

Waste Management System at Bheri Hospital, NepalgunjLalmani Acharya, PhD¹

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Abstract

The purpose of this research was to find out the present situation of the waste management system at Bheri Hospital in Nepalgunj. It also aimed to investigate the waste management knowledge and practices of various groups of people, including patients, visitors, hospital administrators, cleaning staff, and community members. The study was carried out to identify the hospital's waste disposal practices and to determine the impact of waste disposal on the health of the surrounding community. When selecting the hospital site for waste management practice, the researcher used a purposive sampling method. This research was descriptive in nature. The information was gathered from observations, and interviews. The total number of respondents for this study was 170. Among them were 20 hospital administrative personnel and 150 local residents who served as respondents. During the course of this research, 49.18 percent of respondents indicated that hospital product waste needed to be addressed. In terms of waste management practice, 60 percent of respondents responded by telling the researcher that it was satisfactory. In terms of hospital waste management, 53.33 percent of respondents said that it was the hospital administration's responsibility to handle waste materials properly. Similarly, 49.33 percent of the respondents said that hospital toilet were the most affected. Similarly, a survey found that 30.37 percent of respondents took precautions to avoid hazardous waste. Prior to collection, waste materials were classified as sharp, hazardous, and non-hazardous. The researcher discovered that the Hospital's waste management system was satisfactory based on observations. Similarly, waste handling personnel were observed using safety precautions throughout their shift. The researcher then discovered that the hospital disposed of the waste in its own compound. However, the waste collected had degraded natural aesthetics and polluted the environment. Overall, the waste management of the hospital was satisfactory. However, the hospital should implement safety measures and launch public awareness campaigns to ensure the safety of patients and residents in the surrounding community.

Keywords: waste management, community, hazardous waste, disposal practice

Introduction

Health is a valuable property of human beings. If people are not physically, mentally, socially and emotionally well, it is difficult to read write and do many other activities for healthy survival. Nepal is one of the least developed countries in the world. The country is facing various

health problems: such as the presence of communicable disease, lack of immunization, high mortality rate, and lack of basic health care facilities, malnutrition are very serious problems for the country. The environmental pollution is the result of human activities, which directly affects health status of human beings.

Generally health refers to the absence of disease. According to WHO (1948), "health is a state of complete physical, mental and social well being not merely the absence of diseases and any infirmities." Health is the basic human right of the people.

It is the duty of the state to guarantee all the basic human rights to its people. In the same line, Government of Nepal is also devoted to guarantee the right of health to the people. For this it has followed different plans and activities. It has also established different institutions by focusing on the health services to provide people with each and every area of the society. The state is divided, into different administrative units: central, regional, zonal, districts, electoral, VDC and community level as well.

Establishment of hospital does not only guarantee the health right of people but also provide them with health services. It is equally challenging to manage waste materials that come from the hospital. If the government does not take any step on waste management, people of whole surrounding and other community are likely to suffer from its dire consequences.

Generally two types of wastages are produced in this area. But my study is on waste that generally includes chemicals from industries, Health care wastes (generally includes toxic wastes, radioactive materials, explosive natured wastes, plastic wares etc). Among these wastes, domestic wastes can be buried for decaying process but wastages from hospitals, industries, and plastic wares do not decay and have adverse effects on the environment. Not only on environment may these chemical wastes and wastes from healthcares have diverse effects on health of people but also these wastes are known as infectious wastes. With rapid increase in the number of health care institutions in Nepal, the amount of these health care wastes is also increasing. But due to lack of waste management system these wastes have not been disposed properly, thereby putting health of people and environment in danger of different types of diseases. Waste management is one of the essential components of good sanitation practices. It is essential that health care waste should be collected, stored and disposed in a proper place with a scientific way.

Waste is generated by residents in the causes of our daily activities. Generally there are two types of wastes: one is sewage and another is solid, Solid waste is clued rubbish, sewage treatment residue, dead animals, manure and other discarded materials strictly speaking it should not contain high solid (Park, 2005). This study was conducted in Bheri Hospitalat Nepalgunj, Banke, Nepal. Bheri Hospitalis situated in the plain land of Tarai in the central development region of Nepal. Banke, Bardiya, Dang, Surkhet, jajarkot, Rukum districts are the catchment site of this hospital. From this, we can say that Nepalgunj Nepalgunj is being the central part of the above mentioned districts and Nepalgunj is being developed as the medical city day by day.

Sanitation is a basic human need in the present modern world. Hospital waste must be managed properly and if not, it has an adverse impact on human health and environment. Nowadays hospital waste management has become a major problem of Nepal due to increase in

different hospital dumps, such as human tissues placenta, damaged body parts from operations and more over dead fetus from surgery and other surgical instruments. Health care waste management is becoming a major problem in Nepal because of the presence of highly infections elements on it. Studies and surveys have been conducted in different aspects related to waste management in Nepal. Studies reveal the facts that majority of health sectors are not using safety measures to handle the wastes properly. Bheri Hospital in Nepalgunj was established in the year 1947 BS (130 years before today) as the center of hope and trust of the population of 6.9 million people in the Midwestern region of Savik and 3.0 million people in the Far West. No. In 2016, Ratnarajya Laxmi Devi Maternity Home was renamed as Bheri Zonal Hospital and after that it was renamed as Bheri Zonal Hospital in 2022 BS. The beds have been approved and are being operated with a total capacity of 150 beds. According to the letter of 1909, permission has been obtained to increase the capacity from 100 beds to 200 beds, but the hospital is still operating with a capacity of 150 beds. After the country went to federal structure, it was renamed as Bheri Provincial Hospital for some time and placed under Province No. 5.

Objectives of the Study

The following are the main objectives of the study.

- To discover the present situation of waste management system at Bheri Hospital, Nepalgunj
- To explore the knowledge and practices of different group of people regarding hospital waste management system
- To identify the waste disposal practices of the hospital
- To find out the effects of waste disposal in the health of surrounding community.

Delimitations of the Study

This study had delimited to only Bheri Hospital. The respondents would be hospital staffs, patients, visitors and surrounding community members. Required information has been collected by using interview schedule, observation form. The study would be related to present situation of waste management and its effects on the health of people living in surrounding area of the hospital. The study had covered physical and psychological problems of the hospital surrounding people. The respondents are chosen as per needs of the researcher.

Review of Related Literature

In Nepal there are no special policies, legislation or guidelines related to waste from health care institutions. The government has either defined hazardous waste issued any standards for is discharge into the environment. However a few legislations and regulations partially address the issue of solid waste. They are mainly the constitution of kingdom of Nepal, solid waste management and sources mobilization act 1997, labor act 1991, Industrial Enterprises Act 1991, the Environmental Protection Act 1997, and Local Self Governance Act 1999.

However, bio medical waste rules 1998 of India suggested the medical waste to be separated into categories like human anatomical waste, microbiology and bio technology waste, sharps, discarded medicines and cytological solid wastes, liquid waste, incinerator ash and chemical waste (Ananda, 2000).

A study of ENPHO (2000) has estimated the total number of hospital beds in Kathmandu valley is to be 3905 and average bed occupancy to be 70%. Total beds amount of infectious waste generated in Kathmandu per day has been calculated to be 1312 kgs per day. However the waste generated from polyclinics, pathological labs and through stores has not been taken into account in this calculation. The study also has found that the infectious waste including sharps generated a bed per day is 0.48 kg. However the total waste generated is 1.72 kg per person in one day. The calculation shows that only 26 percent of the total waste in valley is infectious and 34 percent that consists of sharps and a large portion of the waste is non- infectious in nature.

Lohani (1978) found that there was a lack of adequate. Understanding and knowledge of different aspect of recycling among household in Kathmandu city. Furthermore perhaps, consistent with this, household effort at recycling was found to be minimal. It was thus not surprising to find the generation of valuable recyclable materials in household to be relatively low. However, it was encouraging to note that this potential in absolute terms could must likely among to significant quantity.

Manandhar (1984) states that most of the dwelling outer city had noted the indicated that most of the people have no knowledge of transmission of infections disease by water and food contamination in her study area, people had a little knowledge about the impact of solid waste but they disposed of there materials haphazardly around their surroundings.

Singh (1989) has mentioned that the paper storage collections, transportation and disposal of urban solid waste were essential to protect public health. In her paper, she also suggested these private section involvement should be encouraged in the field of solid waste management.

Dhamala (1990) found that the beauty of this area had been degraded by different polluting factors lacks of proper swage management system, solid waste disposal, personal and public latrine were the main factors of water and environmental pollution, in this study the also found water pollution is higher considerable factor that affected the local people and pilgrims. The suggested that polluting factors should be checked and drinking water of the whole area should be purified.

Dhakal (1995) found that there were various heterogeneous materials and conglomeration of solid waste product and more than 60% of waste was found to be suitable for compost fertilizer the role of the people participation is comparatively highest at sanitary area in solid waste management.

Basnet (2008) found that majority of the respondents were in favor of burial of all kinds of waste disposal and post exposure wastes. Total of the health related staff of the urban health clinic was in risk in health hazardous problem.

From the above literatures most of researchers were found to be done on municipality, metropolitan city and hospital's solid waste but none of them had done its effects on surrounding community. There is no doubt our health is directly or indirectly affected by the hospital waste. That is why researcher aims to examine the effects of hospital waste to the people residing around Bheri Hospital, Nepalgunj.

Research Methodology

Research Design

This study was based on quantitative and descriptive types of research. Quantitative technique was used for analysis and interpretation of data of questionnaire. This was field base study. The research study was focused on the waste management by the hospitals and its effects on the surrounding community.

Sources of Data/ Population of the Study

The sources of data were mainly from Bheri Hospital. Here, the research sources were used from published books, journals, articles as well as more information was collected by the questionnaire and interview schedule from hospital administrators, hospital staffs, patients, visitors and community people. The study on waste management was conducted in Bheri Hospital. This work has included Bheri Hospital staffs as well as patients, community people around the hospital. There were about 60 houses that is 25% of the total population where as 80 hospital staffs that is 25% were also taken as the population of the study.

Sampling Procedure and Sample Size

The study was based on waste management of Bheri Hospital. A random sampling was selected to carry out the study. Here, the purpose of the sampling was to get maximum information about population without examining each individual Altogether 170 sample were selected for this research study among them hospital personnel were 20 that is (25%) and the inhabitants were 150 that is 25% too around Bheri Hospital, Nepalgunj. It is because if the population of the area was more them 1000 people it contains 10% of the sample size and if the population was less than 1000 people it contains 25% of the sample size.

Data Collection Tools

Questionnaire and observation checklist had been utilized on doctors, nurses, paramedics and cleaning staffs. As well as separate questionnaires was also prepared to get the information from the residents near the health establishment and disposal site.

Data Collection Procedure

Then the researcher went to the hospital administrator and explained about the objectives of the study. And it was requested for help in data collection procedure. Later on, the researcher went to the respondents (people residing around the hospital) and went for door to door visits in the selected area. Then the researcher gave his own introduction to the respondents in the course of interview. Information was collected from each respondent on the basis of information and explanation given by them. The researcher was given brief explanation about the purpose of collecting information and was grateful to the respondents.

Data Analysis and Interpretation Techniques

The data were tabulated and kept in sequential order. They are under different headings and sub headings depending on the nature of the study. The simple statistical tools like frequency distribution, average and percentage were used to analyze the different aspects related to the objectives of the study. Tables, bar graphs and pie charts have been used to interpret the results descriptively and simple Statistical procedure was used in this study.

Analysis and Interpretation of Data

Present Situation of Waste Management

Hospital waste is most hazardous for the human health and surrounding community. The first objective of the study was to find out the present situation of waste management system at Nepalgunj. So, in this part, the waste management system, available service at the hospital, availability of waste management facilities, most affected place in hospital and financial resource for the hospital waste management etc are analyzed and interpreted.

According to the hospital administrator and self-observations, outdoor services, indoor services, emergency, family planning, maternal and child health services, immunization, laboratory, operation theater, snake bite programme, USG, ECG, EEG, ECT, X-ray physiotherapy etc. services are available in the hospital.

According to the administrative staff, there are 400 staffs in total. Among them 90 staff are working as cleaners, who are directly related to waste management on the average 700 patients come to hospital for their health checkup, besides OPD 271 patients come for emergency service per day and 12 deliveries conducted per day in average. The bed occupancy ratio is 91% in average

Availability of Waste Management Facilities

On the observation the rooms were sufficient for the hospital due to new constructed building. There were insufficient toilet and hygienic condition of the toilets was not up to the mark. All types of wastes were kept in different dustbin. There were three dustbins with the sign of function in each room. Red bucket is used for gauge, Ivset, cotton, needle, canulla, blade and sharp things which are bloody. Blue bucket is used or plastic papers and undecayed things and the Green bucket is used for decayed things respectively. The cleaning staffs were wearing gloves, masks and aprons. There was a placenta pit too. The collected waste was transferred into temporary storage and the storage condition had possibility of getting infections through vectors.

There was also a canteen inside the hospital. The condition of canteen was normal. The disposal system of waste was satisfactory. During observation it was found that there were lots of human resources for the hospital waste management.

The Waste Management System of the Hospital

The hospital waste management system must be good and systematic. If it is not managed properly, there may be chances of transmission of many communicable diseases and create many

health hazards. This hospital situated in Tarai region, So It's in a sensitive area for Kalazar, Malaria, Diarrhoea, and other communicable diseases. Thus, it should properly manage waste. During the survey, all the respondents were asked about their opinions on waste management system. The flowing table of shows the responses of the questions:

Table 1*The Waste Management System of the Hospital*

Types of respondents	The Waste Management System of the Hospital			Total
	Good	Satisfactory	Poor	
Service providers	-	10 (100%)	-	10
Cleaning staffs	4 (40%)	6 (60%)	-	10
Community people	14 (9.33%)	87 (58%)	49 (32.67%)	150
Total	18 (10.59%)	103 (60.59%)	49 (28.82%)	170

The table 1 shows the different views of 150 respondents from the community. Among them (58%) responded that waste management system of hospital was satisfactory (32.67%) responded poor and (9.33%) said that the system was good.

Most Affected Place in Hospital

The respondents who the researcher asked the question, the response are as follows.

Table 2*Response by Community People on Most Affected Place in Hospital due to the Waste*

Places	No. of Respondents	Percent
Toilets	74	49.33
Canteen	10	6.67
Waiting rooms	20	13.33
Patients Beds	46	30.67
Others	-	-
Total	150	100.00

Table 2 stated that majority of the respondents (49.33%) replied that most affected place was toilet, (30.67%) patients bed, (13.33%) waiting room and remaining (6.67%) canteen respectively. Thus the most affected and sensitive area of infectious diseases is toilet. The toilet rooms always need to be neat and clean. Then next to the toilet, patient bed is very sensitive. This area also should be managed properly to stop communicable disease. However other sectors are equally significant for the sanitation point of view It can be further illustrated by bar diagram.

Hospital Attention to the Waste Management

The respondents were asked about the attention to hospital to the waste manage with Yes/No question.

Table 3*Hospital Attention to the Waste Management*

Types of Respondents	Need of Special Attention to the Hospital Waste		Total
	Yes	No	
Service providers	10 (100%)	-	10
Cleaning staffs	10 (100%)	-	10
Community people	135 (90%)	15 (10%)	150
Total	155 (91.18%)	15 (8.82%)	170

According to the table 3, out of 155 respondents (91.18%) replied yes, the hospital had given attention to manage their waste produce from the hospital and rest of the respondents (8.82%) told that the hospital had not given the attention to their waste.

Hospital waste is very harmful for our health. If not properly managed, the waste health risk may occur. That's why hospital should take the people's opinions and manage waste properly.

Use of Safety Measures

Safety measures mean those types of tools which help to prevent the risk of health hazards waste produced from the hospitals. Due to the uses of safety measures risk can be minimized and helps to keep better health. In the research the researcher has asked the respondents whether they used any safety measure or not. The result shows on the table:

Table 4*Use of Safety Measures*

Type of Respondents	No. of Respondents	Use of safety Measures	Person not Use of Safety Measure
Service providers	10	10 (100%)	-
Cleaning staffs	10	10 (100%)	-
Community people	150	46 (30.67)	104 (69.33%)
Total	170	66 (38.82)	104 (61.18%)

From the above mentioned table 4 it is clear that all of the service providers and cleaning staffs used safety measures. The majority of respondents (61.18%) of the community people had not used safety measures to prevent the risk of hospital waste. And the (38.82%) were used safety measure to prevent the risk of hospital waste.

On the observation, all the service providers used to wear masks, aprons, and gloves while they were in job. Surrounding people had not used safety measure in proper ways. However some of them used masks as a safety measure which is better health.

Equipment and Tools for the Waste Management

Tools and equipment are essential for waste management. Without tools and equipments, doing the job in the field of sanitation is very dangerous and risky so most of the essential tools and equipments have been provided by the hospital administration to the sanitation section for the effective management of waste. The tools and equipments used for cleaning and waste collection are normally in right condition in the field of waste management. The existing tools and equipments provided for the sanitation section are as given in the table.

Table 5

Equipments and Tools Used for Waste Management

List of Tools and Equipment	Tools Number	Condition
Aprons	90	Good
Gloves	90 (disposal)	Good
Masks	90	Good
Caps	90	Good
Shoes	-	-

As shows in table 5 the hospital provided Apron, gloves, mask and caps each and every person who were involved in the sanitation section but the hospital had not provided boot for the personnel. Aprons, gloves, mask and caps are tools and equipment available in the sanitation section for managing waste. The tools and equipment were not available. the researcher has concluded that the boots are one of the important tools to manage waste which hospital has to provided. Then the above stated materials need to be made available by the hospital to sanitation section.

The Disposing System of Collected Waste

According to the eye-witness people, and researchers direct involvement of the disposing system of collected waste was really miserable. Hazardous waste was incinerated. Non-hazardous wastes were burnt, sharp objects and remaining other were buried which can be presented in the table below.

Table 6

Disposing System of Collected Waste

Types of Waste	Method of Disposing
sharp objects	Buried/Incineration
Hazardous	Incineration (Buried)
Non- hazardous	Burn
Others	Buried/Digging

The hospital authority mentioned that, at first the total collected waste was separated in different categories and disposed it accordingly. But it was not followed in practice.

1 The hospital authority informs that the hospital had not got incinerator. Sometimes they made temporary incinerator utilizing locally available means and resources.

2. The collection of all types of waste was done in different places. So, strict monitoring and supervision should be carried out. Waste site was looked traditional as well.

Most Vulnerable Groups of Hospital Waste

Poor management of waste of hospital patients/ visitors, hospital staff and local people can be affected. In this content to know the view of the respondents about the effect of hospital waste, they were asked about the mostly affected group by the hospital waste. The responses of the respondents have been presented below.

Table 7

Response by Community People on Most Vulnerable Group of Hospital Waste

Responsibility	No. of Respondents	Percent
Hospital staff are mostly affected	31	20.67
Local areas are mostly affected	20	13.33
patients/visitors are mostly affected	99	66.00
Total	150	100.00

The table 7 shows that the majority of the respondents (66.00%) responded patients, and visitors were mostly affected group by the hospital waste. (20.67%) told that hospital staffs and only (13.33%) told that local area. The respondents who were living near the hospital had been suffered early by bad smell and sometimes they had seen part of the hospital waste in their premises brought by birds and dogs.

Findings

This study was based on descriptive research design and followed the qualitative as well as quantitative survey method. The hospital administration, patients, visitors, service providers, cleaning staffs and community people near the disposal site were taken under the study. Different sets of questionnaire and observational check list were used as tools for data collection.

From the study it can be concluded that the waste management practice was not in proper manner and there is a serious threat to all the hospital staffs, patients/visitors and people living near the hospital as well as disposal site and the environment. The hospital has not taken the waste management as an integral part of the hospital service. The waste management practice of hospital is not satisfactory due to the lack of training, orientation to the service providers and handling staffs. It looks the improper practice of waste segregation and handling, unhygienic storage and very weak disposal practice. The hospital has locally made incinerators for disposal but they are not functioning well. The collected waste was disposed haphazardly. There was no

segregation practice except needle and sharp things. Lack of appropriate knowledge and negligence of the staffs using safety measures for the prevention of infection, is another factor.

This study deals with the waste management practice of Bheri Hospital Nepalgunj and its effects on surrounding community has found some new facts regarding waste management the researcher has discovered the following major findings in this duty.

Present Situation of Waste Management

- Bheri Hospital in Nepalgunj was established in the year 1947 BS (130 years before today) as the center of hope and trust of the population of 6.9 million people in the Midwestern region and 3.0 million people in the Far West. In 2016, Ratnarajya Laxmi Devi Maternity Home was renamed as Bheri Zonal Hospital and after that it was renamed as Bheri Zonal Hospital in 2022 BS. The beds have been approved and are being operated with a total capacity of 150 beds. According to the letter of 1909, permission has been obtained to increase the capacity from 100 beds to 200 beds, but the hospital is still operating with a capacity of 150 beds. After the country went to federal structure, it was renamed as Bheri Provincial Hospital for some time and placed under Province No. 5.
- There were out door service, indoor service, emergency, family planning, Maternal and child health service, immunization, laboratory, Operation Theater, snake bite programme, USG, ECG, EEG, ECT, x-ray physiotherapy services are available in the hospital.
- Majority of the respondents (60.59%) have realized that the system of waste management is satisfactory (28.82%) said poor and rest of the (10.59%) respondent responded good.
- In the study (49.33%) of the respondents replied toilets were the most affected place by the hospital waste (30.67%) respondents told patients bed remaining (13.33%) called waiting room and rest of the respondents (6.67%) told canteen.

Knowledge and Practice of Hospital Waste Management

- Cent-percent hospital staff said hospital waste need special attention. The majority of the respondents (91.18%) have realized that hospital gave special attention to manage the hospital waste.
- Majority of the respondents (53.33%) replied the hospital administration should take the responsibility for the waste management (20%) answered hospital staff (16.67%) told ministry of health and rest of them (6.67) told it was the responsibility of District Development committee.
- It was found that (100%) service providers and cleaning staffs used the safety measures and only (30.67%) community people used mask as a safety measures.

- Most of the respondents suggested that the hospital administration should take responsibility for management of hospital waste.

Disposal Practice

- Waste collection and separation practice was satisfactory. They separation of waste such as sharp, hazardous and non hazardous was carried out.
- Hospital has provided apron, gloves, and masks to minimize the risk from the waste as well as the prevention to the waste handlers.
- There was not incinerator in the hospital.
- There was also placenta pit for the disposal of placentas in the ground.

Effects of the Disposal Waste

- Majority of the respondents replied that the mostly effective people due to hospital waste were patients/visitors (66%) Remaining (20.67%) said hospital staff and (13.33%) said the local area people.
- In the study 78.82 percent respondents were unknown about the problems and (21.18%) were serious about the problems create by the hospital waste and suffered from air respiratory infection, lungs problem, eye infection and destroying in beautiness of environment .

Conclusion and Recommendation

Waste generated from hospital can cause problems if not properly managed. It is a very serious issue. Regarding Bheri Hospital, it is found to have been equipped to manage waste properly. Still the hospital seems to have the lack of proper management system of waste for good effects.

The waste handling practice is still poor and unhygienic. The researcher discovered that waste handlers have not given training from time to time to cope with current problems. The hospital has locally made low quality incinerator for waste disposal but the incinerator has not functioning properly. The positive side of this hospital is that most of respondents who have been living as community members around hospital seem to be satisfied with the waste management of the hospital. It is because Nepalgunj has been growing as a medical city of Nepal. Also a number of hospitals at community and individual levels have been cropping up. However Bheri Hospital has still a traditional method of handling. Waste to manage waste properly hospital staff, community people are required to be more aware and conscious about waste management and good effects around Bheri Hospital itself and surrounding community. Health Ministry is also required to make proper policies, rule and regulation to address waste problems coming

from hospital all over Nepal. The researcher is concerned with particular Bheri Hospital. Equally there is an urgent need of due attention and intervention to improve the quality of the situation.

Recommendations

According to the finding, conclusion observation direct personal discussion and interview with the respondents the following recommendation have been forwarded.

Recommendations for Improvement

- The hospital should provide all the safety measures like boots, gloves and caps.
- Some preventive activities like training awareness programme and vaccination should be conducted.
- It is better to manage an incinerator machine.
- The hospital administration should carryout strict monitoring and supervision of the existing waste collection and disposal practice.
- The hospital should increase the number of cleaning staffs.
- The waste management committee should pay proper attention to public toilets and keep them neat and clean.
- The hospital should give attention to the waste buckets to be covered.
- The hospital should address the community people who were not satisfied with the waste management system of the hospital.

Recommendation for Further Study

Hospital waste management is a sensitive issue of the current situation very fewer each has been done on it so far. It is better to do a comparative study of government as well as private hospital by further researchers.

- The upcoming researcher can do extensive study on the same topic by covering large sample size and area.
- A normative survey can be conducted to suggest minimum waste disposal through the hospital.
- Waste disposal management can be studied with a view to tracing best management among the hospital

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