



Knowledge, Attitude And Practice Regarding Biomedical Waste Among Health Workers of Block Hazratbal, Srinagar

KEYWORDS

Awareness, Crosssectional study, Health workers, Biomedical waste

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ABSTRACT

The present study was conducted with the objective to assess awareness, attitude and practice regarding Biomedical waste among health workers of block Hazratbal of District Srinagar. A cross sectional study was conducted for a period of 2 months from July to August 2013. A pre designed semi structured questionnaire was self administered to all the health workers who were willing to participate in the study. Majority had heard about biomedical waste management but only 34.5% were able to define biomedical waste. No one had idea about the legislation pertaining to waste management. 58.1% had no idea about composition of biomedical waste. 64% knew about segregation of waste at source. Correct no of colour coded bags was known to 41.8% of health workers. 74.5% felt use of personal protective measures, administration of vaccination and following waste management guideline as preventive measures against health hazards imposed by waste. 20% gave correct response about waste category. 18.2% were not aware of the diseases associated with biomedical waste mismanagement. 47.3% knew about various method for waste disposal. Segregation at source and correct method for disposing sharps was practised by 78% and 76% workers respectively. However, lack of practice for using personal protective measures, mutilation and shredding and use of disinfectant was found. No report of injury had ever been done and only 3% of the subjects received training on Biomedical waste management. Training of the health workers about the latest guidelines from time to time, implementation as per the guidelines and strict monitoring of the workers and workplace is needed.

Introduction:-

Hospital waste refers to all the material generated as a result of diagnosis, treatment or immunization of patients and associated medical research¹. Everyday, there is generation of infectious and hazardous waste in every health set up be it a tertiary care hospital or a private clinic. The waste produced in the course of health care activities carries a higher potential for infection than any other types of wastes.² Health care workers are at risk of transmitting infections like hepatitis B, hepatitis C and HIV virus in their day to day practice. So awareness about waste management is must to ensure proper hygiene and safety of health workers as well as protection of general public and the environment.

Studies have shown that awareness about hazards and waste management techniques in India is found to be unsatisfactory.³ The present study has been conducted to assess the awareness, attitude and practice regarding waste management as per the Biomedical waste management and handling rules, 2011 among health workers of block Hazratbal of district Srinagar.

Material and Method:-

It was a cross sectional study conducted for a period of 2 months from July to August 2013. Study respondents included health workers (Doctors, FMPHW and Lab technicians) of block Hazratbal of district Srinagar. Study tool constitute a pre designed semi structured questionnaire. All the workers who were willing to participate in the study were self administered the questionnaire to assess the knowledge, attitude and practice of biomedical waste. Results obtained were analyzed in percentages.

Results:-

A total of 55 respondents were included in the study. Most of the workers had a working experience of 10 to 15 years.

Regarding the awareness, 92.7% had ever heard about biomedical waste out of which only 34.5% can define biomedical waste. The reason may be due to lack of awareness and training on Waste management. The findings is consistent with study done by Rajesh K Chudasama and others where 95.4% heard about BMW. While Sarika Patil et al in their studies found that only 70.6% health care workers had heard about BMW.⁵ No one knew about biomedical waste management and handling rules and year of legislation in the present study. Only 33.3% knew that there is a legislation regarding waste management in a study carried by Partha Sarathy Naidana.⁶ Similar results have been found in a study by P Shakeer Khan and G. Raviparbu where only 1.6% of the study population knew about year of legislation of BMW.⁷ Contrary to the present finding as per Mausami Basu et al 94.4% were aware about BMW management and handling rules (1998).⁸ The latest guidelines on BMW were known to 72.5% of participants according to Mitasha Singh in a study carried out at Government Medical college Kangra, Tanda.⁹ 58.1% of the respondents had no idea about composition of biomedical waste in our study. Only 32.7% medical, 25% para-medical and 3.4% non-medical workers gave correct answer regarding composition of hospital waste in a study conducted Manoj Bansal et al.¹⁰

Table 1: Awareness among study subjects about Biomedical Waste

Awareness regarding Biomedical Waste	Yes n (%)	No n (%)
Heard about biomedical waste.	51 (92.7)	4 (7.2)
Can define biomedical waste.	19 (34.5)	36 (65.4)
Know the name and year of latest guideline pertaining to BMW	0	100

Awareness regarding Biomedical Waste	Yes n (%)	No n (%)
Composition of biomedical waste (%)		
Hazardous waste and infective	8(14.5)	47(85.4)
Hazardous and non infective	10(18.1)	45(81.8)
Non hazardous waste	5 (9)	50(91)
Don't know	32 (58.1)	23(42)
Know about segregation of waste at source	35(64)	20(36.3)
Correct no of colour coded bags	23(41.8)	32(58)
Category of waste	11(20)	44(80)
Hazards of biomedical waste		
Occupational hazard	4(7.3)	51(92.7)
To general public and environment	4(7.3)	51(92.7)
Both of them	36(65.5)	19 (34.5)
Don't know	11(20)	44(80)
Aware of diseases involved in bio-medical waste handling (atleast two)	10(18.2)	45(81.8)
Preventive measures		
Personal protective measures	10(18.1)	45(81.8)
Vaccination of employees	4(7.3)	51(92.7)
Follow guidelines of waste management	2(7.3)	53(96.4)
All of these.	41(74.5)	14(25.5)
Don't know	4(7.3)	51(92.7)
Time limit for storage of waste (48 hrs)	26(47.3)	29(52.7)
Can identify biohazard symbol	27(49.1)	28(51)
Know chemical disinfectants to treat waste	16 (29.1)	39(70.9)
Know Various Method of disposal of BMW (Atleast one)	26(47.3)	29(52.7)

As colour coded bucket were placed in most of the rooms ,64 % Knew about segregation of waste at source and correct no of colour coded bags was known to 41.8% of health workers in our study. In comparison,55% of the practitioners segregated waste at the point of generation according to Kokila Selvaraj et al.¹¹ Knowledge about colour coding was 82% according to Nagaraju B et al.¹²

65.5% felt that mishandling of waste may pose occupational as well as hazard to general public and environment . 20% gave correct response about category of waste in the present study. while only 3.13% knew about waste category as per the results of Suwarna Madhumakar et al. ¹³Only 18.2% had knowledge about at least two diseases associated with mismanagement of BMW. However,results of K.V.Phani showed that 86.9% of the subjects knew about various diseases associated with BMW mishandling.² 74.5 % knew use of personal protective measures,administration of vaccination and following waste management guideline as preventive measures against health hazards in the present study. Correct knowledge regarding universal precautions was found among 57% of health workers as per the findings of Paratha Sarathy Naidana.⁶ only 47% were aware about the time limit for storage of wastes in our study,only 9.5 % were aware of the fact that it was 48 hrs in a study by Sanjeev R et al. ³

49% can identify Biohazard symbol. In contrast,study by Ashish Naik et al shows 80% of MO and 90% of nurse know about bio-hazards symbol printed on bags. ¹⁴ Use of chemical disinfectant and use of various method for disposal of waste was not known to 29% and 47 % of the study subjects respectively.P shakeer khan results found that 64% and 53% do not know about commonly used chemical disinfectant like hypo and bleaching powder respectively. ⁷74% were not aware of BMW disposal as per the results of KV Phani Et al.²

Table 2: Practice according to Waste Management Rules

Practice regarding biomedical waste	Yes n(%)	No n(%)
Do segregation (Use colour coding bags)	43(78.2)	12(21.8)
Practicing correct method for disposing sharps	42(76.4)	13(23.6)
Do mutilation and shredding	5(10)	50(91)
Do Disinfection of waste	16(29)	39(71)
Using personal protective measures while handling BMW	23(41.8)	32(58.1)
Any injury in the past six months.	5(10)	50(91)
Report the incident to higher authority	0	55(100)
Received Training regarding waste management	3	52(94.5)

Segregation at the point of generation was found among 78% health workers. Similarly , 68.6% practiced segregation according to Study carried by Sanjeev K et al. ³segregation was practiced in 80% of the hospital as per the review article of Nosheen et al at five hospital hospital of Lahore. ¹Proper method for disposal of sharp was followed by 76.% in the present study.The findings of our study is supported by Ukey Ujwala et al study where 68% were practicing disposal of sharps as per the guidelines.¹⁵ only 10% do mutilation of waste. Mean percentage score for mutilation of recyclable waste was found to be 88% according to findings of Rajiv Kumar et al. ¹⁶only 29% use chemical disinfectants.In our study,41.8% use personal protective measures out of which majority use gloves followed by apron and mask.Similar results have been found by Shalini sharma and SVS Chauhan.¹⁷10% of the study population got injured by sharps in the past six months but none of them reported to the higher authorities nor received post exposure vaccination. 16.6%,20% and 33.3% were injured and no one reported the injury in a study conducted at three apex hospitals of Agra by Shalini Sharma¹⁷.only 3% had received training on BMW and handling rules 1998 and none got training on the latest guidelines. Training has been imparted to 71.5% of the participants in as per the results of Mitasha Singh et al.⁹

Favourable attitude was observed regarding segregation of waste,but they lack proper knowledge about segregation at source in colour coded bucket .All the respondents felt the need to update themselves with waste management rules and that the topic should be included in undergraduate teaching curriculum. They felt that use of personal protective measures is necessary to prevent occupational hazard in spite of the fact that practice was found to be low in our study.

Conclusion : The present study revealed gap in knowl-

edge and practice with majority of the respondents having favourable attitude towards waste management. There is a need to sensitize all the health workers with up to date information by imparting training from time to time about latest guidelines. Strict implementation of the rule along with monitoring and supervision from time to time is the need of the hour.

Limitation: Convenience sampling has been done in our study. Further studies with probability sampling with large sample size along with observational checklist including government and private sector at district level would provide a better scenario about overall waste management in the area.

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