



Study of Risk Management Solid Medical Waste Management at Hospital X Covid-19 Referral in Semarang City

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aspects of ISO 3100:2018. The results of the study illustrate that Hospital X has carried out good and maximum risk control. Risk management Solid medical waste management is very important because it aims to reduce or eliminate risks to patients, staff, and the environment

Abstract

Hospitals as a place for patient care are a source of domestic and medical waste generation. Medical waste is one of the categories of waste that has the potential to pose a risk to the environment. Improper management of medical waste in health facilities has the potential to be dangerous for patients, employees, waste managers, and the environment that can cause infection, injury, and pollution. This study describe the risk management of solid medical waste management in hospital X based on

Keywords: Risk management, medical waste, hospital



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Introduction

The Covid-19 pandemic that hit various countries in the world at the beginning of 2020 has not yet ended. Confirmed on January 21, 2021, Semarang City as the Central Java region with the highest confirmed case rate of 12,504 cases. (*Jateng Tanggap COVID-19*, 2021) Based on data from the *corona.jatengprov.go.id* website, Semarang City has 15 (fifteen) COVID-19 referral hospital facilities. Hospitals as a place for patient care are a source of domestic and medical waste generation. The current problem with the Covid 19 pandemic has the potential to increase the generation of medical waste. Potential types of medical waste generated in the form of infectious waste, sharp object waste, chemical waste and pharmaceutical waste. (Sutrisno et al., 2020) Medical waste is one of the categories of waste that has the potential to pose a risk to the environment. (Kumari et al., 2013)

The potential risks that exist in medical waste when technical knowledge of sorting, separating, transporting, storing and sustainable waste management technology is required so as to maximize the existing infrastructure to accommodate emergencies. (Sharma et al., 2020) Improper management of medical waste in health facilities has the potential to be dangerous for patients, employees, waste managers, and the environment that can cause infection, injury, and pollution. (Mihai, 2020)

According to L. Sefhoui's research, sharp objects, infectious waste, and human anatomical waste are at high risk. Sharps waste represents a potential acute hazard to health, because this waste not only causes cuts and punctures, but can infect wounds if contaminated with pathogens. The resulting double risk of injury and disease transmission makes sharps waste considered a very dangerous level of waste. Health workers, especially nurses and waste management operators, are people who are at risk of infection from contamination of wounds from sharp objects. Infectious waste and anatomical waste also have a high risk. (Sefouhi et al., 2013) In Sachranira and Abdul's research conducted at a hospital located in Sidoarjo related to sharps waste, it was stated that the risk control carried out by the hospital was technical control, administration and use of PPE. (Ningrum et al., 2019)



Risk management regulated in ISO 31000:2018 is a tool that supports companies to accept risks in the work environment. the spread of Covid-19 can occur with inadequate waste management improvements. Covid-19 medical waste management is handled in a timely, orderly, efficient manner and disposed of without leaving other dangers an important part of overcoming the pandemic. In this study, the author wants to examine the management of medical waste analysis at hospital X based on aspects of ISO 31000:2018.

Methods

This research is an observational description conducted by interview, observation, and secondary data collection. Hospital X in Semarang City which was designated as the Covid Referral Hospital became the case study site in this research which was conducted in June 2021. The objects in this research are aspects of determining the scope, context, criteria; risk assessment aspects; aspects of risk treatment, aspects of communication and consultation; aspects of monitoring and review; aspects of recording and reporting on solid medical waste management. Informants in this study were sanitarians, Occupational Health and Safety Hospital, Infectious Disease Control, and the subsection risk management department of the hospital. Interviews were conducted to determine the continuity of risk management in solid medical waste management in hospitals. Secondary data is obtained from regulations and reports related to medical waste risk management. Data analysis is done by combining the information obtained and interpreting the data to produce the required information.

Results and Discussion

Aspects of setting scope, context, and criteria

The implementation of Hospital X's risk management covers all service areas in the hospital. The implementation of risk management is based on hospital risk management guidelines which contain references to governance and organizational management of risks that occur and have the potential to occur in the hospital environment. Risk management guidelines are used as



the basis for integrated risk management at hospital X. These guidelines are then applied to each section and installation in the hospital. Hospital X risk management guidelines refer to ISO 31000 :2018.

The external context in the form of regulations that form the basis for the implementation of risk management is contained in the Decree of the President Director regarding Risk Management Guidelines at Hospital X and there are SPO for Risk Management Reporting. The internal context, such as the organizational structure and resources responsible for the implementation of risk management, the person in charge of risk management from the Quality and Patient Safety Committee and the head of each installation are responsible for the installation. In its implementation, the risk management of solid medical waste management which is included in the operational risk category is carried out by a sanitation installation in coordination with the Occupational Health and Safety sub. Risk management training is aimed at implementing officers from each installation and section. The risk criteria used in the risk management of solid medical waste management refer to the guidelines provided by the Quality and Patient Safety Committee.

The availability of regulations shows that Hospital X has written a plan for implementing the risk management process in the form of guidelines so that it can be carried out in a systematic and controlled manner. This is in accordance with the ISO 31000: 2018 standard that things that must be considered are targets, results to be obtained, location and time of implementation, risk assessment tools, resources, and responsibilities as well as relationships with other processes or activities.(Susilo et al., 2020)

Aspects of risk assessment

Risk identification is a process of recognizing risk by knowing the sources and causes of risk and the consequences of the existence of these risks. In practice, risk identification is carried out once a year at the end of the year. In addition, it also sees whether or not there are incident reports. This is because currently good discussion and documentation regarding risk management has not become a priority but the implementation of risk management is carried out as much as



possible. The identification method carried out reactively is not in accordance with the ISO 31000:2018 standard where risk identification should be carried out proactively. (Susilo et al., 2020) In this case, it can be said that the ability to anticipate risks in solid medical waste management is still lacking because it is only carried out in the event of an incident.

Risk analysis is the process of determining the magnitude of the impact and the likelihood of a risk occurring. In carrying out risk analysis, each installation uses tools in the form of a Risk Grading Matrix which contains the standard magnitude of the impact value and the possibility of risk occurrence. Calculation of this analysis by multiplying the magnitude of the impact and the possibility of risk occurrence and will be categorized according to each category. However, in its implementation, the risk analysis of medical waste management is carried out by Occupational Health and Safety using Hazard Vulnerability Analysis (HVA) tools. Sanitation installations have many activities so that each year has a different risk priority.

Risk evaluation is carried out to determine risk priority by taking the largest grading value around two problems that are taken and managed. Risk taking is seen from the amount of risk. (Liu et al., 2017)

Aspects of risk treatment

Risk treatment is an effort to reduce or eliminate the impact of risk. The type of risk treatment applied at the Sanitation Installation is by completing the Standard Operating Procedures for each stage of medical waste management. As an effort to treat risks, such as during the Covid-19 pandemic, sanitation installations created new SPOs related to the management of Covid-19 medical waste. As a preventive measure, SPOs are always reviewed and updated in accordance with the latest government regulations. In addition to focusing on SPOs, the Sanitation Installation also carries out direct supervision efforts every day to minimize errors, affirmation to waste management officers to always comply with SPOs and use proper Personal Protective Equipment in collaboration with the room, Occupational Health and Safety, and Infectious Disease Control .



The existence of SPOs can change at any time according to circumstances and conditions as long as they have a positive impact on the organization. (Buchori, 2021)

Aspects of communication and consulting

Communication and consultation is carried out in each risk management process. Internal communication is carried out within the Sanitation Installation and external communication is carried out with Quality and Patient Safety Committee, Occupational Health and Safety, Infectious Disease Control, and housekeeping. Routine communication and consultation are less effective, carried out at the end of the year or when an incident occurs. Communication with housekeeping is done via group chat if an error is found, so it will be fixed quickly. Two-way communication by involving all participants in policy making can give the team confidence and increase the effectiveness of the implementation of communication. (Ab Aziz et al., 2019)

Aspects of monitoring and review

Technical monitoring activities for the implementation of medical waste management are carried out every day by the Sanitation Installation by dividing the responsibility for each region, one of which is by checking the correct waste segregation. Monitoring carried out by the sanitation sector is more on the technical implementation of waste management, reporting of waste data, and risk management efforts. Monitoring related to medical waste management risk management has not been carried out properly due to constraints on human capabilities and resources. It has been done technically but not yet in the form of a routine report. The review is carried out at the end of the year at the time of the evaluation based on the achievement report. Monitoring and review activities are carried out to guarantee the achievement of risk management implementation targets. It is explained in ISO 31000 that by monitoring, it is possible to find out whether the risk assessment and risk treatment aspects have been running effectively or not, which can provide feedback and recommendations as needed. The implementation of the review can also provide



analysis and learning from events (trends) and can assess the effectiveness of the controls or treatments provided so that they can determine the right management strategy. (Susilo et al., 2020)

Aspects of recording and reporting

Risk management recording and reporting is stored in softfile form with the Office Automation (OA) system which is submitted directly to the Director with a copy of the PE and the Quality and Patient Safety Committee. Reporting is done every three months but does not run so it becomes once a year. Based on ISO 31000 management document storage can be done in paper or digital form. A technology-based documentation system will provide easy access to information, minimize the potential for loss, damage, easy to audit, and improve service quality. (Dewi, 2019)

Conclusion and Recommendation

Hospital X has carried out good and maximum risk control. Reports and documentation related to risk management need to be given more priority. Hospitals' shortcomings and limitations in risk management in managing hospital solid medical waste can be improved over time. Risk management Solid medical waste management is very important because it aims to reduce or eliminate risks to patients, staff, and the environment. The limitation of this study was that it was only carried out in one hospital. For further research, it can provide an overview with a wider and detailed scope.



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