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A Study to Assess the Knowledge about Disposal of Biomedical Waste among the Hospital Staff in a Multi-Specialty Hospital in Vadodara, Gujarat

Rohit Jignesh[1], Thakkar Mital[2], Rathva Jignesh[3]
[1, 3]4th semester Student, [2]Assistant Professor, Department of Management, Sumandeep Vidyapeeth

Abstract: Introduction: *Workplace hazards and health hazards are major public health concerns worldwide, contributing to the global burden of non-communicable diseases (NCDs). One-third of adult life is spent at the workplace, with risky exposures often higher than in other environments. Accidents and occupational diseases cause 1,000 deaths daily, with 65% reported in Asia.To assess the knowledge of nursing staff and doctors with respect to gender, age and marital status. Awareness regarding BMW management will help the authorities to develop the strategy for improving the situation in future.*

Research Methodology: *The study followed an observational cross-sectional design and was conducted over a one-month period at Dhiraj Hospital in Vadodara, Gujarat. The sample size consisted of 207 medical staff, including nurses, doctors, housekeeping staff, and lab technicians. The selection criteria included permanent staff of the hospital who signed the informed consent and were willing to participate.*

Findings and Analysis: *The study revealed a gender distribution of 51.7% male and 48.3% female among 207 hospital staff, with the majority aged 25-35, followed by 35-45, and 45-55. Work safety practices were average, with a smaller percentage above 55.*

Conclusion: *The study on the knowledge about disposal of biomedical waste among the hospital staff in a multi-specialty hospital in Vadodara, Gujarat, sheds light on the existing gaps in BMW management practices. It emphasizes the importance of addressing occupational health hazards and promoting a safe work environment*

Keywords: Biomedical waste, Health care personnel, Knowledge, Attitude

I. INTRODUCTION

Work-related safety and health hazards are major public health concerns worldwide. The occurrence of workplace hazards, occupational diseases, and deaths contribute significantly to the increase in the global burden of non-communicable diseases (NCDs) (1)As per the World Health Organization (WHO), one-third of adult life is spent at the workplace where risky exposures are often several times greater than in any other environment.(2) The International Labor Organization (ILO) estimates that every day a 1,000 people die globally from accidents at the workplace and 6,500 from occupational diseases while about 65% of this global work-related mortality is reported annually in Asia. (1)NCDs, injuries, and infectious diseases contribute 70, 22, and 8%, respectively, to the total disease burden from the occupational health risks according to the WHO. (3)This should not be overlooked as many workers are persistently challenged by occupational safety and health risks. (1) Waste is generated from human activities which is inevitable in any habitation. (4)Management of all such waste is vital globally but the handling of the waste is associated with physical, chemical, and psychosocial hazards, (5) which involve dominance of manual-handling tasks. The Municipal Solid Waste (MSW) workers in the developing countries are at more risk than those in the developed countries where direct handling of the waste is limited to enhance process efficiency and ensure worker protection. (6)In developing countries like India, waste is picked from households and industries and dumped at landfill sites (4) for which the city municipalities employ a large number of MSW workers. These MSW workers experience occupational risks and morbidities throughout the process of waste collection, management, and disposal depending on the equipment they use and the waste material they handle. (7) This diverse group of occupational morbidities though preventable might not be properly addressed and treated adequately due to limited attention and healthcare access. (6)

Occupational accidents may cause the loss of valuable workers and high healthcare expense (8). Those suffering from occupational hazard may be afflicted with occupational diseases, work-related illness, or loss of life. (9,10) Because occupational accidents and diseases are ascribed to inadequate working conditions and work environment, they can be preventable under a well-established occupational safety and health management system, which serves as a quality management technique to ensure workers' health and reduce the expense of healthcare. (11, 12) Hence, it is vital for companies to promote health and safety in the workplace because health and safety have a considerable influence on the reputation of a company.

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A. Aim of the Study

A study to assess the knowledge of hospital staff about to bio medical waste (BMW) with respect.

B. Objectives

To assess the knowledge of nursing staff and doctors with respect to gender, age and marital status.
Awareness regarding BMW management will help the authorities to develop the strategy for improving the situation in future.

II. RESEARCH METHODOLOGY

A. Study Design

1) Time Scale : 1 Month
2) Place of Study : Dhiraj Hospital Vadodara , Gujarat
3) Study Design : Observational Cross-sectional study

B. Sample Size

The population of the study shall be the staff of the Dhiraj hospital Following formula can be used to determine sample size.
Sample size= $N/1+Ne^2$
Where, Population Size, N= 445 Margin of error = e = 0.05 at 95% confidence level
Total Population (N) is 445 staff of Trust based hospital
The sample size thus yielded is 207 medical staff of Trust based hospital
Sample Size of Nurses-60, Sample Size of Doctors-50, Sample size of housekeeping staff-70, Sample size of lab.technician-27
(Nurses-120, Doctors- 130, Housekeeping staff-150, Lab.technician-45)

C. Selection Criteria

1) Inclusion Criteria

a) Permanent Staff of the Hospital
b) The people who have signed the informed consent
c) Willingness to participate

2) Exclusion Criteria

a) Temporary/Contract/Daily staff of the Hospital
b) Unwillingness to participate
c) Participants who do not return the questionnaire within a stipulated time.

D. Material or Equipment for the Study

A structure questionnaire in English & local Language along with consent forms. Will be use for study purpose.
Source of data: https://ir.nbu.ac.in/bitstream/123456789/2654/19/19_questionnaire.pdf

E. Methodology

A cross sectional descriptive design using 5-pointLikert scale questionnaire for the study which is distributed among the staff of the hospital.

F. Conclusion

Age wise distribution in 25-35year 85 sample (41.1%) good work safety, age 35-45 year 53 samples (25.6%) average work safety them 45-55year 37 sample(17.9%) average work safety, and more then 55year 32 sample (15.5%) poor work safety.
The research study had concluded as finding indicate that cross-sectional descriptive study was effective strategy in bring about changes in practices of work safety among employee who are working in Dhiraj hospital Vadodara city
In the study found that working employee in Dhiraj hospital, Vadodara had average practices of work safety. Accordingly analyzed data of questionnaire should be prepare and distributes among employee in working in Dhiraj hospital, Vadodara city. It was very effective in increasing practices of work safety.

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G. Suggestion

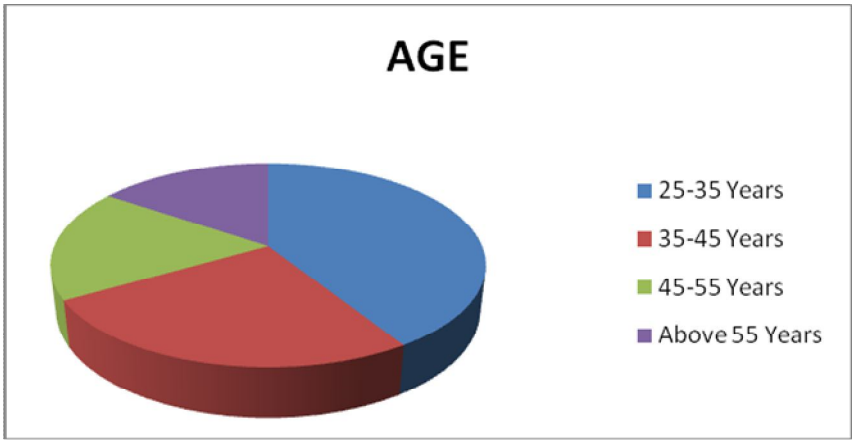
1) Occupational health risks occur at every step in the process, from the point of collection at homes, during transportation and at the sites of recycling or disposal

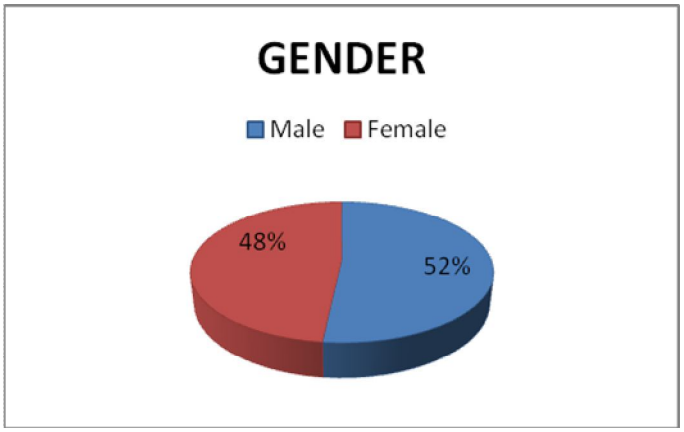
2) There is need to provide special educational scholarship program for the workers.

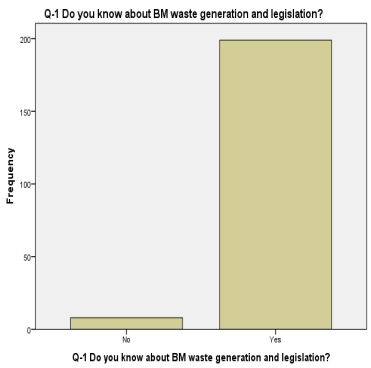
3) The amount of disposing waste is increasing day by day. Therefore, Hospital management has to provide sufficient carrier facilities with advanced level technology to the workers.

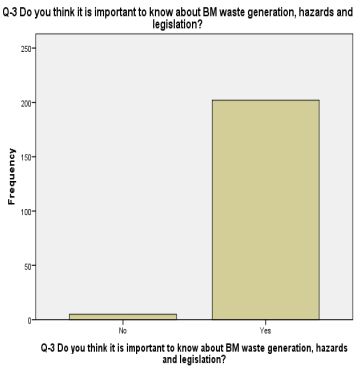
4) Based on this study, it is recommended to improve occupational health and safety practices. Awareness programs need to be focused to increase the knowledge on Occupational health hazards and safety practices to improve the utilization of Personal ProtectionEquipment's(PPEs).

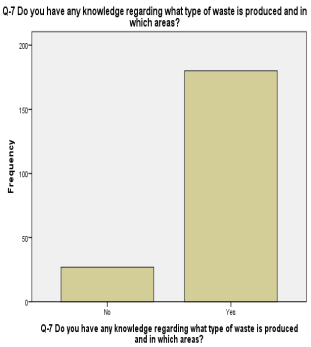
III. DATA ANALYSIS

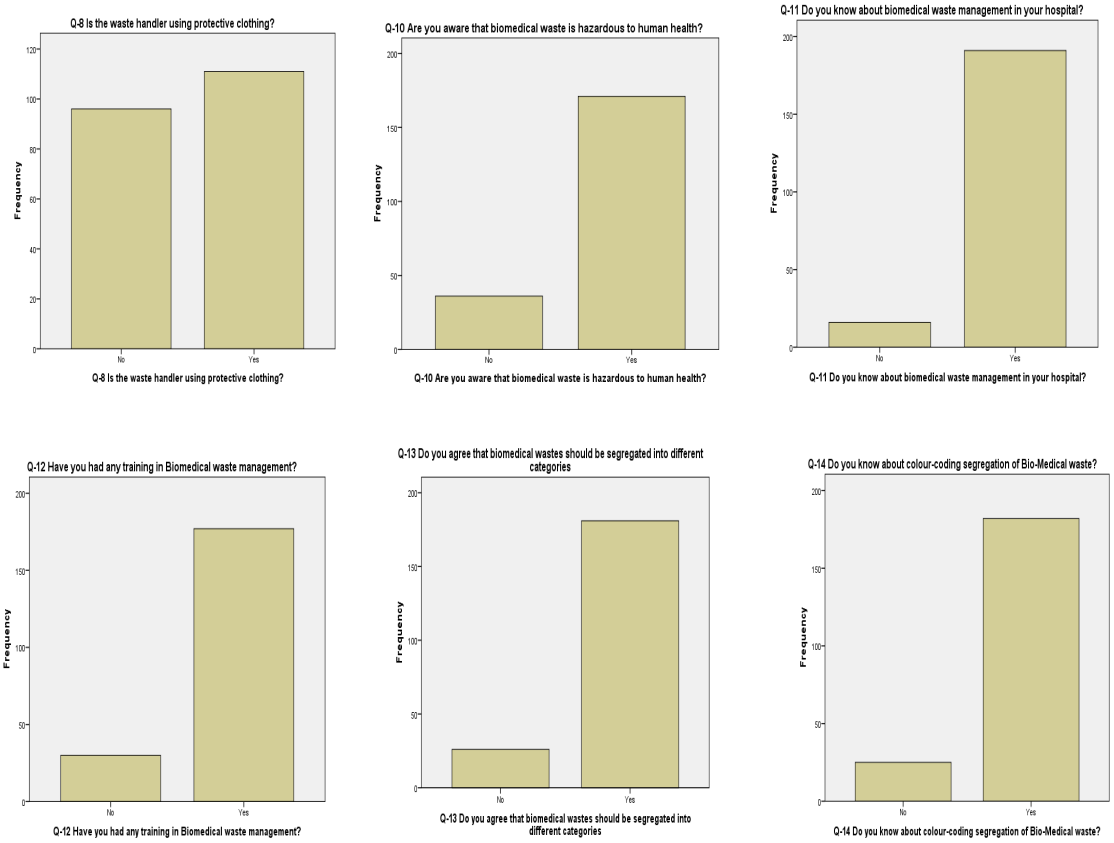










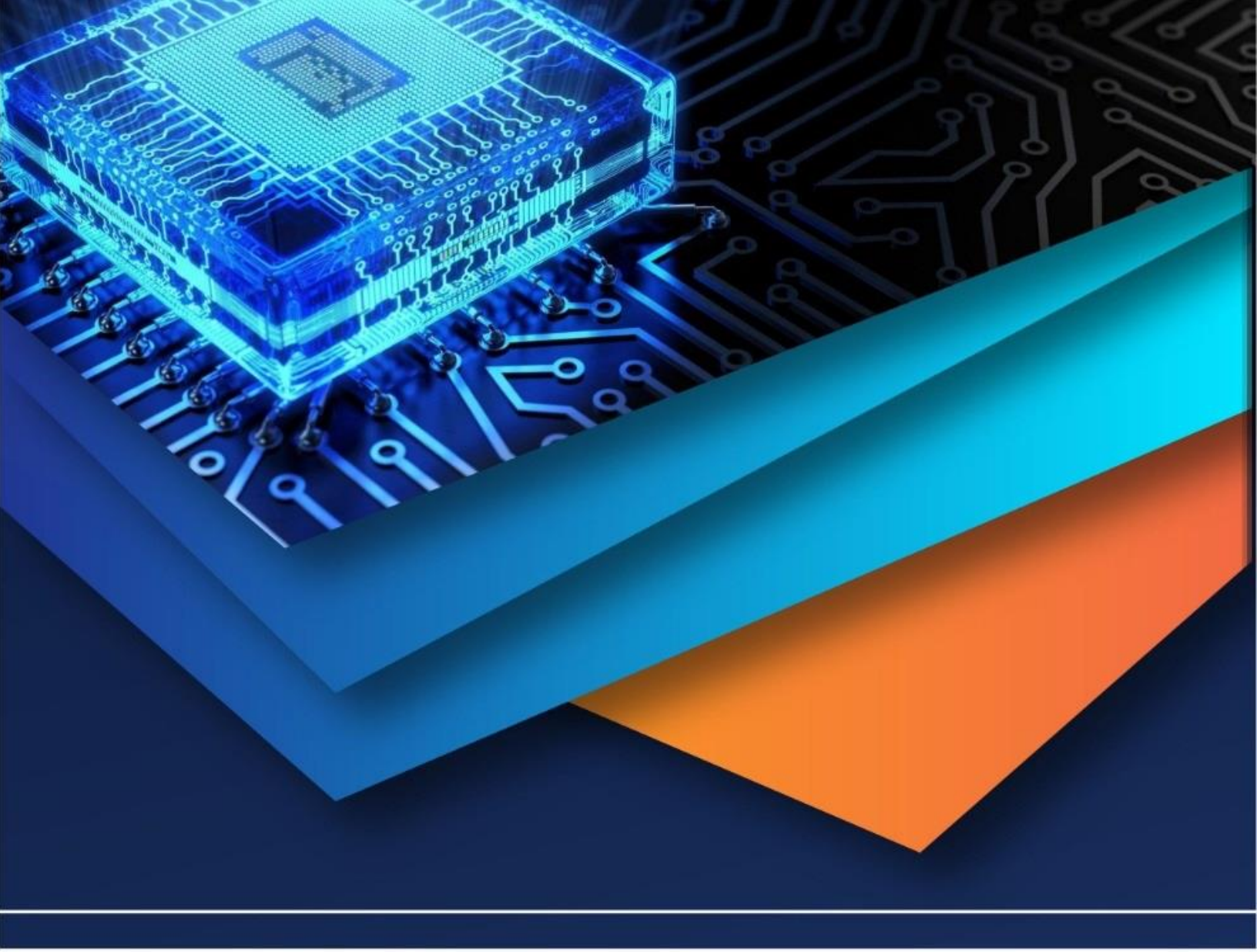


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