

The Implementation of Health Protocols by The Elderly in Urban and Rural Area in East Java, Indonesia

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Abstract: The COVID-19 pandemic has occurred since 2020 and since the appearance of the first case, Indonesia has experienced three peaks of COVID-19 attacks. The elderly are one of the vulnerable groups with high mortality due to comorbidities. Implementation of health protocols is the key to controlling the incidence of COVID-19. The purpose of this study was to analyze the differences in the implementation of health protocols for the elderly living in urban and rural areas. This is a correlational study with a cross-sectional approach. This study involved 447 elderly living in urban and rural areas who were taken by purposive sampling technique. The data was taken using a questionnaire instrument and the analysis was carried out using the Mann Whitney test using SPSS 21 for windows. The results showed that of the 235 elderly living in urban areas, 52.3% of respondents showed compliance with health protocols and of 212 respondents who lived in rural areas, only 15% of elderly people complied with health protocols. The results by Mann Whitney analysis showed p-value of 0.000 smaller than α 0.05 so it was concluded that there was a difference in compliance to the implementation of health protocols between the elderly in rural and urban areas. People in rural areas, especially the elderly, still do not believe in COVID-19. So it is necessary to do health education with an approach that is in line with their value, for example, with a cultural approach.

Keywords: elderly, health protocol, rural, urban

INTRODUCTION

Since 2020, Indonesia has become one of the countries in the world facing the COVID-19 pandemic. COVID – 19 was first discovered in Wuhan at the end of December 2019 and quickly spread around the world along with the movement of people between countries. WHO declares COVID -19 as a public health emergency of international concern [1]. The first case was discovered in March 2020 with the first cluster of COVID – 19 detected in Jakarta and growing rapidly until April 2020. At the beginning of the COVID-19 attack in 2020, most of the infected patient were people at 50 – 59 years old. While the number of elderly patients was recorded at 12,7% of the total number of confirmed patients [2]. The second attack was recorded in July 2021 during the outbreak of the Delta variant. In the second weeks of July 2021 300.000 new cases were recorded. As of July 30,2021 more than 3,4 million people were confirmed for COVID-19 and there were 94,000 deaths nationally. The incidence of cases was recorded at 106.51 per 100,000 population per week [3]. The peak of the COVID-19 incident occurred again in February 2022 known as the third attack. The total cases in February 2022 reached 4.5 million cases with 4.2 million (91,75%) patients recovered and 144,719 people died [4].

Saputra *et al.*, [5] stated that the elderly is one of the population at risk. The aging process experienced by the elderly makes the elderly more susceptible to being exposed to a disease. In 2020, the number of confirmed elderly worldwide has reached more than 60 million and 1.5 million of them died. There were

500,000 confirmed elderly and as many as 17,000 elderly died. The Case Fatality Rate (CSR) in elderly reaches 38.5% [6]. A study conducted by Azwar et al., [7] states that most of the confirmed elderly have comorbidities. In July 2021, the number of confirmed elderly reached 11.3% of total cases and 50% were deaths [8].

There is no treatment that has been proven effective to stop the attack of COVID-19. Various efforts have been made by the government to reduce the transmission of COVID-19. The implementation of health protocols has been proven to be effective to reduce COVID-19 transmission. But the fact that the implementation of health protocols is not as easy as expected. Health protocols implementation is a new kind of behavior that must be carried out by the entire community, including the elderly. Dewi [8] stated that implementing the protocol was not easy. One of the problems is the low level of health literacy in the elderly makes them unmotivated to implement health protocols. Various efforts have been made to increase the knowledge about COVID-19 and health protocols. The decrease in cases does not eliminate the implementation of health protocols. This study aims to describe the difference in health protocols implementation of the elderly in urban and rural areas.

METHOD

Research design

This is a descriptive analytical study conducted with cross sectional approach.

Population, Sample, Sampling

This study involved 447 elderly living in the former of Besuki Residency, East Java. Respondents were taken using a consecutive sampling technique. The inclusion criteria were the elderly who lived in the former Besuki Residency and agreed to be respondents. While the exclusion criteria are the elderly who cannot communicate because of moderate to severe cognitive impairment..

Instrument

The data were collected using a questionnaire developed from the KAP questionnaire compiled by [9]. The instrument consist of 11 questions that examine the behavior of the elderly in implementing health protocols in daily life. Each question is answered with yes and no answer. Each favorable questions has a score of 1 and unfavorable questions have a score of 0. The score range from 0 -11. The overall practice score were categorized using the same Bloom's cut off point, as obey if the score was 5-11 points and disobey if the score was 0 – 4. The instrument has been testes with the Pearson product moment correlation technique to ensure validity and Cronbach's alpha to ensure it reliability. The results of the validity test show r product moment Of 0.73 and Cronbach's alpha value of 0.79.

Statistical Analysis

All of the data were cleaned, coded and then analyze using The Mann Whitney test to determine the difference between the implementation of health protocols by the elderly in urban and rural area. The hypothesis is accepted is the p-value is less than α 0.05

Ethical Approval

All subjects participated voluntary and received a small compensation. The participants provide their written informed consent to participate in this study. The Declaration of Helsinki was adequately addressed, and the

study was approved by the ethics committee of the Faculty of Health Science University Muhammadiyah of Jember (register number 0063/KEPK/FIKES/II/2022).

RESULTS AND DISCUSSION

This study produce data which is then divided into special data and general data. General data is all respondent's demographical data while the specific data relates to data on the application of elderly compliance protocol. Table 1 shows respondent's general data or respondent's characteristics.

Table 1. Repondent's Characteristic in Urban and Rural Area (Januari, 2022)

Variables	Characteristic	Urban		Rural	
		Amount	%	Amount	%
Age	60 – 75 years old	187	79.57	133	62.74
	76 – 90 years old	48	20.43	79	37.26
Education	Uneducated	20	8.51	79	37.26
	Primary	180	76.59	111	52.34
	Secondary	20	8.51	22	10.40
	Higher	15	6.39	0	0
Gender	Male	113	48.08	73	34.43
	Female	122	51.92	139	65.57
Occupation	Pensionary	50	21.27	20	30.67
	Farmer	41	17.44	69	32.55
	Merchant	60	25.53	39	18.39
	Housewife	84	35.74	84	39.62
Marital status	Married	180	76.6	67	31.60
	Divorced	55	23.4	145	68.40
Income	Less than needed	66	28.8	33	15.57
	Sufficient	169	71.2	179	84.43
Living arrange- ment	Spouse	76	32.34	67	31.60
	Spouse and children	104	44.25	38	17.92
	Children	55	23.41	145	50.48
Cognitive func- tion	Intact cognitive function	159	68.53	89	41.98
	Mild cognitive impairment	76	31.47	123	58.02

According to the data in table 1, the respondents were divided into 2 groups. The urban respondents consist of 235 elderly and the rural respondents consist of 212 respondents. Table 1 shows that from total number of 235 respondents living in urban areas, 79.57% are 60 – 75 years old, 76.59% have graduated from primary education, 51.92% are female, 35.74% are housewives; 76.6% are married; 71.2% has sufficient income; 44.25% are living with the spouse and their child (extended family) and 68.53% has intact cognitive function. On the other hand, there are 212 respondents who live in rural areas with characteristics as follows. About 62.74% are 60 – 75 years old; 52,34% were graduated from primary education; 65.57% are female; 39.62% are housewives; 68.40% are divorced; 84.43% have sufficient income; 50.48% are living with their child; and 58.02 % has mild cognitive impairment.

The KAP's questionnaire contains 11 questions to describe the implementation of health protocols by the elderly. The questions include outdoor activities or travelling in the last 30 days, engage in activities that allow crowding, wearing a masks, touching the front side of the masks when removing it, wash and reuse that have been used, often wash the eyes, lips and nose before washing the hands, frequently clean the surface of the furniture at home, keeping the distance, hand shaking, and having mealtime together.

The description of implementation of health protocols were shown at figure 1 and 2

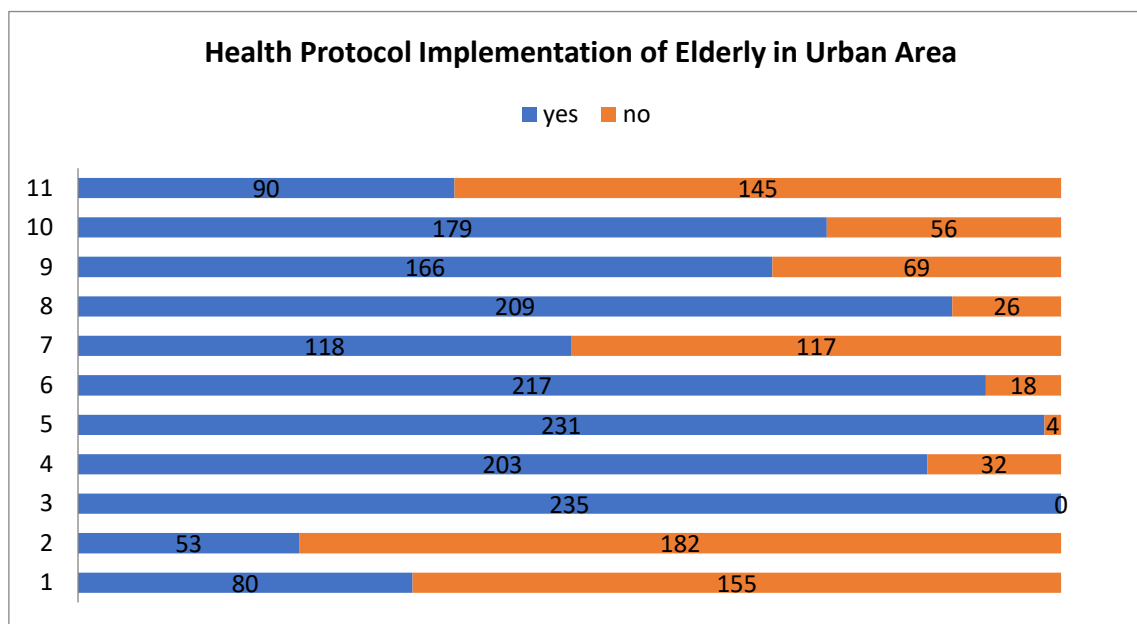


Figure 1. Health Protocol Implementation of Elderly in Urban Area (January, 2022)

Figure 1 shows that majority of urban respondents are not doing outdoor activities or not travelling for the last 30 days, not participate in crowding activities, they do wearing a masks and hand washing after the activities, cleaning the furniture at home and keep physical distancing. But the urban respondents are still touch the front side of the masks when removing it, they do handshaking and use to touch the lips, nose and eyes before wash their hands.

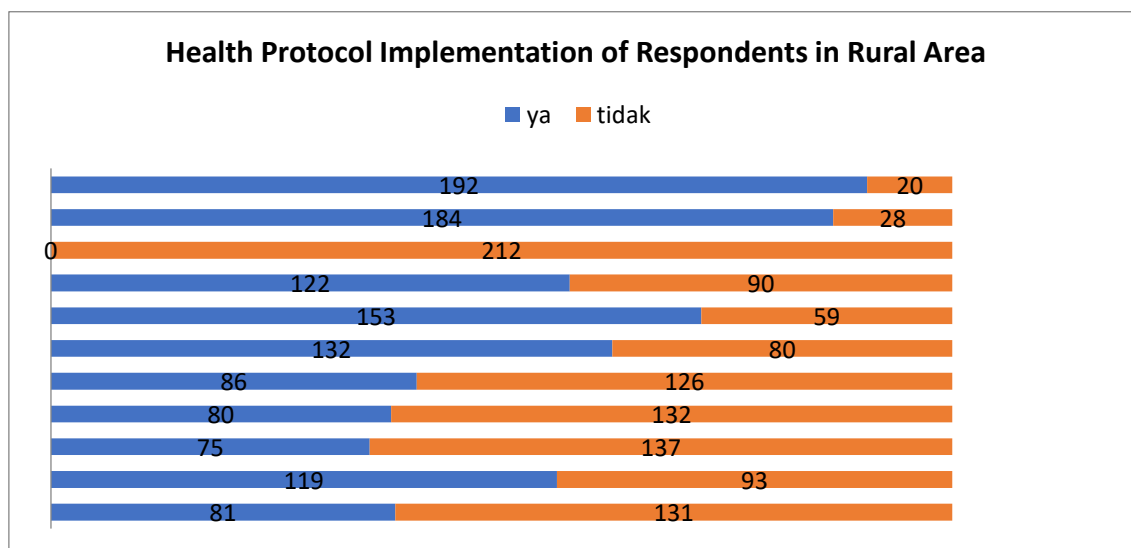


Figure 2. The Implementation of Health Protocols at Rural Area (January, 2022)

The implementation of health protocols in rural area is shown in figure 2. Figure 2 shows that the elderly in rural area are not doing in outdoor activity, but they do engage in in crowds, majority of respondents are not wearing a masks, they do washing their hands but they also touch the nose, lips and eyes frequently before clean their hands. They clean the house for several times, keep shaking hands and having meal time together.

Table 2. Cross Table of Health Protocol Implementation Among Elderly in Urban and Rural Area

Resident	Health Protocol Implementation		
	Obey	Disobey	
Urban	123	112	235
Rural	32	180	212
	155	292	447
p value 0,001			

Based on the data in table 2, we can see that 235 (52,57%) respondents are living in urban area and 212 (47,42%) respondents are living in rural areas. Of the 235 respondents who live in urban area, 123 respondents (52,34%) comply with health protocols. While of the 212 respondents in rural area, only 32 respondents (15,09%) demonstrated compliance with health protocols. Statistical analysis using the Mann Whitney test shows p value of 0.001 which is smaller than 0,05. This means that there is a difference between the implementation of health protocols for the elderly in urban and rural areas.

Health protocols which consist of washing hands, wearing masks, and keeping a distance are known to be effective mechanisms to reduce the incidence of COVID – 19. Statistical analysis shows a p-value of 0.001, smaller than α 0.05 which means that there is a significant difference in the implementation of health protocols by respondents in urban and rural areas.

The very fast spread of COVID-19 requires rapid adaptation of the entire community to new normal behavior. Health workers and all relevant officers have tried to teach and invite the public to implement health protocols to reduce the incidence of COVID-19. The very fast mutation of COVID-19 is an absolute requirement for the implementation of health protocols. The strategy that is believed to be effective to prevent the spread of COVID-19 is to adapt the community to health protocols, especially in the elderly group [10].

Seeking a new form of behavior, especially for the elderly, is not as easy as expected. The Health Believe Model Theory explains that the formation of health behavior is influenced by five independent factors including perceived susceptibility, perceived severity, cues to action, perceived benefit and perceived barriers [11]. Furthermore Zareipour et al., [12] shows that the HBM theory is one of the theories about behavioral changes from psychosocial and is widely used to discuss the relationship between beliefs and behavior.

Perceived susceptibility in the formation of COVID-19 prevention behavior is related to the public's perception of vulnerability to COVID-19 and perceived severity is related to the public's perception of the severity of COVID-19. There has been a lot of information provided regarding the transmission of COVID-19 but people tend to ignore it because of the wrong perception of COVID-19. Most respondents in rural areas think that COVID-19 is a disease that only infects people who travel abroad by plane and it is unlikely to infect rural people. This condition is further exacerbated by government directives that recommend avoiding crowds, including worshipping activities in mosques. In addition, the characteristics of COVID-19 which is caused by a very small virus, and not everyone who is infected with COVID-19 shows the symptoms, even some who are asymptomatic, making the public, including the elderly, become distrustful. However, from the cultural approach, residents in rural areas trust and understand the term "panggebluk" better than COVID-19 (Dewi, 2021). This is inseparable from the low health literacy of the elderly, especially the elderly in rural areas. Health literacy refers to a person's ability to understand his health condition. The data in table 1 shows that 37.26% of rural respondents have no education and 52.34% are graduates of basic education. In addition, the low internet access for the elderly in rural areas also contributes to the low access to health information. In contrast to urban areas, which have high internet access, the elderly have various choices of information about COVID-19. This is in accordance with a study conducted by Van Hoa et al.,

[13] which states that the ability to read, write and count as well as supported by access to the internet contributes to the formation of health literacy in the elderly.

The perception of vulnerability among respondents in urban areas was very good. Easy access to information makes respondents have a good understanding and tend to be more obedient to performing healthy behaviors. As stated by Attamimy and Qomaruddin [11], that individuals who are at risk will be more likely to perform behaviors to reduce the risk of disease.

Non-compliance with health protocols in respondents in rural areas is also influenced by patterns of social and economic interaction. The majority of respondents in rural areas don't practice social distancing because they are required to carry out economic activities such as farming and trading. Not many villagers use the internet to support their activities. So many people, including the elderly, do not practice social distancing for reasons of work to ensure that the family economy is met. The results of interviews with respondents in rural areas stated that they understand the dangers of the possibility of being infected by the COVID-19, but staying at home doing social distancing means that the family's economics are definitely not well. This is in line with the opinion of [14] which states that economic factors and negative stigma are inhibiting factors in the implementation of health protocols to prevent COVID-19.

Another fact found in this study is that the respondents stated wearing a mask makes communication difficult. A decline in hearing function makes it difficult for the elderly to communicate by wearing a mask, so many respondents take off their mask when speaking. Several respondents also stated that relatives who do not live at home are not people who need to be suspected as carriers of the virus. This kind of perception must be straightened out to ensure compliance with the implementation of health protocols.

CONCLUSION

From Mann Whitey analytical statistical test shows there are significant difference between the implementation of health protocols between the elderly in urban and rural areas. It is necessary to take a culture-based approach to improve the understanding of the community, including the elderly in rural areas, about COVID-19 and health protocols. Health education in easy listening language and involving family as the care givers for the elderly. Increasing the elderly's health literacy can be done gradually by using simple leaflets that can be understood by the elderly. It can help the elderly understand the importance of maintaining compliance with health protocols.

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