

Perspectives on Bio-Medical Waste Management Education

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Abstract: This article describes a novel way of introducing the concept of bio-medical waste management to medical students in their first year of medical education. The bio-medical waste management policies and practice in the department can be utilized as an educational opportunity for formal training of students at no additional cost. We are running an educational program (a practical and hands-on approach) on bio-medical waste management and successfully training a batch of 100 students every year [Mishra V Natl J Integr Res Med, 2020; 11(6):69-70]

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Introduction: The medical fraternity of India has recognized the need for bio-medical waste management since the beginning of the 20th century. In the year 1998, under the provisions of the Environment (Protection) Act, 1986, the government of India issued a notification on the Bio-medical Waste (Management & Handling) Rules¹, to be followed by all persons who generate, collect, receive, store, transport, treat dispose or handle bio-medical waste in any form. The Rules now called the Bio-Medical Wastes (Management and Handling) Rules 2018².

Despite continuous efforts of the government to reinforce the concepts of bio-medical waste management healthcare settings, we are yet to see a full-proof system. The causes for such inadequacies may be manifold but we believe that focussed education and training could play a crucial role in addressing the loopholes. In hospital settings doctors are at key positions to advocate and implement the policies of the government.

We see that educational efforts to address bio-medical waste management for medical students rely mostly on theoretical discussions. There are generally no curriculum-based exclusive practical and hands-on training programs on bio-medical waste management. It is also essential to recognize that such a dedicated program is challenging to initiate and maintain considering the resources (both human & non-human) and the time involved in achieving satisfactory results.

The dissection laboratory provides a unique opportunity to educate and train medical students formally, the concepts and practice of bio-medical waste management, right in the first

year of medical education at AIIMS Rishikesh and AIIMS Gorakhpur. We believe that there are certain specific advantages of educating the medical students in the first year of medical education. In a country like India where getting into medicine is highly competitive, the foremost is the receptiveness of first year medical students to imbibe concepts and practice related to healthcare. Secondly, dissection laboratory is the only place in a medical institution where the bio-medical waste generated can fit into one or the other category of almost all categories of bio-medical waste and are generated at one place.

Thirdly, the training can be delivered as a continuous program for a year at no cost because, at our institute and most others, dedicated dissection laboratory periods are a daily and routine affair. Fourthly, monitoring of the effectiveness of the program can be very easily done by faculty and residents.

We feel that educating and training students in an early period can have a long-lasting impact if followed up by constant reinforcements. As a student progresses in medical education, it becomes increasingly stressful and students start to focus more on the core areas because students consider bio-medical waste management as one apparently miniscule component of medical education. As such bio-medical waste protocols are followed in the dissection laboratories, it makes sense that we introduce such a program and act as role models so that students do not undervalue bio-medical waste management.

At our institute, we have started a biomedical waste management and handling program for

first-year medical students. Our current focus of training is on ‘categories of bio-medical waste’ and ‘colour coding and type of container for disposal of bio-medical wastes’. On the first day of dissection laboratory, we deliver theoretical concepts of bio-medical waste management followed by a demonstration of wastes and the containers. Following that we, on a daily basis, depute a few dissection laboratory staff to observe student behaviour. The concepts are reinforced by discussions in small groups during the dissection laboratory period. The program also serves to train the laboratory staff. At first, the students forget and make mistakes but, in some time, almost all the students are able to follow the practice correctly. Whenever some waste is found in the wrong container, every student is given an opportunity to point out the mistake.

We never try to identify the student(s) who did throw the waste in the wrong container but use the event as an opportunity for educating the others. We are conducting this program for the past two years and we see that it is very successful. The students after completing the first year of medical education frequently return to us to report inadequate practices in the hospital.

This also helps us get an insight into the hospital affairs in relation to bio-medical waste management and we are able to communicate the same to the concerned faculty or department. We feel that although the training is, at best, partial but it helps inculcate strong fundamentals for daily practice of a medical student. The efficacy of the program is assessed by daily inspection of the containers by trained staff. At present we do not follow a test-based approach to evaluate the knowledge of students in the area of bio-medical waste management.

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