

Knowledge and Attitude of Nurses in Surgical and in-Hospital Area of Raden Mataher Hospital to Medical Waste Picks

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ABSTRACT

During the operation of hospitals, various types of waste are generated in the form of liquid, solid, and gaseous substances. Medical waste must be handled correctly and safely to ensure the health and safety of staff and other people in the hospital environment. The management of hospital waste, especially the sorting of medical waste, must have the consistent goal of protecting the population from environmental pollution threats caused by hospitals. Medical waste sorting requires advanced knowledge and attitude of nurses, the purpose of this study is to find out the knowledge of nurses about medical waste sorting and the attitude of nurses about medical waste sorting. The management of medical waste must be handled appropriately and safely to ensure the safety of health professionals and workers and others in the hospital environment. The design of this study was descriptive and quantitative and included 71 nurses as head nurses and team leaders in surgical and inpatient settings. The total sampling technique was 71 nurses. Data collection was done by distributing questionnaires to the respondents. This study showed that 71 respondents with high knowledge sorted medical waste well and 49 (69%) had a good nursing attitude, 47 (66.2%) respondents sorted medical waste well. The analysis showed that a p-value of 0.01 was obtained for the relationship between medical waste sorting knowledge and nurses' attitudes towards medical waste sorting. Most of the nurses had high knowledge and good attitudes about medical waste management. In addition, it was necessary to increase the socialization of dangerous and toxic waste (B3) carried out by the hospital to improve the knowledge and attitudes of nurses in the sorting of medical waste.

Keywords: *Attitudes, Information, Medical Waste*

1. INTRODUCTION

Health workers, especially nurses, as providers of health services to hospital patients and generators of medical waste, have a high risk of accidents and the spread of diseases, therefore they are the first in contact with medical waste. and producers of medical waste [1]. Healthcare waste is a special category of waste and it is now known that some of the wastes are the most hazardous and dangerous of the pollutants generated in society. These wastes can include sharps, non-sharps, blood, body parts, chemicals, drugs, medical devices, radioactive materials and other biological wastes [2].

Hospital operations generate various wastes in the form of liquid, solid and gaseous substances. This requires continuity in use, including hospital waste sorting, with the aim of protecting the population from the dangers of environmental pollution caused by hospitals. Exposure to hospital waste carries a high risk of contracting serious viral infections such as HIV/AIDS and hepatitis B and C. Healthcare workers, especially nurses, are at greatest risk of infection due to injuries caused by contaminated sharps (usually syringes). [3].

According to the 2018 data of the World Health Organization (WHO), the waste generated by the activities of health services constitutes about 85% of the general waste, 15% of the waste is

considered hazardous material that can be infectious, toxic or radioactive. Of the waste generated in healthcare, 15% is infectious waste or body tissue waste, 1% sharp waste, 3% chemical and pharmaceutical waste, and 1% genotoxic and radioactive waste. Developing countries generate 0.5 kg of hazardous waste per hospital bed per day, while developing countries produce 0.2 kg of waste per hospital bed per day.

Hospitals generate a large amount of medical waste every day, which is often toxic, including solid waste, and medical and non-medical waste. In 2022, based on the information received from the health service of the city of Jambi, it was found that the mass of medical waste produced by health institutions, including health centers and hospitals, was 12,420.1 tons in 2022, and medical waste [4]. The management of health facilities in Jambi Province aims to reach 100%. However, based on the information received from the Raden Mattaher Regional Hospital, the amount of B3 waste in 2022 is 112,000.0 kg per year.

Places that generate medical waste come from the emergency department, ward, intensive care unit, outpatient clinic, laboratory, pharmacy, radiology and almost all facilities that support health services [5]. Toxic medical waste includes used cooking fluids and used disinfectant bottles. Medical waste can cause occupational accidents and the risk of spreading diseases to both nurses and all persons involved in hospital management, as well as patients and hospital visitors. Health professionals are people who work in the health sector and have knowledge and skills acquired through education in the health field and whose achievements require some authority to fulfill their duties [6]. Healthcare workers include several doctors, nurses, midwives, nutritionists, physiotherapists, occupational therapists, radiographers, health analysts and others. A nurse is a person who has the knowledge, skills and authority to provide help to other people within the limits of their competence based on their knowledge [7].

For the first time, the role of nurses is very important in the management of medical waste, this role is demonstrated by nurses such as injections, establishment of intravenous fluids, change of intravenous fluids, establishment of urinary catheters, treatment of patients. injuries and giving medicines. Nurses play an important role in storing temporary medical supplies before they are collected by hospital waste management officers and transported to the final storage area, ie. the incinerator [8].

Handling of solid medical waste must be done correctly and safely. Handling of solid medical waste must be immediately improved to ensure the health and safety of staff and other people in the hospital environment [9]. Health workers, who are the generators of medical waste in the activities of health services and also those who come into direct contact with medical waste, play an important role in the management of medical waste [10]. The success of the waste treatment process is one of the most important factors that is influenced by the attitudes and knowledge of health professionals. If the attitudes and knowledge of health workers are good and correct when doing waste management work, it affects the success of medical waste processing and reduces problems arising during the waste management process [11]. Based on the above description, the researchers are interested in conducting a study on the topic "Relationship between knowledge level and attitude of nurses on medical waste sorting in surgical and indoor rooms of Regional Hospital Raden Mattaher Jambi".

2. METHODS

This study uses a correlational quantitative method with a cross-sectional method. The study was conducted at Raden MattaHer Hospital Jambi surgical and internal wards from September 2023 to February 2024. The population of the study was all nurses working in Raden MattaHer Hospital Jambi operating and internal wards, i.e. 35 nurses in 2024. operating theater and 36 nurses in the inner room. The sampling method used in this study was total sampling, ie. all surgical and in-house nurses at Raden MattaHer Hospital Jambi who met the inclusion and exclusion criteria, viz. 71 nurses. The instrument used in this work is a questionnaire that contains questions about independent variables, i.e. level of knowledge (X1), nurse's attitude (X2) and dependent, i.e. medical waste sorting (Y). This knowledge level questionnaire was taken from a waste sticker of the Raden MattaHer hospital with a total of 13 questions and the researchers adapted it with two questions from a study done by Ivana Della in 2022, then the attitude questionnaire was taken by a doctor. Raden MattaHer Hospital Garbage Label This is adapted to attitudes adopted after nursing work, consisting of 15 statements on a Likert scale, the knowledge level questionnaire is taken from the Raden MattaHer Regional Hospital Hospital Garbage Label. This study is based on the activities of nurses in removing waste after nursing work. Before using the questionnaire as a research instrument, it was first tested for validity and reliability at H Abdul Manap Hospital in Jambi City. Data analysis was performed by univariate analysis to determine the relationship between dependent and independent variables using Chi Square analysis with a significance level (α) < 0.05 processed by a computer system.

3. RESULTS AND DISCUSSION

3.1 Univariate Analysis

1. Frequency distribution of respondent characteristics.

Table 1. Frequency distribution of respondent characteristics.

Characteristic	Information	Frequency (f)	Percentage (%)
Age	<25 year	12	16,9
	26-35 year	43	60,6
	36-45 year	13	18,3
	46-55 year	3	4,2
	Amount	71	100%
Gender	Men	14	19,7
	Women	57	80,3
	Amount	71	100%
Lama Kerja	<5 year	31	43,7
	6-10 year	23	32,4
	11-20 year	13	18,8
	>21 t	4	5,6
	Amount	71	100%
Last Education	D3 Ners	33	46,5
		38	53,3
	Amount	71	100%

Work Unit	Surgery	36	50,7
	Interna	35	49,3
	Amount	71	100%

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Characteristic	Information	Frequency (f)	Percentage (%)
Waste Socialization	Ever	39	54,9
	Never	32	45,1
	Amount	71	100%
Room Position	Team Leader	10	14,1
	Associate Nurse	61	85,9
	Amount	71	100%

Source: Processed Primary Data (2024)

Based on Table 1, it turns out that out of 71 respondents, the characteristics of the respondents are the largest in terms of age, i.e. ≤ 30 years, 33 people (46.5%), the largest sex, i.e. women, 54 people (76.1%), the longest number of years of work, namely.

2. Frequency distribution of respondents based on information, attitudes, and medical waste sorting

Table 2. Frequency distribution of respondents based on information, attitudes and medical waste sorting

Knowledge Level	Frequency (f)	Percentage (%)
High	52	73,2
Middle	15	21,1
Lower	4	5,6
Attitude	Frequency (f)	Percentage (%)
Good	50	70,4
Enough	21	29,6
Not Enough	0	0
Medical Waste Sorting	Frequency (f)	Percentage (%)
Good	56	78,9
Not Good	15	21,1

Source: Processed Primary Data (2024)

Based on table 2 it can be seen that most of the respondents have advanced knowledge about medical waste sorting, ie. 52 (73.2) of the respondents, and most of the respondents also have a good attitude towards medical waste sorting, namely 50 (70.4%) of the respondents and some Most of the respondents had a good waste sorting, i.e. 56 (78.9) respondents.

3.2 Bivariate Analysis

1. Relationship of the knowledge level of nurses with medical waste sorting

Table 3. Relationship of the knowledge level of nurses with medical waste sorting

Level Of Knowledge	Medical Waste Sorting					
	Good		Not Good		Total	
	f	%	f	%	f	%
High	49	69	3	11	52	73,2%
Middle	6	11,8	9	3,2	15	21,1
Lower	1	1,4	3	4,2	4	5,6
Total	56	78,9%	15	21,1%	71	100%

Source: Processed Primary Data (2024)

Table 3 shows that out of a total of 71 respondents, it was found that most of the nurses had a high level of knowledge, 52 (73.2%) of the respondents knew how to sort medical waste well, and 15 (21.1%) of the respondents There were moderate and least experienced respondents on medical waste sorting namely 4 (5.6%) in medical waste sorting.

Chi-square test results showed that $p = 0.001 < \alpha = 0.05$, so H_0 was rejected and H_a was accepted, which means that there is a significant relationship between medical waste sorting and surgical knowledge and internal waste sorting. Raden Mattaher Hospital Jambi Wards 2024.

2. Relationship of nurses' attitude to medical waste sorting

Table 4. Relationship of nurses' attitude to medical waste sorting

Attitude	Medical Waste Sorting					
	Good		Not Good		Total	
	f	%	F	%	f	%
Good	47	66,2	3	4,2	50	70,4
Enough	9	12,7	12	16,9	21	29,6
Not Enough	0	0	0	0	0	0
Total	56	78,9%	15	21,1%	71	100%

Source: Processed primary data (2024)

Based on Table 4, it can be seen that out of 71 respondents, the attitude of most of the nurses was good, 50 (70.4%) of the respondents had a fair attitude towards medical waste sorting, and 21 (29.6%) of the respondents had a righteous attitude.

The results of the Chi-square test showed that $p = 0.001 < \alpha = 0.05$, so H_0 was rejected and H_a was accepted, which means that there is a significant relationship between attitudes about sorting medical waste in operating and inpatient settings. premises at Raden Mattaher Hospital Jambi 2024. \

The World Health Organization (WHO) reported in 2018 that of the total amount of waste generated in healthcare, 85% of general waste is non-hazardous, while 15% is considered hazardous because it can be infectious, toxic, and radioactive. 4 Based on this, although the vast majority of waste is considered non-hazardous, knowledge of medical waste sorting is very important for health workers, especially nurses, who deal a lot with patient as a source of dangerous infections that can threaten the hospital. environment and the community surrounding the hospital [12].

The success of medical waste management is one of the most important attitudinal factors. If the attitude of health workers about sorting waste is good and correct, it affects the success of medical waste processing and reduces the waste generated during the waste management process. Waste management efforts can affect nurses' attitudes towards medical waste management, which requires follow-up or warning if an error occurs in the disposal of medical waste after the

introduction of nursing so that they can take it with them after the procedure is completed. . sorted out waste properly. One step that can be taken is to provide training or counseling as a training method especially to nurses so that nurses can dispose of medical waste correctly and appropriately [3].

The attitude of nurses is shown by the behavior of nurses who continue to associate soft medical waste with recycling, which shows that nurses are still not fully aware of how to protect the surrounding environment for themselves, other healthcare workers, patients, visitors, and other workers. , especially the attendants who transport the waste before it is processed, properly sorting the medical waste after the nursing work done in the hospital.

In this case, nurses can sort out which waste belongs to medical waste, safes (for sharp and hard objects) and non-medical waste. Although there are still nurses who sort medical waste in the poor category, nurses are generally able to sort medical waste, which is reflected in the behavior of nurses when they know how to put infusions and medicines. the packages they put in the medical waste. trash can black the importance of nurses in sorting waste creates a comfortable environment in a hospital environment. Regulation of the Minister of Health of the Republic of Indonesia nr. In the requirements of 1204/MENKES/SK/X/2004 on environmental health requirements for hospitals when sorting medical waste, it is possible to invest in waste sorting, which must be carried out from the source that generates it. If in this case one of the main sources of medical waste is from the hospital site.

CONCLUSION

In this work, the author can conclude that the knowledge and attitude of nurses about medical waste sorting is generally good. This can be seen from the research results, which explain the competence of nurses in the sorting of medical waste at a high level. and their attitude towards medical waste sorting is good.

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