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The janitor's knowledge and attitude towards household infectious waste countermeasure during pandemic COVID-19 in Manado city

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ABSTRACT

Background: COVID-19 pandemic causes the emergence of rubbish indicated containing COVID-19 or usually called as infectious waste. The household waste sources related to COVID-19 prevention are such as ODP (people in observation) who had done self-quarantine and used APD (self protection equipment) such as mask and gloves. The purpose of this research is to find out the correlation between knowledge and attitude of janitor towards household infectious waste countermeasure during COVID-19 pandemic in Manado city 2020.

Methods: This research was quantitative research-observational descriptive approach with cross sectional method. This research was conducted in 4 temporary shelters obtained in Singkil sub district, Bunaken sub district, Pall Dua sub district and Wanea sub district. The samples were selected by using total sampling technique. Total samples were 100 respondents. The research instrument was questionnaire. The analysis used Chi Square Test.

Results: shows that the janitors' knowledge is good already 53%, attitude 60%, and there is no correlation between knowledge and janitors' attitude towards household infectious waste countermeasure during COVID-19 pandemic in Manado city.

Conclusions: The management and countermeasure of household infectious waste is an important effort to prevent the transmission of SARS-CoV-12 (COVID-19). Tighter monitoring is necessary and also education/socialization of household infectious waste countermeasure is needed during COVID-19 pandemic either from the behavior side or the facilities used.

Keywords: Knowledge, Attitude, Action, Infectious Waste, Janitor

INTRODUCTION

Nowadays Indonesia especially and the world in general are faciling corona virus pandemic or more well known as COVID-19. Globally total cases confirmed per date of September 29, 2020 is 3,249,563 cases (WHO and PHEOC health ministry). In Indonesia, corona virus was found infecting in March 2020 and per September 2020 had been found 244,676 positive cases (worldometer, 2020). The prevention and transmission are not apart from the environmental condition or the environmental quality. The environment is highly influential towards the

transmission of COVID-19. If the environment is not kept well then there will be many health problems appear.³

Infectious waste such as mask has become primary need of each individual during COVID-19 pandemic. Disposable mask and glove for instance become the risk for the janitors especially the garbage picker, scavenger, and becomes the threat for the environment. The increase of these disposable mask and glove becomes the risk for the people whose their job is direct contact with the garbage.⁴ Because of those masks and gloves could be from people in monitoring (ODP) or patient in monitoring (PDP) who do self quarantine, meanwhile it is known that

corona virus can stick on objects for days and causing infection risk.⁵

The minister of environment and forestry, on March 24, 2020, established circular letter related to infectious waste management (B3) and household garbage from corona virus countermeasure. The circular letter number SE.2/MENLHK/PSLB/PLB.3/3/2020 is for infectious waste management coming from medical health service facility, ODP infectious waste coming from household and household garbage management and the garbage similar to household garbage. This regulation states that health facility such as self protection equipment (APD), laboratory equipment and sample which had been used is B3 which is infectious.⁶

The regulations existed in circular letter of environment minister no. SE.2/MENLHK/PSLB/PLB.3/3/2020, about infectious waste management (B3) and household garbage from the countermeasure of corona virus disease (COVID-19) does not run maximally yet. Therefore, it needs the regulation or policy from the local government in this case is the mayor, regent, or governor about janitors' behavior (the garbage picker) in doing the countermeasure and management of infectious waste so that the household infectious waste countermeasure can run well.⁷

The countermeasure of household infectious waste is an important effort to prevent the transmission of SARS-CoV-2 (COVID-19). The household infectious waste will cause important impact towards the decrease of quality or directly has danger threat for community health such as SARS-CoV-2, nosocomial, health disorder on garbage picker, and environment pollution.⁸ Therefore, correct and safe infectious waste management and countermeasure are required. The countermeasure of household infectious waste must be done with the right effort and strategy to guarantee the health and safety of janitors/garbage pickers or the community residing at the temporary shelter.⁹

The janitors or garbage pickers have important role in the countermeasure and management of household infectious waste and they have risk of transmission/spread of SARS-CoV-2, until they need to be given socialization about the management and countermeasure of household infectious waste. The self safety procedures regulated are such as the obligation for all janitors/garbage pickers working in the field must wear self protection equipment (APD) suitable with the work risk to increase vigilance and prevent the transmission of corona virus. Also by keeping the physical distance among the janitors at least one meter during working, always keep the cleanliness of work area and wash the hand before and after duty. It

North Sulawesi (Sulut) province was determined as one of epicentrum of COVID-19. In accordance with the recent data of COVID-19until August 6, 2020, confirmed positive 1.438 people, 56 people suspects (PDP, positive

treated 673 people, cured 686 people, and died 79 people). The data collected, confirmed cases of positive Covid-19 in Manado spread in 10 out of 11 sub districts in which Wanea was the area with the highest positive cases namely 310 cases, Wenang 167 cases, Malayang 162 cases, Tuminting 157 cases, Mapanget 152 cases, Paal Dua 139 cases, Singkil 127 cases, Tikala 111 cases, Sario 75 cases, and Bunaken 38 cases. The sub district with zero (0) cases is Bunaken Island (COVID-19 data of Manado city, August 6, 2020).

Temporary shelter (TPS) in Manado city only consists of 4 TPS namely residing in Melalayang sub district, Teling sub district, Malendeng sub district, and Bunaken sub district. Nowadays the waste countermeasure and management in Manado city is sub district based which means garbage is managed and sorted from TPS before thrown away to the garbage landfill. Based on explanation that has been described, the purposes of this research is to find out the correlation between knowledge and attitude of janitor towards household infectious waste countermeasure during COVID-19 pandemic in Manado city 2020.

METHODS

This research was conducted in the sub-districts in Manado city with a descriptive observational quantitative research design using a cross sectional design. Cross sectional design is certain research used to learn the dynamics correlation between dependent and independent variables through the approach, observation, and data collection through questionnaire. This research was started by conducting initial suvery, the interview towards department of cleanliness and environment Manado city.

The number of respondents in current research were 100, obtained by total sampling which were all garbage pickers. The research was conducted for 3 months, which are August to October 2020 and the research location were conducted in 4 TPS (temporary shelter), which are TPS Malalayang district, TPS Teling district, Malendeng district TPS, and Bunaken district TPS. The statistical analysis was conducted using using Chi-Square test. The analysis was carried out in univariate and bivariate ways with data presentation in frequency distribution.

RESULTS

Univareate analysis

The janitors' knowledge in the management and countermeasure of household infectious waste was analyzed. The knowledge of 100 respondents or the janitors/garbage pickers was observed to be good (53%) and less (47%) (Table 1). The attitude of 100 respondents or janitors/garbage pickers was observed to be good (60%) and less (40%) (Table 2). The janitors' action in the management and countermeasure of household infectious waste is depicted in (Table 3). The action of

100 respondents or janitors/garbage pickers was observed to be better (69%) and good (31%).

Table 1: General description of knowledge frequency of janitors in the management and countermeasure of household infectious waste during COVID-19 pandemic in Manado city.

Knowledge	Frequency	%
Good	53	53
Less	47	47
Total	100	100

Table 2: Respondents' distribution based on attitude.

Attitude	Total	%	
Good	60	60	
Less	40	40	
Total	100	100	

Table 3: Respondents' distribution based on action.

Action	Total	%	
Good	31	31	
Less	69	69	
Total	100	100	

Bivariate analysis

The correlation between knowledge and action of janitors in the management and countermeasure of household infectious waste during COVID-19 pandemic in Manado city. The results of Chi-Square correlation test observed were p=0.055 or p>0.05 which means there was no correlation between knowledge and action of janitors in the management and countermeasure of household infectious waste during COVID-19 pandemic in Manado city.

Table 4: The correlation between knowledge and action.

Knowledge	Action				Total	0/	Davolaro
	Less	%	Good	%	Total	%	P value
Less	28	59.6	19	40.4	47	100	
Good	41	77.4	12	22.6	53	100	0.055
Total	69	69	31	31	100	100	

Table 5: The correlation between attitude and action.

Knowledge	Action				Total	%	P value
	Less	%	Good	%	Total	70	r value
Less	30	75	10	25	40	100	
Good	39	65	21	35	60	100	0.289
Total	69	69	31	31	100	100	

The correlation between attitude and action of janitors in the management and countermeasure of household infectious waste during COVID-19 pandemic Manado city. Based on the analysis results of Chi-Square correlation test obtained p=0.289 or p>0.05 which means there was correlation between attitude and action of janitors in the management and countermeasure of household infectious waste during COVID-19 pandemic in Manado city.

DISCUSSION

Knowledge

Based on the result of univariate analysis shows that out of 100 respondents, the janitors existed in 4 ares of TPS Manado city, 53% of them have good knowledge about infectious waste from the management consisting of collection, transportation until the temporary shelter and termination of the garbage/infectious waste, but in the case of sorting, there is still janitor/garbage picker who does not know that infectious garbage/waste must be

separated from other waste. This can cause the contamination towards other garbage that does not contain SARS-CoV-2. The knowledge factor about infectious garbage/waste is pivotal to be applied and acknowledged by garbage collector janitors who do the collection from house to house until TPS in order to break the transmission chain and spread of COVID-19 disease. One of efforts in improving the knowledge of garbage collector janitors is continuous education especially in handling the infectious waste itself to prevent the transmission and spread of SARS-CoV-2.¹²

Attitude

The results of univariate analysis show that out of 100 respondents, the garbage collector janitors, 60% of them have good attitude. The result of field observation and interview conducted, there is still janitor who does not separate infectious waste in certain container especially for infectious waste, even there is still janitor who does not wear self protection equipment (APD) when they get infectious waste (mask) from the residents' houses. This

attitude is extremely dangerous for the janitors themselves and difficult to break the transmission and spread of COVID-19 disease.¹³

The effort of garbage management for providing special container for infectious waste is extremely important and expected tight supervision on the janitor especially during handling infectious waste, more particular to the janitor who moves the garbage from the trash can to the garbage truck would be thrown oway to the landfill (TPA).¹⁴

Correlation between knowledge and action of janitors/garbage pickers at TPS of Manado city

Based on the result of bivariate analysis test, there is no correlation between knowledge and action. This can be seen from the statistics test which shows that p=0.055 or p>0.05. In accordance with (Table 4), in the amount of 41 (77,4%) respondents have good knowledge and attitude towards the management and countermeasure of infectious waste and there are still 19 (40,4%) respondents with good action but their knowledge about the management and countermeasure of infectious waste is less good.

The garbage collector janitors' knowledge is already good, but there is still action which cares less on the management and countermeasure of infectious waste started from the collection until termination of the garbage and it is still not in line with the stages or procedures determined. In accordance with the observation results, there are still respondents who do not know yet if the infectious waste in the garbage must be separated/sorted. Good knowledge is not certainly followed by good action in the management and countermeasure of infectious waste. It is still necessary to remind and conduct socialization to all janitors especially the garbage pickers routinely and regularly. 14

The correlation between attitude and action of janitors/garbage pickers at TPS of Manado city

Based on the result of bivariate analysis test, there is no correlation between attitude and action of infectious waste management in the janitors. This is showed in statistics test of chi square correlation test analysis obtained p=0.289 or p>0.05. The answer from the attitude questionnaire, there is still janitor who has bad answer. The statement of correlation and the attitude from the janitor does not remind other janitors if they do not sort the infectious waste and place it in certain container until the action in the management and countermeasure of infectious during COVID-19 pandemic is less good.

The janitors' good attitude is not certainly implemented in the action of management and countermeasure of infectious waste during COVID-19 pandemic, even though the knowledge is good as in the transportation must be using closed cart and the janitors must took the garbage wearing self protection equipment but infact in

the field, it is not implemented. Current research is limited to 4 temporary shelter in Manado city and specifically for garbage pickers who have a very high risk of virus exposure.

CONCLUSION

There is no correlation between knowledge, attitude, and the action of janitors towards the management and countermeasure of infectious waste. The countermeasure of household infectious waste is the important effort to prevent the transmission and spread of SARS-CoV-2 virus (COVID-19). Tighter supervision and socialization/education are needed for the countermeasure of household infectious waste during COVID-19 pandemic, either from the behavior side or the facilities used.

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