

Analysis of Factors Affecting Officer Behavior in Management of Medical Waste in General Hospital Regional District Deli Serdang

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Abstract: Health services shall be the right of every person guaranteed by the 1945 Constitution of the State of the Republic of Indonesia which shall be realized with an effort to improve the highest degree of public health. Hospitals as a means of health services, a gathering place for the sick and healthy people, or can be a place of disease transmission and allow the occurrence of environmental pollution and health problems, so to avoid risks and health problems need to organize the health of the hospital environment according to health requirements by doing waste management or clinical and non-clinical waste both solid and liquid resulting from hospital activities and other supporting activities so that hospital sanitation is maintained which is supported by good officer behavior. Based on the above matters and in order to to examine more deeply from the point of view of the behavior of medical personnel, the authors are interested in conducting research with the title "Analysis of Factors Affecting Officer Behavior in Medical Waste Management at Regional General Hospital Deli Serdang District". This research uses Multiple Regression Analysis tool which operated through SPSS program. Respondents in the study were hospital medical personnel, as many as 78 respondents. Methods of data collection through the distribution of questionnaires. The purpose of this study is to analyze the factors that influence the behavior of officers in the management of medical waste in RSUD Deli Serdang District. The results showed that partially as well as simultaneous variables Knowledge, Attitudes and Action have a positive and significant impact on Medical Officer Behavior. Furthermore the results of the Coefficient of Determination indicate that the variables Knowledge, Attitudes and Actions have an effect of 74.90% of the Behavior variable so it can be concluded that the independent variables have a strong degree of relationship with the dependent variable.

1 INTRODUCTION

Based on Law Number 44 Year 2009 on Hospital in Article 1, it is explained that the hospital is a health service institution that provides full range of personal health services providing inpatient, outpatient and emergency care services.

According to the MOH RI (2009) that the hospital is a health facility for the gathering of the sick and healthy people and can be a place of disease transmission and allow the occurrence of environmental pollution and health problems. According to WHO (2000), the definition of a hospital is a business state that provides lodging that provides short and long-term medical services consisting of observation, diagnostic, therapeutic and rehabilitation for people suffering from illness,

injury and those who are willing to give birth and are all affected by a safe environment. Chandra (2007) said that the waste generated is a distinct threat to environmental sustainability and for public health if the effluent quality of hospital waste does not meet the hospital waste requirements because it contains various microorganisms causing human diseases such as typhoid fever, cholera, dysentery and hepatitis so that hospital waste must be processed before discharge into the environment. The Director General for PPM & PL (2002) said that waste and hospital waste are all waste and waste generated by hospital activities and other supporting activities. In general, waste and hospital waste are divided into two major groups, in general rubbishor liquid waste or clinical and non-clinical waste. Arifin (2008) says that hospital waste as well as

other wastes will contain organic and inorganic materials, whose levels of content can be determined by commonly used water tests such as BOD, COD, pH, microbiologic, and others. One of the activities of hospital is sanitation of hospital so one of the effort done by hospital for hospital sanitation service is waste management (Nugroho and Trihadiningrum, 2007). Midwife practice, practice of doctors and dentists, clinics, maternity homes also release little infectious waste (infected B3) byproducts (Permenkes RI, 2004). Waste management is one of the strategic aspects of the hospital, because with good waste management will create a good image for the hospital so that knowledge, attitude, behavior and behavior of medical personnel are needed. Behavioral factors become the basis of successful hospital waste management. This is in line with the results of research from Okky Assetya Pratiwi, et al (2013) indicates that liquid waste management officers with good behavior will be able to contribute and a considerable influence in the management of liquid waste.

2 THEORETICAL STUDIES

Hospitals as a means of health improvement efforts that carry out health services as well as educational institutions of health and research personnel, it has a positive and negative impact on the surrounding environment so that the need for environmental sanitation efforts of hospitals that aims to protect the public and hospital officials will the danger of pollution environment that comes from hospital waste (Darmadi, 2008). Environmental problems are closely related to the health world. To achieve a healthy society needs a good environment as well. In this case the hospital as a health facility must also pay attention to the linkage. On the other hand, the hospital can also be said to be a waste donor because the waste comes from medical and non-medical activities that are both dangerous and toxic (Paramita, 2007). The same is also conveyed by Sutarjo *et al* (2015) who said that the hospital is one of the waste generators. To prevent outbreaks of an infectious disease sanitation is a way of breaking the chain from the source. Sanitation is a public health effort that focuses on the mastery of various environmental factors that affect the degree of health (Arifin, 2008). The sanitation program in the hospital consists of building and room sanitation, food and beverage sanitation, water sanitation, sanitary washing, insect and mouse control, sterilization/disinfection, radiation protection,

environmental health counseling, nosocomial infection control, and waste / waste management (Adisasmito, 2009). Required policies according to health and safety management by carrying out the management and monitoring activities of hospital waste as one of the important indicators that need attention (Adhitama, 2006). OzderAclan, *et al* (2013) says that the medical waste management of hospitals is very important because medical waste has various health risks for anyone so that knowledge, attitude, behavior and behavior of medical officers in the improvement.

2.1 Knowledge

According to Bachtiar *et al* (2008) knowledge is formed by influenced by internal factors such as age and intelligence and external factors namely education, environment, experience, information, and people who are considered important. Knowledge and attitudes arise because of the influence of the environment and or through the learning process. Learning process will affect learning outcomes in the form of changes in knowledge and attitude (Notoatmodjo, 2007). Soediharti (2012) said that the knowledge of nurses in performing medical waste disposal determined the level of education and age. Azwar (2005) says that someone who has a good knowledge of waste management will have good behavior as well. Knowledge can be obtained from both formal and non-formal education and requires a complex cognitive process so that to know the level of knowledge a person can be test or interview using a questionnaire (Prawitasari, 2008). According to Green (2001) that education is one of the actors who became the basis for action and with a fairly high education in expecting to have good knowledge.

2.2 Attitude

Attitude is a way of looking at life, a way of thinking, feeling and acting. Therefore, attitude will vary according to the pattern of his life. Azwar (2003) argues that attitudes affect behavior through a careful and reasoned decision-making process so that a person will do an action if he or she is positive and if they believe others want to do it. In another section Allport (in Notoatmodjo, 2003) explains that the attitude has three main components, namely: a) Beliefs (beliefs), ideas and concepts of an object. b) Emotional life or evaluation of an object and c) tendency to act (tend to behave). Dayakisni and Hudaniah (2003) say that the attitude of the

individual is the beginning of the realization of individual actions or behavior. Furthermore Yusran (2008) said that a positive attitude is assessed as a determinant of the level of compliance with principles. Fauzul (2015) said that attitude is a very important domain in shaping one's actions (overt behavior). According Notoatmodjo (2007), that in determining the whole attitude, knowledge, thoughts, beliefs and emotions play an important role. Measurement of attitude can be done directly or indirectly. Directly can be expressed through the opinion or statement of the respondent to an object, while indirectly can be done with hypothetical questions, then asked the opinion of the respondents (Walgito, 2014).

2.3 Action

Attitudes will be reflected in the form of action but it cannot be said that attitudes and actions have a systematic relationship because it is influenced by various other factors such as supporting factors and drivers (Notoatmodjo, 2007; Siagian, 2004). Helwi (2002) said that there is a significant relationship between the actions of respondents with the behavior of respondents to the handling of medical waste. Notoatmodjo (2003) says that action is a movement / action of the body after getting stimulus or adaptation from within the body or outside the body or the environment. The results of a study conducted by Bachroen (2006) show that there are still some officer actions that potentially increase the transmission of the disease to themselves, the patients served and the wider community, among others (1) improper hand washing; (2) inappropriate use of gloves; (3) unsafe resection of the syringe; (4) safe disposal of sharp appliances; (5) decontamination techniques and equipment sterilization are less precise; (6) inadequate clean room practices.

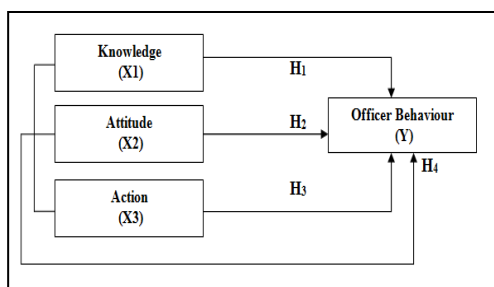


Figure 1: Thinking Framework.

2.4 Behavior

The behavior of officers involved in the liquid waste management system is related to several factors, namely predisposing factors, supporters and drivers (Notoatmodjo, 2007). Nahampun (2009) said that the predisposing factors and boosting factors or drivers are the factors that influence the compliance of officers in running the hospital waste water management in accordance with the fixed procedures. Furthermore, Nahampun (2009) said that the rules that fall into the predisposing factors affect the behavior of a person. Meanwhile, according to Okky, *et al* (2013), that education, knowledge, attitude, action, regulation and supervision have significant relation with behavior of waste management officer.

3 RESEARCH RESULT

Deli Serdang General Hospital is the only General Hospital owned by the Government of Deli Serdang Regency and is a Service Referral Center with Class B Non-Education status under the Decree of the Minister of Health of the Republic of Indonesia No. 405 / MENKES / SK / IV / 2008 dated 25 April 2008 and has achieved Full Accreditation of Service 16 Year 2011 according to SK Director of RSUD Deli Serdang No: 800.110 / SK / I / 2011. On December 30, 2016 graduated with a 4-star major level of KARS with Number: Kars-Sert / 361 / X11 / 2016 as RSUD Type B based on Kepmenkes RI Number: 405 / Menkes / SK / IV / 2008. RSUD Deli Serdang is equipped with Facilities and Infrastructure of Medical Service such as Emergency Installation which consists of Intensive Care / Intensive Care Unit (ICU, NICU and PICU), Central Surgery Theater (IBS) / Central Operation Theater (COT), Inpatient Installation, Outpatient Installation (Outpatient Service in Polyclinic), Medical Support Facilities and Infrastructure, Other Infrastructure Facilities and Public Service Facilities

3.1 General Characteristics of Respondents

Table 1: Identify Respondents by Age.

| No | Description | Amount | % |
|--------------|--------------|-----------|---------------|
| 1 | < 20 Year | - | - |
| 2 | 21 - 30 Year | 11 | 14,10 |
| 3 | 31 - 40 Year | 23 | 29,49 |
| 4 | 41 - 50 Year | 30 | 38,46 |
| 5 | > 51 Year | 14 | 17,95 |
| Total | | 78 | 100,00 |

Source: Primary Data Processed (2018)

Number of respondents with age ranged 41-50 years more dominant as many as 30 people (38.46%).

Table 2: Identify Respondents by Status.

| No | Description | Amount | % |
|--------------|-------------|-----------|---------------|
| 1 | Married | 75 | 96,15 |
| 2 | Not Married | 3 | 3,85 |
| Total | | 78 | 100,00 |

Source: Primary Data Processed (2018)

The number of respondents with married status is more dominant as many as 75 people (96.15%).

Table 3: Identify Respondents by Sex:

| No | Description | Amount | % |
|--------------|-------------|-----------|---------------|
| 1 | Man | 55 | 70,51 |
| 2 | Woman | 23 | 29,49 |
| Total | | 78 | 100,00 |

Source: Primary Data Processed (2018)

The number of respondents with male sex is more dominant by 55 people (70,51%).

Table 4: Identify Respondents by Education.

| No | Description | Amount | % |
|--------------|-------------|-----------|---------------|
| 1 | SD | - | - |
| 2 | SMP | 5 | 6,41 |
| 3 | SMA/SMU/SMK | 12 | 15,38 |
| 4 | D3 | 20 | 25,64 |
| 5 | S1 | 39 | 50,00 |
| 6 | S2 | 2 | 2,56 |
| 7 | S3 | - | - |
| Total | | 78 | 100,00 |

Source: Primary Data Processed (2018)

Number of respondents with S1 education looks more dominant as many as 39 people (50.00%).

3.2 Number of Medical Waste Generated by Deli Serdang Regional Hospital

Based on the data obtained that the volume of solid medical waste generated in total averaged per day is 254,01 kg/day.

Table 5: Amount of Medical Waste Resulted.

| Day | Morning (Kg) | Afternoon (Kg) | Total (Kg) |
|--------------------|-----------------|----------------|-----------------|
| 1 | 210,53 | 48,45 | 258,98 |
| 2 | 188,09 | 47,56 | 235,65 |
| 3 | 246,93 | 49,61 | 296,54 |
| 4 | 173,17 | 48,59 | 221,76 |
| 5 | 183,03 | 46,72 | 229,75 |
| 6 | 198,08 | 47,81 | 245,89 |
| 7 | 240,19 | 49,32 | 289,51 |
| Amount | 1.440,02 | 338,06 | 1.778,08 |
| Average/Day | 205,72 | 48,29 | 254,01 |

Source : RSUD Deli Serdang (2018)

3.3 Implementation of Medical Waste Management RSUD District Deli Serdang

RSUD district Deli Serdang in its operational activities produce medical waste with the following processing stages:

1. Operational Engineering

In waste management at RSUD district Deli Serdang, the process of sorting and collection is done by officers from each unit (medical officer). While the process of removal, transportation and final disposal is done by waste (non-medical) personnel.

a) Sorting

Segregation of waste is carried out by the officer's present in each waste generator unit (unit officer). In the implementation, waste sorting into two categories, namely medical waste and non-medical waste. All waste places owned by the hospital are distinguished between medical waste and non-medical waste. The plastic coating bag used for medical waste is red. Plastic coating bags are always installed and replaced every day when the waste bin is emptied

b) Collection

The collection is distinguished in two containers, namely for medical waste in the form of a red covered bucket marked "medical waste" lined with a yellow plastic bag labeled "medical waste" and for non-medical waste in the form of a gray-covered tub. The medical waste site varies in addition to the bucket form (bucket) as well as the

form of the stepping stool and the plastic waste place without lid. Hospitals use medical waste containers made of strong, lightweight, rustproof, water-resistant materials, smooth surfaces on the inside, and have a lid that is easily opened and closed again. There is at least one waste place in each installation room. Each medical waste contained in a plastic bag as a medical waste wrapper. Plastic bags are transported daily. However, in reality there is still mixed waste, whether it is medical waste in a non-medical waste place or otherwise non-medical waste discharged in medical waste. The behavior of officers from each unit influences the collection process.

c) Displacement

Moving is done by cleaning service, on medical waste, waste is taken along with yellow plastic bag without first tied directly inserted into the open trolley. Unlicensed plastic bags and open trolleys allow medical waste to scatter especially when passing uneven roads. While non-medical waste is moved from the waste basin by pouring directly into the drum, because it is not coated black plastic bag then when moving the waste there is the possibility of waste scattered. Wastewater is also often used to suppress waste so that more in the drum so that the exterior of the waste tub becomes dirty.

d) On Site Transportation

On site transport is the transport carried out at the starting point to the temporary shelter. Medical waste from each room is transported by medical waste carts. Garbage carts used to transport medical waste that has been separated by non-medical waste. Medical waste carts have a flat, watertight inner surface, easy to clean and dry, medical waste easily loaded and emptied. No sharp edges can damage bags or containers during loading or unloading. Medical waste carts are washed 3 days. Freight is made daily with a frequency of 1x/ day. Transportation is done by cleaning service, in handling the medical waste the cleaning service is using Personal Protective Equipment (APD) as complete as rubber hands-on, mask cover nose, hat/helmet, boots and special work clothes.

e) Temporary shelter

Medical waste originating from the medical service unit, covers the wardinpatient,

outpatient and Emergency Unit (ER) are accommodated in temporary shelters before they are finally destroyed. The medical waste is accommodated or packed in a plastic bonded coating bag. Temporary shelter locations of medical waste are located far away from food and food storage locations. The distance between the temporary shelters and the food storage location and the food storage \pm 50 meters. Supplies for hygiene kits (brooms, waste containers) protective clothing, plastic coating bags for packing medical waste in a sanitary room where the site is close enough to temporary medical shelter locations. The location or area of the temporary shelter can be locked to prevent unauthorized entry. The existing medical waste at the temporary shelter is packed using a plastic coating bag before being transported by the carrier. Medical waste transport is done by using open trolleys without drum to the TPS (temporary shelter) near the incinerator before being burned twice a day that is in the morning and afternoon, while transporting non-medical waste is done by using sulo and trolley drum is brought to the TPS hospitals 3 times a day that is in the morning, afternoon, and evening. The path used to transport waste in RSUD Deli Serdang District is still the same as the common path or path used for patients, visitors, food delivered to patients, and others. medical waste trolleys are not closed and waste plastic bags are not tied up so that germs present in medical waste can spread when transport is made to people who can cause nosocomial infections.

f) Off site transport

Offshore transport is the transport carried out at the point of temporary shelter out of the hospital. Medical waste in the shelter while medical waste is transported out of the hospital. Transportation of hospital medical waste using vehicles where in the vehicle there is no barrier or boundary to separate the medical waste with other materials.

g) Final Disposal / Destruction

The final disposal of medical waste is carried out by incinerator combustion and the ash of combustion ash is taken by DKP once every 3 months, while non-medical waste from TPS is taken by DKP 2 times a week. Incinerator capacity owned by RSUD district Deli Serdang is 1 m of medical waste transport

per day in the morning is 3 trolley and lunch is 1 trolley, so 1 trolley is inserted in incinerator, after most of it burns and becomes ash then the next result of transport is just included in incinerator for burning. Incinerator has capacities: 80 kg, temperature: 800-13000 °C, kerosene fuel, working time regulation: 1 hour, electricity: 500W / 220W. Medical waste category of sharp objects such as syringes, mess slides, medicine bottles burned with a temperature of 800-13000 °C while the medical waste in the form of cotton, kassa, plaster, hands-on burned with a temperature of 500-8000 °C. The burning of medical waste is done 1 time a week depending on the medical waste generated a lot or a little. In one combustion process conducted in one day, that is to enter medical waste into the incinerator is done once from all medical waste generated from each installation room.

2. Management Unit

Waste management unit in Deli Serdang District Hospital is Hospital Sanitation Installation. In practice, hospital waste management is carried out by all waste generating units in collaboration with cleaning service and monitored by hospital sanitation installations. Waste generating units as waste sorting and collection, cleaning service as waste removal, and sanitation personnel as monitors and are responsible for the final handling of medical waste.

3.4 Cross Tabulation Analysis

1. Knowledge Variable on Behavior Variable

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|-------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 37,397 | 4,520 | | 8,274 | ,000 |
| | PENGETAHUAN | ,071 | ,109 | ,074 | 2,646 | ,000 |

a. Dependent Variable: PERILAKU

The table shows that the calculated value of Knowledge variables is 2,646 while the table is worth 1.99. This means calculated > table that is 2.646 > 1.99 so it can be concluded that the variable Knowledge is positive and significant effect on the variable Behavior.

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|--------------------|-----|-----------------------|
| Pearson Chi-Square | 2,183 ^a | 169 | ,000 |
| Likelihood Ratio | 3,304 | 169 | ,986 |
| Linear-by-Linear Association | ,420 | 1 | ,517 |
| N of Valid Cases | 78 | | |

a. 196 cells (100,0%) have expected count less than 5. The minimum expected count is ,01.

Based on the result of Chi Square Test, the value is 0.00 so p value is less than $\alpha = 0,05$ so it can be concluded that there is a significant correlation between Knowledge to Behavior.

2. Attitude Variables on Behavior Variables

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|--------------------|-----|-----------------------|
| Pearson Chi-Square | 2,011 ^a | 156 | ,000 |
| Likelihood Ratio | 4,538 | 156 | ,715 |
| Linear-by-Linear Association | 8,337 | 1 | ,004 |
| N of Valid Cases | 78 | | |

a. 182 cells (100,0%) have expected count less than 5. The minimum expected count is ,01.

Based on the result of Chi Square Test, the value is 0.00 so p value is less than $\alpha = 0,05$ so it can be concluded that there is a significant relationship between Attitude to Behavior.

3. Variable Measures on Behavior Variables

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|--------------------|-----|-----------------------|
| Pearson Chi-Square | 2,011 ^a | 156 | ,000 |
| Likelihood Ratio | 4,538 | 156 | ,715 |
| Linear-by-Linear Association | 8,337 | 1 | ,004 |
| N of Valid Cases | 78 | | |

a. 182 cells (100,0%) have expected count less than 5. The minimum expected count is ,01.

Based on the result of Chi Square Test, the value is 0.00 so p value is less than $\alpha = 0,05$ so it can be concluded that there is a significant correlation between Measures to Behavior.

3.5 Hypothesis Testing

1. Test t (Partial Test)

a. Knowledge Variable (X₁) to Behavior Variable (Y)

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficient | t | Sig. |
|-------|------------|-----------------------------|------------|--------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 37,397 | 4,250 | | 8,274 | ,000 |
| | Knowledge | ,071 | ,109 | ,074 | 2,646 | ,000 |

a. Dependent Variable : Behaviour

The table shows that the calculated value of Knowledge variables is 2,646 while the table is worth 1.99. This means $t_{calculated} > t_{table}$ that is $2.646 > 1.99$ so it can be concluded that the variable Knowledge is positive and significant effect on the Behavior variable.

- b. Attitude Variable (X_2) to Behavior Variable (Y)

| Model | | Unstandardized Coefficients | | Standardized Coefficient | t | Sig. |
|-------|------------|-----------------------------|------------|--------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 26,449 | 4,574 | | 5,782 | ,000 |
| | Attitude | ,340 | ,112 | ,329 | 3,038 | ,000 |

Dependent Variable : Behaviour

The table shows that the calculated value of Attitude variable is 3.038 while the table is worth 1.99. This means $t_{calculated} > t_{table}$ that is $3.038 > 1.99$ so it can be concluded that the variable attitude is positive and significant effect on the Behavior variable.

- c. Action Variable (X_3) to Behavior Variable (Y)

| Model | | Unstandardized Coefficients | | Standardized Coefficient | t | Sig. |
|-------|------------|-----------------------------|------------|--------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 28,294 | 3,978 | | 7,112 | ,000 |
| | Action | ,295 | ,097 | ,328 | 3,130 | ,000 |

Dependent Variable : Behaviour

The table shows that the calculated value of the Action variable is 3.130 while the table is worth 1.99. This means $t_{calculated} > t_{table}$ that is $3.130 > 1.99$ so it can be concluded that the variable Action is positive and significant effect on the Behavior variable.

2. F Test (Simultaneous Test)

ANOVA^b

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1 | Regression | 110,313 | 3 | 36,771 | 4,303 | ,000 ^a |
| | Residual | 632,302 | 74 | 8,545 | | |
| | Total | 742,615 | 77 | | | |

a. Predictors : (Constant), Knowledge, Attitude, Action

b. Dependend Variable : Behaviour

The table shows that the F_{hitung} of Knowledge, Attitude and Action variable is 4.303 while F_{tabel} is 2.73. This means $F_{calculate} > F_{tabel}$ is $4.303 > 2.73$ so it can be concluded that the Knowledge, Attitude and Action variable is positive and has a significant effect on the Behavior variable.

3.6 Coefficient of Determination (Adjusted R²)

Based on the table it can be concluded that the variables Knowledge, Attitudes and Actions have an effect of 74.90% against the Behavior variable, while 25.10% influenced other variables that are not examined. Since the R Square (R^2) value is in the interval 0.60 - 0.79 it can be concluded that the independent variables have a strong degree of relationship with the dependent variable.

3.7 Discussion

The results of the study showed:

- Of the total medical waste production, the average 254,01 kg / day managed by RSUD Distric Deli Serdang is 231.56 kg/day on average, so the average of 22.45 kg of medical waste is not managed every day. The cause is not entirely medical waste managed because the number of human resources management of medical waste is still lacking because only handled by 8 officers. A Head of Sanitation Installation as responsible for the preparation of hospital waste management plan is assisted by 1 coordinator in charge of monitoring the implementation of waste management, 1 sanitation worker in charge of burning medical waste, and 5 cleaning service personnel in charge of transporting waste and if sanitation officer unable to enter work then replaced by cleaning service personnel. thus, causing shortage of cleaning service personnel to collect medical waste.
- Based on the result of Chi Square Test, the knowledge, attitude and action variable showed that there was significant correlation with officer behavior in medical waste management.
- Knowledge has a significant effect on Behavior. This is indicated by t test result with $t_{calculate}(2.646) > t_{table}(1.99)$. So the initial hypothesis which states that there is a significant influence of Knowledge Behavior to Behavior proved true. This supports the results of a study conducted by Sudiharti (2012) that Knowledge has a positive and significant impact on Behavior. The research results of Mary Magdalene, Yunita Wungo, Eni Mahawati and Eko Hartini (2013) also said that Knowledge has a positive relationship to Medical Waste Management Practice. This shows that the knowledge of the respondents about garbage, the type of garbage, the way of medical waste

disposal is good. Respondents are able to do waste sorting well. Factor of knowledge about waste is very important to be implanted on every officer who will do waste disposal hospital. One of the efforts to increase knowledge by providing training or counseling as a means of education, especially nurses to behave throw away medical waste in accordance with the place so as to reduce the impact of work accidents and nosocomial infections.

Table 6: Distribution of Medical Officer Knowledge in Medical Waste Management.

| Knowledge | Amount of Response | Percentage (%) |
|--------------|--------------------|----------------|
| Very Low | 0 | 0 |
| Low | 0 | 0 |
| Moderate | 9 | 11,54 |
| High | 51 | 65,38 |
| Very High | 18 | 23,08 |
| Total | 78 | 100,00 |

Source: Primary Data Processed (2018)

4. Attitudes have a significant effect on Behavior. This is indicated by t test result with $t_{calculate}(3.038) > t_{table}(1.99)$. So, the initial hypothesis which states that there is a significant effect of Attitudes toward Behavior attributes proved true. This supports the results of research conducted by Sudiharti (2012) that attitude has a positive and significant effect on Behavior. The research results of Mary Magdalene, Yunita Wungo, Eni Mahawati and Eko Hartini (2013) say that Attitudes have a positive relationship to Medical Waste Management Practice. Based on the results of research showed that the respondents working in RSUD Deli Serdang district have a good attitude towards the management of waste/ medical waste by not mixing between medical and non-medical waste. The attendant's willingness to dispose of medical waste in the hospital is done well. This is influenced by the attitude of the officer to pay attention to the specification of garbage dump, the dangers of garbage and the special supervision of the garbage management officer.

Table 7: Distribution of Medical Officer Attitude in Medical Waste Management.

| Attitude | Amount of Response | Percentage (%) |
|--------------|--------------------|----------------|
| Very Low | 0 | 0 |
| Low | 0 | 0 |
| Moderate | 11 | 14,11 |
| High | 51 | 65,38 |
| Very High | 16 | 20,51 |
| Total | 78 | 100,00 |

Source : Primary Data Processed (2018)

5. Actions have a significant effect on Behavior. This is indicated by t test result with $t_{calculate}(3.130) > t_{table}(1.99)$. So the initial hypothesis which states that there is a significant influence variable Measures against Behavior proved true. This supports the results of a study conducted by Komang Yudha Widiartha (2012) which says that actions have a positive and significant influence on Behavior. Based on the results of research shows that the respondents working in Deli Serdang District Hospital in the implementation of waste management has a good action on waste management/medical waste. Officers have performed proper sorting and collection of medical waste such as disposing of medical waste in the medical waste bin, installing and replacing the new plastic coating bag after the bin has been emptied. Officers' actions in sorting, collecting, sheltering and transporting and destruction in the conduct of medical waste management are as good as collecting medical waste from any room with the frequency of collecting from each room on a regular basis, separating medical and non-medical waste when collecting garbage from every room by separating the medical and non-medical waste collected from every room, disinfecting and cleaning the trash after the bins are emptied, disposing medical waste from every room to temporary shelters.

Table 8: Distribution of Medical Officer Action in Medical Waste Management.

| Action | Amount of Response | Percentage (%) |
|--------------|--------------------|----------------|
| Very Low | 0 | 0 |
| Low | 0 | 0 |
| Moderate | 18 | 14,10 |
| High | 57 | 44,60 |
| Very High | 25 | 19,30 |
| Total | 78 | 100,00 |

Source : Primary Data Processed (2018)

4 CONCLUSIONS AND SUGGESTIONS

4.1 Conclusion

- a. Of the total medical waste production, the average 254,01 kg/day managed by RSUD district Deli Serdang is 231.56 kg/day on average, so the average of 22.45 kg of medical waste is not managed every day.
- b. Knowledge variable (X_1) partially have positive value and have a significant effect to Behavior Variable (Y).
- c. Attitude Variables (X_2) are partially positive and have a significant effect on Behavior Variable (Y).
- d. Variable Action (X_3) partially have positive value and have a significant effect to Behavior Variable (Y).
- e. Knowledge Variables (X_1), Attitude (X_2) and Action (X_3) simultaneously have positive value and have significant effect to Behavior Variable (Y).
- f. Coefficient of Determination indicates that Knowledge (X_1), Attitude (X_2) and Action (X_3) have an effect of 74.90% on Behavior Variable (Y), while 25.20% is influenced by other un-researched variables. The independent variables have a strong degree of relationship with the dependent variable.

4.2 Suggestions

- a. Management of RSUD Deli Serdang district is expected to add cleaning service and incinerator staff so that medical waste that have not managed can be completely destroyed.
- b. The management of RSUD district Deli Serdang is expected to conduct training on the more intensive medical and non-medical waste disposal at least 1 year 2 times in 1 year so that it can increase the medical officer knowledge about waste disposal especially medical waste.
- c. The management of Deli Serdang District Hospital is expected to give warning to medical officer who is known to have disposed of waste that is not in accordance with the place that has been provided in Deli Serdang District Hospital.
- d. The management of Deli Serdang District Hospital is expected to increase the procurement of necessary facilities in the management of medical waste such as increasing the number of garbage bins, the procurement of plastic bags,

the procurement of waste transporting equipment in the form of carts / trolleys and coordinating with the officers who handle the medical waste directly.

- e. The management of RSUD district Deli Serdang is expected to evaluate and improve the fixed procedures on medical waste management so that the officers are nurses and garbage managers.
- f. For the next researcher is expected to examine other variables such as facilities and infrastructure, age, working period and others, related to the behavior and with the number of samples more so that can be obtained more complete data in order to obtain the results of the research more leverage.

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