

Waste Management Process Adopted by Government Hospital: A Study Conducted in Mysuru

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Abstract

Hospital waste management is a part of keeping a hospital clean, safe and healthy. Every day government hospitals produce types of waste like general waste, biomedical waste, plastic waste, medicines and sharp objects such as needles and syringes. If this waste is not handled properly, it can spread diseases, harm hospital staff and patients. Pollute the environment. So, it is necessary for every hospital to follow waste management practices from the time waste is generated until it is safely disposed of. This study is about "Waste Management Process Adopted by Government Hospital: A Study Conducted in Mysore." The main goal of this study is to understand how hospital waste is collected, separated, stored, transported, treated and disposed of. The study also wants to know if the hospital follows the rules for managing waste and find out the problems they face in managing hospital waste. It also looks at how involved doctors, nurses, housekeeping staff and other hospital employees are in maintaining proper waste management practices. The study uses both secondary data. Primary data comes from questionnaires. Talking to hospital staff. Secondary data comes from books, journals, research articles, government reports and official websites. This information helps understand the existing waste management system and find areas where improvements are needed. The study's findings are expected to show that proper waste segregation using color-coded bins, regular staff training and strict monitoring are important for hospital waste management. The study also thinks that following government rules and making healthcare workers aware of them can reduce health risks and protect the environment. The study provides suggestions to improve the waste management process in government hospitals. This research will help understand the waste management practices in government hospitals, in Mysore and support better healthcare services and environmental protection.

INTRODUCTION

Government hospitals take care of a lot of patients every day. This means they have to deal with all sorts of waste like syringes, bandages, medicines, plastic, waste from labs, food waste and other things they throw away. Managing waste is about collecting it sorting it out storing it moving it treating it and getting rid of it in a way. This is really important because some waste can have things in it that can hurt people or spread sickness. Government hospitals see a lot of patients every day so they make a lot of waste. To handle these hospitals, have to follow rules for sorting out and getting rid of biomedical waste. There are some problems, like staff not knowing what to do not enough training, not having the right equipment to get rid of waste not sorting waste correctly and not keeping an eye on waste management. These problems can make waste management not work well and can be bad, for people's health and the environment. The study now is looking at how government hospitals manage they're waste the hospital waste management process is very important. It looks at how wastes collected, segregated, stored, transported and disposed of within the hospital. Managing hospital waste properly is good for health and the environment. Hospitals can reduce pollution and health hazards by

doing things the way. This helps the environment. Supports sustainable development. So, it is very important to study how government hospitals manage waste. This study will show us what government hospitals are doing now to manage waste and where they can do better. The results of this study can help people who make policies, hospital administrators and healthcare workers make plans for managing waste. This will make the environment safer and healthier, for everyone. The results of this study can help make hospital waste management systems and make the healthcare environment safer. Good waste management does not just keep patients and healthcare workers safe it also helps the community. Is good for the environment. Managing all the waste in a government hospital is a hard job. Private hospitals usually have a lot of money to keep their hospitals clean and get rid of trash. Government hospitals have to work with very little money and a lot of rules to follow and they do not have many staff members. This study looks at how government hospitals deal with waste every day from when trashes made at a patient's bedside to when it is finally thrown away safely outside the hospital. Government hospitals have to handle this problem every day. This study is about how they do it. Government hospital waste management is a challenge and this study is, about government hospital waste management.

LITERATURE REVIEW

Pandey et al. (2020) conducted a study on biomedical waste management practices in selected hospitals in Pune. The study compared government and private hospitals and found that government hospitals faced challenges such as inadequate staff awareness, improper waste segregation, and inconsistent implementation of biomedical waste management procedures. The authors recommended regular staff training, strict monitoring, and better compliance with government guidelines. **Sinha et al. (2020)** reviewed biomedical waste management practices in hospitals and healthcare organizations. The study highlighted the importance of proper waste segregation, color-coded bins, safe collection, transportation, treatment, and disposal of biomedical waste. It concluded that effective implementation of biomedical waste management rules is essential to protect healthcare workers, patients, and the environment. They said that if biomedical waste is not managed properly, it can be very bad, for the people who work at the hospital the patients and the environment. Biomedical waste management is a deal and hospitals need to do it right. **Chand et al. (2020)** reviewed water, sanitation, hygiene, and biomedical waste disposal in healthcare facilities. The authors reported that many government hospitals lacked adequate infrastructure and effective waste disposal systems. They emphasized improving sanitation facilities, strengthening waste handling practices, and providing regular training to healthcare workers. **During the COVID-19 pandemic (2020)**, biomedical waste generation increased significantly due to the use of masks, gloves, PPE kits, and testing materials. Studies highlighted the need for stricter waste segregation, timely collection, safe transportation, and proper disposal to prevent infection and environmental pollution. Healthcare facilities were advised to strictly follow biomedical waste management guidelines issued by pollution control authorities **Kanyal, Butola and Ambad** looked at waste management in India in 2021. They said that separating the waste using color codes and getting rid of it safely can help reduce the risk of getting infections and hurting the environment. **Bansod and Deshmukh** did a review of biomedical waste management in 2023. They found out that managing waste properly is very important for keeping people healthy stopping diseases from spreading and making sure the environment is safe. Biomedical waste management is really important, for health and the environment. **Haryana Health Department Review in 2025** focused on making government hospitals follow rules for disposing of waste properly. They said hospitals need to be checked to make sure they are following the rules. The review said hospitals must be monitored to ensure they are disposing of waste correctly. They also said hospitals must follow rules made for managing waste. A report by the Comptroller and **Auditor General on Karnataka in 2025** found that the state is not doing a job of keeping track of medical waste. The report said Karnataka needs to do a job of keeping records and reporting how much waste is being produced and disposed of. The report also said Karnataka needs rules to make sure healthcare facilities are disposing of waste properly

STATEMENT OF THE PROBLEM

Hospitals have a problem with waste management because they produce a lot of biomedical and general waste every day. Government hospitals are really important because they take care of patients. This means they produce types of waste that needs to be handled and disposed of properly. If hospital waste is not managed properly, it can be very bad for patients, hospital workers, visitors and people who live nearby. It can also make the environment dirty. Increase the chance of people getting sick. The government has rules for managing waste. Government hospitals do not always follow these rules. Government hospitals often have problems such as buildings, not enough training for workers, not enough money and not enough people to monitor what is going on with waste management. These problems can make it hard for government hospitals to manage waste properly which can be bad for people's health and the environment. Government hospitals and waste management are a concern because waste management is not done properly in these hospitals. Effective waste management in government hospitals is very important, for keeping people healthy and safe. This is why government hospitals and waste management are a big concern. Government hospitals and waste management need to be taken care of properly

NEED FOR THE STUDY

Hospitals produce a lot of waste every day. This waste includes waste and general waste. The people in charge of the hospital have to deal with this waste. If they do not do it correctly it can make patients, hospital staff, visitors and people living near the hospital sick. It can also harm the environment. Government hospitals take care of people so they produce a lot of waste. The hospital has to sort out the waste collect it transport it and get rid of it. This helps keep the hospital clean and prevents the spread of infections and diseases. There are rules for handling waste. We need to find out if government hospitals are following these rules. The present study is needed to understand how government hospitals in Mysuru handle waste. Waste management is very important in government hospitals. This study helps us find out what is good and what is bad about the waste management system. It also helps us understand the problems hospital staff face when handling waste. This study also helps us see if the waste management practices are working to keep the hospital clean and safe for the environment. What we learn from this study can give us ideas to improve waste management in government hospitals. This will help make the hospital a cleaner, safer and healthier place for patient's healthcare workers and the public. So the study is important for making hospital services and keeping people healthy. The study of waste management in government hospitals is very important. It helps us understand how government hospitals manage waste. Waste management in government hospitals is necessary to keep people healthy. Government hospitals have to manage waste and this study will help us understand how they do it. Waste management is an issue in government hospitals and we need to know more about it. The study will help us find out what government hospitals are doing well and what they are doing poorly.

OBJECTIVES OF THE STUDY

- I want to check how government hospitals in Mysuru handle their waste.
- I will study how these hospitals manage their waste.
- I need to find out how hospital waste is collected, sorted and then disposed of.

HYPOTHESES OF THE STUDY

- **(Null Hypothesis):** The government hospital in Mysuru does not have a waste management process.

- **(Alternative Hypothesis):** The government hospital, in Mysuru has a waste management process.

RESEARCH METHODOLOGY

Research Title

- A Study on Waste Management Process Adopted by Government Hospitals in Mysuru
- Research Design
- The study uses a descriptive research design to understand and analyze the waste management practices followed by government hospitals in Mysuru.

Area of Study

- The study is conducted in selected government hospitals located in Mysuru city.

SOURCES OF DATA COLLECTION

Primary Data

- Primary data is collected directly from hospital staff such as doctors, nurses, laboratory technicians, administrative staff, and sanitation workers through a structured questionnaire.

Secondary Data

- Secondary data is collected from books, research journals, government reports, hospital records, websites, and articles related to hospital waste management and biomedical waste management.

Population of the Study

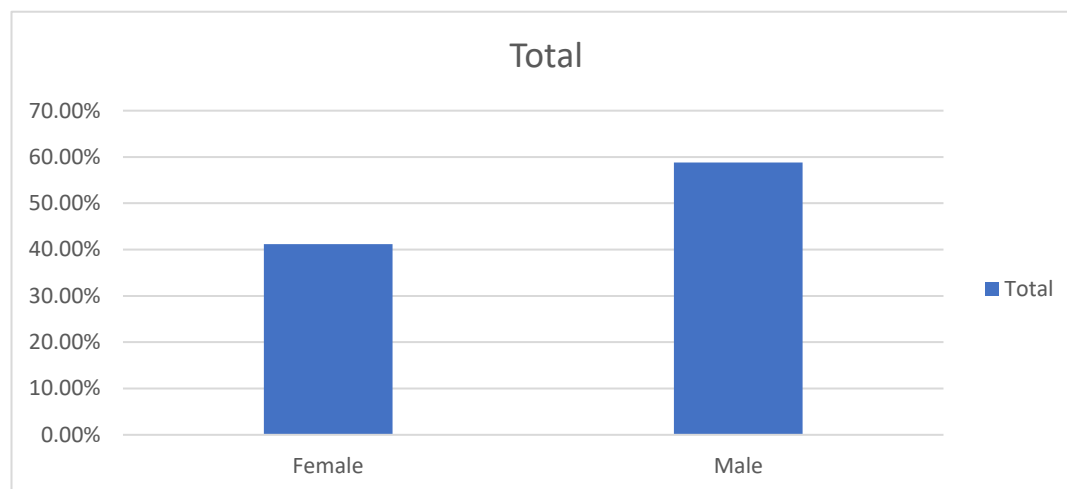
- The population of the study consists of employees working in government hospitals in Mysuru.

LIMITATION OF THE STUDY

- The study is limited to selected government hospitals in Mysuru.
- The findings depend on the responses given by the respondents.
- Limited time and resources may affect the scope of the study.
- The study focuses only on waste management practices and not on other hospital management activities.

DATA ANALYSIS

1. Demographic Question



Gender Identity	
1. Gender	Total
Female	41.18%
Male	58.82%
Grand Total	100.00%

Analysis: The survey includes participants from both genders, with a higher representation of males. This suggests that the opinions and responses in the study are slightly more influenced by male participants. However, the participation of female respondents is also significant, providing a balanced perspective.

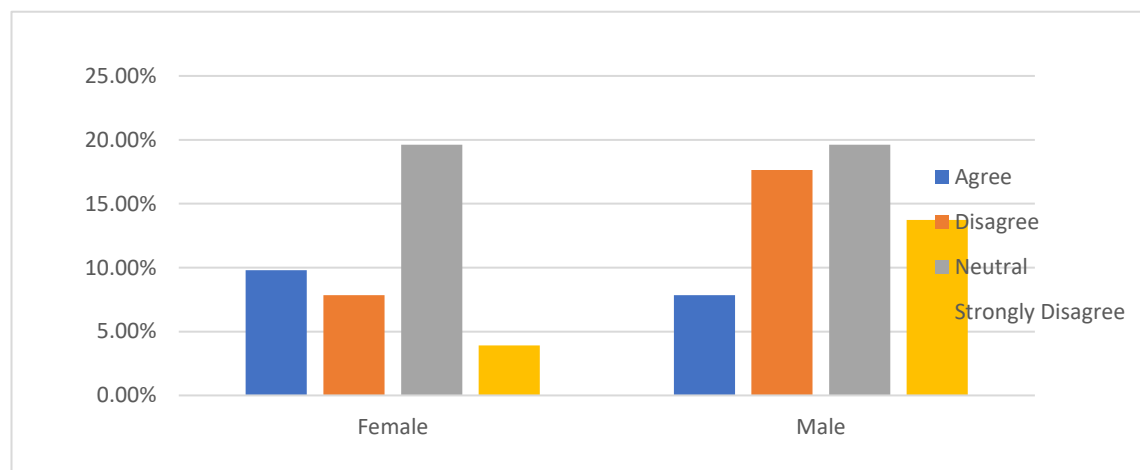
Interpretation: The chart shows that 55% of the respondents are male and 40% are female (approximately). This indicates that male respondents form the majority of the sample.

6. Waste is properly segregated at the point of generation in the hospital.					
1. Gender	Agree	Disagree	Neutral	Strongly Disagree	Grand Total
Female	9.80%	7.84%	19.61%	3.92%	41.18%
Male	7.84%	17.65%	19.61%	13.73%	58.82%
Grand Total	17.65%	25.49%	39.22%	17.65%	100.00%

Analysis: The findings indicate that most respondents preferred to remain neutral regarding the statement. Male respondents showed slightly higher disagreement than females, while females were relatively more supportive. Strong disagreement was observed only among a small percentage of respondents.

Interpretation: Among female respondents, the highest percentage selected Neutral, followed by Agree and Disagree, while Strongly Disagree has the lowest response. Among male respondents, Neutral is also the highest, followed by Disagree, while Agree and Strongly Disagree have comparatively lower percentages.

10. The hospital management regularly monitors waste management activities.						
1. Gender	Agree	Disagree	Neutral	Strongly Agree	Strongly Disagree	Grand Total
Female	7.84%	5.88%	21.57%	3.92%	1.96%	41.18%
Male	11.76%	15.69%	17.65%	9.80%	3.92%	58.82%
Grand Total	19.61%	21.57%	39.22%	13.73%	5.88%	100.00%

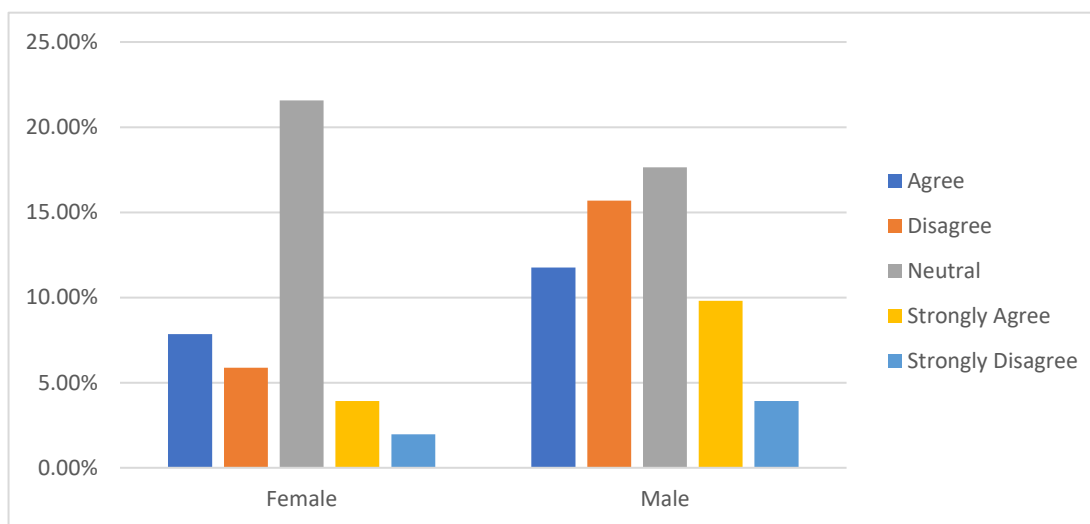


Analysis: The results indicate that respondents were generally neutral toward the statement. Male respondents expressed more disagreement than females, whereas female respondents showed relatively higher agreement. Extreme opinions (strongly agree and strongly disagree) were limited, suggesting moderate views among participants

Interpretation: Female respondents recorded the highest percentage under Neutral, followed by Agree. Male respondents also showed the highest percentage for Neutral, followed by Disagree and Agree. Both Strongly Agree and Strongly Disagree received comparatively fewer responses.

12. Proper waste management reduces the risk of infection among staff and patients.

1. Gender	Agree	Disagree	Neutral	Strongly Agree	Strongly Disagree	Grand Total
Female	11.76%	5.88%	19.61%	3.92%	0.00%	41.18%
Male	5.88%	17.65%	23.53%	7.84%	3.92%	58.82%
Grand Total	17.65%	23.53%	43.14%	11.76%	3.92%	100.00%

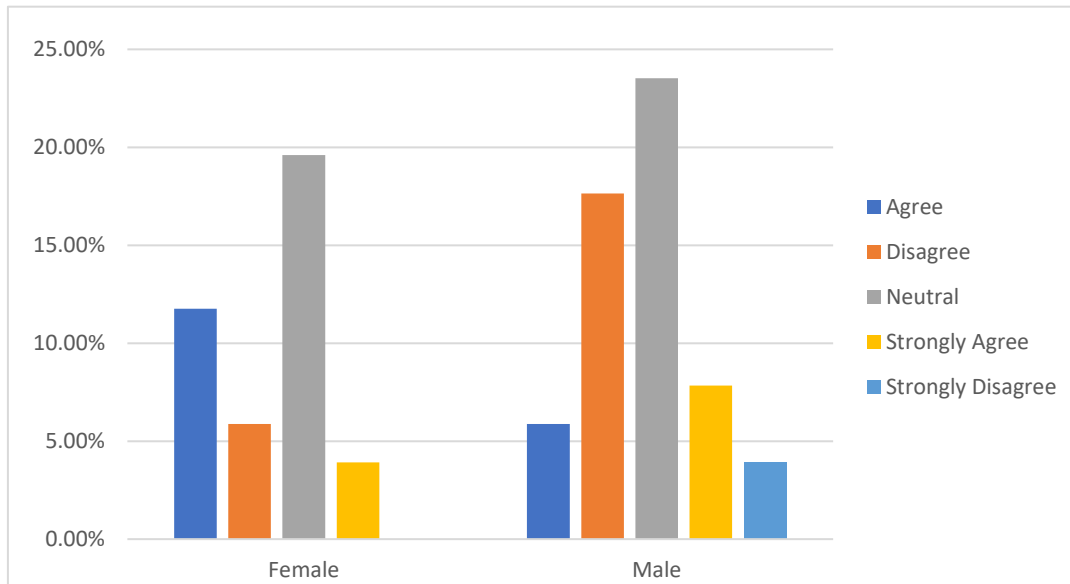


Analysis: The majority of respondents neither strongly supported nor opposed the statement, as reflected by the high neutral responses. Male participants displayed more mixed opinions, whereas female participants showed relatively more agreement. Overall, the responses indicate balanced opinions with limited extreme disagreement.

Interpretation: The chart shows that Neutral received the highest responses from both male and female participants. Male respondents recorded higher percentages in Disagree and Strongly Agree than females. Female respondents showed comparatively higher Agree responses.

15. The existing waste management system is effective in handling biomedical waste.

1. Gender	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	Grand Total
Female	7.84%	11.76%	15.69%	1.96%	3.92%	41.18%
Male	13.73%	21.57%	13.73%	5.88%	3.92%	58.82%
Grand Total	21.57%	33.33%	29.41%	7.84%	7.84%	100.00%



Analysis: The findings suggest that male respondents were more likely to disagree with the statement, while female respondents were more neutral. Very few respondents expressed strong agreement or strong disagreement. This indicates that opinions are divided, but most respondents preferred moderate responses rather than extreme views.

Interpretation: Male respondents recorded the highest percentage under Disagree, followed by Agree and Neutral. Female respondents showed the highest percentage under Neutral, followed by Disagree and Agree. The percentages for Strongly Agree and Strongly Disagree are relatively low for both genders.

SPSS TEST

HYPOTHESES TEST

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.311 ^a	4	.679
Likelihood Ratio	2.306	4	.680
Linear-by-Linear Association	.059	1	.808
N of Valid Cases	51		
a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is 1.24.			

Regression

Descriptive Statistics			
	Mean	Std. Deviation	N
6. Waste is properly segregated at the point of generation in the hospital.	2.22	.730	51
15. The existing waste management system is effective in handling biomedical waste.	2.88	1.089	51

Hypothesis Test Summary			
	Null Hypothesis	Test	Sig.
12	The categories of 12. Proper waste management reduces the risk of infection among staff and patients occur with equal probabilities.	One-Sample Chi-Square Test	.000
13	The categories of 13. The waste disposal process complies with environmental safety standards occur with equal probabilities.	One-Sample Chi-Square Test	.000
14	The categories of 14. The waste management process improves overall hospital hygiene occur with equal probabilities.	One-Sample Chi-Square Test	.000
15	The categories of 15. The existing waste management system is effective in handling biomedical waste occur with equal probabilities.	One-Sample Chi-Square Test	.000

Asymptotic significances are displayed. The significance level is .05.

Residuals Statistics					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.19	2.24	2.22	.013	51
Residual	-1.238	.810	.000	.730	51
Std. Predicted Value	-1.945	1.729	.000	1.000	51
Std. Residual	-1.680	1.098	.000	.990	51
a. Dependent Variable: 6. Waste is properly segregated at the point of generation in the hospital.					

Anova						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.008	1	.008	.015	.902 ^b
	Residual	26.619	49	.543		
	Total	26.627	50			

- | |
|--|
| a. Dependent Variable: 6. Waste is properly segregated at the point of generation in the hospital. |
| b. Predictors: (Constant), 15. The existing waste management system is effective in handling biomedical waste. |

Findings

- The hospital has a system, for dealing with waste.
- They use bins with colors to separate different kinds of waste.
- Hospital staff know what to do with waste from the hospital.
- The doctors and the nurses and the people who clean the hospital all work together to make sure the hospital waste is handled properly.
- The hospital waste is collected every day. Sent to a place where it can be treated and thrown away safely.
- They clean the hospital every day to keep it clean and nice.

Conclusion

The study shows that waste management is an important part of hospital administration. The government hospital in Mysore follows basic waste management practices such as waste segregation, colour-coded bins, and safe disposal of biomedical waste. Most hospital staff are aware of waste management procedures and try to follow government guidelines. However, there is still a need for regular training, proper monitoring, and better awareness among all staff members. Effective waste management helps prevent infections, protects patients and healthcare workers, and keeps the environment clean. Overall, the hospital's waste management system is satisfactory, but continuous improvement is necessary to ensure safe and efficient waste disposal.

Suggestions

- Conduct regular training programmes for all hospital staff.
- Ensure proper segregation of waste at the source.
- Place enough colour-coded bins in all hospital departments.

Bibliography

- 1 Kothari, C. R. (2004). Research Methodology: Methods and Techniques. This book explains different research methods and data collection techniques. It helped in understanding how to conduct the research and analyze the collected data.
- 2 Government of India. (2016). Bio-Medical Waste Management Rules, 2016. This document explains the rules for handling, collecting, transporting, and disposing of biomedical waste safely. It was used as the main guideline for this study.
- 3 Central Pollution Control Board (CPCB). Guidelines for Biomedical Waste Management. These guidelines explain the proper methods of waste segregation, colour coding, storage, and disposal. They helped in understanding standard waste management practices.
- 4 World Health Organization (WHO). Safe Management of Wastes from Health-Care Activities. This publication explains the importance of safe hospital waste management. It also provides international best practices to reduce health and environmental risks.

- 5 Ministry of Health and Family Welfare, Government of India. The ministry provides policies and information on hospital management and biomedical waste. These resources helped in understanding government standards for healthcare waste.
- 6 Karnataka State Pollution Control Board (KSPCB). KSPCB provides rules and guidelines for pollution control and biomedical waste management in Karnataka. It helped in understanding state-level regulations.
- 7 Sharma, S. K. (2018). Hospital Administration. This book explains hospital operations, safety measures, and waste management practices. It was useful for understanding the role of hospital management.
- 8 Indian Journal of Public Health. Research articles from this journal provided information on hospital waste management, public health, and environmental protection. These studies supported the research findings.
- 9 Government Hospital Records, Mysore. Information collected from the government hospital helped in understanding the existing waste management process. It provided practical details for the study.
- 10 Various Research Articles and Published Journals. Research papers related to hospital waste management were reviewed to understand previous studies and recommendations. These articles helped compare the findings of this study with earlier research.