Bio Medical waste refers to any type of waste which is generated during the diagnosis, treatment or immunization of human beings or animals or in research purposes pertaining to or in the fabrication or testing of biologicals.

Descriptive study was conducted in Children’s Hospital and Institute of Child Health Lahore. Convenient Sampling Technique was applied to gather data. This was a hospital-based study in which staff members of both genders were included. The study population divided into two strata and these strata consisted of doctors and nurses. A total of 139 staff members were involved out of which there were 77 doctors, 62 nurses. Their responses checked by a Performa about problems in the management of biomedical waste.

Results:
The result showed that majority (62%) staff members had knowledge about bio-medical waste. The remaining staff had very basic knowledge about bio-medical waste.

Conclusions:
The awareness about BMW management among Children’s Hospital Operation theater staff is satisfactory. But still, they need to improve their knowledge to ensure more patient safety by organizing seminars, workshops.

Abstract:
Bio Medical waste refers to any type of waste which is generated during the diagnosis, treatment or immunization of human beings or animals or in research purposes pertaining to or in the fabrication or testing of biologicals.

Objective:
To assess the awareness about bio-medical waste management among Doctors and Nurses of Children Hospital.

Methods:
Descriptive study was conducted in Children’s Hospital and Institute of Child Health Lahore. Convenient Sampling Technique was applied to gather data. This was a hospital-based study in which staff members of both genders were included. The study population divided into two strata and these strata consisted of doctors and nurses. A total of 139 staff members were involved out of which there were 77 doctors, 62 nurses. Their responses checked by a Performa about problems in the management of biomedical waste.

Results:
The result showed that majority (62%) staff members had knowledge about bio-medical waste. The remaining staff had very basic knowledge about bio-medical waste.

Conclusions:
The awareness about BMW management among Children’s Hospital Operation theater staff is satisfactory. But still, they need to improve their knowledge to ensure more patient safety by organizing seminars, workshops.
may lead to the transmission of ailments like cholera, and typhoid etc. To duck these hazards, a strict waste management system should be implemented in health care facilities. Strict legislation on hospital waste management should be done. The Bio-Medical waste cycle includes four steps. One is the Collection; Appropriate management of bio-medical waste begins at the point of collection in which the waste of different types like sharps, needles are separated from general waste in color-coded containers. It is important to check that Staff is wearing personal protective Equipments and collecting the waste in respective color-coded containers. The second step is transportation of collected waste products. Advanced healthcare facilities use case cart system for transportation of collected waste into waste department where they segregate the waste. The segregation of waste is another challenge for any hospital. It must be segregated in properly covered areas and away from normal passages. The last and salient step in waste management cycle is its treatment. There are different ways to treat waste depending upon their nature. Like human anatomical waste should be disposed in incinerators. Body fluids should be autoclaved, liquid waste should be filtered and then land-fill. Each hospital has its own patterns of disposal depending upon their resources. The study was aimed to evaluate the awareness about Biomedical among waste among Doctors & Nurses of Children Hospital, Lahore.

**Methods:**

This Observational study was conducted in Children Hospital Lahore for six months from February 2019 to September 2019. Doctors and Nurses were in the inclusion criteria. The Exclusion criteria excluded all those staff members who were newly inducted (less than one year) and Non-medical staff of Children Hospital. A total of 139 staff members of Children Hospital and Institute of Child Health were involved. Data was collected by a Questionnaire. Proper approval of the study was taken from Ethical Committee of Children Hospital. This research was analyzed by using software SPSS version 24. Data was described in terms of frequencies and percentages.

**Results:**

Table 1: Shows that medical staff was being asked to know the importance of BM waste generation, legislation and its hazards. 59.7% participants answered in Yes, while 29.1% answered in NO. And 11.2% people were not sure about it.

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>41</td>
<td>29.1</td>
</tr>
<tr>
<td>Yes</td>
<td>82</td>
<td>59.7</td>
</tr>
<tr>
<td>Not sure</td>
<td>16</td>
<td>11.2</td>
</tr>
</tbody>
</table>

Table 2: According to the biomedical waste (Management and Handling) rules, waste should not be store beyond?

Table 3 showed that participants were asked to answer about the storage of biomedical waste, 36.3% people answered that we should not store biomedical waste more than 12 hours, 41.7 answered it should not be stored more than 48 hours, respectively 13% people replied 72 hours and lastly 9% staff responded that we should not store biomedical waste more than 96 hours.

Table 4 showed that we asked the participants that either they follow Color coding of biomedical waste, 27.7% replied that they do not follow, 62% showed that they follow it, 10.3% replied that they do sometimes.

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 hours</td>
<td>50</td>
<td>36.3</td>
</tr>
<tr>
<td>48 hours</td>
<td>58</td>
<td>41.7</td>
</tr>
<tr>
<td>72 hours</td>
<td>18</td>
<td>13.3</td>
</tr>
<tr>
<td>96 hours</td>
<td>13</td>
<td>9.0</td>
</tr>
</tbody>
</table>
About waste management among nurses, doctors, lab technicians was higher than sanitary
Fawaz Pullishery et al., (2016) conducted a study on awareness, knowledge and practices on bio-
medical waste management among health care professionals – A cross sectional study. The
questionnaire was used to assess the research. In this study 157 participants from different
professionals like doctors, nurses, laboratory technicians, surgeons, auxiliary staff,
housekeepers and students were selected. This study concluded that the general knowledge
about biomedical waste was 660 validated Questionnaires formulated to measure results
among participants. 187 were medical doctors, 44 were pharmacists, 317 were nurses and 77
were medical lab scientists. Out of 660 only 424 participants heard about waste management
and its disposal. Results showed that the awareness about bio-medical waste among
government professionals was 81.5% and in private professionals it was 57.3%.
This previous study conducted on awareness and practices regarding waste management
among hospital staff of a medical college hospital. The goal of this study was to check
awareness among staff of hospital. Questionnaire included 32 questions and was
distributed among 125 participants, 25 from each profession, like doctors, interns, Nurses,
technicians. It concluded that information about general waste management was 72% among
hospital staff and knowledge about specific waste management was quite poor.
Previous literature conducted a study on health care waste management about qualitative and
quantitative appraisal of nurses in a tertiary care hospital. This study categorized their knowledge
into different scores. For excellent remarks (>70%), for good remarks (50-70%), for poor
(<50%). 100 Nurses worked as participants in this research work. It was seen that 47% nurses
scored excellent remarks. 19% nurses had poor remarks. 34% nurses had good remarks.
The core purpose of this study was to evaluate the awareness about biomedical waste among
medical personals of Children Hospital, as they are directly involved in biomedical waste
generation by injecting patients, performing certain therapies, performing surgeries. Hence, it
was concluded that the staff really needs to improve their knowledge just to ensure the
safety of their patients.
A study conducted on healthcare waste management in selected government and
private health care workers about bio-medical waste management. 660 validated Questionnaires formulated to measure results
among participants. 187 were medical doctors, 44 were pharmacists, 317 were nurses and 77
were medical lab scientists. Out of 660 only 424 participants heard about waste management
and its disposal. Results showed that the awareness about bio-medical waste among
government professionals was 81.5% and in private professionals it was 57.3%.
This previous study conducted on awareness and practices regarding waste management
among hospital staff of a medical college hospital. The goal of this study was to check
awareness among staff of hospital. Questionnaire included 32 questions and was
distributed among 125 participants, 25 from each profession, like doctors, interns, Nurses,
technicians. It concluded that information about general waste management was 72% among
hospital staff and knowledge about specific waste management was quite poor.
Hospital is considered to be the safest place for every patient as it treats the illness. Plethora of
drugs/medicines, equipments, instruments are used in hospital settings just to provide relief to
patients, and all this usage produces a handsome amount of biomedical waste that is hazardous
for human health. If we let this solution undergo, this can cause a massive disaster in our society in
the name of novel infections. It’s very important for us to take care this matter effectively;
biomedical waste needs proper disposal practices just to ensure patient’s safety.
The core purpose of this study was to evaluate the awareness about biomedical waste among
medical personals of Children Hospital, as they are directly involved in biomedical waste
generation by injecting patients, performing certain therapies, performing surgeries. Hence, it
was concluded that the staff really needs to improve their knowledge just to ensure the
safety of their patients.
A study conducted on healthcare waste management in selected government and
private hospitals. The objective of study was to assess the involvement of government and

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>Black</td>
<td>13</td>
<td>9.4</td>
</tr>
<tr>
<td>Yellow</td>
<td>64</td>
<td>45.7</td>
</tr>
<tr>
<td>Blue</td>
<td>60</td>
<td>43.5</td>
</tr>
</tbody>
</table>

Table 3: The color code for disposal of normal waste from the hospital is?

Table 4 showed that 62% follow color coding for Bio-Medical waste and 27.7% with not follow.

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>39</td>
<td>27.7</td>
</tr>
<tr>
<td>Yes</td>
<td>86</td>
<td>62</td>
</tr>
<tr>
<td>Sometimes</td>
<td>14</td>
<td>10.3</td>
</tr>
</tbody>
</table>

Table 4: Do you follow color coding for Bio-Medical waste?

Discussion:
Hospital is considered to be the safest place for every patient as it treats the illness. Plethora of
drugs/medicines, equipments, instruments are used in hospital settings just to provide relief to
patients, and all this usage produces a handsome amount of biomedical waste that is hazardous
for human health. If we let this solution undergo, this can cause a massive disaster in our society in
the name of novel infections. It’s very important for us to take care this matter effectively;
biomedical waste needs proper disposal practices just to ensure patient’s safety.

The core purpose of this study was to evaluate the awareness about biomedical waste among
medical personals of Children Hospital, as they are directly involved in biomedical waste
generation by injecting patients, performing certain therapies, performing surgeries. Hence, it
was concluded that the staff really needs to improve their knowledge just to ensure the
safety of their patients.

A study conducted on healthcare waste management in selected government and
private hospitals. The objective of study was to assess the involvement of government and
staff. It further added that specific knowledge on waste management like color coding, collection, segregation, disposal among nurses and lab technicians was more than doctors. Siti Nurshahida Nazli et al., (2014) conducted a descriptive study. The purpose of study was to check the knowledge and awareness of clinical waste management among medical practitioners in hospital. In this study the questionnaire was used and the data was analyzed by using Mann-Whitney Test and Chi-square test. The results of the study showed that the participants who experienced self- needle injury and received adequate information regarding hospital waste management were more aware and conscious rather than those who received less information and were not properly aware of disposing clinical waste.

Conclusions:
The conclusion of this study is that the staff still needs to improve their knowledge and skills about handling biomedical waste to ensure their and patients safety. It is also essential to meet international Health Management SOP's so that we can increase awareness among our staff.

References:


09- Shah I. Knowledge, attitude and practice of hospital staff regarding the solid waste management in Hayatabad Medical Complex Peshawar. Advances in Basic Medical Sciences (PMDC Recognized). 2018;2(2).


