

Biomedical waste management: Responsibility of policy makers, hospital administrators, and health care personnel

Dear Editor,

Waste generated from any health care-related activities performed in health care organizations, research centers or laboratories is considered to be health care waste.^[1] More than three-fourth of the health care wastes are non-hazardous while the remaining fraction is potentially hazardous and is referred as biomedical waste.^[1] Biomedical waste (BMW) is defined as any solid or liquid waste, which is generated during the diagnosis, management, immunization, or research activity encompassing human or animals or in the manufacture or trial of biological, and the animal waste from slaughter houses or any other similar institutions.^[2]

Biomedical waste: Public health concerns and the determinants

Safe handling of the BMW has revealed a significant impact on preserving and sustaining optimum level of human health and in mitigating environmental degradation or in preventing unfavorable climatic outcomes.^[3,4] Improper treatment to the BMW has resulted in a wide range of hazardous consequences such as mechanical injuries/infections/chemical injuries/emergence of antibiotic resistance, which are not only restricted to the healthcare professionals, but even deleteriously influence the lives of patients/communities/subsequent progenies, and the global environment.^[1,2,5] A diverse group of mutually interacting parameters such as poor awareness regarding proper handling of BMW among the health professionals including paramedical workers, unaccountable hospital administrators, absence of written policies to guide the environment-friendly disposal of the waste, untrained health workers, and poor implementation of the existing waste policy owing to the incompetent monitoring and surveillance mechanisms have played a significant role in aggravation of the problem.^[1,2,5-8]

Stakeholders in biomedical waste management

Review of the potential determinants clearly suggests that for ensuring the safe disposal of biomedical waste, targeted interventions should be formulated to involve all the stakeholders – policy makers, hospital administrators, and the team of health care personnel.^[2]

Policy makers

As already known, none of the public health-related initiative can be successful over a period of time unless it is backed by the sustained commitment from the program managers.^[4] The policy makers should not only formulate

comprehensive legislations to promote safe handling of the BMW, but also take steps to stringently enforce these legal provisions universally so that offenders can be penalized.^[9] In addition, policy makers should adopt newer and innovative cost-effective waste disposal technique based on the seasonal variation or type of waste generated.^[2,10,11]

Hospital administrators

Considering the rise in the number of hospitals/nursing hospitals/multi-specialty clinics, the role of hospital administrators in disposal of BMW cannot be underestimated.^[2] The primary task of hospital administrators is to develop a comprehensive waste management policy depending upon the nature of patients utilizing the services of a hospital or the type of waste generated.^[8,11] Further, based on the load of patients, the hospital administrators either should identify a nodal officer supported by a team of dedicated workers or constitute a hospital wastes management committee for monitoring the complete process of waste disposal starting from waste generation to its final disposal.^[2,4] It is then the responsibility of these earmarked committee members/nodal officers to organize regular training sessions for their staff, facilitate use of universal safety precautions, rationalize use of disinfectants, and maintain the overall cleanliness or ventilation of the hospital.^[2,3]

Healthcare personnel

As already mentioned, studies done in different settings have revealed low awareness of health care personnel regarding the recommended standard procedures desired for the disposal of biomedical waste.^[6,7] The existing scenario deserves serious attention as most of the health workers are aware of the consequences of the improper waste disposal, suggesting a wide knowledge-application gap.^[6,7] The policy makers and hospital administrators should implement a set of measures for enhancing their involvement in the process of waste disposal as the health care personnel constitute the key element in the process of hospital waste disposal.^[2,3] Strategies like creating awareness among all cadres of health professionals about the need and significance of appropriate management of biomedical wastes, ensuring training of the health care workers, advocating universal safety precautions like hand washing, and roping in undergraduate medical students have been proposed to bridge the existing gap.^[1,2,6,12]

To conclude, it is essential to target and involve all the stakeholders — policy makers, hospital administrators,

and health care personnel to ensure the safe handling and disposal of biomedical waste, and thus preserve human health and limit environmental degradation.

**Saurabh R. Shrivastava, Prateek S. Shrivastava,
Jegadeesh Ramasamy**

Department of Community Medicine, Shri Sathya Sai Medical
College and Research Institute, Ammapettai, Chennai,
Tamil Nadu, India


Address for correspondence:

Dr. Saurabh R. Shrivastava, 3rd floor, Department of Community
Medicine, Shri Sathya Sai Medical College and Research Institute,
Ammappettai village, Thiruporur - Guduvancherry Main Road,
Sembakkam Post, Kancheepuram - 603 108, Tamil Nadu, India.
E-mail: drshrishri2008@gmail.com

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