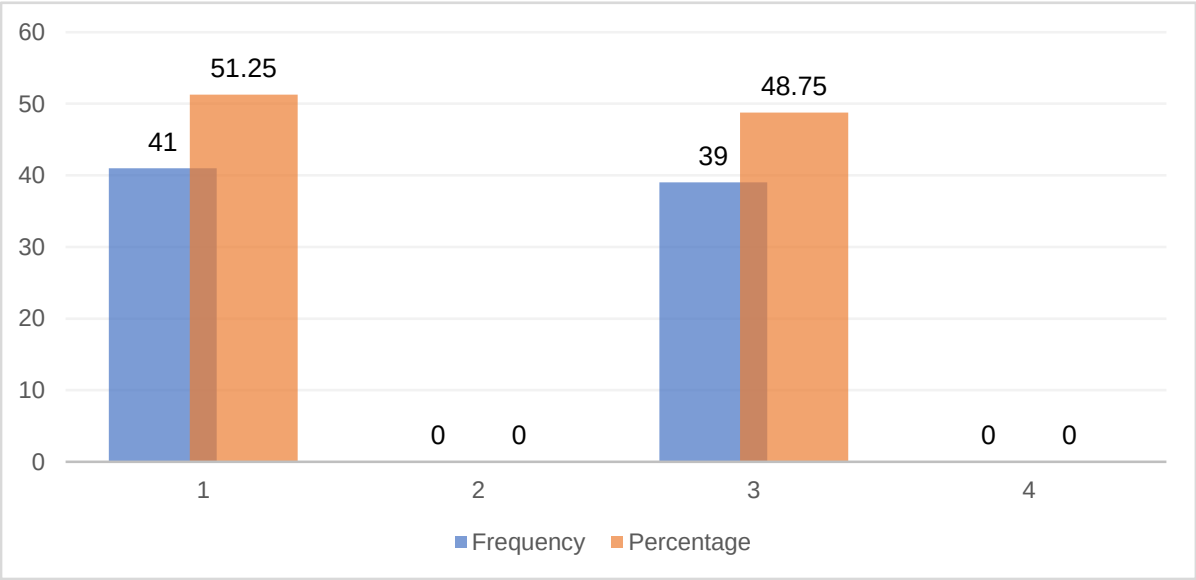


Figure 2: Percentage Distribution of samples based on the level of knowledge regarding biomedical waste management

SECTION III

Table 3: Percentage Distribution of samples based on the No Level of practice
Frequency(F) Percentage (%) level of practice regarding biomedical waste management.

Level of Attitude	Frequency	Percentage
Good level of Attitude	35	44
Adequate level of Attitude	45	56.25
Poor Level of Attitude	0	0

Table III - shows that frequency and percentage distribution of samples according to the Attitude score of Staff nurses regarding biomedical waste management. It reveals that of, 44% of Staff nurses had good level of Attitude, and 56.25 % of paramedical workers had adequate Attitude, none of the Staff nurses had poor level of Attitude score of Staff nurses regarding biomedical waste management. It reveals that of, 44% of Staff nurses level of Attitude.

SECTION –IV

Table V: Association between knowledge and demographic variables of staff nurses

Sr no	Demographic variable	Calculated value	Tabulated value	DF	X2
1	Age	0.9044	5.99	2	0.201 NS
	21-30				
	31-40				
	41-50				
2	Gender	0.92735	3.84	1	0.1508 NS
	Male				
	Female				
3	Religion	0.550294	5.99	2	1.1949 NS
	Hindu				
	Muslim				
	Christian				
4	Year of experience	0.2011114	7.82	2	4.6285 NS
	<1 year				
	1 to 5 years				
	6 to 10 years				
	10 and above				
5	Education	0.3222733	5.99	2	3.4848 NS
	ANM				
	GNM				
	B.sc nursing/ Post basic B.sc				
6	Training on BMW	7.6505	3.84	1	0.00567S
	Yes				
	No				
7	Working hours	0.579892	5.99	2	1.0898 NS
	>8 hours				
	<8 hours				
	8 hours				

8	Duty site	0.961788	7.82	3	0.6114 NS
	Ward				
	ICU				
	OPD				
	OT				
	Other				

For association of age group with knowledge and demographic variables, the calculated value of chi-Square(X^2) was 0.201 and table value was 5.99 at 2 degree of freedom and 0.05 level of significance. So, there was no significant association between knowledge and demographic variable age. For association of gender with knowledge and demographic variables, the calculated value of chi-square (X^2) was 0.1508 and table value was 3.84 at 1 degree of freedom and 0.05 level of significance. So, there was no significant association between knowledge and demographic variable gender. For association of religion with knowledge and demographic variables, the calculated value of chi-square (X^2) was 1.1949 and table value was 5.99 at 2 degrees of freedom and 0.05 level of significance. So, there was no significant association between knowledge and demographic variable religion. For association of year of experience with knowledge and demographic variables, the calculated value of chi-square (X^2) was 4.6285 and table value was 7.82 at 3 degree of freedom and 0.05 level of significance. So, there was no significant association between knowledge and demographic variable. For association of education with knowledge and demographic variable, the calculated value of chi-square (X^2) 3.4848 and table value was 5.99 at 2 degree of freedom and 0.05 level of significance. So, there was no significant association. between knowledge and demographic variable education. For association of training on B.M.W with knowledge and demographic variable, the calculated value of chi-square (X^2) 7.6505 and table value was 3.84 at 1 degree of freedom and 0.05 level of significance. So, there was **significant** association between knowledge and demographic variable for association of working hours with knowledge and demographic variable the, chi-square (X^2) 1.0898 and table value was 5.99 at 2 degree of freedom and 0.05 level of significance. So, there was no significant association between knowledge and demographic variable. For association of Duty site with knowledge and demographic variable, the calculated value of chi-square (X^2) 0.6114 and table value was 7.82 at 3 degree of freedom and 0.05 level of significance. So, there was no significant association between knowledge and demographic variable.

Section V:

Table VI: Association between Attitude and demographic variables of staff nurses

Sr no	Demographic variable	Calculated value	Tabulated value	DF	X^2
1	Age	0.843474	5.99	2	0.3405 NS
	21-30				
	31-40				
	41-50				
2	Gender	0.198063	3.84	1	1.6566NS
	Male				
	Female				
3	Religion	0.586809	5.99	2	1.0661NS

	Hindu				
	Muslim				
	Christian				
4	Year of experience	0.889672	7.82	3	0.6294NS
	<1 year				
	1 to 5 years				
	6 to 10 years				
	10 and above				
5	Education	0.101524	5.99	2	4.5749NS
	ANM				
	GNM				
	BSc nursing/ Post basic B.sc				
6	Training on BMW	6.0538	3.84	1	0.013877S
	Yes				
	No				

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