

A STUDY ON KNOWLEDGE, ATTITUDE AND PRACTICE ON BIOMEDICAL WASTE SEGREGATION IN HEALTH CARE WORKERS.

General Surgery

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ABSTRACT

Hospital wastes pose significant public health hazard if not properly managed. So it is needed to clean the biomedical waste by health care workers which were color coded (blue, yellow, and red) and the data was analyzed retrospectively to check the knowledge, attitude and practice on biomedical waste segregation in health care workers. Effective segregation protocols significantly reduced biomedical waste generated. It was found out that most of the health care workers had proper knowledge regarding the color coding of dustbin and it was strictly followed as such. Isolation of biomedical waste at the source of generation is the first and essential step in biomedical waste guidance. Good training, giving the responsibility on the nursing persons, and constant supervision are the key criteria's in implementing biomedical waste segregation process, which can significantly reduce per unit biomedical waste generated. It is highly considered that all hospitals should adopt this and effectively implement them to reduce generation of biomedical waste.

KEYWORDS

Biomedical waste India, color coding, tertiary hospital, waste segregation.

INTRODUCTION

Color-coded waste segregation is a system used to classify and separate different types of waste materials based on specific colors. This system helps promote efficient waste management and recycling, and it is commonly used in households, businesses, and public places to encourage responsible waste disposal. The specific colors used for waste segregation can vary by region and organization,

Color coding of various dustbins for biomedical waste management: yellow, red, white, and blue, green bins

1. YELLOW

Pathological waste
Soiled (infectious) waste
Medical chemical waste
Clinical lab waste
Pharmaceutical waste (discarded/expired medicines and drugs)

Yellow color codes indicates the most types of biomedical waste. However, depending on how dangerous the waste is rated, the need to use different types of holders for collection, and distinct methods for disposal. Most can be collected in yellow-colored holders or non-chlorinated plastic bags, but in the case of liquid chemical medical waste, we'll need a separate collection system. Autoclaves are among the best tools available on the market for on-site sterilization, but in the case of dangerous medical waste(like soiled waste), we will also need a medical waste shredder to insure safe disposal.

2. RED

Contaminated waste (recyclable)
Red-coloured , non-chlorinated plastic bags or holders will do the trick for waste collection. As for the disposal of similar medical dangerous waste an on-point sterilizer and medical waste shredder(or ISS for short).

3. WHITE (or translucent)

Sharps waste
Considering the nature of this hazardous medical waste, we need containers that are puncture, leak, AND tamper-proof. As for disposal, the case is the same as with the waste falling under the red category: we need a medical waste shredder.

4. BLUE

Medical glassware waste is disposed
Category of sharps waste, Since are also able of inflicting perforation and cut injuries. Still medicinal vials and ampoules are not inescapably as dangerous as sharps waste. They are collected in a puncture proof bag .Autoclaving may be enough to emasculate the waste and fix it for safe disposal.

The benefits of color-coded waste segregation include:

Enhanced Recycling:

It encourages people to separate recyclables from general waste, increasing the recycling rate and reducing the strain on landfills.

Reduced Environmental Impact:

Proper disposal of hazardous waste helps prevent pollution and contamination of soil, water, and air.

Cost Reduction:

Effective waste segregation can lead to cost savings in waste management and disposal processes.

Resource Conservation:

Recycling and composting organic waste help conserve natural resources and reduce the consumption of raw materials.

Community Education:

Color-coded bins serve as a visual reminder to the public about the importance of responsible waste disposal and recycling.

Regulatory Compliance:

In some regions, waste segregation is mandated by law, and color coding helps ensure compliance.

Overall, color-coded waste segregation is an effective tool for improving waste management practices, promoting recycling, and reducing the environmental impact of waste disposal. It also plays a crucial role in creating a cleaner and more sustainable environment

OBJECTIVES

- 1) To check the knowledge, attitude, and practice on biomedical waste segregation in health care workers.
- 2) To access if it is being followed in the medical setup

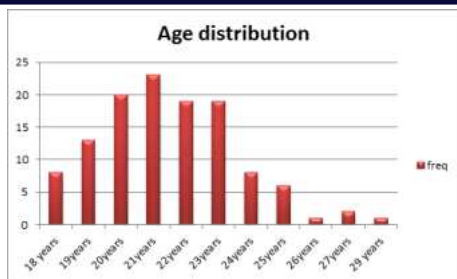
METHODS:

A questionnaire was formed using Google Forms. The sample group inclined interns, students, nurses and PGs as such a Questionnaire was mailed to them.

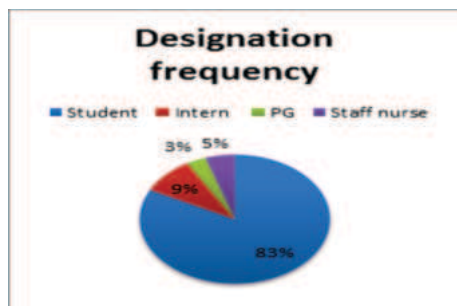
Responses were obtained from them. It was transferred to an Excel sheet and data was analyzed using EXCEL and SSPS. Graphs and charts were constructed using it

Analysis And Interpretation

By the use of Google form, sufficient data was collected and the following responses were obtained. It was distributed among various medical workers and a total of 120 responses were obtained from various Health care workers.



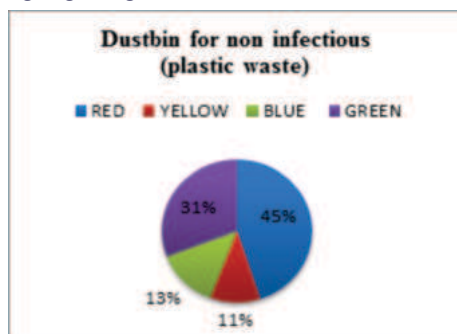
AGE distribution of health care worker



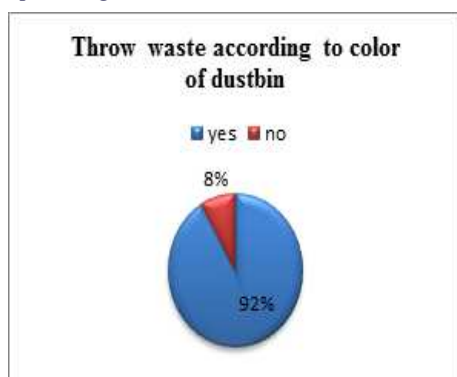
Designation of Health Worker



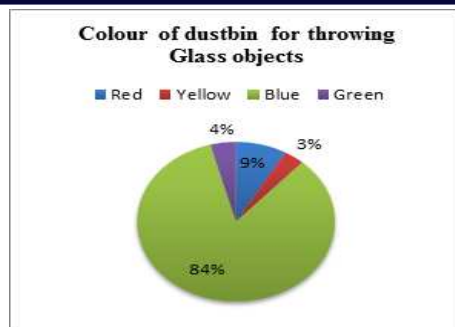
Knowledge regarding Bio medical waste



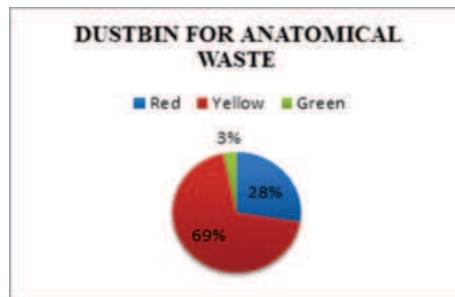
Dustbin percentage for non infectious waste



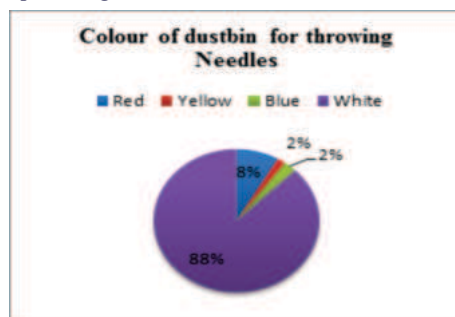
How many people follow the coding



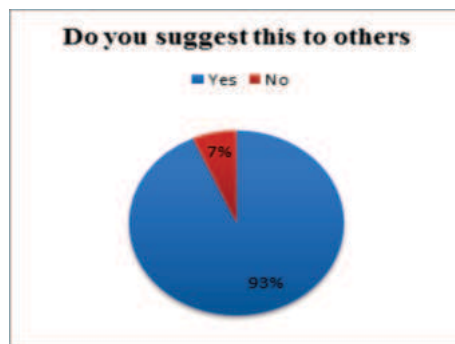
Dustbin percentage for throwing glass



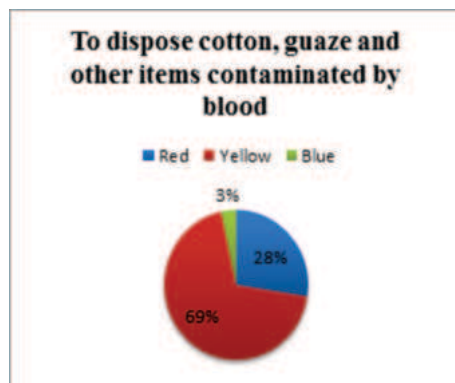
Dustbin percentage for anatomical waste



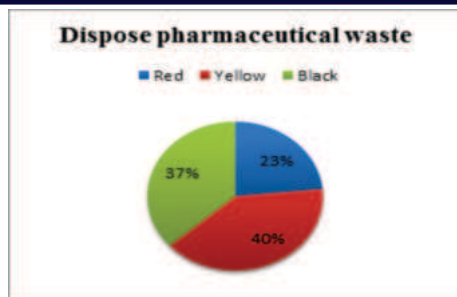
Dustbin percentage for throwing needles



Suggestion to others



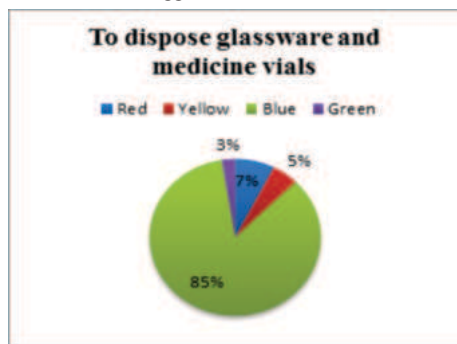
Dustbin percentage for cotton, gauze and blood contaminated



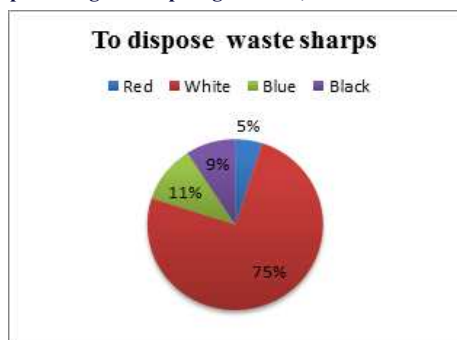
Dustbin percentage for pharmaceutical waste

RESULTS:

From the data collected, 120 responses were obtained, out of which 83% were students, 9% were interns, 5% were staff nurse, and 3% were post graduate. The age distribution was from 18 to 26 years old and the maximum was from 21 years. Knowledge regarding bio-medical waste is quite good as 97% people knew about it previously. 92% of people used to follow the colour coding of dustbin previously. The questionnaire consists of questions regarding various wastes and where to dispose of them for which all the responses were quite positive as the majority got it correct. A total of 93% of healthcare workers are motivated to suggest this to others.



Dustbin percentage for dispose glassware, medicine



Dustbin percentage to dispose sharps

CONCLUSIONS:

Safe and effective management of waste isn't only a legitimate necessity but also a social liability. Lack of concern, provocation, and mindfulness are some of the problems faced in proper hospital waste operations. Proper inspections of waste operation procedures are needed. Easily, there's a need for teaching as to the hazards associated with improper waste discarding. Lack of apathy to the concept of waste operation is a major stymie to the practice of waste disposal. An effective communication strategy is imperative keeping in view the low mindfulness position among different orders of staff in healthcare establishments regarding biomedical waste operation. Proper collection and isolation of bio-medical waste are important. At the same time, the volume of waste generated is equally important. A lower quantum of bio-medical waste means a lower burden on waste disposal work, cost-saving, and a more effective waste disposal system. Hence, healthcare providers should always try to reduce waste generation in day-to-day work in the clinic or at the sanitarium.

From the above result, we can conclude that the healthcare workers

have a pretty good idea regarding the knowledge, attitude, and practice of biomedical waste segregation. The various graphs regarding waste disposal show it to us. A total of 92 % of people follow the color coding of waste disposal. This ensures that waste disposal is proper without any harm to any medical practitioner.

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