

The Relationship between Volunteer Preparedness and the Action of Spraying Disinfectants in Preventing Covid 19 at PMI North Sumatra Province in 2021

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ABSTRACT

Transmission of Covid-19 occurs through the transmission of droplets from the nose or mouth of someone who is infected with Covid-19 when breathing or coughing. These droplets can enter the body directly, namely the inhalation of droplets from an infected person. They are concerned to see the number of Covid 19 cases continue to increase, they want to know information on preventing Covid 19. They say they are ready to take action by spraying disinfectants to prevent Covid 19. The purpose of this study is to find out the relationship between volunteer preparedness and the act of spraying disinfectants in preventing Covid 19 at PMI. This research is a non-experimental research with descriptive correlation with cross sectional research design. The sampling technique used was non-probability sampling, the sample in this study was 30 which included in the inclusion criteria, the data analysis test of this study was the Chi-Square test. The results showed that the level of preparedness in preventing Covid 19 was mostly ready as many as 25 respondents (83.3%), and data that the level of spraying in the prevention of Covid 19 was mostly carried out by 25 respondents (83.3%). The results of calculations using SPSS were obtained with a significance value (p-value) of 0.000 < 0.005. PMI Volunteers are expected to be more prepared in giving. Prevention of Covid- to come to the Posyandu. For institutions, it is hoped that the results of this research will serve as a reference in encouraging and motivating other students to develop and obtain good theories, models and implementation methods from this research or other research.

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1. Introduction

On December 31, 2019 a similar case appeared with unknown pneumonia in Wuhan, China (Lee, 2020). This virus originated from Wuhan, Hubei Province of China, which became a case of pneumonia in December 2019. This virus is very small (120-160 nm) which mainly infects animals, including bats and camels. Currently the spread from human to human has become the main source of transmission so that the spread of this virus is very aggressive. This virus has spread widely, not only in China but in more than 190 countries. Then on March 12, 2020, WHO declared Covid-19 a pandemic (Susilo, et al, 2020). Covid-19 is very small (120-160 nm) which mainly infects animals, including bats and camels. Currently the spread from human to human has become the main source of transmission so that the spread of this virus is very aggressive. Based on WHO data, it was found that Covid-19 has become a global pandemic with 4,534,0731 confirmed positive cases in 216 countries around the world (Update: 17-05-2020).

The Corona virus has also been endemic in Indonesia in Indonesia, the first Covid-19 case was confirmed on March 02, 2020 in a number of two cases (Conscience, 2020). In May 2020, a Deaths also continue to occur even though it is balanced by the number of patients recovering. Globally, there were 4,170,424 cases of COVID-19 with 287,399 deaths (WHO Report, 2020). Common signs and symptoms of Covid-19 infection include symptoms of acute respiratory distress such as fever, cough and shortness of breath. The average incubation period is 5-6 days with the longest incubation period being 14 days.

In severe cases of Covid-19 it can cause pneumonia, acute respiratory syndrome, kidney failure, and even death. Clinical signs and symptoms reported in the majority of cases were fever, with some cases having difficulty breathing, and X-rays showing extensive pneumonia infiltrates in both lungs. (WHO Report, 2020).

Transmission of Covid-19 occurs through the transmission of droplets from the nose or mouth of someone who is infected with Covid-19 when breathing or coughing. These droplets can enter the body directly, namely the inhalation of droplets from an infected person. Indirect transmission occurs due to the fall of splashes from the patient and stick to the surface of objects around the patient. A person who touches the object/surface will be infected by touching the eyes, nose, or mouth. In Indonesia, the number of confirmed cases continues to increase, where in May it was still at 10,551 cases with 800 people dying, but until June 16, 2020 the cases increased significantly to 40,400 cases with a death toll of 2231 deaths (Ministry of Health, 2020).

North Sumatra Province reported cumulative positive confirmation of 37,425 cases, recovered 33,323 cases, died 1,218 cases, active positive confirmed 2,884 cases until July 7, 2021. The city of Medan to date has the highest number of cases in North Sumatra with cumulative positive confirmation cases of 18,997 cases, recovered 16,921 deaths, 587 active positive confirmation 1,489 cases. (Covid 19 Task Force for North Sumatra Province). In an effort to prevent its spread, the public is advised to always take care not to be infected, including by washing hands properly, using masks, limiting activities outside the home, avoiding crowds, practicing social distancing followed by the process of studying, working, and worshipping at home and spraying disinfection. to objects/surfaces suspected of being infected by the corona virus (Yunus, et al.

Covid 19 has become a national disaster. PMI is trying to prevent Covid 19 by spraying disinfectants. The act of spraying disinfectants to prevent Covid 19 can not only be carried out by the government and related agencies but also by many volunteers from several organizations or communities, one of which is PMI (Indonesian Red Cross) in taking preventive measures against covid 19. PMI itself has volunteers who have attended basic training of 120 hours of effective lessons (JPE), one of which is disaster management and which is based on the 7 basic principles of the international red cross and red crescent. PMI volunteers can carry out disinfection spraying actions according to the 7 basic principles of the international red cross and red crescent.

The spraying action carried out by various parties in preventing the spread of Covid-19 is one of the efforts to prepare themselves and the community in providing environmental and social resilience in reducing the spread of Covid-19 in the community by spraying in public places such as homes, worship, schools, markets, etc. (BPBD 2021) The term internal anticipation is mitigation in disaster preparedness Disaster mitigation is a series of efforts to reduce disaster risk, both through physical development and awareness and capacity building face the threat of disaster (Article 1 paragraph 6 PP No. 21 of 2008 concerning the Implementation of Disaster Management). Mitigation is defined as efforts aimed at reducing the impact of disasters. Mitigation is a series of efforts to reduce disaster risk, both through physical development as well as awareness and capacity building in dealing with disaster threats. (Law No. 24 of 2007, Chapter I General Provisions, Article 1 point 9) (PP No. 21 of 2008, Chapter I General Provisions, Article 1 point 6).

Mitigation as referred to in Article 44 letter c is carried out to reduce disaster risk for people living in disaster-prone areas. (Law No. 24 of 2007 Article 47 paragraph (1) while disaster mitigation as referred to in Article 15 letter c is carried out to reduce the risks and impacts caused by disasters to people living in disaster-prone areas. The basis for selecting research sites is based on the results of the initial survey 3 of 5 volunteers said that because they wanted to serve as Covid-19 prevention volunteers because they were concerned about seeing the number of Covid 19 cases continue to increase, they wanted to know information on Covid 19 prevention.

2. Research Methods

2.1 Types of research

This type of research is descriptive non-experimental research, namely the research method used with the main aim of making a description of a situation objectively which aims to explain or describe the problem (Notoatmodjo, 2016). Using a cross-sectional study, which is a type of research that emphasizes the time of measurement or observation of data on independent and dependent variables, it is only carried out once at the same time (Nursalam, 2016). Where the researcher wants to relate volunteer preparedness to the act of spraying disinfectants in preventing Covid-19 at PMI North Sumatra

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Province 2021.

2.2 Research design

In this study, a descriptive correlative research design was used, namely to determine the relationship between volunteer preparedness and the act of spraying disinfectants in preventing Covid-19 at PMI, North Sumatra Province. Variable is the object of research or the point of attention of a study. This study uses two variables, namely one independent variable (independent variable) or variable X and one dependent variable (dependent variable) or variable Y. The independent variable in this study is public knowledge, while the dependent variable is public attitudes.

2.3 Research Location and Research Time

This research was conducted at PMI North Sumatra Province 2021. The reason the researchers chose this place as a research location was that research had never been carried out, There was an act of spraying disinfectants, there were samples in the area that was the research objective, closer to where I lived, because I was a Covid-19 Volunteer. 19 at PMI North Sumatra Province. This research will be carried out from March to May 2021, starting from submitting titles, literature searches, proposal guidance, proposal seminars, data collection, data analysis to research results seminars.

2.4 Population and Sample

The population is an area consisting of: objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn conclusions (Sugiyono, 2017). The population in this study was the preparedness of volunteers by spraying disinfectants in the prevention of Covid-19 at PMI North Sumatra Province 2021. Researchers determined the population in this study based on data on spraying disinfectants in North Sumatra in January - March 2021 as many as 30 respondents. Researchers want to use a non-probability sampling technique, Sugiyono (2014) says that a non-probability sampling technique is a sampling technique that does not provide an opportunity for every element or member of the population to be selected as a sample. And the researcher will use the total sampling technique.

According to Sugiyono (2014) said that total sampling is a sampling technique when all members of the population are used as samples. This sample is used if the population is relatively small than 30 people, total sampling is also called a census, where all members of the population are used as samples. mpling with google form questionnaire

3. Results and Analysis

1. Demographic Characteristics

Characteristics of respondents on the relationship between volunteer preparedness and the act of spraying disinfectant in the prevention of covid 19 at PMI, in the study consisted of Age, Gender, Last Education, year of joining, Preparedness and Spraying Action.

Table 1.

Frequency Distribution of Data on the Relationship of Volunteer Preparedness with Spraying of Disinfectants in Preventing Covid 19 at PMI North Sumatra Province in 2021

Demographic data	F	%
Gender		
Man	28	93.3
girl	2	6.7
Total	30	100
Age		
20-25	26	86.7
26-32	4	13.3
Total	30	100
Education		
senior High School	29	96.7
S1	1	3.3
Total	30	100
Year B Join		
2017 - 2018	23	76.7
2019 - 2021	7	23.3
Total	30	100

Based on table 1 above, it can be seen from 30 respondents in PMI North Sumatra Province in 2021

it can be seen that the majority age is 20-25 years as many as 26 respondents (86.7%), Gender of respondents The majority are male as many as 28 respondents (93.3%), the education of the majority of respondents is high school as many as 29 respondents (96.7%), and the year of joining the majority of respondents is 2017-2018 23 21 respondents (76.7%).

Table 2

Level of Volunteer Preparedness in Preventing Covid-19 at PMI Sumatra Province in 2021

Characteristics	Frequency	Percentage
Not ready	5	16.7%
Ready	25	83.3%
Amount	30	100%

Based on table 2 above, data shows that the level of preparedness in preventing Covid 19 is mostly ready as many as 25 respondents (83.3%).

Table 3

Level of Volunteer Spraying Actions in Preventing Covid-19 at PMI Sumatra Province in 2021

Motivation Level in the elderly	F	Percentage
Is not done	5	16.7%
Conducted	25	83.3%
Total	30	100%

Based on table 3, data shows that the level of spraying in the prevention of Covid 19 was mostly carried out by 25 respondents (83.3%).

2. Bivariate Analysis

Table 4

The Relationship between Volunteer Preparedness and the Action of Spraying Disinfectants in Preventing Covid-19 at PMI North Sumatra Province in 2021

Preparedness	Spraying Action				Total	value
	Is not done		done			
	F	%	F	%		
Not ready	5	16.7	0	00.0	5	16.7
Ready	0	0.0	25	83.3	25	83.3
Total	5	16.7	25	83.3	30	100

Based on table 4, the chi-square test results show that the p value = 0.000 (<0.005), then Ho is rejected Ha is accepted which indicates that there is a positive relationship between Volunteer Preparedness and the Action of Spraying Disinfectants in Prevention of Covid-19 at PMI North Sumatra Province. 2021 year.

3. Discussion

a. Preparedness in the Prevention of Covid-19 at PMI North Sumatra Province in 2021

The results of the study from 30 respondents, most of the respondents received preparedness category of 25 people (83.3%), and preparedness not ready as many as 5 people (16.7%). The assumption is that volunteer researchers have provided preparedness in preventing covid-19, volunteers also play an active role before conducting volunteer activities to conduct discussions/briefings that include preventing Covid-19. handling implementation. Preparedness is very important to avoid or minimize the risk of becoming a victim. The impact of the lack of preparedness that many people experience as a result of the earthquake disaster is anxiety, damage to infrastructure, loss of life, transmission of disease, environmental damage (PMI, 2013).

The results of this study found that there were 25 volunteers who were ready to spray disinfectant, meaning that the volunteers already had the ability and good knowledge of preparedness in spraying because the majority of respondents had a high school education level where the results of this study were in line with the results of research conducted by Syahferi Anwar, (2019) entitled the effect of the focus group discussion method on earthquake disaster preparedness at SMK Negeri 1 Alo'oa, Gunungsitoli City where the result is that SMK students have almost ready preparedness where this condition explains that preparedness education can be given since they are still in school in order to reduce the risk of casualties and disability in the event of a disaster and during the assignment.

The main factors that lead to the emergence of many victims due to disasters are the lack of community preparedness about disasters and the lack of community preparedness in anticipating these disasters. The main factor that is the key to preparedness is knowledge, attitude and concern for being ready to face disasters. Preparedness is one of the disaster management processes, the importance of

preparedness is one of the important elements of disaster risk reduction activities (Firmasnyah, 2014).

And these results are supported by the results of a study entitled factors of disaster preparedness in the emergency department of RSUD Dr. Zainoel Abidin Banda Aceh with a good level of knowledge and attitude towards preparedness in disaster risk reduction (Cut Husna, 2012)

The experience or mobilization of volunteers in assignments in disaster management also affects the readiness of a volunteer before and after being assigned to disaster management and this is in accordance with the results of the research carried out, it was found that there were 23 volunteers who had more than 2 years of work experience during the assignment period. sufficient in preparing themselves in the face of disasters (Cut Husna 2012). Here, the researcher assumes that preparedness requires support from within and outside of us, such as knowledge, attitude, experience, level of education in an effort to reduce the risk of disability and death to volunteers during assignments.

b. Measures of Spraying Disinfectants in Prevention of Covid-19 at PMI North Sumatra Province in 2021

The results showed that from 30 respondents, most of the respondents were sprayed by 25 respondents (83.3%), and 5 respondents did not spray (16.7%). The assumption is that volunteer researchers have not only carried out spraying actions on the highway, but volunteers are ready to spray on doors, windows, and chairs.

The results of this study were 25 volunteer respondents took action by spraying disinfectants in places that were often touched such as doorknobs, windows, and chairs. with the results of research conducted by Winny Sunfriska Limbong (2021) entitled spraying disinfectant to prevent Covid 19 at Masjid AL IKHLAS neighborhood 11 Medan HelvetiaThe Sari Mutiara Indonesia University campus is a long-established campus in Dwikora Village, Medan Helvetia District, where Medan Helvetia District is very densely populated with very high daily community activities. There are public facilities such as markets, schools and houses of worship. Al-Ikhlal Mosque is one of the mosques around the Sari Mutiara Indonesia University campus which has attracted the attention of the campus to spray disinfectant to prevent the covid-19 virus. The community service team along with the head of the neighborhood 11 and the mosque's BKM directly witnessed the process of spraying disinfectant at the Al-Ikhlal Mosque.

The time chosen is in the morning to avoid crowds such as when people are going to worship. The first step of spraying disinfectant is carried out on the first floor of the mosque such as the pulpit, curtains, doors, windows and pillars up to the floors.

then proceed towards the 2nd floor of the mosque, at this location spraying is also carried out evenly throughout the room. Then the spraying continued towards the back of the mosque such as toilets, ablution areas, and the back floor of the mosque. Locations around the mosque are also not spared from spraying such as the mosque terrace, mosque stairs, courtyard and mosque parking lot. This is done as an effort to prevent the spread of the Covid-19 virus.

Disinfection is the process of reducing the number of microorganisms to a lower hazard level on surfaces indicated by contamination by microorganisms by using materials (disinfectants) that can function to control, prevent, and even destroy harmful microorganisms. Thus the disinfection material must be destructive. In terms of the method of disinfection, the surface of objects is carried out by spraying or using a cloth, while for air disinfection it is carried out using the dry mist disinfection method (fumigation/fumigation using a cartridge to regulate the steam/fume of the disinfectant).

All protocols/documents state that in carrying out disinfection, implementers/spraying officers must use Personal Protective Equipment (PPE) such as special clothing, gloves, masks, goggles, and boots and clean themselves (wash hands with running water after spraying). (Task Force for the Acceleration of Handling COVID-19, 2020) Here the researcher assumes that basically the act of spraying disinfectants requires direction and training such as knowledge, attitude, in carrying out the act of spraying disinfectants in an effort to prevent Covid 19, reducing the risk of an increase in cases of Covid 19 transmission.

c. The Relationship between Volunteer Preparedness and the Action of Spraying Disinfectants in Preventing Covid-19 at PMI North Sumatra Province in 2021.

The results showed that from 30 respondents that the majority of preparedness were ready as many as 25 respondents (83.3%). And the majority of disinfectant spraying actions in the category were carried out by 25 respondents (83.3%). This shows that preparedness is closely related to spraying actions in the prevention of Covid-19 at PMI North Sumatra Province,

The results of the statistical test with Chi Square showed a P-value of 0.000, meaning that the P-value <0.005 meant that there was a relationship between Volunteer Preparedness and the Action of Spraying

Disinfectants in the Prevention of Covid-19 at PMI, North Sumatra Province. This shows that the higher the preparedness of the volunteers, the more prepared they are to spray disinfectant in the Prevention of Covid-19 at PMI.

Preparedness includes efforts that enable governments, communities and individuals to respond quickly to disaster situations effectively in their own capacity. Preparedness includes the preparation of emergency response plans, development of early warning systems, personal empowerment through education and training in disaster management, rescue and rescue, and the establishment of a systematic emergency response mechanism. Preparedness is carried out before a disaster occurs to reduce the number of victims and property damage. (Technical Guidelines on Preparedness, Disaster Risk Reduction and Climate Change Adaptation Indonesian Red Cross, Indonesian Red Cross, 2012). The use of chemical disinfectants in the long term can have a negative impact. The use of chemical disinfectants in the long term can have a negative impact, because in their use, chemicals can leave residues that have the potential to interfere with health. For this reason, it is necessary to look for other alternatives, namely by utilizing plants or called vegetable disinfectants. This vegetable disinfectant does not cause residue because it is made from materials found in nature so that it evaporates easily (Dewi, 2018).

Disinfectants are chemicals used to kill microorganisms (bactericidal), especially on inanimate objects. The disinfection process can remove 60% -90% of micro-organisms. Disinfectants are widely used for sanitation in households, laboratories and hospitals. Disinfectants are materials used to carry out disinfection. Often as a synonym used the term antiseptic, but the notion of disinfection and disinfectant is usually intended for inanimate objects, such as floors, plates, clothes. This type of disinfectant is divided into two, namely chemical disinfectants and vegetable disinfectants. The use of chemical disinfectants in the long term can have a negative impact, because in its use, chemicals can leave residues that have the potential to interfere with health. Therefore, need to find another alternative, namely by utilizing plants or called vegetable disinfectants. This vegetable disinfectant does not cause residue because it is made from materials found in nature so that it evaporates easily (Dewi, 2018).

These results are in line with research conducted by Renika Hasibuan, Rolita Christina Purba, Budianto (2021) which states that based on the results of the analysis and statistically using the Chi Square test where there is a significant relationship in the research conducted where p is 0.000 ($p > 0.005$). So from the results of this study it can be said that there are efforts to prevent the spread of the Covid-19 virus and vice versa. This is in line with the research of Syahferi Anwar and Arif Rahman Aceh (2019) which states that based on the results of the analysis and statistically using the Wilcoxon test where there is a significant relationship between the researchers conducted where p is 0.000 ($p > 0.005$).

According to the researcher's assumption, the higher the preparedness of the volunteers provided, the higher the level of volunteer spraying for Covid-19 prevention because the majority of respondents are men who are more active and fast and responsive who have a lot of free time accompanied by many active volunteers in activities to prevent the spread of covid-19. Volunteers instead of spraying disinfectants to prevent the spread of COVID-19 can add education using masks because it is part of a comprehensive series of prevention and control measures that can limit the spread of certain respiratory viral diseases, including COVID.

4. Conclusion

Based on research conducted at PMI North Sumatra regarding the relationship between Volunteer Preparedness and the Action of Spraying Disinfectants in Prevention of Covid-19 at PMI North Sumatra Province in 2021, the conclusions can be drawn as follows:

- a. The majority of volunteer preparedness in Covid-19 prevention at PMI North Sumatra Province in 2021 is in the ready category.
- b. The majority of disinfectant spraying actions carried out by volunteers in the Covid-19 Prevention at PMI North Sumatra Province in 2021 are in the carried out category.
- c. There is a significant relationship between volunteer preparedness and the act of spraying disinfectants in the Prevention of Covid-19 at PMI North Sumatra Province in 2021 with a significant value.
- d. Meanwhile, they are not ready because they do not get knowledge of volunteer preparedness during education.

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