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The Relationship "WASH" Educational to Farmers in Agrarian Regions: COVID-19 Prevention

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Abstract

This research uses Pre-Experimental Design without control group with One Group Pretest-Posttest Design. The study was conducted in March 2021 in two districts that were confirmed to be inhabited by COVID-19 positive residents (Johan Pahlawan District and Meureubo District), West Aceh, Indonesia. Statistical analysis used: Handwashing is one way to prevent COVID-19 transmission. This is essential because in this global pandemic, every community has the opportunity to catch COVID 19. The research objective was to determine the effectiveness of WASH educational collaboration on farmers as an attempt to COVID-19 prevention. The population in the study is all farmers who live in these mentioned districts. There were 37 farmers in total. The sampling method used total sampling, namely 37 farmers who live in the areas that are confirmed to have positive patients of COVID 19. Data were analyzed using Univariate, Bivariate (Dependent T-test) and Multivariate using logistic regression. The result shows that there is a significant influence between the collaboration of WASH Education on farmers as an effort to prevent COVID-19 with a statistical test value of P-Value <0.05. Collaboration on WASH education for farmers is very influential in preventing COVID-19. It is hoped that cross-sectoral involvement and roles can be maintained so that COVID 19 prevention behavior through WASH can continue to be applied. Educative collaboration of WASH impacts on the behaviour alteration toward farmers who live in the area confirmed to be infected by COVID 19.

Keywords | COVID 19, Education, Relationship, WASH

INTRODUCTION

The COVID-19 outbreak which is currently causing disasters for all communities, both in coastal and agricultural areas, results in the death of thousands of people around the world, including in Indonesia [1]. A global pandemic or epidemic indicates a COVID-19 infection that is so fast that almost no country or region in the world is absent from the Corona virus [2]. The rapid outbreak of *COVID*-19 does not only impact on the health sector, but also on other more specific sectors [3].

WHO reported that by July 9th, 2020, there have been 11,84,226 cases confirmed with 545,481 death case worldwide with the Case Fatality Rate/CFR is 4.6%) [4]. The COVID-19 situation at the global and national levels is also still at very high risk, both in agricultural and coastal areas, on July 9th, 2020, the Ministry of Health reported 70,736 confirmed cases of COVID-19 with 3,417 deaths (CFR 4.8%). This case continues to increase as per September 1st, 2020 with the number of 177,571 people. Furthermore, the Acehnese Health Department *(Dinas Kesehatan Aceh)* also reported that by September 1st, 2020 there have been 1648 cases confirmed as positive of COVID-19 [5].

The West Aceh regency is also a region that is not separated from this virus, based on the report of Health Department which is also the information cited from the West Aceh

Regency COVID-19 task-force stating that the confirmed *COVID*-19 cases in in West Aceh regency by August 29th, 2020 was 15 cases. The patients are distributed in the districts of Johan Pahlawan and Meureubo [6]. In Johan Pahlawan district, the cases are spread in three villages; they are Lapang village, Ujung Baroh village, and Rundeng village. From 11 cases, 4 of them were reported dead. Meanwhile, in the Meureubo district, it was confirmed that the patients are from one vilage only, which is Gunung Kleng village [7].

The increase in the number of cases continues in a short time so it needs to be handled as soon as possible. The spread of the COVID-19 virus can attack anyone, both in agricultural areas and in coastal areas, children to adults, but there are age groups who are considered to be more vulnerable to infection with this virus, namely the elderly with comorbidities [7]. Until now there has been no specific drug to deal with cases of Corona virus infection, but efforts can be made to prevent the spread of the Corona virus recommended by the Indonesian government through the Ministry of Health of the Republic of Indonesia, namely living with *PHBS* or Living Clean and Healthy Behavior [8]. The government also urges the public to always maintain personal hygiene and sanitation as an effort to prevent the spread of COVID-19 [9].

In West Aceh Regency, almost all residents work or make a living as farmers. This condition will certainly be a priority for us in supporting the health of farmers in the midst of the COVID-19 pandemic, so that they can survive healthily in carrying out their profession and in reviving their families [10]. Most of the rural communities in this area depend on the harvest they get. Therefore, it is very important to pay attention to the health of farmers in agricultural areas [11]. There have been initial observations done in the areas of Johan Pahlawan and Meureubo, accompanied with brief interviews with village officials. To be precise, two of these subdistricts were confirmed with COVID-19 positive residents, and these subdistricts have a high number of residents as farmers [11].

Farmers who spent their daily life in the fields and in the garden with low to without *Clean and Healthy Living Behavior* will have a greater chance of being infected with various kinds of infectious diseases, ranging from dermatitis to other infectious diseases [12]. This condition occurs partly due to the lack of personal hygiene and sanitation; for example, after farming they do not immediately shower or wash their hands with clean and running water and they do not change clothes that are already sweaty. This is one of the major causes for the proliferation of bacteria that arise from sweat, thus triggering the skin infection. Similarly to these conditions, it will be an opportunity for farmers to be easily infected with COVID-19. So that, living with *Clean and Healthy Living Behavior* through "WASH" (Water, Sanitation and Hygiene) is very important as an effort to prevent the COVID-19 virus [12].

WHO, Centers for Disease Control and Prevention (CDC), and the Indonesian Ministry of Health have issued a lot of actual information and guidelines related to COVID-19 but many people do not understand it correctly [13]. Preventing the spread of COVID-19 is not only through implementing the social distancing, but must also be accompanied by the application of clean and healthy living behavior through WASH, especially for vulnerable communities, such as farming communities in areas confirmed positive for

COVID-19. In addition to equipping the public with knowledge about COVID-19, it is also necessary to provide knowledge about the important keys to avoid the COVID-19 transmission. The knowledge relates to the knowledge about health, clean and healthy lifestyles through the use of clean water, sanitation, and hygiene (WASH) [14]. Ensuring the implementation of good and consistent WASH practices and waste management at the community, household, school, market, and health facility levels will help prevent the transmission of COVID-19 virus from one person to another [15].

This study aims to see how effective "WASH" (Water, Sanitation, and Hygiene) educative collaboration is for farmers in agrarian areas as a specific intervention effort in preventing COVID-19 in West Aceh District. According to WHO [16], washing hands properly as often as possible is one of the most important ways of handling to prevent the transmission of the COVID-19 virus. The transmission of COVID-19 can also be prevented through clean hand washing and sanitation hygiene by utilizing hygiene facilities [17].

MATERIALS AND METHODS

This research applies observasional research model using Pre Experimental Design without control group. The design is One Group Pretest-Posttest Design. Methods of collecting data are through observation and interviews using a questionnaire that has been through the stage of validity and reliability testing. The data were analyzed by univariate, bivariate and multivariate analysis. The presentation of data is in tabular and narrative forms. To see the strength of the correlation, the T Dependent test analysis is made and the calculation of odds ratio with multivariate analysis using multiple logistic regression was also done with the aim of seeing the influence of the effectiveness of WASH educative collaboration to farmers in agrarian areas as a specific intervention effort in preventing COVID-19 in Aceh Barat Regency. The collaboration in question is to actively involve cross-sectoral roles of Health Department and village officials in WASH education for farmers. The sampling technique used Total Sampling, which consisted of 37 farmers, distributed in 4 villages with residents confirmed positive for COVID-19 in two sub-districts: Johan Pahlawan and Meureubo. The inclusion criteria in this study were all farmers who were willing to be respondents and resided in the confirmed area of positive for COVID: in the Johan Pahlawan District (in the villages of Lapang, Ujung Baroh and Rundeng) and in the Meureubo District, namely in the Gunong Kleng village.

RESULTS AND DISCUSSION

Johan Based on the data obtained, it shows that the number of farmers in agrarian areas which are confirmed positive for COVID 19 are the district of Johan Pahlawan and the district of Meureubo, totaling 37 farmers—Lapang Village with 8 farmers, Ujung Baroh Village 7 farmers, Rundeng Village 11 farmers, and Gunong Kleng 11 farmers. Motr detailed information can be seen in Table 1 below.

Table 1. The distribution of farmers in agraric area who are confirmed to be infected by *COVID* 19

Village	District	Number of farmers
Lapang	Johan Pahlawan	8
Ujung Baroh	Johan Pahlawan	7
Rundeng	Johan Pahlawan	11
Gunong Kleng	Meureubo	11
Total		37

Table 2 below shows the results before the educative WASH treatment was given in the districts of Johan Pahlawan and Meureubo.

Table 2. Respondent distribution based on knowledge, behaviour, and action on farmers before intervened with the educative WASH treatment

Criteria	Sum	%
Farmers' knowledge:		
Good	8	21.6
Poor	29	78.4
Farmers' Attitude:		
Positive	11	29.7
Negative	26	70.3
Farmers' Action		
Good	6	16.2
Not Good	31	83.4

In the table 2, it can be seen that out of 37 farmers, 29 farmers have poor knowledge (78.4%), 26 farmers have negative attitude (70.3%), and 31 farmers have not good actions toward health and hygiene lifestyle (83.4%).

Table 3. Respondent distribution based on knowledge, behaviour, and action on farmers after intervening with the educative WASH treatment

Criteria	Sum	%	P. Value	OR	95% CI
Farmers' knowledge:					
Good	28	75.7	0.001	1.77	0,63
Poor	9	24.3			
Farmers' Attitude:					
Positive	34	91.9	0.002	1.33	0,45
Negative	3	8.1			

Farmers' Action					
Good	32	86.5	0.001	1.24	0,324
Not Good	5	13.5			

Table 3 above shows that there are 37 farmers in total. The number of those who have good knowledge is 28 farmers (75.7%), positive attitude is possessed by 34 farmers (91.99%), and good category of action is performed by 32 famers or 86.5% from the whole respondents. The table also shows the significan difference in farmers' attitude before and after thre WASH treatment (P. Value < 0.05).

Discussion

The table 2 above shows that farmers' good level of knowledge is percentaged for 21.6% while farmers' with not good hygiene knowledge is higher in percentage which is 78. 4%. Concerning to attitude, the prositive attitude is shown to be 29.7%, while negative attitude is 70.3%. related to their action, good action is shown in the percentage of 16.2% while not good action is 83.4%. This poor behavior of farmers is caused by the lack of information obtained regarding the importance of WASH (use of clean water (Water), Sanitation and Hygiene) in daily life. This is increasingly considered very urgent during the COVID 19 pandemic [17].

A person's level of education is directly related to the person's knowledge, the higher a person's level of education, the more open-minded he/she will be. Extensive information, of course, affects a person's knowledge and agility to solve problems, including health. Farmers' knowledge, especially about WASH, is still low due to the lack of access to information and education obtained by farmers. Knowledge is the result of knowing and this happens after people sense a certain object [18]. Knowledge in this study was categorized into two groups, namely poor and good, poor knowledge of farmers related to WASH seemed to dominate before the intervention in the form of WASH education (78.4%), while after the WASH educational intervention, there was a change in farmer knowledge to be good (75.7%).

According to Buana [19], there are several factors that can affect a person's knowledge, including information and experience. The convenience of obtaining information can help speed up a person to acquire new knowledge, while experience is an event that has been experienced by a person to interact with his/her environment. According to Yanti, Wahyudi, Wahiduddin, Novika, Arina, Martani, and Nawan [20], the factors that influence the level of knowledge are internal factors and external factors. Internal factors consist of education, motivation and perception. The external factors consist of information, socio-cultural and environmental. Someone who has knowledge about something not only through education level, but is supported by exposure to information from existing mass media such as television, radio, newspapers, magazines, and so on.

In addition, motivation also affects a person to try to be curious about something. The higher the curiosity, the higher the motivation to seek information about it. This theory is in

accordance with the results of researchers' interviews with farmers at the time of the study who said that they still lacked information about preventing COVID-19 through WASH from relevant agencies, such as health centers, health workers, health offices, and other cross-sectors. Information about COVID-19 is very important to be obtained by farmers, especially farmers who live in areas confirmed with positive residents. Increasing knowledge through educational information is expected to be able to change the behavior of farmers to live healthily by implementing WASH behavior, so as to prevent the transmission of infectious diseases, especially COVID-19.

Attitude is a reaction or response that is still closed from a person to a stimulus or object. Dewi, Tina and Nurzalmariah [21] states that attitude is a readiness or willingness to act and not the implementation of certain motives. Attitudes in this study are categorized into two groups, namely negative and positive. The theory of health behavior from Purwandari et al., [22] states that knowledge is an individual factor that triggers the reason or rationalization of the formation of health behavior, which can also be stated as predisposing factors. People who have the right knowledge and understanding about health are expected to form positive attitudes and in the end will have the habit of healthy behavior [22]. The results of studies on infectious disease prevention behavior show that knowledge and behavior factors play a role in forming healthy living habits [23].

Actions in this study were categorized into two groups, namely poor and good. According to Notoadmojo [24] good actions are emerged from good knowledge and attitudes, so that someone will behave or act in accordance with the knowledge obtained. Generally, the practice of personal hygiene is not paid attention to by farmers. This condition increasingly provides opportunities for farmers to experience health problems, such as skin problems and can even be at risk of transmitting COVID-19. COVID-19 infection to farmers can occur if WASH practices are not applied properly, especially for farmers who live in areas confirmed as infected residence. This research involves cross-sectoral collaboration to see the effectiveness of WASH educative collaboration on farmers in preventing COVID-19. Cross-sectoral involvement in WASH education is very supportive for changing community behavior, especially for farmers whose daily activities are in the rice field.

Based on the observations made during day-breaks, most farmers use very limited water, filled in a detergent with a volume of 2-3 liters of water. They do not use running water or tap water to clean themselves during breaks and before lunch. Farmers also do not use hand soap when cleaning themselves, whereas the use of hand soap is an effective way to kill germs on their hands as well as to prevent other potential health problems. Some of the farmers also showed unhygienic behavior, such as many farmers who did not immediately clean themselves when they got home, and they wore the same clothes when they went to the fields the next day. This condition can put farmers in a health threatening condition, which is at risk for skin diseases and/or other health problems due to unhygienic behavior [24]. This research is also supported by Wang who states that transmission of COVID 19 can occur due to not having proper WASH behavior; such as not washing hands properly, not using proper sanitation and living in the environment that does not support the creation of a healthy environment [25].

Research conducted by Mona[2] shows a significant relationship between sources of clean water, sanitation, and hygiene with the incidence of infectious diseases. Research by Han and Yang [13] states that to prevent the emergence of infectious diseases, it can be done by improving the state of environmental sanitation and personal hygiene. Efforts to prevent infectious diseases in adults generally focus not only on environmental health factors, but also on personal hygiene [5]. Clean and healthy living habits and behaviors also need attention, good habits and behavior in providing clean water, using clean water, throwing garbage in its place, and using family latrines as a means of disposing of feces. These efforts can prevent infectious diseases [8].

The provision of safe water and sanitation as well as a hygienic and clean environment is important in attempt to protect human health in the outbreaks of infectious diseases, such as the current COVID-19 outbreak[4]. Specifically, farmers are professions that are often associated with water, sanitation, and hygiene determining the health status of farmers. Ensuring the implementation of good and consistent WASH practices and waste management at the community, household, school, market, and health facilities levels will help prevent the transmission of the COVID-19 virus from one person to another. Paying attention to hand hygiene is very important in dealing with the Corona virus, cleaning hands with soap and water or using alcohol-based cleaners must always be done, especially for farmers who have just completed their duties in the fields. In washing hands, if hands only look or feel dirty, it is recommended to rub hands using an alcohol-based sanitizer for 20-30 seconds with the right technique [26]. However, if the hands are clearly dirty, they must be washed with soap and water for 40-60 seconds with the correct technique [27] Good environmental sanitation is also one of the factors that can prevent disease transmission [28].

CONCLUSION

From the results it can be concluded that The spread of *Corona Virus Diseases*-19 (*COVID*-19) around the world these days leads to cautious situation to people, especially those living in agraric areas.

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