UNDERSTANDING OF BIOMEDICAL WASTE MANAGEMENT AMONG COLLEGE STUDENTS

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ABSTRACT

Introduction:-Hospital! A place to serve the patient. From the beginning, the hospitals are known for the treatment of sick persons. Adequate knowledge about the health hazards of hospital waste, proper technique and methods of handling the waste, and practice of safety measures can go a long way towards the safe disposal of hazardous hospital waste and protect us from various adverse effects of the hazardous waste.

Objectives: Assess the existing level of knowledge of 1st year G.N.M. student regarding management of bio-medical waste at JaideepSharda Memorial Nursing Academy, Parvat gam, Surat, Evaluate the effectiveness of structure teaching programme on management of bio-medical waste among 1st year G.N.M. students at JaideepSharda Memorial Nursing Academy, Parvat gam, Surat, Find out association between post test knowledge score and selected demographic variables such as age, sex, marital status, previous knowledge regarding bio-medical waste.

Material & Methods: A pre experimental study was conducted in selected School of JaideepSharda Memorial Nursing Academy. Tool consists of a set demographic variables and

Questionnaires scale used to assess the knowledge.The sample for study was 30 F.Y.GNM students. A structure teaching program on knowledge on biomedical waste management was the intervention of the study.

Conclusion: Through the studystudents had gained knowledge on biomedical waste management. It has given a new avenue to the researcher to widen the horizon on move research aspect of knowledge and attitude on biomedical waste management among 1st year GNM students.

Key Words: *Understanding, Biomedical waste management, college students.*

INTRODUCTION

All human activities produce waste. We all know 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 health 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 [1]. Itwas observed that health system of poor countries are dysfunctional and it is sad truth. Nurses, laboratory technicians, phlebotomist who are exposed daily to hollow needle inections as well as staff who clean the used instruments are at greater risk of occupational HIV infrctions than other health care worker.[2,3]

The healthcare services while providing services, curative, promotive or preventive inevitably create waste which itself may be hazardous to health. Biomedical waste such as pathological waste, tissues, blood and blood products, surgical dressing, disposable gloves, cotton swabs, soiled dressings from treatment area and waste from operation theaters dumped without proper safety measures, is posing a threat not only to hospital employees but also to the general public and the surrounding environment. Anyone coming into contact with biomedical waste is easily infected. Health care personnel including doctors, nurses and paramedical staffs are the guardians of the community.[4]It is the duty of the entire health care establishment to ensure speedy recovery of their patients by maintaining clean and infection free surroundings. The absence of proper waste management, lack of awareness about the health hazards from biomedical wastes, insufficient financial and human resources, and poor control of waste

disposal connected with health care waste.[5] The hospital waste management has diverse ramification as it not only affects the health of patients but also of health of health care personnel and general public.[6]

Inadequate biomedical waste management not only poses significant rise of infection but also carries the risk of water, air & soil pollution thereby adversely affecting the environment and community at large.[7]In a World Health Organization(WHO) meeting in Geneva, in June 2007, core principle for achieving safe and sustainable management of health care waste were developed. It was stressed that through right investment of resources and complete commitment, the harmful effects of health care waste to the people and environment can be reduced.[8,9]

MATERIAL & METHODS

The investigator selected pre-experimental approach, one group pre-test and post-test design, keeping in the view the objectives of the study, the investigator, observed the groups prior to the intervention (the pre-test). After pre-test, intervention (structure teaching programme) was administered to the same group and was then again assessed (the post-test). The sample size was constitutes of 30 F.Y.GNM students at selected school of jaideepsharda memorial nursing academy selected by using non probability convenience sampling technique according to inclusive criteria as well as availability of samples. A structure teaching program on knowledge on biomedical waste management among 1st year GNM student was the intervention of the study. Content validity of the tool was ensured by verifying it with experts from the field of medicine and nursing. andSelf structured questionnaire was used to assess the effectiveness of planned health education programme on knowledge regarding Biomedical waste management.

Data obtained were analyzed in respect to the objectives of the study by using descriptive and inferential statistics.

FINDINGS:

The collected data tabulated on the master sheet and analyzed using descriptive and inferential statistics.

Table 1: frequencies and percentage distribution of GNM Students according to their personal characteristic (Demographic variables)(N=30)

Sr. No	Characteristics	Categories	Frequency	Percentage%
1	Age	18-22	29	96.67%
		23-26	01	03.33%
		Total	**30**	**100%**
2	Gender	Female	29	96.67%
		Male	01	03.33%
		Total	**30**	**100%**
3	Marital Status	Married	03	10.00%
		Unmarried	27	90.00%
		Total	**30**	**100%**
4	Previous Knowledge	Yes	05	16.67%
		No	25	83.33%
		Total	**30**	**100%**

The majority 29 (96.67%) respondents belongs to the age group of 18-22 years of age while in the group of 23-26 year 1(3.33%) responds ,29 (96.67%) respondents belongs to the gender of female while in the group of male 1 (3.33%) responds**,** 27 (90.00%) respondents belongs to the group of unmarried students while in the group of married students are 3 (10.00%) responds and05 (16.67%) students having previous knowledge regarding bio medical waste & while 25 (83.33%) students having no any previous knowledge in this study.

Table 2 : Comparison of the pre-test and post-test knowledge score of effectiveness of structure teaching programme.N=30, t 0.05=1.684

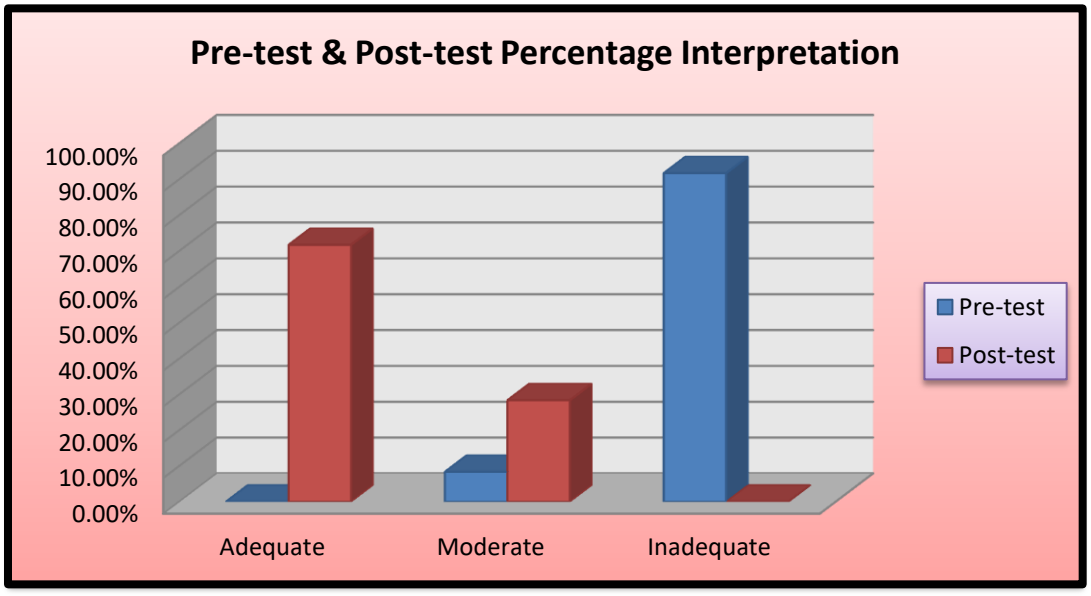
Paired Sample Statistics: Effectiveness of structure teaching programme									
	Mean	Mean Difference	Percentage	SD	Std. Error Mean	Coefficient of correlation	T	P	Significance Level
Pre-test Score	4.24	6.3	21.00%	1.30	0.136	0.032	15.150	1.684	S

Post-test Score	11.07		36.90%	0.122	0.152				

The data from the above table shows that in pre-test, 1st year GNM students were having on average 21.00% knowledge regarding biomedical waste 4.24±1.30 and in post-test, average 36.90% knowledge regarding biomedical waste and mean score was 11.07±0.122 .T calculated value is 15.150 which are more than the tabulated value of 1.684 at 0.05 level of significance. So the study concluded that there is significant difference between pre-test and post-test knowledge score of GNM students.

Figure:1Diagram representing understanding of Respondents: Pre-test & Post-test percentage Interpretation.

In the post-test there was marked improvement in the knowledge of GNM Students. In post-test score maximum 43 (71.67%) GNM Students scored adequate performance and 17 (28.33%) GNM Students scored moderate performance.



DISCUSSION

The present study was conducted to assess the effectiveness of structure teaching programme on biomedical waste among 1st year GNM students. Pre experimental research design with single

group pre testpost test design approach was adopted in order to achieve the objectives. The sample were selected using convenience sampling technique. The sample size was 30 and the data was collected from them by using a structured knowledge questionnaire before and after administration of structure teaching programme. Analysis of obtained data was planned based on the objectives and hypothesis of the study, both descriptive and inferential statistics were used for the analysis of the data. The data is interpreted in the forms of tables andgraphs.

NileshMhaske (2015), was conducted a experimental descriptive study to assess the effectiveness of planned teaching program on biomedical waste management among staff nurse working in Dr. Vikhepatil memorial hospital Ahmednagar.Self prepared structured questionnaire was used to collect the data. Descriptive and inferential statistics and Paired 't' test was used to analyze and interpret the data. The result of the study was Paired 't' test of correlation analysis between pre test and post test score shows there is significant relationship (t= 12.04) which reveals positive relationship between variable. So it can be interpreted that the planned teaching programme on biomedical waste management is effective among staff nurse. The study concluded that it is essential to raise awareness on biomedical waste management and its impact on health & develop health seeing behaviors among the patients and improve the quality of life.[10]

CONCLUSION

The conclusions were drawn on the basis of the present study : The pre-test conducted among 30 subjects, none had adequate knowledge score, In the post-test, 71.67% had adequate knowledge score on biomedical waste after administration of structure teaching programme. The gain in knowledge score was significant at 0.05 level of significant and calculated paired t test value is **29.105** which is greater than table paired t value **1.684** and it also conclude that Health education is a primary responsibility of the nurse who is called to be caregiver with knowledge and expertise.

Ethical approval

Informed consent wasobtained from participants and assured for anonymity. Since the study involved human subjects, a formal ethical approval was received from institutional ethical committee.

Conflict of Interest

The author declares that they have no conflicts of interest.

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