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Knowledge and practice of COVID-19 pandemic prevention in a community in Jakarta

Mardiastuti H Wahid[1], Ariyani Kiranasari[1], Ika Ningsih[1], Meutia Kumala Sari[2], Mochamad Helmi Aziz[3*]

[1]Department of Clinical Microbiology, Faculty of Medicine, Universitas Indonesia, Cipto Mangunkusumo Hospital, Jakarta, Indonesia
[2]Clinical Microbiology Study Program, Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia
[3]UI Medikal Main General Clinical Laboratory, Jakarta, Indonesia

*Corresponding to:
Mochamad Helmi Aziz; UI Medikal Main General Clinical Laboratory, Jakarta, Indonesia;
helmiprvkp@gmail.com

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ABSTRACT

Introduction: COVID-19 is an emerging infectious disease that causes a pandemic with high morbidity and mortality due to its wide transmission. This situation should be prevented not only by the government but also by the community. Efforts have taken place to prevent COVID-19 transmission including the obligation to wear masks, wash hands, keep a distance, stay at home, avoid crowds, and administer the vaccination. This study aims to examine the communities' knowledge, perception, and practice in preventing the spread of the COVID-19 pandemic.
Methods: This is a descriptive cross-sectional study in a suburban area in Jakarta. Ninety-seven respondents participated in this study. Data was collected by filling questionnaire via G-form and analyzed descriptively.
Results: A total of ninety-seven respondents participated in this study with aged 18-73 years. In terms of knowledge about COVID-19, the majority of the respondents know the etiology, symptoms, transmission, and the way to prevent the disease. Only less than half of them understand that corpses are capable of transmitting COVID-19. However, this research found a lack of implementation of practice in preventing COVID-19 transmission because only 62.9% of respondents always bring hand sanitizer/ABHS. Only a small percentage change clothes after leaving the house, do exercise, and take vitamins.
Conclusion: Although the community has sufficient knowledge and a good perception of COVID-19 prevention, rigorous effort should be provided to enhance the quality of practice of the community, to prevent the spread of COVID-19.

Keywords: COVID-19 pandemic, prevention, community.
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INTRODUCTION

On March 11, 2022, COVID-19 was declared a pandemic by the World Health Organization (WHO) due to its rapid and extensive spread all over the world.[1] A week before that, the first two cases were reported in Indonesia. Just until September 2021, around four million population in Indonesia were infected by COVID-19 with a mortality rate of more than 100.000 people.[2]

The causative agent of COVID-19 is SARS-CoV-2 classified as new coronavirus and transmitted via direct contact and droplet. A droplet from the respiratory tract is a particle with a size of 5-10 µm.[3] Transmission of SARS-CoV-2 occurs when coughing or sneezing in close contact (within one meter). Therefore, considering the mode of transmission of COVID-19, some efforts to prevent COVID-19 infection should be taken by the community, such as the use of masks.[3]

Studies conducted years ago demonstrated that wearing a mask will reduce the spread of the disease caused by the SARS virus in 2003. Mask (made of 70% cotton and 30% polyester or 100% cotton) can filter 40-60% aerosol particles.[3] Unfortunately, a study in Medan, Indonesia (2021) reported that only 34,3% out of 572 healthcare workers wore masks appropriately and only 10,6% practiced the right prevention action in keeping a distance from others.[4] In addition to the use of masks and keeping a distance, we have to be concerned with appropriate hand hygiene practices such as using alcohol-based hand sanitizer (ABHS).[5] Observations revealed that some antiseptic manufacturers are not giving the proper procedure in using ABHS and some ABHS products take a long time to dry that cause more side effects, sticky and reduce the obedience in hand hygiene practice.[5]

Another method that can be used to prevent COVID-19 is vaccination. Until now there are several kinds of vaccines available with different efficacy starting from 50-95%. Unfortunately, even though various vaccines are available, people in developed and developing countries refuse to be vaccinated due to vaccine side effects, safety level, and efficacy.[6] This situation is in concordance with the survey in Indonesia that showed only 64.8% out of 112,888 respondents are willing to be vaccinated, whereas 27,8% are still in doubt, and 7,6% reject vaccination.[7]

Based on those conditions, we can assume that the community's knowledge and perception of COVID-19 prevention remains a problem and can hinder disease eradication. Therefore, this study aimed to examine the communities' knowledge,

perception, and practice in preventing the spread of the COVID-19 pandemic. So that, we can apply appropriate interventions to raise their knowledge, skills, and awareness to break the chain of transmission and stop the pandemic.

METHODS

Study Design

This is a descriptive cross-sectional study. The research was conducted in Central Jakarta for 2 months from July until October 2021.

Research sample criteria

Samples are residents of a suburban area, Central Jakarta who were selected randomly to participate in this study (n=97) from July until October 2021. The inclusion criteria in this research are residents of the suburbs of Central Jakarta aged over 18 years who are willing to be respondents in the research period from July until October 2021 and the respondents are in good health. The exclusion criteria for this research were respondents who withdrew in the middle of the research and respondents who did not fill out the questionnaire completely. To avoid bias in the research, sample selection was carried out using simple random sampling by the inclusion and exclusion criteria, and filling out the questionnaire was carried out individually, and the questionnaire has previously been tested for validity and reliability.

Research variable and data Collection

The variables collected in this research are knowledge and practice in preventing the spread of the COVID-19 pandemic. We collected data by distributing questionnaires directly to the respondents (via G-form). Consent was taken before respondents filled in the questionnaires. We observed the way respondents wore masks and simulated hand hygiene procedures.

Data Analysis

Data analysis was carried out using the SPSS version 26 computer program. Descriptive analysis was carried out univariately to determine the frequency distribution of each research variable.

RESULTS

The questionnaire had been validated before the study was conducted. Reliability analysis for practice and knowledge was categorized as quite reliable with Cronbach alpha = 0.44 for knowledge and 0.59 for practice. Face and content validity was done by one of the authors (MW).

A total of ninety-seven respondents participated in this study with a wide range of ages (18-73 years), with women slightly more than men. Their salary is in the range of 1.5->3.5 million rupiah, some either had not worked yet or did not want to answer the question. The majority of them have health insurance and have no chronic diseases (see **Table 1**).

Less than half of the total respondents had been suffered from COVID-19, while 15% didn't aware of whether they had infected or not. Most of their neighbourhood and family members had ever been infected by COVID-19, and more than half of the infected persons passed away (see **Table 2**). In terms of knowledge about COVID-19, the majority of the respondents know the etiology, symptoms, transmission, and the way to prevent the disease. Only less than half of them understand that corpses are capable of transmitting COVID-19.

Most respondents (94.9%) wore a mask in crowds/public facilities. Most respondents (84.5%) always keep a distance from others in crowds/public facilities. The majority of respondents (81.4%) always wash their hands with soap/hand sanitizer/ABHS in the crowd/public facilities. However, this research found a lack of implementation of practice in preventing COVID-19 transmission because only 62.9% of respondents always bring hand sanitizer/ABHS. Most respondents always bring a reserved mask. Only 48.4% of respondents always change my masks every 6 hours or if they look dirty. Most of the respondents, 51.6%, did not exercise regularly. Only 42.3% of respondents consume vitamins regularly. Most respondents rest thoroughly every day change their clothes and take a bath immediately after going outside of home or working. Most respondents wore a mask during the interview. The majority of respondents (45.4%) can use ABHS properly and demonstrate how to use it (See **Table 3**).

DISCUSSION

The percentage of respondents who had suffered from COVID-19 was almost similar to respondents who had never been infected by SARSCoV-2. Almost 15% of respondents did not realize whether they had suffered from COVID-19 or not, although most of them knew the symptoms of COVID-19. The percentage of respondents who had COVID-19 was half of their neighbourhood suffered from COVID-19, and the mortality rate of the infected persons was high.

Knowledge, attitude, and practice of the community have an important role in breaking the transmission chain of COVID-19. The Indonesian government through the Ministry of Health of the

Table 1. Demographic Data

Variables	Percentage (%)	
Age Median (Min-Max)	36 years (18-73 years)	
Gender	Man	46%
	Woman	54%
Salary/month	< 1.5 million	3%
	1.5-3.5 million	26.8%
	> 3.5 million	28.9%
	Had not worked yet	21.7%
	Did not want to answer	19.6%
Have health insurance	Yes	73.2%
	No	26.8%
Suffered from chronic diseases	Yes	14.4%
	No	78.4%
	Don't know	7.2%

Republic of Indonesia advocates the prevention of the coronavirus by urging the community to prevent the spread of COVID-19 by improving behaviour and knowledge of public health, as well as implementing a healthy lifestyle and clean lifestyle.[8–10]

The preventive measures in question include: always keep hands clean by washing them with running water using soap for 20 seconds and then rinse; apply appropriate cough and sneeze ethics by covering nose and mouth using a tissue or hand sleeve so as not to spread to others, eating a nutritionally balanced diet, eating fruits and vegetables, doing exercise for at least half an hour every day, increasing endurance, adequate rest and immediate treatment if sick.[9] Health education will increase public awareness about the importance of maintaining the environment and themselves to stay healthy.[10]

In the early COVID-19 pandemic, the community tended to obey government regulations in preventing the transmission of the disease (wearing masks, social distancing, and hand washing). Unfortunately, their compliance decreased, while the number of cases increased. A Study in Contra Costa, California reported that involving the community will give a positive result in increasing community understanding and appreciation toward health, developing trustworthiness and credibility of health authorities in facilitating community engagement, making plans, and supporting public health.[11]

The result of this study showed that most of the respondents know COVID-19, how it spreads, and how to prevent it. Zukmadini et al 2020 found that in an orphanage at Bengkulu (South Sumatra), most of the communities' knowledge was adequate. Their knowledge increased from 74.48% before the implementation of public service activities to 86.48%.[12]

Regarding practical knowledge in preventing COVID-19, respondents demonstrated adequate knowledge in wearing masks, keeping in distance, washing their hands, and taking a rest. Unfortunately, even though they knew it, our observation showed that some did not wear the masks appropriately, and some did not wear masks at all. Some of them did not bring reserved masks or change their mask every 6 hours or if they looked dirty. Their high percentage of practical knowledge in hand washing was not followed by the implementation of good hand washing practices. It had been proven that only less than 50% of respondents practice the 6th step of hand washing (WHO), 26.8% of respondents practice the 3rd step (WHO) and the rest were not able to demonstrate hand washing practice appropriately using hand sanitizer. Furthermore, the majority of respondents do not always bring hand sanitizer. Another study conducted in Wonosobo reported that 95.8% of the community had a good attitude toward preventing the transmission of COVID-19, for example, wearing masks outside their home, washing hands using soap or hand sanitizer, avoiding crowds, and implementing social distancing. Most of the respondents have good knowledge (99%), positive behaviour (59%), and a good attitude (93%) toward COVID-19.[13]

The Indonesian government has socialized healthy behavior regarding the prevention of COVID-19 transmission. Unfortunately, the majority of health promotion is conducted online. Therefore, it may not cover low-income communities with limited resources such as internet access or social media. The outreach program is one of several efforts to empower the community so that they are aware of their health. This program included door to door strategy, via posters and other media.[12,13] Healthy life

Table 2. Knowledge in Preventing the Spread of the COVID-19 Pandemic

Variables	Percentage (%)	
Has ever had a COVID-19 infection	Yes	43.3%
	No	42.2%
	Don't know	14.5%
People who live in neighbourhoods/family members has ever infected by COVID-19	Yes	83.5%
	No	10.3%
	Don't know	6.2%
People who live in neighbourhoods/family members died due to COVID-19	Yes	38.1%
	No	53.6%
	Don't know	8.3%
Know the agent cause COVID-19	Yes	69%
	No	31%
Know the symptoms of COVID-19	Yes	92.8%
	No	7.2%
COVID-19 can transmit through the air	Yes	76.3%
	No	12.4%
	Don't know	11.3%
A person with positive COVID-19 but has no fever can transmit COVID-19	Yes	77.3%
	No	4.1%
	Don't know	18.6%
Death person due to COVID-19 can still transmit COVID-19	Yes	45.4%
	No	28.9%
	Don't know	25.7%
Wearing a surgical mask can prevent COVID-19 infection	Yes	82.5%
	No	10.3%
	Don't know	7.2%
Routine washing of hands with soap/ hand sanitizer can prevent transmission of COVID-19	Yes	92.8%
	No	4.1%
	Don't know	3.1%
Vaccines can prevent COVID-19 infection	Yes	75.3%
	No	13.4%
	Don't know	11.3%

messages should be supported by enabling the community to practice and act appropriately in preventing COVID-19, such as providing masks and soaps for them.[14]

According to Yanti, et al 2020, she reported that healthy behaviour is influenced by several factors, such as knowledge, the expectation of behaviour, and attitude changes, Knowledge is obtained from their own experiences, and knowledge can cause somebody to get additional information using their common sense. A person in a community who has information can determine how to react and make decisions when facing problems. The application of social distancing should be recommended as a COVID-19 pandemic mitigation all over the world.[14] An epidemiological study using some models showed that social distancing can reduce the number of respiratory infection cases, for example, influenza. Droplets that come out from coughing and sneezing are the major source of influenza transmission. Social distancing can reduce person-to-person transmission risk which can occur in 3-6 inches. This study also revealed that 99%, 59%, and 935 respondents with good knowledge, positive attitudes, and good behavior respectively toward social distancing to prevent the transmission of COVID-19. The respondents who had good knowledge showed positive attitudes (58.85%) and good behavior (93.3%). The respondents who had positive attitudes showed good behavior (96.7%).[15]

Zhong et al (2020) reported that the majority of respondents (97.1%) believed that China could fight against COVID-19. This was evidenced by their compliance in wearing masks (98.0%) when out of the house. Knowledge, optimist attitude, and appropriate practice support in handling COVID-19.[16]

This study is descriptive in a single suburban area in Jakarta. Therefore, it may not represent the actual condition. More respondents and areas are required to increase the validity.

Table 3. Practice in Preventing the Spread of the COVID-19 Pandemic

Variables	Percentage (%)	
I am wearing a mask in crowds/ public facilities	Yes	94.9%
	No	5.1%
I always keep a distance from others in crowds/public facilities.	Yes	84.5%
	No	15.5%
I always wash my hands with soap/ hand sanitizer/ABHS in the crowd/ public facilities before touching my eyes, nose, or mouth or before eating.	Yes	81.4%
	No	18.6%
I always bring hand sanitizer/ABHS wherever I am	Yes	62.9%
	No	37.1%
I always bring a reserved mask wherever I am	Yes	61.9%
	No	38.1
I always change my mask every 6 hours or if it looks dirty	Yes	48.4%
	No	51.6%
I always do the exercise routinely	Yes	48.4%
	No	51.6
I consume vitamins routinely	Yes	42.3%
	No	57.7%
I take rest adequately every day (minimum 6-8 hours)	Yes	80.4%
	No	19.6%
After going outside home or working I always change my clothes and take a bath immediately.	Yes	79.4%
	No	20.6%
The respondent wears a mask during the interviewed	Yes, the respondent wears a mask appropriately	73.2%
	Respondent wears a mask, but inappropriately, takes the mask off while interviewed or touches the front part of the mask or mask is not proper to be used	15.5%
	Not wearing mask	11.3%
Respondent can use ABHS properly and demonstrates how to use it.	Yes, according to the six steps of WHO guidance	45.4%
	Yes, according to the three steps of WHO guidance	26.8%
	No	27.8%

CONCLUSION

Respondents' knowledge regarding COVID-19 transmission and prevention is adequate. But knowledge only cannot warrant the success of eradicating the disease. It should be accompanied by appropriate practice in preventing transmission to reduce morbidity, hence the mortality rate. Unfortunately, in this study, we found a lack of implementation of practice in preventing COVID-19 transmission. Therefore, extra effort should be taken to enhance community compliance in practicing healthy behavior. Therefore, it is recommended to carry out further research with a different study design and a wider sample, as well as carrying out deeper analysis to determine the relationship between variables.

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CONFLICT OF INTEREST

We have no potential conflicts of interest to report. All authors read and approved the final manuscripts.

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AUTHOR CONTRIBUTION

All of the authors contributed equally to this study.

ETHICAL CONSIDERATION

This study obtained ethical clearance from Ethics Committee No. KET-1090/UN2. F1/ETIK/PPM.00.02/2021, protocol no. 21-10-1056.

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