IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 2, December 2025
Impact Factor: 7.67

Review on Medical Waste Management in India Current Status Challenges and Future Prespective

Yogita Nandkishor Sharma[1], Dr. Shivshankar D Mhaske[2], Shatrughna U. Nagrik[3]
Students, Satyajeet College of Pharmacy, Mehkar, Buldhana, Maharashtra[1]
Principal, Satyajeet College of Pharmacy, Mehkar, Buldhana, Maharashtra[2]
Professor, Satyajeet College of Pharmacy, Mehkar, Buldhana, Maharashtra[3]

Abstract: *The management of biomedical waste has become a major concern of public health and environmental concern in India, which is explained by the growth of medical activities and the development of medical infrastructure. Biomedical waste refers to any form of waste produced in the process of diagnosis, treatment, or researching of biological materials and relates to high levels of infectious and chemical risks unless it is properly handled. Currently India generates more than 600 tons of biomedical waste on an average day and this number is rising as the population grows, modernization in healthcare is taking place, and more people are using disposable medical products. The COVID -19 pandemic also increased the production of wastes due to the widespread use of personal protective equipment, test materials, and vaccination disposables. The existing evidence shows that the promulgation of the Biomedical Waste Management Rules of 2016 and its amendments have resulted in the improvement of regulatory frameworks. These initiatives have enhanced segregation standards, the use of barcoding systems and the need to have an ecologically friendly environment in disposal. However, there are still significant problems such as the inadequate segregation at the source, disproportionate distribution of treatment facilities, lack of sufficient training of the healthcare workers, lack of capacity to enforce it and inadequate practices of disposal in rural and peri-urban areas. These inadequacies lead to pollution of the environment, workplace dangers to waste handlers and increased risk of contracting diseases. The future directions emphasize the need to strengthen regulatory enforcement, improve infrastructure of treatment, improve segregation practices and incorporate digital tracking technologies. The implementation of non-burn treatment systems, increasing the training programs, and community sensitization efforts are critical towards reducing the environmental and health effects. Long-term policy planning should be informed by sustainable methods based on the principles of the circular economy, i.e., including safe recycling, minimization of waste, and responsible use of resources.*

Keywords*:* Biomedical waste in India includes healthcare waste and requires effective management practices. There are several challenges in this area, along with a complex regulatory framework

DOI: 10.48175/568