

Original article

“AWARENESS, KNOWLEDGE AND PRACTICES ON BIO-MEDICAL WASTE MANAGEMENT AMONG HEALTH CARE WORKERS AND PARAMEDICAL STUDENTS”

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ABSTRACT

Background: Bio-medical wastes are of great importance due to its potential environmental hazards and health problems. This study was conducted to assess the awareness and knowledge of paramedical students and health care workers regarding BMW management. **Material and methods:** This cross sectional study was conducted among students and health care workers. Data on variables of general awareness of biomedical waste was recorded on questionnaire. **Results:** Out of 50 volunteers, 30 were students and 20 health care workers. Knowledge regarding the infection awareness, colour coding and sharp disposal was found to be better among students as compare to technicians and sweepers. **Conclusion:** Constant supervision and implementation at each level of waste management is needed and proper educational programmes are also required.

Key words: Awareness, Biomedical waste, Health care workers

INTRODUCTION

Biomedical waste (BMW) is the term applied to the waste generated during the diagnosis, treatment or immunisation of human beings or animals or in the research activities pertaining thereto or in the production or testing of biological including categories mentioned in Schedule I of BMW Rules of 1998 viz

General waste, Pathological waste, Radioactive waste, Chemical waste, Infectious waste, Sharps, Pharmaceutical waste, Pressurized containers.^[1,2] It is estimated that 10-25% of health care waste, which refers to all the waste generated by a health care establishment, is hazardous, with the potential for creating a variety of health problems.^[1]

The awareness among health care professionals regarding the hazards of BMW and necessary management strategies is increasing globally, however, the condition in developing countries and particularly in India is critical due to the insufficient financial and human resources, lack of awareness about the health hazards of BMW, poor adherence to the proper waste disposal and management policies.^[3-6]

Adequate knowledge about the health hazards of BMW and their proper techniques of handling and disposal, including practice of necessary safety measures, can help to prevent the various adverse effects of the hazardous waste. With this background, present study was conducted to assess the awareness and knowledge of para medical students and health care workers regarding BMW management in our hospital.

MATERIALS AND METHODS

The cross sectional study was conducted at the Rama Medical college, hospital and research centre mandhana Kanpur, during May 2017. It included a survey in total 50 candidate includes 30 students (10 students of BMLT, BPT and nursing students each) and 20 health care workers (10 technicians and 10 sweepers).

The data collection was done by a pretested, predesigned self administered questionnaire containing questions about awareness of Biomedical waste, its hazards, management, the colour coding for segregation and methods used for disposal. A brief talk was given to students and health care workers about biomedical waste management and their doubts were solved after collecting the answered questionnaire forms.

RESULTS

Total 50 health personal participated in present study. The study participants (students, technician and sweeper) included age range of 20 to 50 years. Majority of participants were male. Awareness about bio medical waste management including colour code concept, biohazard symbol identification and disposable methods were asked.

[Table 1]

The other details about Awareness about infections of HIV, Hepatitis B, tuberculosis and other infections, Awareness about colour coding for segregation of biomedical waste and Awareness about disposal of sharps and needles were mentioned in **figure 1, 2 and 3** respectively.

Table 1: General Awareness Regarding Biomedical Waste

Awareness parameter	Students N=30	Health care workers N=20
Awareness about infections		
Yes	93.3%	65%
No	6.6%	35%
Bio hazard symbol identified		
Yes	85%	25%
No	15%	75%
Disposal methods for all biomedical waste categories		
Yes	90%	70%
No	10%	50%

Fig 1: Awareness about infections

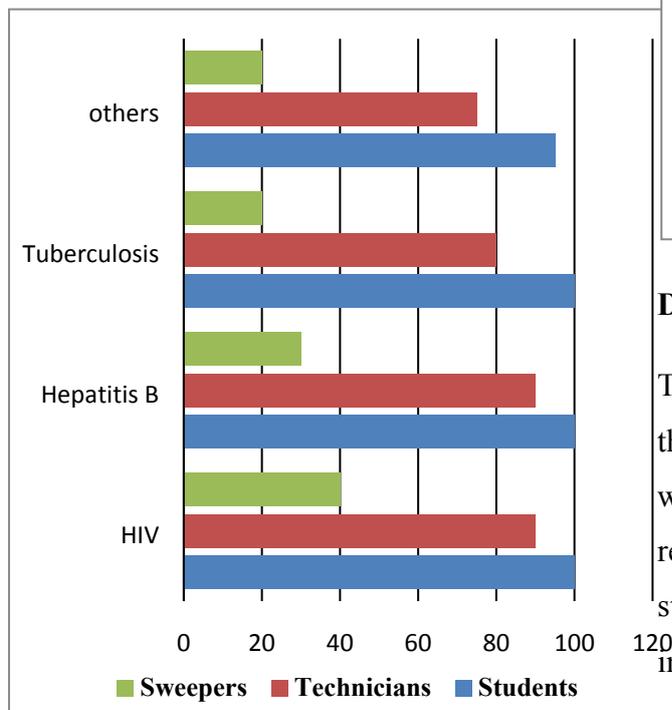


Fig 2: Awareness about colour coding for segregation of biomedical waste

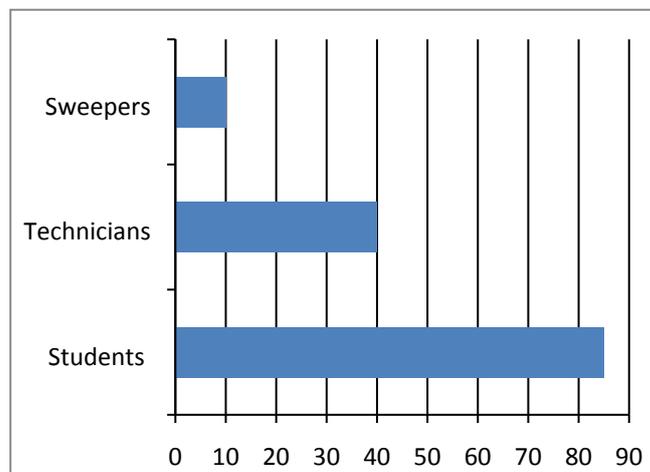
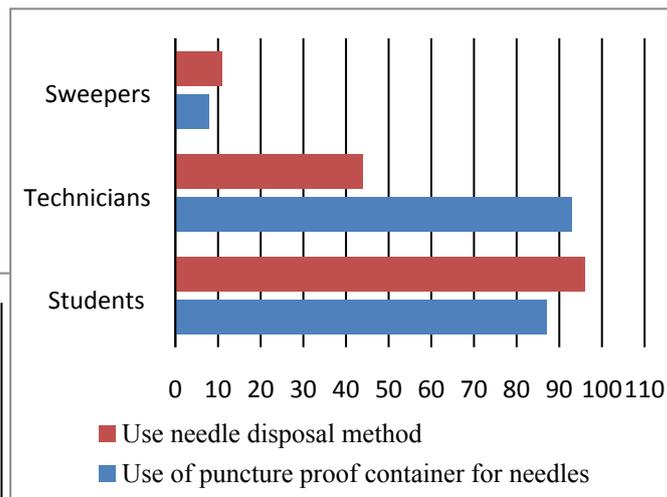


Table 3: Awareness about disposal of sharps and needles



DISCUSSION

The methodology of data collection with the help of questionnaires is in accordance with the study performed in other regions.^[7,8,9] All of the paramedical students under study knew about infection with HIV, Hepatitis B & C for which there is strong evidence of transmission via healthcare waste, as

compared to the health care workers, Majority of staffs think that there is lack of manpower for proper waste disposal in the hospital.

Majority of participants don't have knowledge about bio hazard symbol. but majority of health personal accepted bio medical waste transmits disease.^[10]

CONCLUSION

Lack of knowledge regarding biomedical waste management among health care workers reveals that proper training programmes are required, so that the knowledge on biomedical waste management can be improved.

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