Universe International Journal of Interdisciplinary Research
(International Peer Reviewed Refereed Journal)
DOI No. – 08.2020-25662434

© UIJIR | ISSN (O) – 2582-6417
MARCH 2026 | Vol. 06 Issue 10
www.uijir.com

A STUDY TO ASSESS THE KNOWLEDGE REGARDING CARE OF ACUTE MYOCARDIAL INFARCTION WITHIN FIRST 4 HOURS AMONG NURSING OFFICERS WORKING AT SELECTED HOSPITALS DHOLPUR, RAJASTHAN WITH A VIEW TO CONDUCT A SEMINAR

Author's Name: Dr. Daisey Christofer[1], Umesh Parashar[2], Neeraj Kumar Bhamoriya[3]

Affiliation:

1. Ph.D., Master of Nursing, Medical Surgical Nursing, Faculty Govt. College of Nursing, Jaipur, Rajasthan, India
2. Master of Nursing, Medical Surgical Nursing, Faculty Govt. College of Nursing, Jaipur, Rajasthan, India
3. Master of Nursing, Medical Surgical Nursing, Student Govt. College of Nursing, Jaipur, Rajasthan, India

Corresponding Author Name: Dr. Daisey Christofer, neerajbhamoriya@gmail.com

ABSTRACT

Acute Myocardial Infarction (AMI) is a leading cause of morbidity and mortality worldwide, with the first four hours being critical for reducing myocardial damage and improving survival. Early nursing interventions such as rapid recognition, timely ECG, prompt medication administration, and preparation for reperfusion significantly improve patient outcomes and reduce complications. This study aims to assess the knowledge of nursing officers regarding AMI care within the first four hours in selected government hospitals of Dholpur, Rajasthan, and to determine its association with selected socio-demographic variables. The findings highlight the need for continuous education, seminars, and standardized training to enhance nursing competence and improve patient health outcomes.

Keywords: Acute myocardial infarction, nursing officers, seminar

DOI Link :: https://doi-ds.org/doilink/03.2026-21374954/UIJIR

© UIJIR | ISSN (O) – 2582-6417
MARCH 2026 | Vol. 06 Issue 10
www.uijir.com

INTRODUCTION

Waste management is the process of collecting, transporting, treating and disposing of waste in safe and environmentally friendly way. It also involves reducing, reusing, and recycling wastes as much as possible to conserve natural resources and save energy. It is known fact that the increasing population and rapid urbanization generates wastes much more now. It is becoming difficult to collect all the wastes produced by the people and other activities. According to the statistics India produces 62 million tonnes of waste per year, and only 70 percent are collected out of that. It is only 12 million tonnes of these wastes are treated, while 31 million tonnes of waste are being remained in landfills.

Health sector is a predominant sector which play an important role in protecting the health of the people and saves life. But we cannot ignore the waste it generates during the health care activities. The health care activities generate about 85 percent waste is general, which is non-hazardous compare to the domestic wastes. But the remaining 15 percent is considered hazardous material that may be infectious, chemical or radioactive. The proper measure can ensure the safe and environmentally sound management can prevent adverse health and environmental impacts from such wastes including unintended release of chemical or biological hazards.

REVIEW OF LITERATURE

Patil and Shekdar (2001) in their paper titled "Health-care waste management in India" they found that Health-care waste is not only a technical problem, but is also strongly influenced by economic conditions. On its own, enactment of legislation will not make it more efficient. Sustainable solutions can be effected by involving local bodies engaged in waste management and making sure they follow the principles of effective management. Health-care waste should be subjected to disinfection and mutilation prior to reuse, recycling or disposal. Precautions have to be taken so that disposable like needles, syringes, IV sets and other plastic items are not reused. Efforts have to be made for minimization of waste: an appropriate plan has to be evolved as per the prevailing conditions. Finally, adequate financial provision needs to be made.

Jindal and Sar (2023) their paper on Medical waste management during COVID-19 situation in India: Perspective towards safe environment suggested that COVID-19 or other virus-infected individual's medical waste must be collected separately and managed carefully to avoid any future issues. The present perspective will benefit in avoiding the transmission of COVID-19 or other viruses from medical waste in natural sources (water, soil). It will also help to manage the expired and unused medicines from individual operators. It would also be beneficial for global policymakers and better for waste management for future sustainability, not only for COVID-19 situation but also for future upcoming problems, if any arise. Through this collecting approach, medical waste generated in

DOI Link :: https://doi-ds.org/doilink/03.2026-21374954/UIJIR

© UIJIR | ISSN (O) – 2582-6417
MARCH 2026 | Vol. 06 Issue 10
www.uijir.com

individual households would be prevented out to contact with natural resources like water and soil. The quantity of such medical waste would be very large because the total number of dwellings in India is around 302.4 million, medical waste generated from individual houses would be greater than the 136.89 tons of medical waste generated by Indian hospitals every day from 69,265 hospitals.

Kumar and Farhanaaz (2018) their paper on Healthcare Waste Management Practices: A Case of Chennai, India they mentioned that hospitals are one of the resources which engender hazardous wastes, risk the life of workers and pulled the environment. Proper management is required while handling these wastes. By means of appropriate plants and strategies generated, wastes have to be collected, stored, transported and disposed. Employees of hospitals are accountable for managing hospital wastes. They must be aware of the risks regarding the contamination due to hospital wastes. Hospitals are liable for minimizing the quality of wastes and must persuade in reusing and recycling of the wastes. BMWR has been modified recently in the year 2016 by Ministry of Environment, Forest and Climate Change. The newer rules are put into operation with clarity and simplified version of the previous rules. It is implemented to dwindle the risks of undesirable effects to the personnel as well as the environment.

OBJECTIVES

1. To analyse the health care waste management in India.

2. To know the environmental hazards due to health care wastes.

METHODOLOGY

The present studies is based on the secondary data collected from various articles, journals and the Government official websites.

Types of Wastes

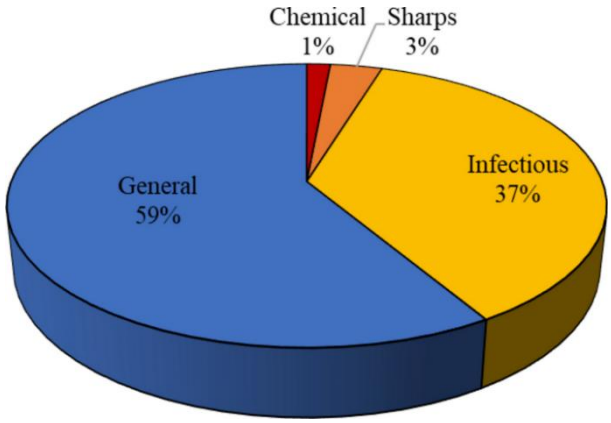
- **General waste:** General waste consists of all the waste other than bio-medical waste and which has not been in contact with hazardous of infectious, chemical or biological secretions and does not includes any waste sharps. This waste consists of mainly:
- Newspaper, paper and card boxes (dry waste)
- Plastic water bottles (dry waste)
- Aluminium cans of soft drink (dry waste)
- Packaging materials (dry waste)
- Food containers after emptying residual food (dry waste)
- Organic/Bio-degradable waste-mostly food waste (wet waste)

DOI Link :: https://doi-ds.org/doilink/03.2026-21374954/UIJIR

© UIJIR | ISSN (O) – 2582-6417
MARCH 2026 | Vol. 06 Issue 10
www.uijir.com

- Construction and Demolition wastes
- **Infectious waste:** waste known or suspected to contain pathogens and pose a risk of disease transmission, e.g. waste and waste water contaminated with blood and other body fluids, including highly infectious waste such as laboratory cultures and microbiological stocks; and waste including excreta and other materials that have been in contact with patients infected with highly infectious diseases in isolation wards;
- **Pathological waste:** human tissues, organs or fluids, body parts, foetuses, unused blood products and contaminated animal carcasses;
- **Sharps waste:** used or unused sharps, e.g. hypodermic, intravenous or other needles; auto-disable syringes; syringes with attached needles; infusion sets; scalpels; pipettes; knives; blades; broken glass;
- **Chemical waste:** for example, solvents and reagents used for laboratory preparations, disinfectants, sterilant and heavy metals contained in medical devices (e.g. mercury in broken thermometers) and batteries;
- **Pharmaceutical and cytotoxic waste:** pharmaceuticals that are expired or no longer needed; items contaminated by, or containing, pharmaceuticals. Cytotoxic waste containing substances with genotoxic properties, e.g. waste containing cytostatic drugs (often used in cancer therapy); genotoxic chemicals;
- **Radioactive waste:** such as products contaminated by radionuclides including radioactive diagnostic material or radiotherapeutic materials; and
- **Non-hazardous or general waste:** waste that does not pose any particular biological, chemical, radioactive or physical hazard. The figure shows the major four types of wastes, i.e., General

Figure 1. Types of Wastes in Percentage



https://www.nature.com/articles/s41598-024-69940-0

DOI Link :: https://doi-ds.org/doilink/03.2026-21374954/UIJIR

© UIJIR | ISSN (O) – 2582-6417
MARCH 2026 | Vol. 06 Issue 10
www.uijir.com

Figure 1. shows the types of wastes, General wastes are high in the health sector which is 59 percent, infectious wastes are 37 percent, sharp wastes are 3 percent and chemical wastes are 1 percent.

The major sources of health-care waste are:

- hospitals and other health facilities
- laboratories and research centres
- mortuary and autopsy centres
- animal research and testing laboratories
- blood banks and collection services
- nursing homes for the elderly.

Challenges in Waste Management

- **Lack of Infrastructure:** In India due to lack of infrastructure we face the challenges in waste management. Several cities, towns and villages lack sufficient facilities for waste treatment and disposal, leading to frequent waste accumulation in open area.
- **Financial Constraints:** The financial burden is one of the biggest problems of the developing nations. The local bodies face difficulty in managing waste disposal. With limited budgets, several struggles to invest on latest management technologies of waste management, resulting in various outdated practices.
- **Public Participation:** The participation of the public in segregating waste and waste disposal in India is minimal. Due to lack of awareness public is not cooperative in waste disposal.
- **Implementation of Policies:** India has different policies and regulations regarding waste management, the optimal implementation of all these policies are not found to be consistent. This existing gap between the formulation of the waste management policies and their execution remains one of the significant hurdles.

Environmental and Climate Impact

The disposal of untreated healthcare wastes in landfills can lead to the contamination of drinking, surface and ground waters if those landfills are not properly constructed.

- Minimization of health care waste should be a priority. This will significantly reduce the amount of waste that needs to be handled and treated. Waste minimization actions include green procurement and selecting products where shipping is minimized and with less and ecological packaging, switching to

DOI Link :: https://doi-ds.org/doilink/03.2026-21374954/UIJIR

© UIJIR | ISSN (O) – 2582-6417
MARCH 2026 | Vol. 06 Issue 10
www.uijir.com

re-usable when safe and viable, only ordering/receiving pharmaceuticals based on documented need, and recycling common items including plastic, paper and cardboard.

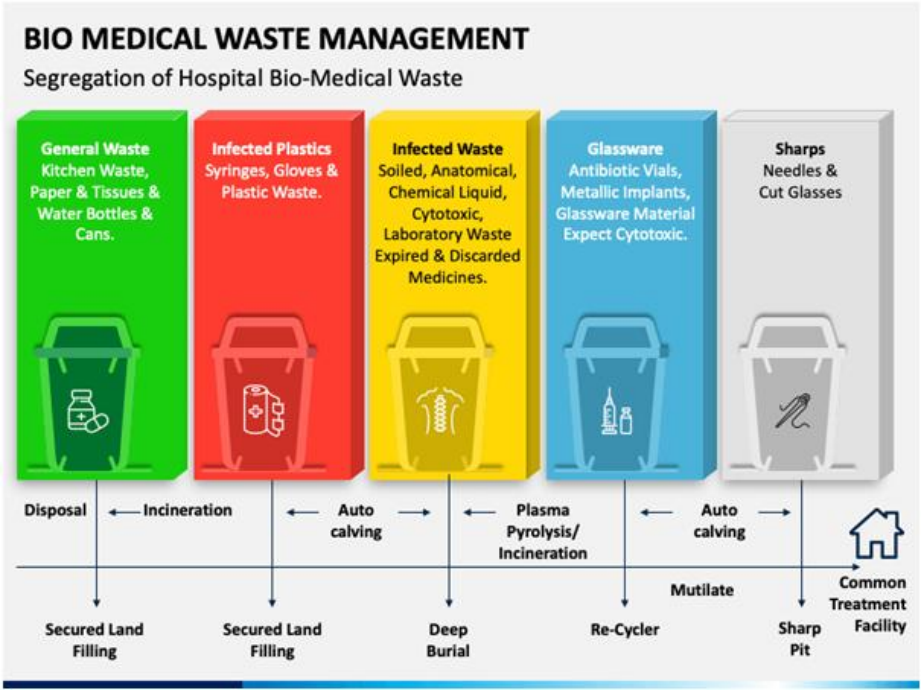
- The treatment of health care wastes with chemical disinfectants can result in the release of chemical substances into the environment if those substances are not handled, stored and disposed in an environmentally sound manner.
- Incineration of waste is widely practised, but inadequate incineration or the incineration of unsuitable materials results in the release of pollutants into the air and in the generation of ash residue. Incinerated materials containing or treated with chlorine can generate dioxins and furans, which are human carcinogens and have been associated with a range of adverse health effects. Incineration of heavy metals or materials with high metal content (in particular lead, mercury and cadmium) can lead to the spread of toxic metals in the environment.
- Only modern incinerators operating at 850–1100 °C and fitted with special gas-cleaning equipment are able to comply with the international emission standards for dioxins and furans.
- Alternatives to incineration such as autoclaving, microwaving, steam treatment integrated with internal mixing, which minimize the formation and release of chemicals or hazardous emissions should be given consideration in settings where there are sufficient resources to operate and maintain such systems and dispose of the treated waste.

Bio Medical Waste Management Rules

According to Bio Medical Waste Management Rules, 2016 categorise the bio-medical waste generated from the health care facility into four categories based on segregation pathway and colour code. Various types of bio medical waste are further assigned to each one of the categories:

DOI Link :: https://doi-ds.org/doilink/03.2026-21374954/UIJIR

© UIJIR | ISSN (O) – 2582-6417
MARCH 2026 | Vol. 06 Issue 10
www.uijir.com



https://industrytoday.co.uk/recycling_and_waste/medical-waste-management-market-latest-study-reveals-new-growth-dynamics-stericycle-clean-harbors-ecomed-services

1. Green Category: It is a general waste like kitchen waste, paper and Tissues and water bottles and cans.
2. Red Category: It includes infected plastics, syringes, gloves, and plastic wastes
3. Yellow Category: It contains infected, solid, Anatomical, chemical liquid, cytotoxic, laboratory wastes, Expired and Discarded medicines.
4. Blue Category: This contains Glassware Antibiotic vials, metallic implants, glass material.
5. White Category: Sharps, needles and cut glasses.

Healthcare Waste Production Rate

The production rate in countries worldwide differs on many factors such as waste management methods, type of healthcare facilities, and healthcare specialization, the amount of reusable equipment available in the facility the number of patients treated daily. However, registered Health care waste production is lower in developing countries than developed countries. The following table shows the production rates in different continent and selected countries.

DOI Link :: https://doi-ds.org/doilink/03.2026-21374954/UIJIR

© UIJIR | ISSN (O) – 2582-6417
MARCH 2026 | Vol. 06 Issue 10
www.uijir.com

Table. 1. HCW Production rate in various countries worldwide

Continents		Countries	HCW Generation (kg/bed/day)
North America		USA	8.4 - 10.7
		Canada	8.2
Europe		Spain	3.5 - 4.4
		Norway	3.9
		Greece	0.3 3.6
		France	2.7 - 3.3
Asia		Kazakhstan	5.34 -5.4
		China	0.6-4.03
		Jordan	2.5 - 6.10
		India	0.8 - 2.31
		Argentina	2.7 - 3.0
South America		Brazil	2.94 - 3.3
		Ecuador	2.09 - 2.1
Africa		Ethiopia	1.1 - 1.8
		Egypt	0.7 - 1.7
		Sudan	0.38 - 0.9
		Morocco	0.4 - 0.7

The above Table. 1 shows the Health care waste production in various countries worldwide. From the above table North America in is top position in producing healthcare waste specifically United States of America and Canada. In the second place the European countries are there such as Spain, Norway, Greece and France. In the third place the Asian countries like Kazakhstan, China, Jordan and India. The least healthcare waste production countries are South America and Africa compare to other countries.

DOI Link :: https://doi-ds.org/doilink/03.2026-21374954/UIJIR

© UIJIR | ISSN (O) – 2582-6417
MARCH 2026 | Vol. 06 Issue 10
www.uijir.com

CONCLUSION

Health care waste management in India due to lack of infrastructure we face the challenges in waste management. Several cities, towns and villages lack sufficient facilities for waste treatment and disposal, leading to frequent waste accumulation in open area. The financial burden is one of the biggest problems of the developing nations. The local bodies face difficulty in managing waste disposal. With limited budgets, several struggles to invest on latest management technologies of waste management, resulting in various outdated practices.

REFERENCE:

- Jindal M.K and Sar. S.K. (2023). Medical waste management during COVID-19 situation in India: Perspective towards safe environment. Waste Management Bulletin. Vol.1 (1). pp 1-3.
- Kumar P.P and Farhanaaz.C. (2018). Healthcare Waste Management Practices: A case of Chennai, India. International Journal of Health Science and Research. Vol. 8 (12).pp 116-120.
- Patil and Shekdar (2001). Health-care waste management in India. Journal of Environmental Management. Vol.63. pp 211-220.
- https://www.who.int/news-room/fact-sheets/detail/health-care-waste.
- https://www.ibef.org/industry/healthcare-india.

DOI Link :: https://doi-ds.org/doilink/03.2026-21374954/UIJIR