VOLUME - 9, ISSUE - 12, DECEMBER - 2020 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Pathology

ASSESSMENT AND AWARENESS OF BIOMEDICAL WASTE MANAGEMENT IN A SUPERSPECIALITY HOSPITAL IN RURAL HARYANA.

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ABSTRACT Biomedical waste (BMW) generated India is immense and contains infectious and hazardous materials. It is crucial on the part of the employees to know the hazards of the biomedical waste in the work environment and make its disposition effective and in a scientific manner. It is critical that the different professionals engaged in the healthcare sector have adequate awareness with respect to biomedical waste management. A cross sectional study was carried out using interview as the study tool among the health care professionals in a tertiary care teaching hospital. The study demonstrated gaps in the knowledge amongst all the cadres of the study respondents. The knowledge in relation to 2016 BMW Management including the hospital BMW protocols was more desirable among doctors, but practical aspects were better in nurses and the lab technicians.

KEYWORDS : 2016, Biomedical Waste, Knowledge, Practice, Healthcare Personnel.

INTRODUCTION

With increasing healthcare facilities and awareness among general public especially during COVID-19 pandemic scenario, biomedical waste (BMW) poses a grave threat; both its production as well as disposal. (1) As most of the procedures performed in a health care generate potentially infectious waste, so proper awareness as well as disposal of BMW calls for paramount importance. (2,3) India approximately generates 2 kg/ bed/ day 3 and this biomedical waste encompasses wastes like anatomical waste, cytotoxic wastes, sharps, which when inadequately segregated could cause different kinds of deadly infectious diseases like Human immunodeficiency virus, hepatitis C and B infections etc. (4) and also cause disruptions in the environment, and adverse impact on ecological balance. (5,6) As far as Indian scenario is concerned, BMW (management and handling) rules 1998, formulated by Ministry of Environment and Forests, Government of India (GOI) came into force on 28 July 1998 and currently, BMW rules (management) rules 2016 are in force. (7) Ours is a tertiary care institute catering rural population in remote Haryana. Thus present study was conducted with the following objectives, To assess the awareness of hospital personnel regarding bio-medical waste and its management along with existing protocol for bio- medical waste management in the institute.

MATERIAL AND METHODS

The present study was a cross-sectional study carried out in a tertiary care hospital in rural Haryana over a period of 5 months. Only those facilities having indoor care were included in the study. Informed consent from the hospital authorities and health personnel of respective health facility was taken along with ethical clearance with strict confidentiality maintenance. In the first stage, investigators conducted interviews and in the second stage, existing practices of biomedical waste management were assessed. From each health facility, medical, para-medical and non-medical personnel, working at their current position for at least 5 months, were interviewed. Data collected was analyzed manually and projected as percentage.

RESULTS

Out of 123 health personnel interviewed, 47.15% were doctors, and para-medical and non-medical staff were 29.26% and 23.57% respectively. In this study, the overall awareness was found maximum among doctors followed by para- medical workers and least among non-medical workers. Majority of the medical workers were found aware about the biomedical waste management. Awareness regarding colour coding and segregation was little bid greater among para-medical workers than doctors. Regarding composition of hospital waste, only 32.75% medical, 25% para-medical and 3.44% non-medical workers fared well.

As far as practices of biomedical waste is concerned, pre-treatment and transportation of biomedical waste out side the hospital was adequately done and Common Biomedical Waste Treatment Facility (CBWTF) for terminal disposal of waste was ascertained.

DISCUSSION

The present study was conducted in a tertiary care hospital in rural Haryana to find out the awareness and existing practices regarding biomedical waste management in the set up. Awareness among health care workers is essential for the adequate management of biomedical waste. The overall awareness about biomedical waste management was found highest among medical professionals. Almost all the doctors and majority of the para- medical workers were quite aware about hazards and method of prevention of hazards of biomedical waste management and handling while it was least among non-medical workers. Similar observations were noted by Deo et al and Pandit NB et al (8,9).

The knowledge regarding segregation is important to prevent the mixing of hazardous and non-hazardous or domestic waste which has to be disposed off with municipal waste. In this study, knowledge about colour coding and segregation was more among para-medical than medical staff. These findings were supported by studies done by other researchers. (8, 10)

Our study reveals that knowledge about transportation of waste for terminal disposal was highest among doctors than para-medical staff and least among non-medical staff. Saini et al too found that person with higher education level were more aware regarding the issue.(11)

Segregation is the most important step in the entire process of biomedical waste management. As per the findings of this study, the hospital using two or three colour coded bags to segregate the waste and the practices of waste segregating were not adequate and mixing of waste was found. Pandit NA et al in his study in Srinagar and Gupta et al in Lucknow also

reported the same issue. (12,13)

Storage and transportation of waste were found adequate in hospital contrary tto findings by Pandit NB et al and Rijal et al. (9, 14)

CONCLUSION

The present study concluded that the awareness regarding biomedical waste management was satisfactory in medical personnel while poor in para and non-medical workers. As these workers are regularly engaged in the process of biomedical waste management and handling, therefore there is an urgent need for orientation training regarding the issue. Also, there is a need of strict implementation of guidelines of biomedical waste management and governing a committee to look for the same. (15,16)

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