

Study on Bio-Medical Waste Management and Practical Strategies for Development of Self Awareness

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Abstract – Medical caregivers spend the most energy with patients in the ward than any other member of the prosperity group, which increases their exposure and vulnerability to the dangers prevalent in the emergency clinic, which include, in general, biological waste. They should be well-versed in the most recent data, abilities, and practises in controlling this waste, in addition to reducing emergency clinic-acquired infections, to ensure their own well-being Aware of the many components of biomedical waste management and to use this knowledge and positive attitude in their daily work. When compared to their previous knowledge and practise prior to the use of the organised instructing programme, this investigation has revealed that the staff medical attendants have a significant increase in their knowledge and demeanour with respect to Biomedical waste administration after completing the organised educational programme. The pre-test and post-test information, as well as the attitude ratings of staff medical caregivers, have a bad positive association.

Keywords – Bio-Medical, Waste, Management, Self Awareness

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INTRODUCTION

Management of Hospital/Bio-Medical Waste:

A global viewpoint The correct management of hospital/healthcare/biomedical waste has become a major subject with worldwide ramifications and attention. Of course, it is widely recognized and recorded that hospital waste poses a possible health risk to health care personnel, the general public, and the local flora and animals. A 1990 assessment by the United States Agency for Toxic Substances and Disease Registry determined that biological waste from health care settings may provide harm and exposure concerns to physicians, nurses, and janitorial, laundry, and trash employees via occupational contact with medical waste. As a result, biological waste must be carefully handled and disposed of in order to safeguard the environment, the general public, and employees, particularly healthcare and sanitation professionals who are at danger of occupational exposure to biomedical waste. Generation, accumulation, handling, storage, treatment, transport, and disposal are all steps in the management of biological waste.

Biomedical waste is defined as any waste created during the diagnosis, treatment, or vaccination of humans or animals, or during related research

activities, or during the creation or testing of biologicals.

1A large volume of nonhazardous and hazardous waste is generated by healthcare institutions, especially labs. Disposable medical gadgets and things create much more biomedical waste than one would imagine. The proper collection, storage, and disposal of biomedical waste has become a major problem for both the medical and general communities. Inadequate and improper treatment of healthcare waste, along with lax infection control, has resulted in an increase in the number of hospital-acquired illnesses among health-care professionals. Globally, 16-84 percent of hospitals did not follow biological waste management standards.

Bio-Medical Waste Management:

A Legal Requirement: The Environment Protection Act of 1986, the Bio Medical Waste (Management and Handling) Rules of July 1998, which were later changed in 2011, and now the "Bio-medical Waste Management Rules, 2016" witness to the Government of India's commitment. The legislation is based on the basic "polluter pays" idea. The responsibility of hospital administrators for proper handling and disposal of biomedical waste became a

statutory requirement with the promulgation of Government of India (Ministry of Environment, Forests, and Climate Change) gazette notification no. 460 dated July 27, 1998, and notification of the Bio-medical Waste (Management and Handling) Rules in July 1998, which were later revised in 2011. With gazette notice no. G.S.R. 343(E) dated March 28, 2016, the "Bio-medical Waste Management Rules, 2016" took effect, superseding the 1998 rules. The Central Pollution Control Board and State Pollution Control Committees have the jurisdiction to revoke the Consent to Operate and Authorization of Healthcare Institutions, as well as the Bio-medical Waste Management Rules 2016.

Such incidents have occurred in India. It is therefore critical that all officials involved in the administration of hospitals and other health care echelons take all necessary steps to ensure that waste generated is handled in a way that does not harm human health or the environment. It is also critical that all medical, dental, nursing officers, other paramedical staff, and waste handlers such as safaikarmacharis, hospital attendants, and sanitation attendants are well-versed in the fundamentals of biomedical waste handling and management. This guidebook is envisioned with the goal of delivering such essential information. In addition to being unethical, needle stick injuries sustained by healthcare personnel as a result of poor biomedical waste management techniques are legally actionable. Failure to comply with the Rules would result in punitive action under the Environment (Protection) Act, 1986, which entails imprisonment for a term of 5 years or a fine of Rs.1 lakh, or both.

Waste management has become a serious issue in the majority of nations during the last two decades. With the introduction of disposable needles, syringes, and other similar devices in recent years, medical waste disposal has become even more challenging. This is an issue that India has been dealing with as well. If hospital trash is not adequately handled, it may be detrimental to the environment. It endangers not only the employees working in the hospital, but also the people in the surrounding area. Infectious waste may cause illnesses such as hepatitis A and B, AIDS, Typhoid, and boils.

Management Duties (Hospital/ Healthcare Facility):

1. To provide a safe, ventilated, and secure space inside the premises for the storage of separated BMW.
2. According to the Bio-Medical Waste Management (Amendment) Rules, 2018, the usage of chlorinated plastic bags (excluding blood bags) and gloves must be phased out by March 27, 2019.
3. Provide training to all health care employees and those engaged in biomedical waste

disposal at the time of induction and once a year afterwards, and keep records.

4. Workers must be immunized against Hepatitis B and tetanus.
5. As per the Bio-Medical Waste Management (Amendment) Rules, 2018, establish a Bar-Code System for bags or containers holding bio-medical waste to be sent out of the premises by March 27, 2019. 11
6. Maintain and update the bio-medical waste management register on a daily basis, and post the monthly and yearly records on the Internet.
7. Report serious incidents such as needle stick injuries, broken mercury thermometers, fires, and explosions when handling bio-medical waste, as well as the corrective action performed, and keep a record of it.

Duties of a Common Bio-Medical Waste Treatment Facility Operator:

1. Report significant incidents, including fires and explosions when handling bio-medical waste, as well as the corrective action performed, to the State Pollution Control Board on Form I.
2. Ensure that BMW is collected from health care institutions on schedule.
3. Handing over recyclable garbage after autoclaving and incineration.
4. Implement a bar coding and global positioning system for handling by the 27th of March, 2019, in accordance with the Bio-Medical Waste Management (Amendment) Rules, 2018.
5. Assist health-care institutions with staff training.
6. Improvements to existing incinerators and attainment of secondary chamber criteria.

Practical strategies for development of self awareness

As previously addressed in this article, self-awareness and why it is essential will now be reviewed, and the emphasis will be on specific methods that may be used to develop individual self-awareness. Improving personal and professional self-awareness is critical for success, professional development, and excellent patient care. Nurses are always there to care for their patients, and it is crucial to remember that in order to serve others, you must first know yourself. For nurses, self-

awareness necessitates efforts that include a reasonable attitude and introspection. It is critical that people understand their own needs and how they impact themselves and others. The literature suggests various practical techniques to develop self-aware, such as soliciting feedback from authentic people, reflecting on one's own activities, diary writing, speaking with a mentor or friend, and practising mindfulness and meditation. Gessler and Ferron (2012) A further analysis of the literature reveals specific tactics that may be readily implemented to improve self-awareness, such as "keeping a reflective journal, learning about body language, and applying models of reflection" (Winson, 2007).

Self-awareness is a continual process that needs constant self-evaluation and purposeful effort. As previously noted, there are several techniques to develop self-awareness; nevertheless, one of the most popular tactics in nursing is reflection. It is always necessary to reflect on our experiences, to appreciate the good and to learn from the bad. As a result, reflections provide a chance to look back and assess techniques for future improvement. Another technique that may be used is to keep portfolios for individual accomplishments and skills.

OBJECTIVES OF THE STUDY

1. To study on Bio-Medical Waste Management
2. To study on Practical strategies for development of self-awareness

RESEARCH METHODOLOGY

Research Approach

It includes a description of the arrangement to investigate the phenomenon under investigation in a structured (quantitative), unstructured (qualitative), or a combination of the two techniques (Qualitative and Quantitative) Plan and the methodology for research that traverses the steps from broad suspicions to itemized techniques for information gathering, analysis, and interpretation.

The overall decision involves determining which method should be used to investigate a topic. The philosophical assumptions that the researcher brings to the inquiry should be advising this option. Procedures for conducting an investigation (known as research designs) include specific research methodologies for gathering, analyzing, and interpreting data.

Research Design

The word "research design" conjures up images of scientific knowledge in businesses. The study design differs amongst researchers based on the variables they manipulate, their perspectives, and the sorts of statistical analysis they apply to decipher information. A research design is established by the decision of

what, where, when, how much, and by what methods to respond to an inquiry or examination study.

The research design is a method of acquiring and investigating information that emphasises the relevance of the research objective with a recession in strategy.

According to Basvanthappa BT (2003), the research design is the planned structure and technique for investigating and addressing the study topic. It is the basic arrangement or outline that the expert chooses to finish their assessment.

According to Polit and Hungler (2011), a research design is an overarching strategy for acquiring answers to research questions. The research design refers to the researcher's overarching strategy for answering research questions and testing the study hypothesis. (Polit and Hungler, 2019 and, how to cope with some of the difficulties encountered throughout the study method. The study design reveals the approaches that the expert receives in order to provide exact, objective, and interpretable data.

POPULATION

The population is the entire number of persons or devices for whom a few trending features have been selected for study. The necessity to define a demographic for a research project originates from the need to know where the study's findings may be applied.

The term "target population" refers to the complete group of people or things about whom analysts want to draw broad conclusions. The objective population, also known as the theoretical populace, has shifting features. The accessible population in research is the group to whom professionals can apply their findings. This population, also known as the examination population, is a subset of the target population. Scientists derive their examples from the available population. Nurses from several hospitals in Ansari nagar New Delhi, India, were included in the study's target group.

SAMPLE:

Because a community typically comprises a big enough number of individuals to investigate effectively, an investigation is frequently confined to at least one sample taken from it. A well-chosen sample will include the great majority of data on a certain population parameter, but the link between the sample and the population must be, for example, to allow legitimate derivations about the population to be derived from that sample.

The sample is the most limited subset of the population chosen for training and inquiry. In the research process, sampling is a tool for selecting representative population units for investigation. This

study's sample consisted of nurses who worked at a specific hospital in Ansari nagar New Delhi, India.

SAMPLE SIZE:

The research sample size includes 300 staff nurses from several hospitals in Ansari nagar New Delhi, India.

SAMPLING TECHNIQUE:

A sampling methodology refers to the procedure of selecting a subset or samples of a target population to represent the whole population.

Non Probability is used in the present investigation. The medical caretakers working at select hospitals in Ansari nagar New Delhi, India, were chosen using a convenient sampling approach. Who have met the requirements for admission? The total number of nurses on staff was 674. Only 300 registered nurses were chosen for this investigation..

DATA ANALYSIS

Except when meticulously shortened, systematically categorised and tabulated, rationally reviewed, astutely inferred, and wisely concluded up, data collecting cannot contribute to any significant concept. During the research period, the most important stage is to investigate and understand the information gleaned from sources. The process of analysing information entails reviewing the prepared materials in order to determine whether or not the inherent facts are significant. It is concerned with dividing existing complicated elements into basic elements, as well as arranging the elements in new configurations, with the ultimate objective of interpretation as its final result (sukhia et al; 1983). The essence of the research report is an analysis of the material gathered.

Using this research, we hope to gain a better understanding of the knowledge and attitudes of those who deal with medical waste management, the impact of medical waste management, particularly bio-medical waste, and the various types of waste management practises that exist in the hospital in Delhi NCR, India. The findings of the study will aid in the development of a more acceptable and less harmful technique for the proper clearing of biological waste, without compromising the general public's health and safety. In order to do this, the investigator picked multiple hospitals in the city of Delhi NCR, India, from which to gather data, and a well-structured questionnaire was delivered to the hospital's staff nurses.

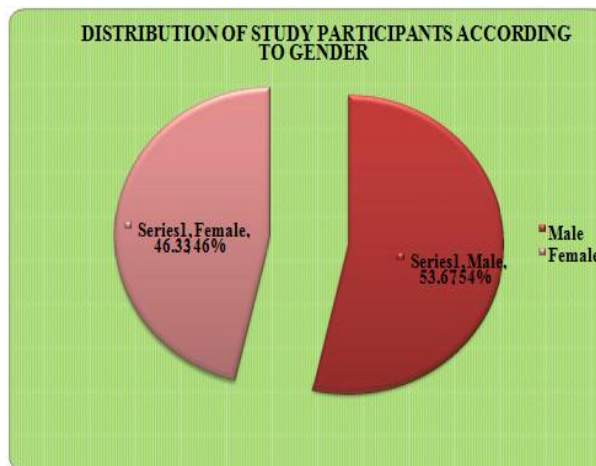


Figure.1: Pie diagram showing distribution of study participants by gender.

Table no .1 and figure no. 1 Majority of staff nurse who participated in this study the majority (54 %) were male and 46% of the staff nurses were Female.

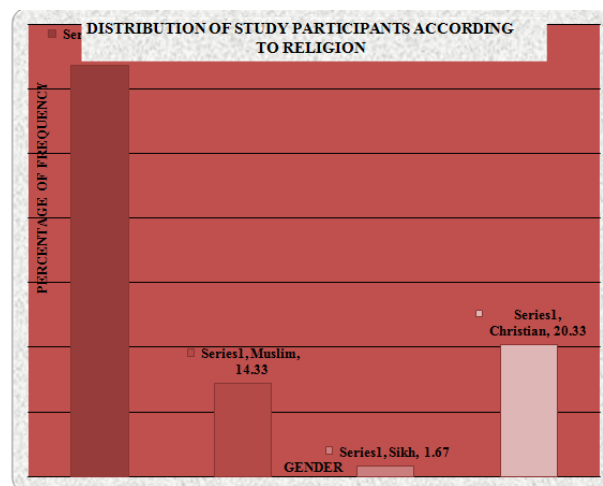


Figure.2: Bar diagram showing distribution of study participants by religion.

Staff nurses who participated in this study were shown in Table and Figure 2. The majority (n= 63.7 percent) of the staff nurses were Hindu, 14.3 percent were Muslim, 20.3 percent were Christian, and the remaining 1.7 percent were Sikh, according to the findings.

DISTRIBUTION OF STUDY PARTICIPANTS ACCORDING TO PROFESSIONAL QUALIFICATION

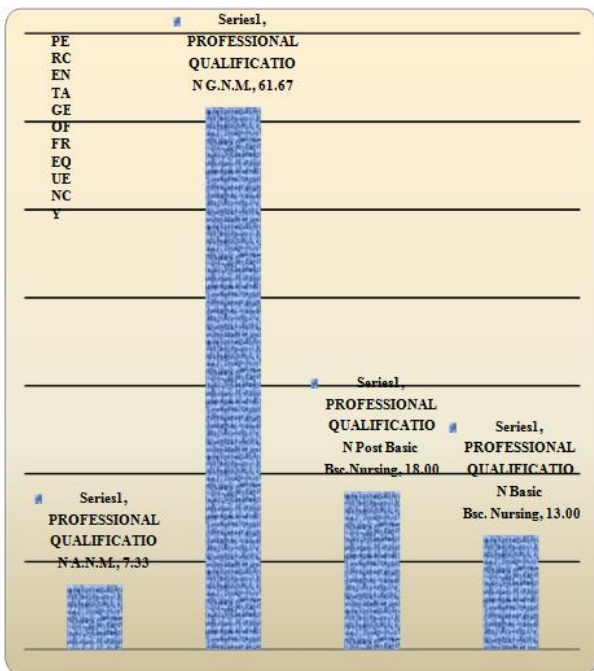


Figure.3: Bar diagram showing distribution of study participants by professional qualification.

figure no. 7 Demonstrate that the Majority (n=61.7%) of medicinal overseers training is GNM while 18.0% were PB B.Sc.. Nursing, 13.0% were fouryear college education and 7.3 % were ANM and nobody found with a master's degree (M.Sc. Nursing)

DISTRIBUTION OF STUDY PARTICIPANTS ACCORDING TO PROFESSIONAL EXPERIENCE

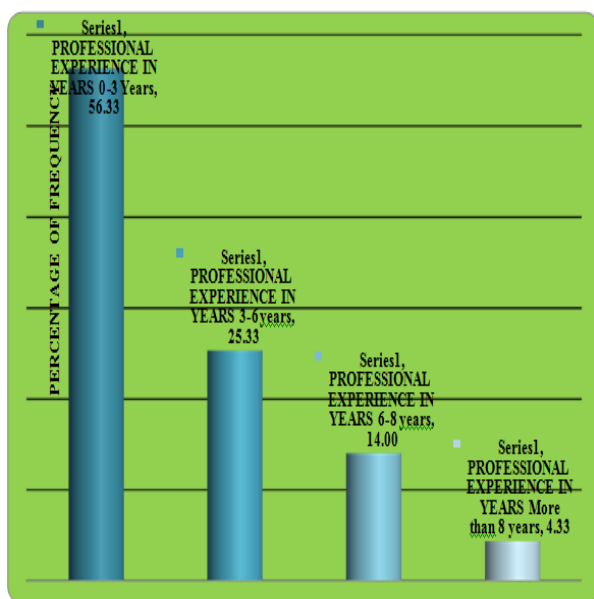


Figure.4: Cylindrical diagram showing distribution of study participants by professional experience.

Table-1: Pre-test level of knowledge score on biomedical waste management

N=300

Level of knowledge	Grading	No.	%
Excellent	29-35 marks	2	0.67
Very good	22-28 marks	22	7.33
Good knowledge	15-21 marks	182	60.67
Average knowledge	8-14 marks	87	29.00
Poor knowledge	0-7 marks	7	2.33
Total		300	100%

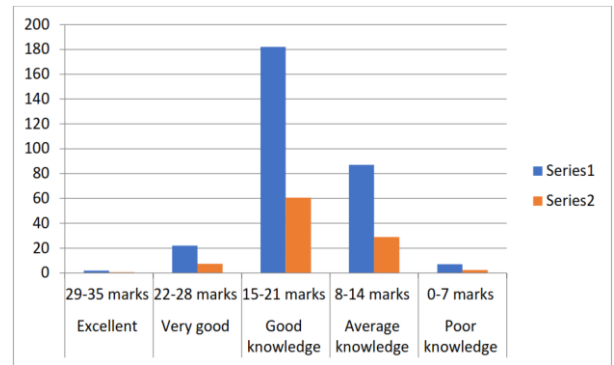


Figure. 5: Bar diagram showing pre-test level of knowledge of Staff nurses regarding Biomedical waste management.

Nurses' previous knowledge of biological waste management is depicted in Table No. 10 and Figure No. 14, which reflect their practical experience. According to the preliminary tests, 60.67 percent of medical attendants have good information, 29.00 percent of medical specialists have normal knowledge, 7.33 percent of attendants have great knowledge, 2.33 percent of medical caretakers have poor learning, and.7 percent of them have superb information, while 29.00 percent of medical specialists have normal knowledge.

CONCLUSION

The outcomes of this research back up the requirement for staff nurses to be aware of the many components of biomedical waste management and to use this knowledge and positive attitude in their daily work. When compared to their previous knowledge and practise prior to the use of the organised instructing programme, this investigation has revealed that the staff medical attendants have a significant increase in their knowledge and demeanour with respect to Biomedical waste administration after completing the organised educational programme. The pre-test and post-test information, as well as the attitude ratings of staff medical caregivers, have a bad positive association. There is a link between staff nurses' attitude ratings and an in-service education programme on biomedical waste management. Thus, in order to enhance their knowledge and attitude, as well as their practise, education and demonstration

programmes on biomedical waste management are required.

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