

ISSN 2063-5346



A STUDY TO CREATE AWARENESS REGARDING IMPACT OF HOSPITAL WASTE ON THE ENVIRONMENT

Castro S¹, Mr. R.J.T Nirmalraj²

Article History: Received: 01.02.2023

Revised: 07.03.2023

Accepted: 10.04.2023

Abstract

The study was conducted among nurses. The main objectives of this study were to create awareness regarding impact of hospital waste on the environment. Medical wastes, if not properly managed, pose a risk to the personnel who are handling these wastes, including custodial personnel and waste collectors, as well as to those providing disposal or picking through the wastes for recyclables. A questionnaire was including definition, category, colour coding, storage and transport, disposal, management of hospital waste and effects of hospital waste on environment were given to the nurses. Through this study awareness was created among the nurses to prevent the environment pollution through hospital waste. Sample size chosen for this research study is 98.

Keywords: Awareness, Colour coding, Hospital waste.

¹M.B.A. II Year, School of Management, Hindustan Institute of Technology and Science (Deemed to be University), 21278001@student.hindustanuniv.ac.in

²Assistant Professor (Selection Grade), School of Management, Hindustan Institute of Technology and Science (Deemed to be University), rjtnirmal@hindustanuniv.ac.in

DOI:10.31838/ecb/2023.12.s1-B.407

INTRODUCTION

Importance for environmental protection has gained its momentum since the middle of the 19th century. Especially with the emergence of a large number of scientific materials showing how the degrading human environment has become an overall threat to existence of all the species. The recognition of the right to environment at international level would tremendously influence both the national and International legal issues. It appears that international, regional texts on environmental protection on human rights reflect a general trend towards. All human activities inevitably produce waste and in some cases it is hazardous not only to water, air, soil, but also to all living creatures existing on the earth. One of the most dangerous wastes to the environment and human being is biomedical waste including hospital waste.

The impact of hospital waste on environment includes

- Risk of pollution of air, water, soil from mismanagement of different hospital waste.
- Risk of community acquired infection through recycling of contaminated needles.
- Risk of the diseases can be spread through air pollution. This can be further subdivided into
 - Short term effects
 - Long term effects.

Short term effects:

Irritation to the eye, nose, throat, upper respiratory tract infections such as bronchitis, pneumonia, headache, nausea, allergy, asthma, emphysema.

Long term effects:

- Chronic respiratory diseases and even damage to the brain, nerve, liver, kidney, and lungs. The diseases spread through water include typhoid, cholera, hepatitis, polio, dysentery.

NEED FOR STUDY

Medical wastes if its not properly managed, has a risk to the person handling these wastes which include custodial personnel and waste collectors. There is the danger that syringes will be recovered from transfer depots and disposal sites by waste pickers for recycling (i.e., by drug users). Contaminated containers for collection of medical wastes are not usually dedicated to only one site, but are circulated throughout cities. There is public health hazard due to poor management of bio-medical waste which can cause a number of diseases. The improper handling and mismanagement of bio- medical waste is posing serious problems, few of the problems due to improper disposal are as follows.

- The infectious waste which is only 20% - 25% of the entire waste from hospitals is not segregated and is mixed with general waste by doing so the whole of waste may turn up to infectious waste. If the same is dumped into the municipal bin then there are fair chances of the waste in municipal bin to become infectious.
- The disposal of sharps will lead to needle stick injuries, cuts, and infections among hospital staff, municipal workers, rag pickers and the general public. This will lead to transmission of diseases like Hepatitis B, C and HIV etc.
- One of the reasons for spreading of infection is reuse of disposable items like syringes, needles, catheters, IV and dialysis sets etc.)
- The dumping of untreated bio-medical waste in municipal bins may increase the possibility of survival, proliferation and mutation of pathogenic microbial population in municipal waste.

LITERATURE REVIEW

1. Patil, et.al. (2015) studied about biomedical waste management in rural areas titled as "Need of Biomedical Waste Management in Rural Hospitals in India"

stated that although Biomedical waste management in rural India is receiving attention due to stringent regulations now a day, much more is required to be done in this field as there are many deficiencies in the management of biomedical waste in rural areas. Awareness level is very low in rural population and segregation practices are not effectively adopted.

2. Winfield and Brooks (2015) did a descriptive study on medical waste management, including the common sources of waste production, governing and legislative authorities and handling and disposal methods presently in use. Their study titled Medical waste management – A review suggests that better training and education of healthcare staffs and correct segregation of biomedical waste are major factors for efficient and timely waste management and further study is required to enhance and encourage minimum medical waste production so as to reduce damage to environment.

3. Mr. Sunmeet, (2017) study examining the knowledge, attitude and practices of the health-care workers toward biomedical waste in Arbor Biotech Ltd., Mumbai. The cross sectional study of physicians, laboratory technicians and housekeeping staffs were examined using a pre-designed study of questions. Housekeeping staffs were significantly more knowledgeable than physicians and laboratory technicians regarding policies and systems for waste disposal, however lesser precise details regarding its disposal.

4. Dr. C Priya Ganesh (2016) focuses on various terminologies of biomedical waste management and disposal of clinical waste in private hospital which also includes waste transportation, waste accumulation and storage and waste minimization techniques. A major problem that are related to current biomedical waste management in several hospitals are that the implementation of biomedical waste regulation are disappointing as some

hospitals dispose waste in an improper and in an indiscriminate manner.

5. Dhasarathi Kumar (2018), stated that a problem intensifies because of liability issues, public concerns and of tremendous increase in the cost of handling, transport and disposal of medical waste. All activities of living thing on earth produces waste in some form or other. The fast decade witnesses a significant increase in public concerns regarding medical waste disposal. It is mainly due to the preparation of pathogenic organism and organic substances in hospital solid waste which is of significantly high concentration. Poor waste management practice may lead to a risk on the health of the public.

OBJECTIVES

- Assess the Knowledge Among the Nurses about Impact of Hospital Waste in the Environment.
- To Create Awareness Among the Nurses to Prevent the Environment Pollution Through Hospital Waste.

ASSUMPTION:

- Nurses possess inadequate knowledge regarding impact of hospital waste in the environment.
- Education improves the knowledge and practices of nurses on impact of hospital waste in the environment and its prevention.

RESEARCH METHODOLOGY

RESEARCH DESIGN:

Research design used in this study is one group pretest and post-test design.

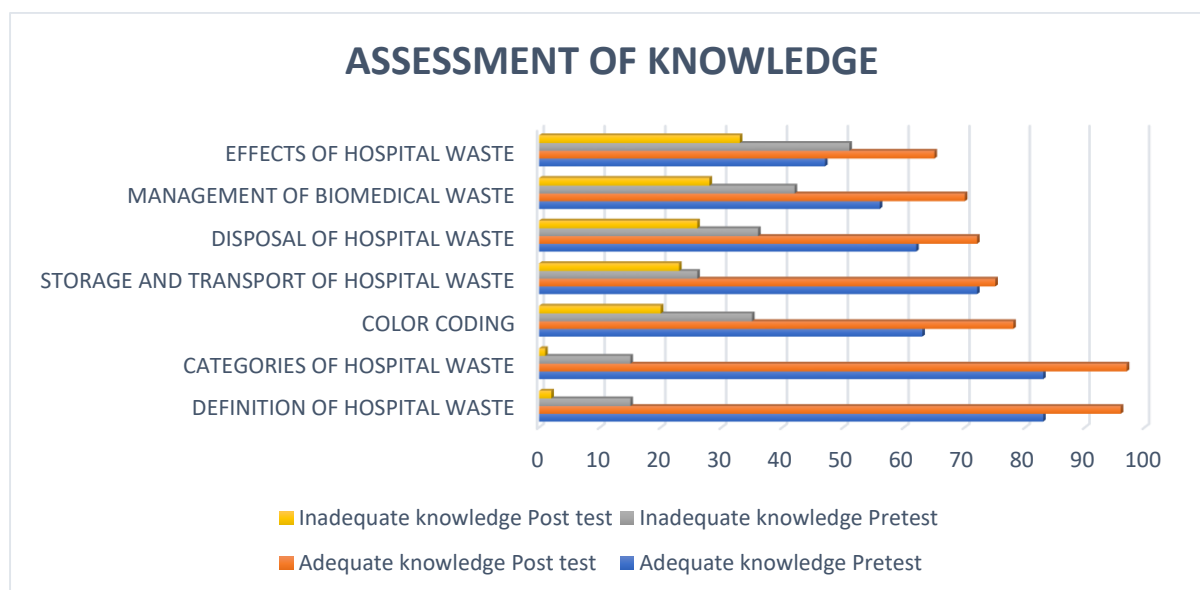
POPULATION:

98 nurses were taken for the study

TECHNIQUES OF DATA ANALYSIS:

The data was tabulated to understand the knowledge level of the nurses.

ASSESSMENT OF KNOWLEDGE								
		DEFINITION OF HOSPITAL WASTE	CATEGORIES OF HOSPITAL WASTE	COLOR CODING	STORAGE AND TRANSPORT OF HOSPITAL WASTE	DISPOSAL OF HOSPITAL WASTE	MANAGEMENT OF BIOMEDICAL WASTE	EFFECTS OF HOSPITAL WASTE
Adequate knowledge	Pretest	83	83	63	72	62	56	47
	Post test	96	97	78	75	72	70	65
Inadequate knowledge	Pretest	15	15	35	26	36	42	51
	Post test	21	21	20	23	26	28	33



SUMMARY AND CONCLUSION

- ✓ Only 83 nurses had adequate knowledge regarding meaning of hospital waste pretest which improved 96 in posttest
- ✓ In pretest only 83 nurses had adequate knowledge in categories and it was improved about 97 in post-test. Only 83 nurses had adequate knowledge in

color coding in pretest which improved 97 in posttest.

- ✓ In pretest 63 of them had adequate knowledge regarding storage and transport it was improved about 78 in posttest.
- ✓ Only 72 of nurses had adequate knowledge regarding disposal in

pretest and it was improved 75 in posttest.

- ✓ In pretest only 62 had adequate knowledge in management and it was improved about 72 in posttest.

REFERENCES

1. A. G. Chandorkar, B. S. Nagoba, Publication- Paras Medical, 2008, HOSPITAL WASTE MANAGEMENT
2. Singh Anantpreet, Kaur Sukhjit Jaypee Brothers Publishers, 2012, BIOMEDICAL WASTE DISPOSAL
3. Chandra Ballabh, 2017, HOSPITAL WASTE MANAGEMENT
4. Madhuri Sharma, 2017, Jaypee Publication, HOSPITAL WASTE MANAGEMENT AND ITS MONITORING
5. P Pragathesh, James Ebor Jacob, 2019, TEXT BOOK OF HOSPITAL WASTE MANAGEMENT
6. Shishir Basarkar, Jaypee Brothers Medical Publishers Pvt. Limited, 2009, HOSPITAL WASTE MANAGEMENT
7. Radhakrishnan R. Publisher: Sumit Enterprises, BIOMEDICAL WASTE MANAGEMENT
8. Basarkar Shishir, Jaypee Brothers Medical Publishers, 2019, HOSPITAL WASTE MANAGEMENT
9. Dwivedi.S, Hassan.MA, and Misra.RP., (2009), TEXTBOOK OF KNOWLEDGE, ATTITUDE AND MANAGEMENT AMONG HEALTH CARE PERSONNEL, W.H.O. Publication
10. A. G. Chandorkar, B. S. Nagoba, Paras Pub., 2004, HOSPITAL WASTE MANAGEMENT
11. Dr. H.S. Bhatia, 2019, Misha Books Publication, A COMPREHENSIVE BOOK ON SOLID WASTE MANAGEMENT WITH APPLICATION
12. Dr. Shahnawaz Hamid, Notion Press Publication, 2019, A HANDBOOK ON BIOMEDICAL WASTE
13. P K Behera, Dominant Publishers and Distributors, 2008, SUSTAINABLE BIOMEDICAL WASTE MANAGEMENT
14. Dr. Capt. D.B.Acharya, JBA Publishers, 2008, PRACTICAL HANDBOOK ON HOSPITAL WASTE MANAGEMENT