Original Research Paper

Hospital Administration

COMPLIANCE OF BIOMEDICAL WASTE MANAGEMENT PRACTICES IN SELECTED SPECIALTY CLINICS OF SOUTHERN PUNE, MAHARASHTRA

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ABSTRACT
Introduction: According to WHO 85% of hospital wastes are non-hazardous, 10% are infectious and 5% are non-infectious yet hazardous wastes. Infectious waste in India ranges from 15% to 35% depending upon the total quantity of waste generated in healthcare setups.3,4
Methodology: Total 32 clinics comprising of 8 clinics each from G.P.(AYUSH) & G.P.(Allopathy) (M.B.B.S.), Obstetricians and Surgeons (General Surgery) from south Pune were included in the study. A predesigned checklist as per BMW rules 2016 was used to observe the level of compliance about BMW segregation.
Results: Yellow coloured bin- Surgeon's and Obstetrician's clinics showed 100% compliance in segregation of soiled waste and of expired or discarded medicine respectively.
Other colour bins- Obstetrician's clinic showed maximum compliance.
Conclusion: Thus Obstetrician's clinic complied maximum i.e. 86.62% in segregation of BMW across all coloured bin and G.P.(AYUSH) the least, i.e. 59.37%.

KEYWORDS : Biomedical Waste, Segregation, General Practitioner (G .P.) AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy).

INTRODUCTION:
The integral part of any infection control and hygiene program in healthcare setups is biomedical waste management. As these setups produce large amounts of biomedical waste, they are a major contributor to Hospital acquired infections.

The principles and processes of biomedical waste management are still in infancy stage all over the world. Worldwide, there is a lack of clarity regarding the safe management of bio-medical waste among the decision-makers, operators, generators and the general community. Lack of communication awareness among those involved in the process could be the prime reason.

According to the risk of causing infection or injury during handling and disposal, biomedical waste are categorized as Yellow Category, Red Category, White Category, Blue Category. Yellow Category waste comprises of Human Anatomical waste, Animal Anatomical waste, Soiled waste, Discarded or Expired Medicine, Chemical waste, Chemical Liquid waste, Discarded linen and bedding related waste contaminated with blood or body fluids and Microbiology, Pre-treated Biotechnology and other clinical laboratory waste. Red Category waste includes wastes generated from disposable items. While white category of waste contains waste sharps.

Sharps (needles or scalpel blades etc.), infectious wastes (material contaminated with body fluids and discharges such as catheters, I.V. lines and dressing etc.), pathological wastes (microbiology cultures and blood samples, anatomical body parts etc.) and other types of wastes generated in healthcare setups like polyvinyl chloride (PVC) plastics wastes, mercury containing instruments and radioactive wastes are included for precautions while handling and disposal in such settings. These are among the most environmentally sensitive by-products of healthcare[1,2]. According to WHO 85% of hospital wastes are non-hazardous, approximately 10% are infectious and about 5% are non-infectious yet hazardous wastes. Infectious waste in India ranges from 15% to 35% depending upon the total quantity of waste generated in healthcare setups.[3,4]

Aim:
To assess Biomedical Waste Management practices in clinics of Southern Pune, India.
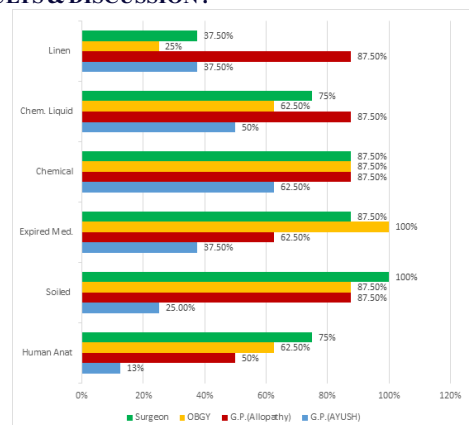
Objectives:
1. To assess the level of compliance of BMW segregation practices in yellow coloured bins.
2. To check the compliance of BMW segregation Practices in other coloured bins.

3. To evaluate the overall compliance of BMW segregation practices according to colour of bins.

MATERIAL & METHOD:
This cross sectional study was done from 15th January, 2018 to 15th February, 2018 in 4 areas of southern Pune. Only clinics of G.P. (AYUSH), G.P.(Allopathy-M.B.B.S.), Obstetricians and Surgeons (General Surgery)were included in the study. Total 32 clinics comprising of 8 clinics per practitioner type were included in the study. Stratified sampling techniques was used to select 2 clinics from each type from each geographical area namely Kondhwa, Wanorrie, Ghorpadi and Camp. A predesigned checklist as per BMW rules 2016 was used to observe the level of compliance about BMW segregation. Every clinic was visited once to assess the compliance.
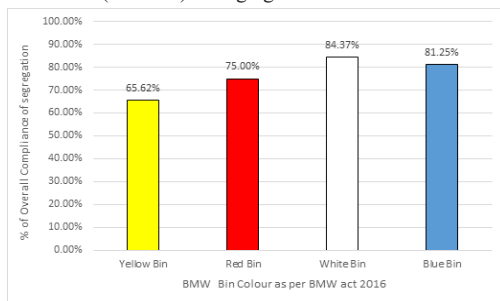
RESULTS & DISCUSSION :

Graph 1 : Compliance of BMW Segregation Practices in Yellow Coloured Bins(n=32)

The above graph shows compliance of BMW segregation practices in yellow coloured bins kept in the clinics which participated in the study. Maximum i.e.81.25% compliance was seen across all types of clinics in segregation of Chemical waste in the bin, while least i.e. 46.87% compliance was seen in segregation of Linen waste in the bin. It was observed that surgeon's and Obstetrician's clinics showed maximum i.e 100% compliance in segregation of soiled waste and segregation of expired or discarded medicine respectively. Least i.e. 13%compliance was observed in segregation of human anatomical by G. P.(AYUSH).
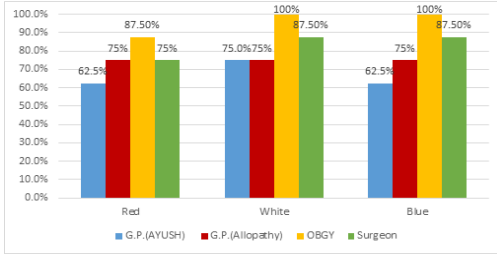
Graph 2: Compliance of BMW Segregation Practices in other Bins (n=32)

The above graph shows compliance of BMW segregation practices in red, white and blue bins kept in the clinics which participated in the study. Maximum i.e.84.37% compliance was observed across all types of clinics in segregation BMW in white bin. On the other hand, red bin BMW segregation showed least i.e. 75% compliance. Obstetric & Gynecologist's clinics showed maximum i.e 100% compliance in segregation in white and blue bins. Least i.e. 62.5%compliance was observed in G. P.(AYUSH) for segregation in Red and Blue Bins.

Graph 3: Overall Compliance of BMW Segregation practices in all Types of Clinics according to Colour of Bins (n=32)

After pooling of the compliance levels across all types of clinics according to the colour of bins, It was observed that least i.e. 65.62% compliance was shown in segregation of BMW in yellow coloured bin, while maximum i.e.84.37% compliance was observed for segregation of BMW in White coloured bins. The overall average compliance of BMW segregation across all colours bins was 76.56%.

CONCLUSION:

Regarding compliance of segregation practices in yellow coloured bin, it was observed that surgeon's and Obstetrician's clinics showed 100% compliance in segregation of soiled waste and segregation of expired or discarded medicine respectively. Least i.e. 13%compliance was observed in segregation of human anatomical by G.P.(AYUSH). While checking compliance for segregation in red, white and blue coloured bin, Obstetrician's clinic again showed maximum i.e. 87.5%, 100%, 100% compliance respectively and G.P.(AYUSH)' clinics showed least i.e. 62.5%, 75%,62.5% compliance respectively. Thus Obstetrician's clinic complied maximum i.e. 86.62% in segregation of BMW across all coloured bin and G.P.(AYUSH) the least, i.e. 59.37%. Maximum compliance of 84.37% across all types of clinics was seen in segregation of BMW in white coloured bin.

ACKNOWLEDGEMENT:

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