

# Impact of COVID 19 on Biomedical Waste Management (BMW) Practices

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## Abstract

The outbreak of coronavirus disease in late 2019 is far more than global crises. COVID-19 has had a serious impact on all parts of our society, and waste management is no exception.

**Keywords:** Biomedical Waste; COVID-19; Impact

## Introduction

The outbreak of coronavirus disease in late 2019 is far more than global crises. COVID-19 has had a serious impact on all parts of our society, and waste management is no exception. The on-going COVID-19 pandemic has already turned healthy places around the world into a living hell with massive death tolls because of its fastest spreading nature, and continuously leading to lockdowns in almost every part of the world. Amid all the problems so far it created, one significant problem that can create major havoc in this already devastating and contagious atmosphere in a densely populated city is not handling medical waste properly [1].

Biomedical waste means any waste which is generated during the diagnosis, treatment or immunization of human beings or animals or in any research activities pertaining thereto or in the production or testing of biological and including categories mentioned in the schedule one of biomedical waste rules 2000 by ministry of environment and forest notification [2].

Effective management of biomedical waste is not only the legal necessity but also a social responsibility. Hence there is a need for resources material to help administrator, doctors,

nurses, and paramedical staff. The purpose of BMW are mainly to reduce waste generation, to ensure its efficient collection, handling, as well as safe disposal in such a way that it controls infection and improve safety for employees working in the system. For this, conscious, coordinated and cooperative efforts have to be made from physicians to ward boys [3].

The present study was undertaken to access the impact of COVID 19 on BWM management practices.

## Objective

To study the impact of COVID 19 on biomedical waste management practices.

## Methodology

### Study Design

A prospective observational study.

### Study Duration

Study was conducted for duration of one month December 2020.

## Study Areas

The study was conducted in the following areas of Sher-i-Kashmir Institute of Medical Sciences.

- Infectious Disease block
- Emergency Medicine Department

## Study Population

The following categories of staff members were included:

- Resident doctors (Senior Residents, Post Graduate, and Junior Residents)
- Nursing staff
- Technicians
- Sanitation staff

## Study Tool

The researcher developed an observational checklist which was adapted from different research papers as given in

annexure IV. The check list was validated by conducting a pilot study for 15 days. The checklist consists of 12 parameters. These parameters assessed the actual impact COVID-19 on health care workers related to segregation practices, precautions used while handling the biomedical waste, managing the biomedical waste and facilities available for managing the biomedical waste during COVID-19 pandemic.

## Data Analysis

The data was received from the answered questionnaires and was plotted on excel 2013. The data was analysed statistically with the help of statistical software SPSS v19. All the continuous variables of the study were represented by the descriptive statistics and all the categorical variables in the term of frequency and percentage. Also, the categorical variables were analysed with the help of Chi square test and diagnostic tools were also used. All the results were discussed at 5% level of significance Table 1.

## Results and Discussion

S. No	Observations	Yes	No
1	Use of PPE Kits while handling of Biomedical Waste in COVID wards, Intensive care units	100.00%	0.00%
2	Provision of Segregation of COVID 19 infected waste from other biomedical waste	100.00%	0.00%
3	Proper disposal of N 95 masks and personal protective kits generated in COVID 19 wards	95.00%	5.00%
4	Provision for proper disposal of Viral Transport mediums/vacutainers / cyrovials	100.00%	0.00%
5	Provisions for disposal of nasopharyngeal Swabs, pipette tips, cartridges of genexpert, Rapid Antigen Kits(RAT Kits)	100.00%	0.00%
6	Transportation of COVID 19 waste separately from other biomedical waste	100.00%	0.00%
7	Incineration of COVID 19 infected waste	100.00%	0.00%
8	Social distancing /respiratory Etiquettes maintained while handling of COVID 19 infected waste	90.00%	10.00%
9	Availability Records of occupational exposure	100.00%	0.00%
10	Medical Examination of frontline staff dealing with COVID 19 infected waste management	100.00%	0.00%
11	Foot operated bin with Lid labelled as COVID 19	100.00%	0.00%
12	Disinfection with 1% sodium hypochlorite	100.00%	0.00%

**Table 1:** Showing impact of COVID on biomedical waste management practices.

## References

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