

An overview on biomedical waste and its management

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Bio-medical waste is a hazardous waste produced from various health care units. The quantity of these waste produced is very large. An alarming quantity of these wastes disposed off in open and poses serious health hazard for public as deadly pathogenic microorganisms breeds freely. Managements of bio-medical waste is a global problem because deleterious effect and mismanagement of biomedical waste can affect the individual and environment.

Key words : Biomedical waste, Management.

INTRODUCTION

In the present paper various aspect of biomedical waste, its classification, handling and management procedures are discussed.

What is biomedical waste

Biomedical waste or the hospital Waste has been defined as "any waste which is generated during diagnosis, treatment or immunization of human beings or animals or any research activities pertaining to or in the production of testing of biological and may include infectious agents." Health care waste includes all the waste generated by health care establishments, research facilities and laboratories. In addition, it includes the waste originating from minor or scattered sources, such as that is produced in the course of health care undertaken in home.

The biomedical waste generally consists of human anatomical waste, animal tissue waste, bandage, linen and other infectious waste, plaster, disposal syringes, glasses, solid waste, liquid waste and other related materials.

Management of biomedical waste is a global problem and its utmost importance needs not be over emphasized as the deleterious effect of mismanagement of hospital waste can affect the individual and the environment. Biomedical waste generated by various hospitals

in our country runs into many hundred thousands of kilograms and proper disposal of it is a Herculean task. The establishment of health care is as basic requirement of every civilized society. Food, medicines, chemical equipment and instrument are used while treating out patient and patient admitted into hospital producing a variety of waste. The waste generated from the treatment of patients suffering from infectious diseases may spread infection either through direct contact or indirectly through the environment.

Bio-Medical waste (Management & Handling) Rule-1998

Bio-medical waste of generated primarily from health care establishments is a relatively recent issue and there are a lot gaps in information. The management of biomedical waste still in its infancy all over the world. There is a lot of confusion and problems among the generators, operator decision makers and general community about the safe lack of awareness. Hence resource material on the environment for hospital administration, surgeons, doctor, nurses, paramedical staff and waste retrievers is the need of the hour.

BIO-MEDICAL WASTE (Management And Handling) RULES, 2000

S.O.630 (E). Whereas a notification in exercise of the powers conferred by section 6,8 and 25of the environment (protection)

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act, 1986 (29of 1986) was published in the gazette vides. S.O. 746(E) dated 16 October, 1997 inviting objection from the public within 60 days from the date of the publication of the bio-medical waste (management and handling) rules, 1998 and where all objections received were duly considered.

Now, therefore, in exercise of the powers conferred by section6, 8 and 25 of the environment (Protection) Act, 1986 the central government hereby notifies the rules for the management and handling of biomedical waste.

CATEGORIES OF BIOMEDICAL WASTE

Ten Categories of Biomedical waste have been described in schedule of BMW rules 1998(Table).Human Anatomica waste **Category 1** is usually generated in operation theatres but a number of specimens are sent to the pathology department for diagnosis. Hence it is a liability of the laboratory to dispose the tissues as biomedical waste. **Category 2** (animal waste), **category 5** (discarded medicines and cytotoxic drugs) and. Microbiology waste **Category3** generated in the form of specimen, cultures, tubes and plates used in identification and drug sensitivity test an stock cultures have perhaps the highest infectious potential. However, autoclaving has been a time-tested method of disinfection of microbiology waste. Among waste sharps **category 4** the quantity of glass in pathology is more than needle sharps and **category 6** (soiled waste) is a small quantity in form of cotton balls used while blood collection or used as absorbent material for accidental blood and body fluid spillage. **Category 7** is the solid waste mainly from disposal items other then sharps for example tubings, tubes and containers used for blood and other pathological samples blood collection sets in blood bank and blood bags. **Category 8** includes liquid waste generated while washing of laboratory waste and processing of sample on the analyzers **category 9** (incineration ash) are not generated in pathology laboratory **Category10** is the chemical waste generated while testing and analysis.

CLASSIFICATION OF THE HAZARDOUS HELTH CARE

1. INFECTIOS WASTE

Infectious waste suspected to contain pathogen (bacteria, viruses, parasites or fungi) in sufficient concentration or quality to cause disease in susceptible hoots.

The category includes:

- * Culture and stocks of infection agent from lab works
- * Waste form surgery autopsies of patient with infectious disease
- * Waste from infected patient in isolation ward (eg. Excreta dressing from infected or surgical wounds clot heavily soiled with human blood or other body fluids.
- * Waste that has been in contact with infected patient undergoing haemodialysis.