



Knowledge Attitude and Practice of Hospital Waste Management in Chhattisgarh Institute of Medical Sciences And Associated Hospital

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ABSTRACT

"Let the wastage of sick not contaminated the lives of healthy".The waste produced in the course of Health care activities carries a high potential for infection & injury than other type of waste. Therefore it is essential to have safe and reliable method for its handling. Inadequate and Inappropriate handling of health care waste may have serious public health consequence and significant impact on environment. There is absence of quantitative and qualitative scientific data regarding various component of Hospital waste management.

Appropriate management of health care waste is a crucial component of Environmental health protection and integral feature of health care services.

Objective : 1. To Observe the hospital waste management system in teaching hospital.

2. To study the practice of waste handling by nurses, ward boy, and other hospital staffs.

Material and Method : A cross sectional observational study was carried out to access the waste management system in teaching hospital and also access the knowledge of hospital regarding hospital waste handling . Interview of 437 hospital staffs carried out on predesign and pretesting oral questioning.

Statistical analysis : Analysis using by SPSS software.

Result : Out of total 52 collection site (Wards, OPD, OT) only 22 (42%) places proper colour coding is followed. This indicates risk of intermixing of biomedical waste . Only in 15 (28.8%) places are proper segregation, colour coding well maintain container with proper polythene bag found. 100% of waste handlers used gloves as protective measure . Only 3(10%) used apron, 18 (64%) used mask, no one used goggles as protective measure . The sanitary workers have inadequate knowledge and poor practice of hospital waste handling.

Conclusion : Total 52 collection site of hospital was surveyed, colour coding, proper segregation is followed only in 22 (42.3 %). Hospital waste not properly segregated at source during transportation and disposal . No waste management policy and committee are formed at hospital level. Hospital waste material is disposed through authorised outsource private agency.

KEYWORDS : Biomedical Waste, Segregation, colour coding

Introduction-Approximately 60% of all sickness are in the developing countries related to environmental causes. Bio medical waste is forming approximately 1-2 percentage of the total municipal solid waste stream. Some of these waste are potential threat to the human health and environment (Kishoreet.al.2000).

Medical-related waste is disposed off illegally in to the garbage and into the sewers (NYDEC1988).Even in the developed countries, infectious and hazardous wastes are dumped in the municipal bin,where used syringes with or without blood and needles,used intravenous bottles,tubes,soiled cotton, medicine vials, urine bags, mattresses are picked up by rag pickers and junk dealer.

Biomedical wastes are expensive to dispose off. It cost depends on volume and weight and can be ten to twenty times as much as for general waste disposal.Segregation should ensure that only wastes classified as 'infectious' or 'hazardous' go into the appropriate containers.Sharp containers should only be used for sharps.Mixing of infectious waste with general waste would lead to increase on the bulk of waste that need special treatment and disposal, which means more expenditure.Minimizing waste should be part of organization's overall waste Management Policy and one of the most important aspects of patient care.

The real reasons appeared to be lack of strong commitment at the top management level as there are many other more immediate press-

ing needs.The problems in energetic pursuance of the programme are mainly behavioural . Lack of awareness and apathy are glaringly apparent in all levels of health workers including doctors.Training is a vital step in the process of implement a waste management system.In this step,existing mind sets are changed or broadened.Proper training will make the transition to the new scheme a lot more easier.

Material and Method: Across sectional observational study was carried out to access the waste management system in teaching Hospital. In first part of proforma each collection sites are observed for one week regarding practice of segregation and collection of waste, condition of container and presence of proper polythene bags,it was also observed that if any pre-treatment of waste is done before disposed off the waste and second part of proforma to check the knowledge and attitude of health care staff who handle the hospital waste. Third part of proforma who are responsible for generating Health care waste interview 437 of hospital staff carried out on predesign and pretesting oral questionnaire.

Statistical Analysis:-Analysis, Using by SPSS software.

Result & Discussion: Out of the total 52 collection site(Wards,OPD,OT) only 22(42%) places colour coding is followed.This indicates risk of intermixing of biomedical waste with municipal waste colour coding is a cost effective measure that may reduce potential health expenditure. More colour coding is not sufficient until supplemented by

segregation rule. In this study all the collection site is graded on the basis of four indicator (1) Observed segregation (2) Condition of the container (well maintain or broken) (3) Presence of appropriate polythene (4) Proper method of transportation. 1 point is awarded for each indicator, Only in 15 (28.8%) places fulfil all the waste management criteria and scored 4/4 (four point out of four), 3 (5.7%) scored 3/4 (Three out of four), 7 (13.4%) places, scored 2/4 (two out of four) 24 (46.1%) scored 1/4 (one out of four) and 3 (5.7%), 8 scored 0/4 (zero out of four).

The concept of universal precaution affirms use of every protective measure available to reduce the risk of hazards irrespective of category waste handled in this study shows unsatisfactory use of measure. 28 (100%) of waste handlers used gloves as protective measure. Only 03 (10%) used Apron, 18 (64%) used mask, 08 (28.5%) wear shoes while handling waste no other protective measure were used during handling wastes.

Pre-treatment of biomedical waste is done by using methods of chemical, Mechanical, thermal, irradiation and biological treatment with various technique and process, in this study out of 52 places 42 (80.7%) used mechanical treatment with shredding of needles and sharps, 6 (11.5%) use chemical treatment, thermal and irradiation 0 (0%) and biological method or other method is (0%). Pre-treatment reduces the intensity of hazards associated with biochemical waste it should be highly advocate.

In this study, it was observed that out of the total 437 study subject 57.2% has adequate knowledge regarding hospital waste handling, 59.9% has positive attitude towards it but only 52.8% follows appropriate practice. If we separately analyze the group Nurse and technician has maximum knowledge, attitude & good practice of Hospital waste shown in table 3.

Total Setup	Colour coding present	Color coding Absent
Ward, OPD, OT no. (100%) 52	22 (42.3%)	30 (57.69%)

Table No-2-

Type of protective Measures used by sanitary worker (N=28)	Not using protective Measures	Using Protective Measures
APRON	25 (89.2%)	3 (10.71%)
GLOVES	0 (0%)	28 (100%)
GOGGLES	28 (100%)	0 (0%)
MASK	10 (35.7%)	18 (64.2%)
SHOES	20 (71.4%)	8 (28.5%)
OTHERS	28 (100%)	0 (0%)

Table No3:- Knowledge , attitude and Practice of health care staff regarding hospital waste management

study variable	Adequate Knowledge	Positive Knowledge	Appropriate Knowledge
Nurses (n=215)	172 (80%)	170 (79%)	164 (75.3%)
Lab Technicians (n=30)	28 (93.3%)	26 (86.3%)	23 (76.6%)
OT staff (n=22)	20 (90.9%)	20 (90.9%)	18 (81.8%)
Ward Boy/Sanitary Worker (n=170)	30 (17.6%)	46 (27.2%)	26 (15.2%)
Total n=437	n=250 (57.2%)	n=262 (59.9%)	n=231 (52.86%)

Recommendation:-

1. Colour coding should be strictly followed in each set up to minimise the risk of infection from lethal hospital waste resulting in intermixing with less infection waste that lie open generally in municipal dumping sites.
2. Training of HCS made awareness about universal precaution, No touch technique & proper waste segregation. A poster should be affixed on each container what to put in side & what not.
3. A Hospital waste management committee should be framed to inspect & suggest the maintenance of hospital waste.
4. Strict pre and post exposure prophylaxis should be provided to those handling Hospital waste.

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