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INTENSIVE AUDIT DRIVE OF HEALTH-CARE WASTE AT A REFERRAL HOSPITAL IN DELHI

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ABSTRACT

Introduction: The quantum of biomedical waste generated during diagnosis, treatment, interventions and management of patients can be minimised and effectively managed if there are continuous surveillance mechanisms and regular audits. One such intensive biomedical waste audit drive was undertaken at our hospital, a 500 bedded hospital in Northwest Delhi.

Methodology: A prospective study involving daily audits was carried out by the biomedical waste team including doctors from the department of Microbiology. At the end of every month audit report was discussed in the biomedical waste committee and sent to the Medical Superintendent for necessary action.

Results: A total of 280 rounds were taken of different areas in the hospital during a period of 9 months (January –September 2013). The most common problem was improper segregation (19.28%); followed by overfilled sharp containers (3.57%), non-functional needle destroyer (3.57%) and non-availability of bags (1.43%). Documentation of biomedical waste generation, segregation and transport was improper in 19.64% areas.

Discussion and conclusion: Daily discussions of observations and prompt rectification helped to maintain a constant sense of awareness of the biomedical waste rules and regulations. Proactive measures concerning biomedical waste management, timely interventions and involvement of all the hospital staff go a long way in effective management of health-care waste.

Key Words: Health-care waste, Audit, Rounds, Segregation, Fraining

INTRODUCTION

Health-care waste (biomedical waste) management is an integral part of any health care facility. It may be considered a by-product generated during diagnosis, treatment, interventions and management of patients. After implementation of the Health-care Waste Management and Handling Rules in 1998,^[1] it is expected of every health care personnel to have proper knowledge, practices, and capacity to guide others for waste collection and management, and proper handling techniques. Hospital waste is a potential health hazard to the health care workers, general public, flora and fauna of the area. Problems related to waste disposal in hospitals and other health-care institutions have become issues of increasing concern.^[2] World Health Organization states that only 15% of hospital wastes are actually hazardous among which 10% are

infectious and 5% are non-infectious.^[3] This hazardous waste is also the most expensive component of the total hospital waste comprising on average two-thirds of total waste costs.^[4] The quantum of biomedical waste can be minimised and effectively managed if there are continuous surveillance mechanisms on the segregation practices and regular audits. Waste audits can serve as essential waste management tools to enable healthcare providers to understand performance of their waste management systems and practices across their generation sites.^[4] One such intensive biomedical waste audit drive was undertaken at Dr. Baba Saheb Ambedkar Hospital, a 500 bedded hospital in Northwest Delhi. The objective was to understand how efficiently our biomedical waste management rules and the standard procedures were being followed.

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METHODOLOGY

This was a prospective study involving daily audits by the biomedical waste management team including doctors from the department of Microbiology and biomedical waste management nurses. Each day, designated areas were visited according to the roster. A form was designed (Annexure1) to record the observations on daily basis from the identified generation sites. After discussion among the biomedical waste team, problem areas were identified and corrective action was planned. At the end of every month audit report was discussed in the biomedical waste management committee and sent to the Medical Superintendent for necessary action.

RESULTS

A total of 280 rounds were taken at different areas in the hospital during a period of 9 months (January –September 2013). The most common problem was improper segregation (19.28%); non-functional needle destroyer (3.57%) and non-availability of bags (1.43%). These have been show as bargraphs in figures 1, 2, 3. Few sharp containers were found overfilled(3.57%). Documentation of biomedical waste generation, segregation and transport was improper in 19.64% areas (Figure 4). In our hospital, both digital as well as mercury based thermometers and blood pressure monitoring devices were being used. A record of the mercury based equipments was collected from various patient care areas and deposited in the hospital store for authorized disposal. Since July 2013, the hospital is not using any mercury based devices.

DISCUSSION

Mixing of non-infectious waste with infectious waste renders the whole waste hazardous and interferes with treatment and recycling processes. Therefore it is of utmost importance that waste is segregated properly at source. The cause of improper segregation was maximally seen during April and May which could be attributed to increased workload during these months, change of the duty staff, or recruitment of new resident doctors. Regular training programmes were conducted among all the categories of health care workers to improve segregation and the effect was evident in subsequent months. However, awareness among patients and visitors is also essential for proper disposal of waste. Different posters instructing waste disposal have been displayed in all patient care areas.

At our hospital, we have zero tolerance for the infectious sharp waste disposal and anybody found responsible for non-compliance is dealt with very strictly. All the unit

In-charges are responsible for the availability of waste bags and sharp containers and functionality of needle destroyers. During our daily rounds these parameters were checked and sister in charges were instructed to change the non-functional needle destroyer and have alternative back up arrangements. They were instructed to indent them immediately and maintain stock position of the bags and sharp disposal containers in their respective wards. Also, it was ensured that there was adequate supply of these items in the stores. Waste disposal bags were in limited supply during the month of January. Waste was sent on daily basis except on Sundays. So the sharp containers were usually overfilled on Mondays. Instructions were then given to send all biomedical waste every 24 hours irrespective of the quantum of waste as per the rules. The daily onsite record register is maintained in various wards. Improper documentation was seen in various wards due to initial reluctance and lack of knowledge of its importance which gradually improved after regular training. The involvement of doctors conducting the audits and their direct interaction with hospital staff and onsite training helped to enforce the biomedical waste management rules more stringently. Daily audits like this have not been done (Annexure 1) though audits relating to quantum of health-care waste generated have been reported. [5, 6]

CONCLUSION

Daily discussions of observations and prompt rectification helped to maintain a constant sense of awareness of the health-care waste rules and regulations. Proactive measures concerning waste management, timely interventions and involvement of all the hospital staff go a long way in effective management of health-care waste.

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Annexure 1: Daily Audit Proforma

Date	Ward/ Out Patient Department	Doctor/ Sister In Charge	Availability Of Bags			Sharp Disposal Unit	Needle Destroyer	Segrega- tion	Aware- ness	Register Entry and Record
			Red	Black	Yellow					

IMPROPER SEGREGATION

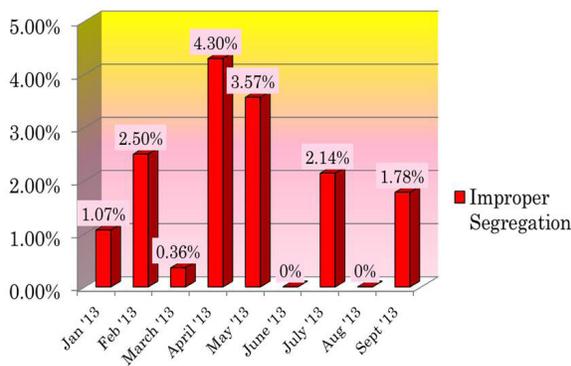


Figure 1: Improper Segregation of Biomedical waste

NON FUNCTIONAL NEEDLE DESTROYER

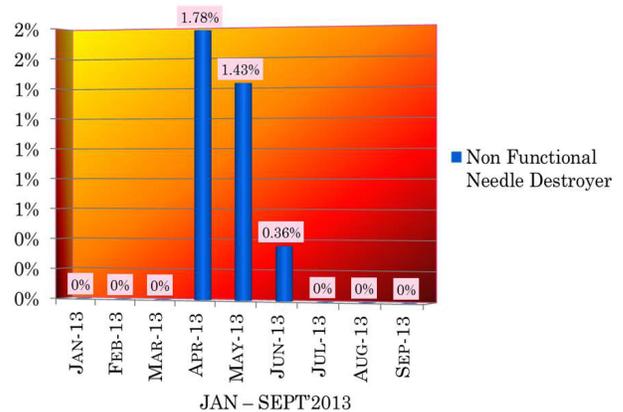


Figure 2: Non-functional needle destroyer

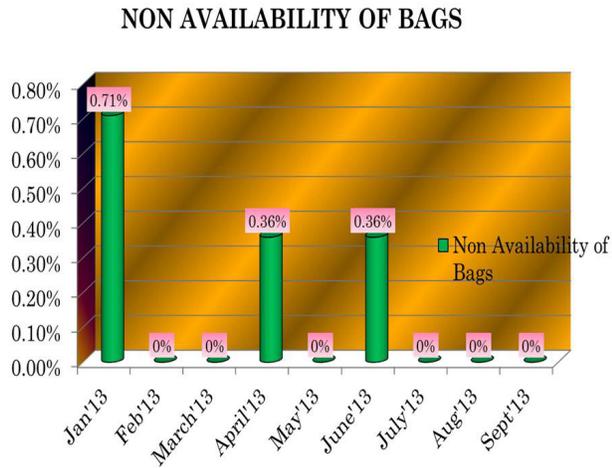


Figure 3: Non-availability of Waste Collection bags

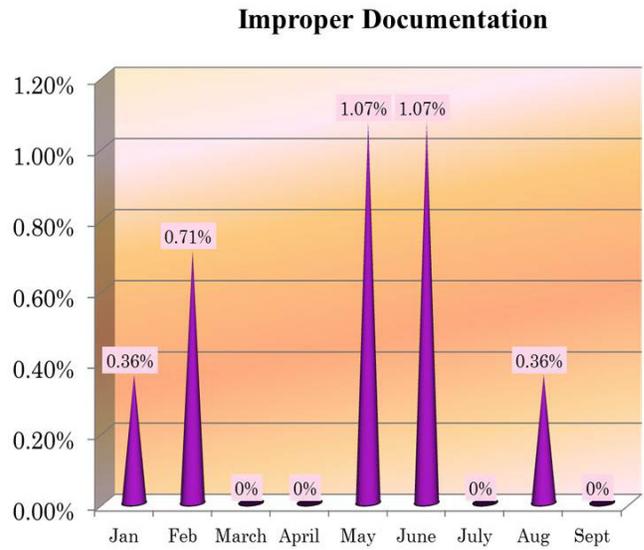


Figure 4: Improper Documentation of Biomedical waste Disposal (Jan-Sep 2013)