

Overview of the Medical Waste Management System by Health Human Resources (SDK) at the Putri Ayu Public Health Center, Jambi City in 2024

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Abstract

According to the Jambi City Health Service Profile in 2021-2022, Putri Ayu Health Center is one of the inpatient health centers in Jambi City which is also a contributor of the largest amount of medical waste with the amount of waste is 615 kg out of a total of 7804.1 kg of medical waste from health centers in Jambi City, so it has the potential to spread disease if medical waste is not managed properly. This research uses qualitative research methods with a descriptive approach. Data was obtained from 8 informants by conducting in-depth interviews and observations in May 2023 - April 2024 using qualitative research data analysis software. In the input aspect (1) Human Resources in the quantity aspect are sufficient, while the qualifications are not appropriate because they come from general administration. (2) Facilities and infrastructure are not sufficient and if there is damage, goods will be procured and reported to environmental health authority. Meanwhile, in the process aspect (3) Sorting is carried out by each waste producing unit by labeling the type of waste, date and poly, (4) The container used at the Putri Ayu Public Health Center meets the standards of Minister of Health Regulation Number 18 of 2020 (5) Transportation is carried out more than once every 2 days by PT Anggrek (6). Storage is carried out at TPS with a time span of 2-3 days at the latest. There are still input aspects that do not comply with standards (in the case of this research, namely the quality of human resources) causing disruption to process aspects, such as less than optimal management performance in managing medical waste in the container, transport and storage processes.

Keywords:

Medical Waste
Health Resources
Public Health Center

Abstrak

Berdasarkan Profil Pelayanan Kesehatan Kota Jambi Tahun 2021-2022, Puskesmas Putri Ayu merupakan salah satu Puskesmas rawat inap di Kota Jambi yang juga menyumbang jumlah limbah medis terbesar dengan jumlah limbah sebesar 615 kg dari total keseluruhan. 7804,1 kg sampah medis dari Puskesmas di Kota Jambi, sehingga berpotensi menyebarkan penyakit jika sampah medis tidak dikelola dengan baik. Penelitian ini menggunakan metode penelitian kualitatif dengan pendekatan deskriptif. Data diperoleh dari 8 orang informan dengan melakukan wawancara mendalam dan observasi pada bulan Mei 2023 - April 2024 dengan menggunakan software analisis data penelitian kualitatif. Pada aspek input (1) Sumber Daya Manusia pada aspek kuantitas sudah mencukupi, sedangkan kualifikasinya belum sesuai karena berasal dari administrasi umum. (2) Sarana dan prasarana belum memadai dan apabila terjadi kerusakan akan dilakukan pengadaan barang dan dilaporkan kepada instansi kesehatan lingkungan. Sedangkan pada aspek proses (3) Pemilahan dilakukan oleh setiap unit poli penghasil sampah dengan memberi label jenis sampah, tanggal dan poli, (4) Wadah yang digunakan di Puskesmas Putri Ayu memenuhi standar Menteri Kesehatan. Peraturan Nomor 18 Tahun 2020 (5) Pengangkutan dilakukan lebih dari 1 kali dalam 2 hari oleh PT Anggrek (6). Penyimpanan dilakukan di TPS dengan rentang waktu paling lambat 2-3 hari. Masih adanya aspek input yang belum sesuai standar (dalam kasus penelitian ini yaitu kualitas sumber daya manusia) menyebabkan terganggunya aspek proses, seperti kurang optimalnya kinerja manajemen dalam mengelola limbah medis pada wadah, pengangkutan dan penyimpanan. proses.

Kata kunci: Limbah Medis, Sumber Daya Kesehatan, Puskesmas

INTRODUCTION

Referring to the Solid Medical Waste Regulations at the Jambi City Health Center, it can be said that the implementation of the solid medical waste management system at the Jambi City Health Center is not yet in accordance with these standards, this is because there are still piles of expired medicines, labels on medical waste containers that have not been carried out properly, so that there is still a mix of medical waste and non-medical waste and the storage stage has not been carried out according to regulations (Aulia dkk, 2021).

Medical waste sorting has been carried out by Public Health Center officers, but they have not paid attention to proper sorting according to the guidelines of Minister of Health Regulation No. 18 of 2020. The average amount of medical waste in one day, like in general polyclinics, generally weighs 1.5 kg, but because there is no toxic or non-toxic label, it is labeled as medical waste (Jambi City Health Service, 2022). Problems related to the management of medical waste at Public Health Centers in Indonesia are quite complex because they relate to limited human resources at Public Health Centers. The results of Masruddin's research (2021) stated that Public Health Center officers did not understand the management of medical waste because human resources in the environmental health sanitation department did not meet their qualifications.

Jambi City has 20 Public Health Centers which are both health service facilities with the potential for medical waste. The highest health center that contributes medical waste is UPTD Putri Ayu Health Center, which is in first place with the most medical waste, followed by Kenali Besar Health Center and in third place is Pakuan Baru Health Center, while the health center that produces the least amount of medical waste among the other health centers is Paal Merah I I Health Center, Jambi City (Asai E, Jalius, Suandi, 2020).

Putri Ayu Health Center is one of the inpatient health centers in Jambi City which is also becoming contributes the largest amount of medical waste compared to other Public Health Centers in Jambi City with the amount of waste is 615 kg out of a total of 7804.1 kg of medical waste from public health centers in Jambi City in 2022. According to Minister of Health Regulation No. 43 of 2019 regarding Public Health Centers according to the characteristics of the working area, Putri Ayu Health Center is included in the category of urban health centers where transportation is found. and road access where more than 90% of households have electricity (Ministry of Health of the Republic of Indonesia, 2019).

Based on initial observations carried out at the Putri Ayu Public Health Center using the interview method, information was obtained that the Putri Ayu Public Health Center had collaborated with a third party to transport medical waste, namely PT Anggrek, however, several processes were still found. management still has problems such as sorting waste sources that are not based on the specified type and label, officers not sorting medical waste properly and the transportation time for medical waste at the Public Health Center by a third party is more than 2 days, sometimes even more than 1 month after it is produced and is the largest Public Health Center generator of medical waste in the city.

Based on the Regulation of the Minister of Health of the Republic of Indonesia No. 18 of 2020 states that every Health Service Facility is obliged to implement medical waste management with stages of reduction and sorting from internal transportation, temporary storage and internal processing (Rahim FK dkk, 2023). The impact of waste on humans leads to disturbed health, if toxic waste has mixed with the environment, diarrhea, shortness of breath, poisoning and nervous disorders will occur (WHO. Health Care Waste. 2018).

World Health Organization (WHO) states that around 85% of the total amount of waste from activities in the health sector is general waste and is not dangerous when compared to domestic waste, but 15% is hazardous material which is potentially infectious because it is chemical or radioactive. Countries with high incomes produce an average of 0.5 kg of hazardous waste, while low income countries produce 0.2 kg. Medical waste is often not separated as hazardous or non-hazardous waste in various countries (Aldiansyah M, 2022).

Waste in a series of health activities has a high potential for causing injuries and infections compared to other types of waste¹⁸. Reliable and safe methods for management have become urgent. Improper management of health care waste has serious consequences for health which also have an impact on the environment, making it an urgent element in environmental health protection¹³.

Based on the urgency of medical waste produced from health service facilities which becomes hazardous and toxic waste, the government has issued Regulation of the Minister of Environment and Forestry Number: P56/MenLHK-Sekjen/2015 regarding Procedures and Technical Requirements for Management of Hazardous and Toxic Waste. in conventional Health Service Facilities includes stages from reduction to destruction of waste (Mirawati, 2019). Management of medical waste from health facilities still has many problems. The Director of Environmental Health, Directorate General of Public Health, Ministry of Health, said that there is still a very large amount of medical waste that has not been managed. The volume of medical waste originating from 2,820 hospitals and 9,884 health centers in Indonesia reaches 290 tonnes per day (Gadjah Mada University, 2019).

Based on this, one important key in the public health system to achieve optimal health is to build a balanced relationship between humans and their environment. The environment can directly and indirectly influence human health and the survival of living creatures in it. This is in line with the classical theory expressed by Hendrik Leonard Bloom, known as the "Healthy Living Paradigm" which states that the degree of health is influenced by four factors, namely environment, lifestyle, health services and genetics (heredity)²⁰.

Based on problems such as some sorting of waste sources that are not based on the specified types and labels, officers do not carry out transportation every day. The transportation time for B3 medical waste at the Public Health Center by a third party is still more than 2 days, even from reports of more than 1 month due to the problem of not having an incinerator, so researchers feel it is necessary to conduct further research regarding the Description of the Medical Waste Management System by Health Resources (SDK).) at the Putri Ayu Public Health Center, Jambi City in 2024.

METHOD

This research is qualitative research using a descriptive approach. The research was conducted at the Putri Ayu Public Health Center, Jambi City in May 2023 - April 2024 with qualitative research instruments including recording equipment, observation sheets, interview guidelines, Manual Data Analysis Procedure (MDAP) and the help of Qualitative Data Analysis Software.

RESULTS AND DISCUSSION

Inputs

Human Resources (HR) at the Putri Ayu Public Health Center which manages medical waste in quantity has 2 environmental health workers and 3 cleaning service people, so the total number of workers involved is 5 people. However, in 2024 there has been a proposal for additional human resources in the environmental health room, this is because 1 person in the environmental health room comes from general administration who only helps the work of the environmental health coordinator as stated by informant 1:

"We are also proposing additional... now there are 2 people, this year the number of proposals could be increased to 3 people," (Informant 1)

Most of the informants stated that the Human Resources (HR) at the Putri Ayu Public Health Center which managed medical waste were sufficient, but the second informant stated that they were still insufficient. This can be seen through the results of the interview as follows:

"For now there is enough, but we are also proposing additions... now there are 2 people, this year the number of proposals is likely to increase to 3 people," (Informant 1)

"I'm the only one working and that's 3 people, the one above Andriadi and the one below Santi, but it's like there are 2 people working like that." (Informant 2)

"For the processing of medical waste, I think that's enough, what we know about it is that starting from the cleaning, there are 2 people, well, there are 5 people who are cleaners," (Informant 3)

"The human resources are sufficient, there are 2 people in charge, I think Sis Iju and Sis Tini, they do a good job... there's more CS below... a total of 4 or 5 people, I think" (Informant 4)

"That's enough... there are 3 people here, as cleaning service personnel" (Informant 5)

From the informants involved, it is known that cleaning service education does not specify a minimum level of education or it could be said that it can be from any level, and for the 2 environmental health workers, one of them is from general administration. Apart from that, in terms of facilities and infrastructure, the results showed that the majority of informants stated that the availability of facilities and infrastructure for managing solid medical waste was sufficient. However, based on the researchers' observations, the infrastructure is not yet fully adequate, this is because the Public Health Center does not have complete equipment, such as incinerators, waste trolleys and PPE.

After exploring it in depth, one of the informants involved in the research as a cleaning service stated that the proposed facilities and infrastructure that needed to be equipped to make their work easier were trash transport trolleys. This was conveyed directly as follows: *"I think there are trolleys for collecting rubbish, but they don't exist yet" (Informant 5)*. Based on the results of the interview, it can be said that in the input aspect, the facilities and infrastructure at the Putri Ayu Health Center in Jambi City do not yet meet standards.

Process

Based on interviews conducted in looking at the process of sorting solid medical waste at the Putri Ayu Health Center, Jambi City, it is known that the waste produced by the Putri Ayu Health Center, Jambi City is only based on the type of medical and non-medical waste, not re-specialized based on the classification of medical waste. This was conveyed directly by informants involved in this research as follows:

"In terms of waste, it's only medical and non-medical or infectious and non-infectious," (Informant 1)

"It's just medical waste, for radiology and pathology it's nothing like cotton... that's what you know" (Informant 2)

"Hey, there's mostly medical waste from the rest of the procedures here, from us, like vaccine vials and spet, cotton, because for immunizations you can't use alcohol, in the emergency room it's like patient fluids, rato-rato like that." (Informant 3)

"The syringe, then ee we have cotton and ee yes it's a syringe, cotton" (Informant 4)

"It's like masks, gloves, syringes, IV bottles, and bandages like that" (Informant 5)

"Medical waste is like IV drips, gauze, syringes, cotton..ee" (Informant 6)

The medical waste produced is used vaccine vials, injection pellets, pens, infusion bottles and used bandages, while the non-medical waste usually produced is paper and pens and the sorting process is carried out by separating infectious and non-infectious. Based on the medical and non-medical waste produced at the Putri Ayu Public Health Center, the container used to store and transport the waste produced is a safety box containing needles, while non-sharp medical waste is given yellow plastic and non-medical waste is given in black plastic. and in each room in the patient room there are 2 trash cans.

Each container that has been filled will then be closed and given a label containing the date, waste contents, poly source. Then the container is placed at the TPS when it is full and then the transportation stage will continue from the party concerned. The transportation stages carried out in the management of solid medical waste at the Putri Ayu Health Center, Jambi City, are taken by the cleaning service by visiting every polyclinic at the Putri Ayu Health Center, Jambi City which is full of rubbish and lifting it by hand using PPE tools such as gloves and masks to the TPS, namely the room. B3 waste at the Putri Ayu Public Health Center, Jambi City, while the final stage of transportation is in collaboration with a third party through an MOU, namely PT. Orchids to be taken every 2 days.

"If it's internal, if it's collected once every day, if it's too little, if it's been once every 2 days, take it to the TPS" (Informant 1)

"We're the transportation... we work at... siraja (application) and sikeling from the department. When they lift it, it is weighed and recorded. "So we are preparing it at the TPS, starting from January 2024 for Sikeling, the Siraja will already be in January 2023. PT Anggrek, the third party, since 2023, has a contract until 2024, but 2025, I don't know," (Informant 2)

"Well, that's it... the work, close it, lock it, mark the date, fill it here (outside) after work, pick it up and store it in B3, then pick it up from the transport partner... what do we use when it's full and then close it, sis... use duct tape brand them, what date the contents are, or put them outside, then just transport them" (Informant 3)

"Transportation... when it's full, what do we use to cover it? We use duct tape to put it on, what date the contents are and put them outside, then we just have to transport them" (Informant 4)

"The transportation... is for another party, internally we use our hands, because there are no trolleys yet" (Informant 5)

"Once every 2 days, by a third party" (Informant 6)

"It's a duo, morning and evening... if yesterday I went to see a guy, I'd clean it like that" (Informant 7)

"The cleaning staff who took our room...were taken in the morning and afternoon" (Informant 8)

Putri Ayu Public Health Center has also been systemized with the SIRAJA Application which has started in January 2024 and SIKESLING which has started in January 2023 from the Jambi City Health Service, so that when it is appointed, weighing is carried out, input into the application and there is also a WhatsApp group for coordinating waste collection schedules. every Public Health Center in Jambi City. The SIRAJA application is a new breakthrough application issued by the Ministry of Environment and Environmental Health in order to support medical waste management reporting, starting from transportation, storage and utilization effectively and efficiently, while the SIKESLING application is an application created by the Jambi City Health Service in 2023 to update the amount of medical waste produced.

The storage process carried out to manage medical waste at the Putri Ayu Public Health Center, Jambi City is diverted no later than once every 2-3 days and stored in a TPS or special room B3. The waste transported from the polyclinic is put into a mutilated bag which is lifted and can be directly collected by a third party, namely PT Anggrek, a company which operates in the field of B3 waste management.

"To the TPS then take it to a third party, for 2 days" (Informant 1)

"2 days... pick it up... because it's a group and an application, if it's rubbish, say pick it up, but in the past it was once every 3 months" (Informant 2)

"We've seen it below, it's good, it fits..." (Informant 3)

"Hey, there's the name below, I just forgot. So there is a warehouse, just put it there..." (Informant 4)

"After we take it from each room, we collect it in the special medical waste room, put it in the yellow mutilation bag too. "That's a maximum of 3 days, basically on Saturdays and weeks it's taken 3 times" (Informant 5)

"Throw it in the medical waste bin, TPS for 2-3 days" (Informant 6)

Storage is carried out in room B3 or TPS after the cleaning service collects medical waste at each polyclinic which is then transported by a third party no later than 3 days. Following are details of the transportation of medical waste at Putri Ayu Public Health Center carried out by a third party in January-April 2024.

DISCUSSION

Based on the results of research conducted at the Putri Ayu Public Health Center, it is known that the availability of human resources in quantity is in accordance with the Regulation of the Minister of Health of the Republic of Indonesia Number 75 of 2014 regarding Public Health Centers which states

that the health workforce in urban inpatient Public Health Centers is 31 people, one of which consists of from environmental health workers as much as 1 person and cleaning service as many as 2 people. Putri Ayu Health Center, which is an urban inpatient health center with 4 beds, has 2 environmental health workers and 3 cleaning service people who manage medical waste at Putri Ayu Health Center.

Based on quality, the human resources who manage medical waste at the Putri Ayu Public Health Center do not comply with the standards of Minister of Health Regulation Number 43 of 2019 regarding Public Health Centers. This is because one of the health workers who helps in the environmental health room has a general administration educational background which is not in accordance with his current profession, namely as an environmental health officer at the Putri Ayu Public Health Center, Jambi City, so medical waste management relies on one person. These sanitarian workers also sometimes do not participate in monitoring and evaluation related to the medical waste management system at the Public Health Center. Based on the quality assessment in terms of knowledge, it is not good because there are still officers who do not understand that the availability of infrastructure at the Putri Ayu Public Health Center does not meet the requirements, such as trolley and incinerator constraints, whereas based on the overall attitude it is good because the officers manage medical waste according to the SOP set by Public health center.

The results of this study are not in accordance with Minister of Health Regulation Number 43 of 2019 concerning Public Health Centers which confirms that environmental health workers in Urban Health Center Areas must have a minimum of D3 education.⁴. According to Anisa, in 2021 the level of education will have a strong correlation with the behavior of health workers in handling medical waste. The higher the education, the higher the behavior of officers in handling medical waste or vice versa (Anisa, 2021).

Human resources are a process in increasing or growing human physical and psychological potential in realizing the goals of the organization which is carried out by utilizing humans as workers who carry out work (Aldiansyah M dkk, 2022). Management of medical waste in health care facilities must involve health human resources which are implemented and well planned, because of the potential for contamination of human health and environmental threats due to unmanaged waste which can be dangerous (Kristanti W, 2021). Level of education and length of service are ways to determine the quality of existing human resource development (Kristanti W, 2021).

In the input aspect, namely the facilities and infrastructure at the Putri Ayu Health Center in Jambi City do not meet regulatory standards Minister of Health Regulation Number 18 of 2020 is related Medical Waste Management for Regional-Based Health Service Facilities. This is because there is no trash trolley as a special tool for transporting medical waste at the Putri Ayu Public Health Center and the incinerator is damaged.

According to Minister of Health Regulation Number 18 of 2020 is related Medical Waste Management for Regional-Based Health Service Facilities confirms that the transportation of hazardous and toxic waste materials in The process of transporting waste must use strong equipment such as closed trolleys, have a management permit and have a symbol for B3 medical waste (Minister of Health of the Republic of Indonesia, 2020).

Research (Kristanti et al., 2021) states that incomplete provision of facilities and infrastructure can influence how officers sort waste. Another factor that influences sorting and storage at a Public Health Center is the availability of complete infrastructure provided by the Public Health Center, so this can support better handling of solid medical waste (Kristanti W dkk, 2021).

Special trolleys that are strong, easy to clean, and most importantly closed are a means of transporting special medical waste, so that it doesn't get scattered and officers also transport it using gloves or PPE via an exit route that is different from the general route used by patients or health workers (Kristanti W dkk, 2021). The availability of facilities and infrastructure that are incomplete or do not meet standards has an influence on officers in sorting medical and non-medical waste according to their categories (Kristanti W dkk, 2021).

The process of sorting medical waste is carried out by staff in the room concerned who are provided with medical and non-medical waste bins, the sorting stage in which the waste resulting from service interventions for patients is collected in yellow boxes with labels and collected in a special room, namely room B3 at the Putri Ayu Public Health Center, Jambi City.

This is in accordance with the statement made by Masruddin, et al in 2021 which states that the solid waste produced is in accordance with the characteristics and management provisions which are broadly divided into 2 parts, namely medical and non-medical waste (Masruddin M, 2021). This is also in accordance with research conducted by Agpin and Furqon in 2023 stated that selection must be carried out in containers lined with plastic bags measuring 60 cm x 60 cm for small containers and 80 cm x 100 cm for large containers, while B3 waste uses a safety box (Agpina P, Furqan, 2023).

Apart from that, based on the results of research that has been carried out, it is known that for medical and non-medical waste produced at the Putri Ayu Public Health Center, the container used to store and transport the resulting waste is a safety box containing needles, while non-sharp medical waste is provided. yellow plastic and non-medical waste in black plastic and in each room in the patient room there are 2 trash cans.

Each container that has been filled will then be closed and given a label containing the date, contents of the waste, the source of the poly, then the container will be placed outside the respective poly, when it is full and then the transportation stages will continue from the party concerned. The labels given by officers at the Putri Ayu Public Health Center, Jambi City are appropriate and differentiate between yellow medical plastic and black non-medical plastic.

According to Sari and Kahar in 2023, they stated that Waste storage containers that are appropriate to their characteristics, waste storage containers are containers that are strong, watertight, rustproof, closed, and waste sharp objects are stored in a safety box. As well as waste storage places/containers that are placed in areas that are easily visible and easily accessible to medical personnel. In addition, the waste storage place/container used is a waste container that is opened and closed using a step which can minimize contact between staff and the waste container which carries the risk of contamination by germs or disease-spreading bacteria found in the medical waste (Nurrinda Sari S, Kahar K., 2023).

The containers used at the Putri Ayu Public Health Center are quite sturdy, watertight. But during the transportation process, only plastic is transported. And of course it tears easily and is not sturdy. It should be, wGarbage materials that must be available for storing and transporting must be sturdy, watertight, easy to clean, made of plastic for infectious containers and cardboard for watertight objects, light, easy to clean, have a lid, made of sharp plastic (Kristanti W dkk, 2021).

Putri Ayu Public Health Center has also been systemized with the SIRAJA Application which started in January 2024 and SIKESLING which started in January 2023 from the Jambi City Health Service. The SIRAJA application is a new breakthrough application issued by the Ministry of Environment and Environmental Health to support medical waste management reporting, starting from transportation, storage and utilization effectively and efficiently.

The implementation of solid medical waste management at the Putri Ayu Public Health Center is transported by hand, namely by directly transporting the waste produced together with the holding area with a frequency depending on the amount of waste produced in each room, namely 1 x 2 days. The stage of transporting solid medical waste at the Putri Ayu Public Health Center uses plastic bags. There is no special transportation equipment used by officers to transport medical waste from each room to the TPS. Plastic bags containing medical waste are tied and taken directly to the TPS and placed in a temporary room.

The results of this research are similar to the results obtained from research conducted by Amrullah in 2019 which stated that the stages of transporting solid medical waste used plastic bags, there were no special transport tools used by officers to transport medical waste from each room to the

TPS. Plastic bags containing medical waste are tied and then taken to the TPS and placed in a drum prepared for storing medical waste²⁰. Basically, this transportation activity is a mobile medical waste storage activity²¹. The transportation stage of solid medical waste has requirements regarding containers, transportation equipment, time and special transportation routes (Kristanti W dkk, 2021).

A special room has been provided for the temporary storage of solid medical waste at the Putri Ayu Health Center in Jambi City, however the waste that has been collected from each unit is still stored for more than 3 days. Meanwhile, the Putri Ayu Public Health Center, Jambi City, is collaborating with a third party, namely PT Anggrek, because the incinerator equipment was damaged, with an agreement to transport the waste with a storage period of 2 days. PT Anggrek is a company that operates in the field of B3 Waste Transport, Processing and Destruction Services and has obtained official permits from the Ministry of the Environment. Our licensing covers transportation (transporter), processing and destruction of B3 waste.

According to Ningsih and Fera, the results of this research in 2022 state that the process of storing or storing B3 waste in a B3 waste storage facility or TPS takes a minimum of 2 hours for those who have an incinerator and if they do not have this equipment they must partner with the health service and store it for a maximum of 24 hours. room temperature (Ningsih NA, Fera D, 2022). Based on the waste produced and stored in a special room, namely the B3 room at the Putri Ayu Public Health Center, Jambi City, this is indeed appropriate according to Aldiansyah, et al. in 2020, who stated that the storage of B3 waste was stored in a separate building from the main building of the health facility (Aldiansyah M dkk, 2022).

In the absence of a separate building, storage of B3 waste can be carried out in a special room within the service facility building if conditions do not allow for construction and accumulation where processing takes less than 4 hours from the time the waste is produced (Aldiansyah M dkk, 2022).

CONCLUSION

Based on the research results, it was concluded that, input in solid medical waste management at the Putri Ayu Public Health Center, Jambi City, it is known that human resources in the quantity aspect are sufficient, namely a minimum of 1 environmental health worker and 2 cleaning service people, while in the qualification aspect it is not suitable because one of the workers Environmental health originates from general administration. Furthermore, the availability of facilities and infrastructure for managing medical waste is still inadequate and damage/constraints to facilities and infrastructure do not occur at the Putri Ayu Public Health Center. If there is damage then procurement of goods is carried out and reporting to competent parties/concerns

Process in managing solid medical waste at the Putri Ayu Health Center, Jambi City, it is known that the waste usually produced by the Putri Ayu Health Center, Jambi City is medical and non-medical waste, the waste produced is sorted based on the type of infectious waste and sharp objects. The facilities used at the Putri Ayu Public Health Center meet the standards of Minister of Health Regulation Number 18 of 2020, however some equipment is incomplete. Transportation is still carried out more than once every 2 days by PT Anggrek, while internally transportation is carried out by hand by the cleaning service with plastic that has been closed, taped and branded (type of waste), storage is carried out in TPS (Room B3 of Putri Ayu Health Center) with a range of the slowest time is 2-3 days but there are still delays in transporting medical waste.

SUGGESTION

The author suggests that Public Health Centers be expected to carry out a review regarding human resources in terms of qualifications that are readjusted according to their main duties and areas of expertise and provide containers that are appropriate to the type of waste, not just using yellow or black plastic, and transport containers need to be adjusted to standards. from the Minister of Health

Regulation Number 18 of 2020 regarding the management of medical waste in area-based health service facilities by using a container puncture-proof, leak-proof, light, rust-proof, flat surface and not easy to open.

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REFERENCES

- Pasai E, Jalius, Suandi. Analysis of Solid Medical Waste Management at the Pekanbaru City Health Center. *J Environmental Sciences*. 2020;14(2).
- Aulia, A; Rhomadhoni, M; Achmad S. Overview of Solid Medical Waste Management at the Public Health Center. *J Ilm Permas J Ilm STIKES Kendal* [Internet]. 2021;11(4). Available from: <http://journal.stikeskendal.ac.id/index.php/PSKM>
- Jambi City Health Service. List of Recapitulation of Hazardous Medical Waste Transport in 2022. Jambi City; 2022.
- Ministry of Health of the Republic of Indonesia. Regulation of the Minister of Health of the Republic of Indonesia Number 43 of 2019 concerning Public Health Centers. 2019.
- Aldiansyah M, Hayana H, Marlina H. Analysis of B3 (Solid Medical) Waste Management at the Rejosari Public Health Center, Tenayan Raya District in 2020. *Media Public Health (Public Heal Media)*. 2022;1(3).
- Juaniantari, Nia NM. Overview of the B3 Solid Medical Waste Management System at Uptd Abiansemal I Public Health Center, Abiansemal District, Badung Regency, 2022. 2022;5(3).
- Rahim FK, Diniyah BN, Akbar FM, Al'Faridz MI, Sucipto MR. Overview of the management and generation of hazardous and toxic (B3) medical waste in health facilities and services in the West Java Region in 2022. *J Public Heal Innov*. 2023;3(2).
- WHO. Health Care Waste. 2018.
- Mirawati, Budiman, Tasya Z. Analysis of the Solid Medical Waste Management System at the Pangsi Health Center, Parigi Moutong Regency. *J Collaborative Science*. 2019;1(1).
- Medical Waste Management in Indonesia is Not Yet Maximum. Gadjah Mada University. 2019.
- World Health Organization. environmental health. WHO. 2023.
- Anisa. The Relationship between Level of Education, Knowledge and Attitudes with Medical Waste Management Actions at Hadji Boejasin Pelainhari Regional Hospital in 2021. Banjar Masin; 2021.
- Kristanti W, Susmeneli H, Purnawati Rahayu E, Sitohang N, Masyarakat K. Management of Solid Medical Hazardous and Toxic Waste (B3). *Higea J Public Heal Res Dev* [Internet]. 2021;5(5). Available from: <http://journal.unnes.ac.id/sju/index.php/higeia>
- Minister of Health of the Republic of Indonesia. Regulation of the Minister of Health of the Republic of Indonesia Number 18 of 2020. 2020; Available from: <http://repository.radenintan.ac.id/11375/1/PERPUS> [PUSAT.pdf%0Ahttp://business-law.binus.ac.id/2015/10/08/pariwisata-syariah/%0Ahttps://www.ptonline.com/articles/how-to-get-better-mfi-results%0Ahttps://journal.uir.ac.id/index.php/kiat/article/view/8839](http://business-law.binus.ac.id/2015/10/08/pariwisata-syariah/%0Ahttps://www.ptonline.com/articles/how-to-get-better-mfi-results%0Ahttps://journal.uir.ac.id/index.php/kiat/article/view/8839)

- Kristanti W, Susmeneli H, Purnawati Rahayu E, Sitohang N, Masyarakat K. Management of Solid Medical Hazardous and Toxic Waste (B3). *Higea J Public Heal Res Dev* [Internet]. 2021;5(5):426–40. Available from: <http://journal.unnes.ac.id/sju/index.php/higeia>
- Masruddin M, Yulianto B, Mulasari SA, Sari SI. Facility B3 Waste Management Health Services (Solid Medical) at Public Health Centers X. *PREPOTIF J Community Health*. 2021;5(1).
- Agpina P, Furqan. Implementation of the Medical Waste Management System at Dr. Pirngadi, Medan City. *Heal Inf J Researcher* [Internet]. 2023;15. Available from: <https://myjurnal.poltekkes-kdi.ac.id/index.php/hijp/article/view/947>
- Nurrinda Sari S, Kahar K. Overview of Solid Medical Waste Handling at the Gunung Putri Public Health Center, Bogor Regency in 2023. *J Diskurs Ilm Health*. 2023;1(2).
- Kristanti W, Susmeneli H, Purnawati Rahayu E, Sitohang N, Masyarakat K. Management of Solid Medical Hazardous and Toxic Waste (B3). *Higea J Public Heal Res Dev* [Internet]. 2021;5(5). Available from: <http://journal.unnes.ac.id/sju/index.php/higeia>
- Amrullah AA. Analysis of Public Health Center Medical Waste Management in Babulu District, North Penajam Paser Regency. *Husada Mahakam J Health*. 2019;4(8).
- Masdi MH. Evaluation of Medical Waste Management at Zainoel Abidin Regional General Hospital Banda Aceh [Internet]. Ar-Raniry State Islamic University. Banda Aceh; 2019. Available from: <https://repository.ar-raniry.ac.id/id/eprint/5588/>
- Ningsih NA, Fera D. Evaluation of B3 Medical Waste Management at the Singkil Health Center, Aceh Singkil Regency. 2022;2.