

Management of Health Facilities Medical Waste on Lombok Island, West Nusa Tenggara Province

Yusril Akbar Ibrahim

Medical Education Study Program, Faculty of Medicine, University of Mataram

yusakbaribrahim@gmail.com

Article Information

Submitted: 23 December 2021

Accepted: 03 January 2022

Online Publish: 20 January 2022

Abstract

Background: one of the effects or impacts arising from the implementation of health service activities is the emergence of medical waste. Medical waste generated can be at high risk of causing negative side effects for health if not handled properly. In Indonesia itself, it has implemented regulations related to medical waste management in health facilities listed in the region-based medical waste management program. Lombok Island, West Nusa Tenggara Province is one of the target areas in this program, however, there are still some shortcomings in the implementation of medical waste management and disposal so it still poses a high health risk. Method: The method used is qualitative, with the collection of literature sources that meet the criteria for analysis. Objective: To determine developments in the management and disposal of medical waste on the island of Lombok, West Nusa Tenggara. Results: From the results of 3 literature reviews, it is shown that not one hundred percent of the management and disposal of medical waste in health facilities on the island of Lombok has been carried out in accordance with government recommendations. Regarding the separation of medical and non-medical waste, sharps waste and general waste are still not appropriate. Disposal of medical waste is not in accordance with the specified quality standard threshold. Conclusion: Medical waste management at Lombok Island Health Facilities needs to get further attention related to sorting to proper management and disposal.

Keywords: Medical Wast; Health Facilities; Lombok Island;

Introduction

In the implementation of health service activities at Health Service Facilities (Fasyankes), medical waste is produced which can cause adverse health effects (Padmanabhan and Barik, 2019). According to the United States Environmental Protection Agency (EPA), medical waste is part of the waste generated in health care facilities, such as hospitals, doctor's practices, dental practices, blood banks, hospitals, and medical service facilities and laboratories. Medical waste accounts for about 1-2% of urban waste, most of this waste is no more dangerous than household waste but some types of medical waste have a high health risk. These include infectious waste (15%-25% of total medical waste), sharps waste (1%), body part waste (1%), chemical or pharmaceutical waste (3%), and radioactive, cytotoxic, or broken thermometer waste. (less than 1%) (Dehghani *et al.*, 2019; Padmanabhan and Barik, 2019).

Treatment and disposal of medical waste can pose an indirect health risk through the release of pathogens and toxic pollutants into the environment. Disposal of untreated health care waste in landfills can lead to contamination of drinking water, surface water, and groundwater if these landfills are not properly constructed. In addition, the processing of medical waste by means of chemical disinfectants or combustion results in air pollution in the form of contamination with chemicals, metals, dioxins, furans, and ash residues that can endanger health (WHO, 2018).

In Indonesia, many health facilities ignore the safe management of medical waste. According to a 2004 study, it was shown that about half of the hospitals surveyed sort their waste into medical waste along with general waste, along with sharps waste. Similarly, most Puskesmas and other health clinics have disposed of their waste in landfills along with domestic waste or incineration (Irianti, 2013).

Method

The method used in this literature study is a qualitative method, where the author collects as much literature as possible for analysis. This literature study focuses on the analysis related to the management of medical waste in health facilities on the island of Lombok, West Nusa Tenggara Province. The literature study at this writing uses a free study method of subject matter collected from the databases Goggle Scholar and PubMed.

Result

From research conducted at the Covid-19 Referral Hospital in NTB Province, it was found that in the form of domestic and special medical waste management was 79-93%. There are 6 activities that have not been fully implemented, including the provision of trash bins based on type (organic, non-organic, and medical), domestic waste storage for a maximum of 1 x 24 hours, disinfection in solid waste disposal sites, domestic solid waste, PPE (Tools and Equipment). Personal Protective Equipment) used are disinfected as soon as possible, masks and gloves are disposed of in special solid waste containers and 2 others are related to coating waste containers

with plastic bags of different colors and the use of PPE for waste collection officers (Agung and Endan, 2021).

In research conducted at health centers spread across North Lombok Regency, the results showed that the quality of medical wastewater was categorized as not fulfilling or not suitable for disposal to the environment because there were several parameters that exceeded the quality threshold determined by the government. This parameter is based on coliform and COD (Chemical Oxygen Demand) levels (Fatmalia and Saputra, 2021).

Another study conducted at the Grha Ultima Medika Hospital, Mataram City produced evaluation results related to the management of solid and liquid medical waste, where solid waste management was in the range of 22% of 45 total assessments, liquid waste was in the range of 58% of 45 total values, while gaseous waste was in the range of 20% of the total 45 values. It can be concluded that the overall Grha Ultima Medika hospital waste management is in the less and sufficient categories (Azwaruddin, 2018).

Discussion

Based on the analysis of the literature related to the management of health facilities' medical waste on the island of Lombok, it is still not optimal. Some hospitals do not have medical B3 waste management equipment, either incinerator or autoclave. Only some hospitals have incinerators but they are not licensed and have not been used for a long time (Agung and Endan, 2021). In addition, the management of solid and liquid medical waste in several health facilities is categorized as poor because the management is still not optimal so that it is not in accordance with the established quality standards (Fatmalia and Saputra, 2021).

Another obstacle is the mixing of medical and medical waste. In addition, based on the ministry of health and forestry, the sorting of medical waste from its source is a simple effort to reduce hazardous waste, which means that the proper and correct sorting of medical waste must be based on the type, group, and characteristics of hazardous waste. Waste segregation aims to minimize the contamination of waste that has the potential to cause health problems and environmental pollution. In addition, medical waste and non-medical waste are also separated from the source. The purpose of this sorting is to prevent contamination between the two. Non-medical waste has the potential to contain hazardous and toxic substances if it is contaminated with medical waste. The mixing of this waste will indirectly lead to the emergence of hazardous waste produced by health care facilities (Fatmalia and Saputra, 2021; Khasanah, Raharjo and Wijayanti, 2021).

It is important to know that hospital medical and non-medical waste management is needed to improve hospital comfort and cleanliness in addition to good management, it can break the chain of transmission of infectious diseases, especially nosocomial infections (Astuti and Purnama, 2014). In this case, the Indonesian government has developed the concept of area-based medical waste management in accordance with the Regulation of the Minister of Health of the Republic of Indonesia Number 18 of 2020. It is carried out with the principle of proximity, where the closer

Management of Health Facilities Medical Waste on Lombok Island, West Nusa Tenggara Province

the waste management is to the source, the lower the risk and the lower the cost. its management is managed independently in the health facilities area so as to reduce the distance of waste delivery. Regarding the area-based medical waste management plan, the Ministry of Environment and Forestry is collaborating with the local government to build 32 B3 waste management facilities in five provinces in Indonesia, including NTT and NTB, so that it is expected to improve the management of medical waste, especially B3 for the better. (Agung and Endan, 2021).

Conclusion

Medical waste management in health facilities on the island of Lombok needs further attention related to sorting to the correct management method. It is hoped that with a program from the government in building waste management facilities in NTB on a regional basis, the management of medical waste in health facilities on the island of Lombok can be improved so as to reduce health-related risks caused by medical waste.

References

- Agung, T. and Endan, S. (2021) 'EVALUASI PENGELOLAAN LIMBAH PADAT RUMAH SAKIT RUJUKAN COVID 19 DI PROVINSI NUSA TENGAARA BARAT', *Sulolipu*, 20(01), pp. 46–54.
- Astuti, A. and Purnama, S. . (2014) 'Kajian Pengelolaan limbah di rumah sakit umum Provinsi Nusa Tenggara Barat (Ntb)', *Comunnity Health*, 2(1), pp. 12–20. Available at: <http://pasca.unhas.ac.id/jurnal/files/5bfa5f2d1eba625351aac989609e6962.pdf>.
- Azwaruddin (2018) 'Kajian Pengelolaan Limbah rumah Sakit Grha Ultima Medika di Kota Mataram, NTB', *Jurnal AKRAB JUARA*, 3(3), pp. 9–19.
- Dehghani, M. H. *et al.* (2019) 'Medical waste generation and management in medical clinics in South of Iran', *MethodsX*, 6, p. 727. doi: 10.1016/J.MEX.2019.03.029.
- EPA (2021) *Medical Waste / US EPA*. Available at: <https://www.epa.gov/rcra/medical-waste> (Accessed: 14 December 2021).
- Fatmalia, E. and Saputra, R. D. A. (2021) 'Studi Kualitas Air Limbah Puskesmas Di Kabupaten Lombok Utara ,Provinsi Nusa Tenggara Barat', *Ganec Swara*, 15(2), pp. 1127–1131.
- Irianti, S. (2013) 'Current Status and Future Challenges of Healthcare Waste Management in Indonesia', *Current Status and Future Challenges of Healthcare Waste Management in Indonesia*, 23(2), pp. 73–81. doi: 10.22435/mpk.v23i2.3129.73-81.
- Khasanah, I., Raharjo, B. B. and Wijayanti, Y. (2021) 'Management Evaluation of Dangerous and Toxic Waste (Infectious and Covid Waste) at the Nusa Tenggara Barat Hospital', *Public Health Perspectives Journal*, 6(3), pp. 189–198. Available at: <https://journal.unnes.ac.id/nju/index.php/phpj/article/view/28203>.
- Padmanabhan, K. K. and Barik, D. (2019) 'Health Hazards of Medical Waste and its Disposal', *Energy from Toxic Organic Waste for Heat and Power Generation*, p. 99. doi: 10.1016/B978-0-08-102528-4.00008-0.
- WHO (2018) *Health-care waste*. Available at: <https://www.who.int/news-room/fact-sheets/detail/health-care-waste> (Accessed: 14 December 2021).

Yusril Akbar Ibrahim/ **KESANS**

Management of Health Facilities Medical Waste on Lombok Island, West Nusa Tenggara Province

Copyright holder:

Yusril Akbar Ibrahim (2022)

First publication right:

KESANS: International Journal Health and Science