

Biomedical Waste Management: A Case Study of Gandhinagar Hospital, Jammu

Asif Chowdhary¹ and Deepika Slathia²

¹*College of Engineering & Technology, BGSB University, Rajouri (J&K) – 185234*

²*Deptt. of Environmental Sciences, University of Jammu, Jammu (J&K) - 180001*

Abstract

Health care is important for our life, but the waste generated from various medical activities poses a severe problem to various living forms and to our environment as well. Various strategies which revolve around improper management of hazardous as well as non-hazardous wastes generated because of many health care facilities causes a direct health impact on the living forms. The large amount of infectious and hazardous waste generated in various health care hospitals and facilities are a matter of significant concern not only in India but also around the world. Unplanned and indiscriminate disposal of hazardous as well as non-hazardous biomedical wastes or hospital waste and severe exposure to them poses threat to environment and to human health. That is why the wastes require specific treatment and management before its final disposal. The present paper is one such study related to the biomedical waste and procedure of handling and disposal method of Biomedical Waste Management in the Government Hospital Gandhinagar, Jammu in the state of Jammu and Kashmir. It also intends to create awareness amongst the personnel involved in health care sector regarding the effects of improper handling and disposal of these wastes.

Keywords: non – hazardous, biomedical waste management and disposal

Introduction

Biomedical wastes among the solid wastes is the most dangerous type of waste because of being contaminated with disease carrying pathogens therefore needs safe disposal as well. Biomedical waste refers to any wastes i.e solid or liquid including

the container and any immediate product generated during diagnosis, treatment or immunization of human beings or animals or during research involving testing of organisms. It includes wastes like syringes, vaccines, laboratory samples, solid wastes, disposables, anatomical wastes, cultures, discarded medicines, chemical wastes etc (Gray, 2009).

Hospital wastes are categorized as general non hazardous, pathological, radioactive, chemical, pharmaceuticals and infectious wastes (Zerin and Ahmed, 2003). Therefore it is imperative to mention that if these are not handled and disposed properly, can transmit and spread number of deadly diseases. Every year more than 5000 people die from increasing infectious diseases (WHO 1998). With the rapid growth in number of hospitals and health care centres all over the world, this could aggravate even more. Even though Biomedical wastes rules have been framed by the Indian Government, most of the hospitals have not complied them (Chaurasia *et al*, 2009).

Keeping in view these facts, present study has been undertaken in this hospital of the state. This study will provide the baseline data for future studies.

Materials and Methods

For carrying the present study, samples of wastes generated from hospital were monitored for three months i.e April 2010 to June 2010. Wastes generated from emergency ward, casualty officer ward, Blood bank, pathology laboratory, children ward, Surgical ward, ENT, Ortho ward, General wards, X ray rooms, OPD and Operation Theatre were collected in bags and segregated into biodegradable and non biodegradable wastes followed by weighing with the help of spring balance. Also the average solid waste generation per bed and per ward was calculated during the study period of three months and sampling was done at an interval of one week.

Conclusions

On the basis of three months observations at Government Hospital, Gandhinagar Jammu, the average solid waste generation per bed/day and per bed/month has been calculated as 632.04 g and 18960.7 g. The quantitative analysis of the waste reveals the maximum percentage of biodegradable (67.28%) followed by non biodegradable wastes (32.72%) (Fig 1). The present system followed for the biomedical waste management in the hospital involves collection of wastes by sweepers and disposing them into community dustbins. Wheel barrows are used by the sweepers for transferring the wastes from community bins to municipal trucks or open vehicles on weekly basis. Finally the wastes are finally disposed at the Bhagwati Nagar area. It was surprising to record that the biomedical wastes generated from the Government Hospital, Gandhinagar Jammu is not disposed off in a safe and efficient manner thus posing a serious threat to all the living forms of the area.

Every hospital generating biomedical wastes needs to set up requisite treatment facilities to ensure proper treatment of wastes so as to minimize risk of exposure to

staff, patients and the community to biomedical hazards. Safe and effective management of bio medical waste is not only a legal necessity but also a social responsibility.

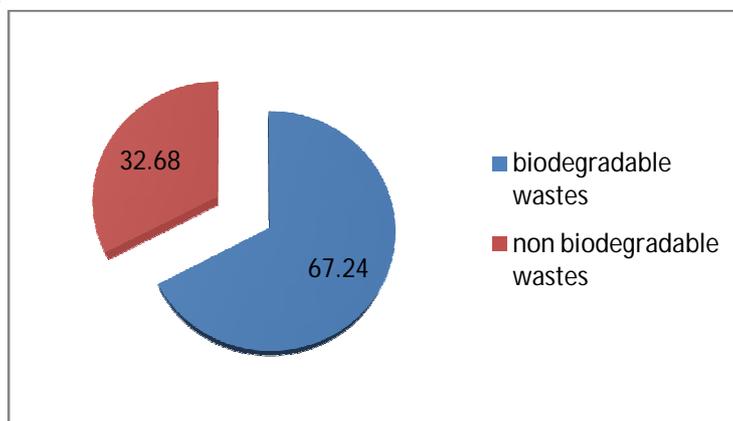


Fig. 1: Percentage of Biomedical wastes generated in Government Hospital, Gandhinagar, Jammu

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