A STUDY ON WASTE DISPOSAL MANAGEMENT AND RECOMMENDATION FOR SAFE DISPOSAL

Hajera Anam, Ranjit Ambad, Priyanka Deshmukh, Minal Kalambe

1 Post-Graduate Student Datta Meghe Medical College, Shalinitai Meghe Hospital and Research Centre, Nagpur
2 Professor Dept. of Biochemistry Dr. Rajendra Gode Medical College, Amravati
3 Associate Professor Dept. of Anaesthesiology Datta Meghe Medical College, Shalinitai Meghe Hospital and Research Centre, Nagpur
4 Senior Resident Dept. of OBGY Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences Sawangi (Meghe), Wardha

Abstract: By conducting awareness campaigns, putting safety measures in place, and collaborating with a specialist to remove medical wastes properly, you can do your bit to reduce the hazards associated with improperly managing these wastes. To protect your facilities and personnel, handling biohazardous waste disposal is crucial. Suppose a biohazardous waste container such as a sharps container or a hazardous waste container is not properly disposed of. In that case, it might seriously endanger the safety of both personnel and guests. Biohazardous waste management may also involve transporting biohazardous items to a designated area for safe disposal.

Safe ecosystems and healthy populations depend on effective biomedical waste treatment. The opinions on BMWM, laws, customs, and treatment methods now in use across the world are reviewed in this article. The best-case scenario would be for BMWM to be the focus of a national plan with specialised infrastructure, cradle-to-grave laws, an effective regulatory body, and trained employees.

Keywords: biomedical waste, environments, safe disposal and hazardous waste.

1. Introduction:

be regained by working with your facility’s environmental health department infectious

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Aim:

Objectives:

1. Disposal of medical wastes: It has to list the quantity of waste, the transport date, and the name of the hauler who will take the trash away. With this method, everything is properly documented all across the disposal procedure.

2. Determining the types of hazardous medical wastes produced in hospital: Whether the waste is hazardous, infectious, radioactive or general.

3. Collection: Collection of waste from the healthcare centres with proper procedure

4. Handling: Precautions must be taken before handling the biomedical wastes as it can be hazardous and infectious to health.

5. Treatment: There is a proper technique of disposing biomedical by incineration and other methods.

2. MATERIAL AND METHODS:

After taking Institutional Ethical clearance, the study was conducted at a tertiary level centre Hospital at Dakshina Kannada, Karnataka. This is a full-fledged 800 bedded hospital with adequate medical, paramedical staff and equipped with modern facilities. The data was collected through observation and interview with the help of a validated questionnaire prepared for staff, doctors, nurses and employees of operation theatres, laboratories, laundry and central sterilization departments of the hospital. The primary data was collected by observation and structured validated questionnaire and secondary data was collected from literature.
3. REVIEW OF LITERATURE:

According to Pandey A et.al. a change in policy is required. Future versions of the new policy will be designed with the BMW 2016 in mind. After receiving approval from the hospital management committee, the policy change will be implemented after informing the HCPs about it.[4]

In accordance with Datta P et.al., effective management of biomedical waste (BMWM) necessitates a collaborative approach supported by robust legislation, dedicated government endorsement, and the adoption of exemplary BMW practices by healthcare professionals and healthcare facilities (HCFs). It is our fundamental entitlement to reside in a hygienic and secure environment. The pillars of BMWM lie in waste segregation at the source and waste reduction (WR). The updated BMWM guidelines of 2016 surpass previous regulations in terms of enhanced segregation, transportation, and disposal methods, aiming to mitigate environmental pollution and ensure the safety of personnel, patients, and the general public.[5]

According to Manar MK et. al.'s study, it is critical to put into practise efficient techniques to enhance the management and treatment of biomedical waste (BMW) in Lucknow's hospitals. This may be accomplished by giving staff members thorough training, enforcing rules strictly, and regularly inspecting healthcare facilities. According to observations, each bed in Lucknow's eight non-teaching hospitals produces 0.56 kg of hospital trash on a daily average. However, it is alarming that almost 50.5 percent of these facilities lack coloured garbage cans and a separate BMW department. BMW records and source segregation are also not used in 37.5 percent of the institutions. It is important to note that only hospital A uses an incinerator to handle BMW, whereas hospitals G and H lack any equipment for treating BMW.[6]

According to research by Adu-RO et al., the present trash sorting and management practices in five hospitals in Ghana have been shown to be insufficient for efficiently managing hospital waste, especially in high-risk regions. A significant problem affecting the effectiveness of trash collection and management as well as the overall integrity of the final waste treatment procedures has been found as the absence of uniform colour coding and labelling for various kinds of hospital waste. Additionally, when comparing health professionals depending on their employment or work environment, substantial disparities in trash sorting behaviour were discovered.[7]

According to Singh et al.'s research, participants showed a considerable increase in their comprehension of BMW (M and H) regulations following a well-structured training workshop. Such a training regimen must be repeated frequently in order to be successful. Furthermore, it is advised that any revisions or instructions provided by the government regarding the BMW (M and H) rules be incorporated into any future training programmes. The Department of Environment & Climate Change, Government of Haryana, provided funding for this research through the Centre for Disaster Management, HIPA, Gurugram (Haryana), India.[8]

According to Sarvathikari R et.al. The two most prevalent problems were the lack of regular BMW pickup and the requirement for larger BMW disposal containers. This can be the case since the disposal agent's services offer less wasteful manpower pickup and a wider geographic coverage. Some practitioners still lacked this even though the majority of survey participants were informed about and actively involved in management. A knowledge gap may be seen in more than half of the answers to the questions on managing and storing BMW management.[9]
Based on the research conducted by Hasan MM et.al., the study concludes that the incineration system is the most suitable waste treatment option for Khulna city, considering technical suitability as well as environmental, economic, and social factors. However, it is essential to ensure the continuous maintenance of the system by employing appropriate air pollution control equipment. Among the alternative treatment methods evaluated, microwave treatment ranked second, followed by autoclaving, when considering all parameters. It is important to note that the assessment of treatment alternatives in this study heavily relies on the subjective evaluations of experts and is subject to potential bias in the selection and weighting of criteria. Moreover, the study did not account for seasonal variation when determining the waste generation rate. Therefore, to comprehensively evaluate the sustainability of these management options, a more extensive study is required, involving a larger number of highly qualified experts, an extended period of data collection, and considering seasonal variance. Additionally, a wide range of Multiple Criteria Decision-Making (MCDM) approaches should be developed to effectively evaluate different choices for healthcare waste (HCW) treatment. The findings of this study will contribute to the development of recommendations for healthcare waste management (HCWM) planning and design not only in Khulna city but also in other municipalities in developing countries.

4. MATERIAL AND METHODS:

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Research Questions:

1. What is the procedure of biomedical disposal according to norms?
2. What are the objectives of the biomedical waste management study?
3. What is the instrument of research in a biomedical waste management study?
4. Is biomedical waste management in hospitals a moderate process?
5. What has past research taught us about biomedical waste management?

Expected Outcome:

It is impossible to overstate the value of healthcare waste management in protecting the environment and the general population. Various difficulties in healthcare waste management...
and disposal have been the subject of prior study, which has been published in a number of publications, major research areas, and research groups. In this article we will see what are the proper waste of disposing biomedical wastes and safety recommendations of disposal for the safety of employees, workers and the environment.

6. Reference:


