International Journal of Research in Advent Technology (IJRAT)
(E-ISSN: 2321-9637)
Special Issue National Conference "CONVERGENCE 2018", 09th April 2018

A Review on "Bio-Medical Waste"

Vitthal V. Wayal[1], Prathamesh S. Jadhao[2], Geetanjali S. Palkar[3], Pratiksha S. Pawar[4], Rupali G. Thomare[5]
Civil Engineering Department[1, 2,3,4,5],
Email: vitthalwayal7@gmail.com[1] , palkargeetanjali1995@gmail.com[2], prathamdada10@gmail.com[3]

Abstract- The amount of biomedical waste generated per day by day with increase in the healthcare facilities. This paper present an analysis study of various techniques used for biomedical waste management along with the knowledge and attitude of people and healthcare workers. Along with this the scenario of biomedical waste management in various hospitals in India is discussed. These are being produced during the process of sampling, testing, diagnosis, therapy, immunization and surgery of humans, animals, and in research experiments. So, the waste is needed to be treated using adequate treatment method.

Index Terms- Biomedical Waste, Healthcare , Knowledge, Practice.

1. INTRODUCTION

Healthcare is an essential aspect of life; these activity generate a large amount of waste called biomedical waste .This waste generated by healthcare activities can be hazardous or toxic or sometimes deadly as it is contaminated by disease carrying pathogens which can be infect patients, healthcare workers and other public present near there. Increase in the healthcare Facilities and the resin trend of using disposal material has increased the amount of biomedical waste significantly and hence creating serious threats to health of society and environment also. Biomedical waste can contain cotton, needles, specimen, Human organs etc. and proper disposal of different types of biomedical waste.

According to Bio-Medical Waste Rules of 1988, India- Bio-medical waste is defined as "any waste which is generated during diagnosis, treatment of human beings and animals or any other waste produced during production or testing of biological". This paper also highlights the health hazards to the people handling this waste in the like laundry workers, nurses, medical personnel and other employees of the hospitals.

2. LITERATURE REVIEW

The paper Need of Biomedical Waste management in Hospitals –An emerging issue-A Review by Praveen Mathur, Sangita Patan, and Anand S. Shobhawat, Department of Environment Science, MDS University, Ajmer. This paper talks about the impact of waste generated by the medical activities and their straight way impact on mankind. The paper highlights that disposal of BMW waste or exposure to such waste possess a serious threat to the environment and hence requires specific treatment or management before disposal. Other than that, the paper deals with the problems relating to bio-medical waste and procedures for handling and disposal method and also create awareness among health personnel regarding the biomedical waste.

3. TRANSPORTATION OF WASTE

Transportation of Bio-Medical wastes can be done by Carts and containers that are not used for any other function. The trolleys have to be cleaned each day. Offsite carrying vehicle should be marked with the name and address of transporter. Biohazard sign should be dyed. Appropriate system for securing the weight during transport should be ensured. Such a means of transport should be easily cleanable with rounded corners. All disposable plastic should be subjected to shredding before disposing off to vendor. No unprocessed bio-medical waste store more than 48 hours.

4. TREATMENT OF WASTE

Treatment refers to the method that modifies the waste in some way before it is get to its ultimate resting place. It is mainly necessary to disinfect or decontaminate the waste, right at source so that it is no longer the source of pathogenic organisms. After such treatment, the remains can be handled safely, transported and store up.

- Syringe nozzle and needles should be shredded in syringe cutters and needle destroyers.

- Broken glass /Scalpel blades/ Lancet/ should be keep in separate containers with bleach, transferred to plastic/ cardboard boxes; sealed to prevent spillage and transported to incubators.

• Glassware must be disinfected, sterilized and cleaned.

• Culture plates with possible culture must be autoclaved; media are placed in suitable bags and disposed off. The plates can be reused after sterilization.

• Gloves should be cut / shredded / mutilated before disposal.

Swabs should be chemically sterilized followed by incineration. If they have only a small quantity of blood that does not drip, they could be placed in the garbage.

5. MINIMIZATION OF WASTE

Whereas regular solid and liquid waste requires no treatment before disposal, virtually all contagious waste should first be treated. The cost for disposal of infectious waste may be ten times more than cost for disposal of ordinary waste. Any methods that reduce the quantity of infectious waste produced will at the same time decrease the cost of infectious waste disposal.

6. CONCLUSION

Biomedical waste management is as important as treatment plan for medical professionals. Awareness programme should be conducted for all health care personnel and auxiliary personnel of various health care institutes to keep side by side with the current knowledge of scientific biomedical waste management system and its importance and benefits to the patients, staff and the community as an entire. On-going education and training, continuing medical education and update should be held at regular intervals.

Each and every healthcare facilities which generates biomedical waste, needs to set up requisite treatment facilities to ensure proper treatment of wastes and its disposal so as to minimise risk of exposure to staff, patients, doctors and the community from biomedical hazards. Safe and effective management of biomedical waste is not only a legal necessity but also a social responsibility.

REFERENCES

[1] IOSR Journal of Environmental Science, Toxicology and Food Technology (Biomedical waste in India by Kirti Mishra & Anurag Sharma).

[2] Issues and Concerns - A Ward Level Study of Bangalore City (by S Mishra).

[3] International Journal of Advancement in Research & Technology, Volume2, Issue 11, November-2013 ISSN 2278-7763.

[4] Journal international Application and Sceince by B. Ramesh Babu.