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| A Contraction of the contraction | Original Research Paper Medical Surgical Nursing  |
|  | A PRE- EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF<br>PLANNED TEACHING ABOUT KNOWLEDGE REGARDING HOSPITAL WASTE<br>SEGREGATION AND MANAGEMENT AMONG THE CLASS IV WORKERS IN<br>SELECTED HOSPITAL. |
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| ABSTRACT Objectives: To assess the existing knowledge regarding hospital waste segregation and management  |   |

ABSTRACT among class IV workers. To evaluate the effectiveness of planned teaching on knowledge regarding hospital waste segregation and management among class IV workers. To find out the association between knowledge regarding hospital waste segregation and management with selected demographic variables. Methods: Non probability convenient sampling technique was used to select the sample. Quantitative research approach with -pre-experimental one group pre-test Post-test research design was used. The data collection period was about 10 days by using the prepared tools. On Day 1 Pretest was conducted 30 samples were gathered structured knowledge questionnaires given to samples to collect data and same day planned teaching was given to the same samples on next day remaining 30 samples were gathered pre-test was done and planned teaching was given to remaining samples after 7 days Post-test was conducted by using same questionnaires order to meet the samples. finally, the reports were analyzed Result: The mean pre-test score of existing knowledge of subjects was 13.23 with a standard deviation of 3.66. whereas in post-test mean score was 18.20 with a standard deviation of 1.91. the overall mean knowledge scores of pre test and post test which reveals that in post test mean knowledge score was higher 18.20 with SD of  $\pm 1.91$  when compared with pretest mean knowledge score value which was 13.23 with SD of  $\pm 1.91$ . No association of knowledge was found with selected demographic variable such as , age , education status , gender and year of experience . Conclusions: The analysis of the study revealed that, it was concluded undoubtedly that the planned teaching effectively increased the knowledge of hospital waste segregation and management.

# KEYWORDS : Knowledge, Planned Teaching, Hospital waste segregation, Class IV workers, Hospital.

## INTRODUCTION

All human activities produce waste. We all know that such waste may be dangerous and needs safe disposal. Industrial waste, sewage and agriculture waste pollute water, soil and air , it can also be dangerous to human beings and environment. Similarly, hospitals and other health care facilities generate lot of waste which can transmit infections, particularly HIV, Hepatitis B and Hepatitis C and Tetanus, to the people who handle it or come in contact with it<sup>1</sup>

Health care personnel including Doctors, Nurses and Paramedical staff are the guardians of the community. It is the duty of the entire health care establishment to ensure speedy recovery of their patients by maintaining clean and infection free surroundings. Basic sanitation and cleanliness have always been mandatory requirements in the health care establishment. Collection and disposal of biomedical waste is often ignored and is directly responsible for the spread of diseases in the community, specifically among health care personnel<sup>2</sup>

Improper hospital waste management has serious impact on the environment. The government of India reacted to global concern and notified the biomedical waste management rule in 1998. This rule is applicable to every hospital, nursing home, veterinary institutions and animal houses that generate biomedical waste<sup>3</sup>.

The quantity of bio medical waste generated will vary depending on the hospitals, colleges and practices and the type of care being provided. According to WHO, 85% of the hospital waste is actually non hazardous, 10 % is non infectious and the remaining 5 % is non infectious but hazardous consisting of chemical, pharmaceutical, radioactive materials. In India 0.5-2 kg waste per patient per day is generated and the percentage of infectious waste is much higher, that is 30-60 percentages<sup>4</sup>.

waste management & handling rules, 1998. These are a welcome step towards improving the overall waste management of health care units in India. These rules are applicable to all persons who generate, receive, store, transport, treat, dispose or handle bio-medical waste. These rules are also applicable to any institution generating biomedical waste including hospitals, nursing homes, clinics, dispensaries veterinary institutions, animal houses, pathological laboratories and blood banks, or authorities in charge of these institutions<sup>5</sup>

## **Need For The Study**

Today, everyone is working towards reducing the prevalence of infection associated with health care setting. Every health care worker plays a vital role in helping to minimize the risk of cross infection. Infection control is critically important for effective provision and management of health care services. Infection control measures are the measures practiced by the healthcare personnel intended to prevent the spread of infection between clients, from occupational therapists in the health care setting hospital solid waste produced in India ranges from 1.5 to 2.2kg/day/bed.

Health-care waste management in India is receiving greater attention due to recent regulations (the Biomedical Wastes (Management & Handling) Rules, 1998). The prevailing situation is analyzed covering various issues like quantities and proportion of different constituents of wastes, handling, treatment and disposal methods in various health-care units (HCUs). The waste generation rate ranges between 0.5 and 2.0 kg bed-1 day-1. It is estimated that annually about 0.33 million tones of waste is generated in India. The solid waste from the hospitals consists of bandages, linen and other infectious waste (30-35%); plastics (7-10%), disposable syringes (0.3-0.5%), glass (3-5%) and other general wastes including food (40-45%). In general, the wastes are collected in a mixed form, transported and disposed of along with municipal solid wastes. At many places, authorities are failing to install appropriate systems for a variety of reasons, such as non-availability of appropriate technologies, inadequate

## BACKGROUND OF THE STUDY

The Government of India has promulgated the Bio-chemical

financial resources and absence of professional training on waste management. Hazards associated with health-care waste management and shortcomings in the existing system are identified<sup>7</sup>.

### Hypothesis

 $\rm H_{o}$ : There is no significant difference between pre test and post test knowledge scores regarding hospital waste segregation and management among class IV workers, which is measured by structured knowledge questionnaire at  $p\!<\!0.05$  level of significance.

 $\rm H_{i}:$  There is a significant difference between pre test and post test knowledge scores regarding hospital waste segregation and management among class IV worker ,which is measured by structured knowledge questionnaire at p<0.05 level of significance.

#### **Ethical Aspects**

- Permission is obtained from institutional ethical committee.
- Prior information is obtained from the higher authorities to conduct pilot study as well as the research study.
- Written Informed consent is obtained from each study subjects.
- · The subjects are informed about the confidentiality.

## Sampling Criteria

Inclusion Criteria

- Class IV workers who are involved in cleaning and care of patient's unit.
- Class IV workers who are willing to participate in the study.
- Class IV workers who are able to write Marathi

### Exclusion criteria

Class IV workers those who are attended similar type of training.

#### Withdrawal criteria

• Subject can withdraw from this study whenever to do so.

### METHODOLOGY

Non probability convenient sampling technique was used to select the sample. Quantitative research approach with -preexperimental one group pre-test Post-test research design was used. The data collection period was about 10 days by using the prepared tools. On Day 1 Pretest was conducted 30 samples were gathered structured knowledge questionnaires given to samples to collect data and same day planned teaching was given to the same samples on next day remaining 30 samples were gathered pre-test was done and planned teaching was given to remaining samples after 7 days Post-test was conducted by using same questionnaires in order to meet the samples. finally, the reports were analyzed.

#### Tools

Section- I: Demographic variables such as It consist of Performa for collecting demographic data of Class IV worker. It includes the Age, Education, Gender and Year of experience as a Class IV workers. Section-II: It consist of 27 multiple choice questions to assess the knowledge of subjects regarding hospital waste segregation and management. Each question had 4 alternatives out of which three were distracters and one was correct response.

Statistical analysis: The data was analyzed, by using descriptive and inferential statistics on the basis of objectives and hypothesis of the study. Analysis of effectiveness of planned teaching done with the help of class IV workers paired t'test. Association between post-test knowledge scores and demographic variables were analyzed by chi-square test.

Section A describes the sample characteristics. In that 11.7% of the subjects belong to the age group of 20-25 years, 25% of subjects each were from the age group of 25-30 years and 30-35 years, 38.3% of the subjects were in the age group of more than 35 years or more, 23.3% of the subjects were educated up to primary, 43.3% were upto secondary and 16.7% were educated upto higher secondary and graduation and above, Majority of the subjects ie 66.7% were males and 33.3% were females, Work experience of the subjects reveals that 15% of them had experience of less than 5 years, 43.3% had 5-10 years, 13.3% had 10-15 years and 28.3% had experience of more than 15 years . Section B describe the existing level of knowledge of subjects .In pretest , 50% of the subjects were having average level of knowledge , 31% of subject having poor level of knowledge, Good level of knowledge is observed in 16.67% of subjects and only 1.67% are having excellent level of knowledge regarding hospital waste segregation and management. In post test, out of sixty (60) fourty eight (80%) samples gained good level of knowledge, ten (16.67 %) samples having average level of knowledge, no sample were having poor knowledge ,where as two ( 3.33% ) samples were having excellent level of knowledge. Sample obtained mean score of 18.20 with a standard deviation of 1.91 in post test knowledge score. Section C describes that comparison of pretest and posttest knowledge subjects level of before and after planned teaching. Nineteen subjects were having poor level of knowledge ie (31.67%) , where as in post test none was found in the poor level , thirty subjects ( 50%) were having average level of knowledge in pretest where as in post test only 16.67% were having average level of knowledge .80% (48 samples ) gained good level of knowledge in post-test as compared to 16.67 % (10 samples) in pretest. Excellent level of knowledge in post-test was observed in two subjects, whereas only one sample having excellent level of knowledge in pretest. Section D describes that association of pretest knowledge score regarding hospital waste segregation and management with selected demographic variable. No association of knowledge was found with selected demographic variable such as, age, education status, gender and year of experience.

### CONCLUSION

After the detail analysis, the study led to following conclusions. There was significant increase in the level of knowledge of subject after the planned teaching, to find the effectiveness of planned teaching paired 't' test was used and 't' value is calculated. The mean post test score was significantly higher than their mean pretest score as evidenced from structured knowledge test 'p' < 0.005 level of significance. Thus, it was concluded that information regarding hospital waste segregation and management was found to be effective teaching strategy. Demographic variable did not show any role in influencing knowledge level of participants. Hence, based on the above cited finding, it was concluded undoubtedly that the planned teaching effectively increased the knowledge of hospital waste segregation and management.

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