

# Knowledge, Attitude and Practice of Health Workers against COVID-19 Infection When Returning from Work, Mamuju District, Indonesia, 2020

Rahmat Haji Saeni<sup>1</sup>, Agus Erwin Ashari<sup>2</sup>, Fajar Akbar<sup>3</sup>, Fahrul Islam<sup>2</sup>, Ashriady<sup>4</sup>, Abbas Mahmud<sup>5</sup>

<sup>1</sup>Department of Nutrition, Polytechnic of Health, Mamuju, West Sulawesi, Indonesia  
Correspondence author: email: rahmathajisaeni[at]gmail.com

<sup>2,3,4</sup>Department of Environmental Health, Polytechnic of Health, Mamuju, West Sulawesi, Indonesia

<sup>5</sup>Department of Midwifery, Polytechnic of Health, Mamuju, West Sulawesi, Indonesia

**Abstract:** *Background:* Severe acute respiratory syndrome coronavirus 2 (SARS - CoV2) is a type of virus that causes Coronavirus Disease 2019 (COVID-19). The disease is highly infectious, and the main symptoms of the disease such as fever, cough and shortness of breath. The disease is still continuing spread to more than 200 countries and territories globally. The study aimed to explore the knowledge, attitudes and practice (KAP) of health workers when returning home from work in Mamuju District, West Sulawesi province, Indonesia against COVID-19 infection. *Method:* This research used the quantitative descriptive method conducted from September 21 to October 12, 2020. The research variables were KAP of health workers against the COVID-19 prevention when returning home. Data were collected through a self-administered questionnaire. *Results:* A total of 166 respondents were collected. The study resulted that the level of knowledge, attitude and practice of health worker against COVID-19 infection when returning home from work were good. *Conclusions:* KAP of health worker in Mamuju District, West Sulawesi Province, Indonesia was good. It is suggested that keep maintaining and improving healthy living protocols not only in the working area and home but also in the way in returning home.

**Keywords:** health worker, prevention, COVID-19, KAP, Mamuju

## 1. Introduction

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS - CoV2) is a type of virus that causes Coronavirus Disease 2019 (COVID-19). This type of virus has never been previously identified in humans. The main symptoms of the disease such as fever, cough and shortness of breath. The incubation period of the disease is an average of 5 - 6 days with the longest incubation period of 14 days. If the disease occurs in severe cases, it can cause pneumonia, acute respiratory syndrome, kidney failure and even death.<sup>1</sup>

The COVID-19 pandemic is a serious global health threat and emergency situation. On January 30, 2020, the WHO has designated the COVID-19 as Public Health Emergency of International Concern (PHEIC), and nine months after that (October 29, 2020) the WHO reported that there have been 43,766,712 confirmed cases globally including 1,163,459 deaths (CFR= 2.66%). The disease is still continuing spread to more than 200 countries and territories globally.<sup>2,3</sup>

The prevention and control of COVID-19 is not only the obligation of the government or health workers, but also every element of the society, even individuals are also asked to be able to play a role and participate actively. Cross-sector cooperation efforts and even international cooperation are also expected to be a part that can contribute to breaking the chain of the spread of COVID-19. These efforts can take

the form of easy access to information and communication as well as education to the public.<sup>4</sup>

The prevention and control of COVID-19 in the community was not optimal yet. It can be influenced by several factors, including environmental, community behavior, and health services. In general, the main factor of the failure to prevent and control COVID-19 by the community are influenced by the environment and behavior. The clean and healthy living behavior are government's programs that are often socialized in order to increase public knowledge about the importance of health. Thus, the community can independently increase their health status. The implementation of preventive measures is a measure that is quite effective and appropriate in reducing the number of COVID-19 cases. By doing regular hand washing, using face masks, and physical distancing are practice that are considered quite effective in preventing the COVID-19 infection. Physical distancing policies are enforced in order to avoid viruses due to droplets. Other policies that are carried out in maintaining distance include employees being dismissed or setting working hours and changing online meetings.<sup>5</sup>

The behavior such as using face masks, hand washing with soap or hand sanitizer, and physical distancing are behaviors that seem easy to do by all groups, especially health workers. However, community commitment and consistency in implementing it is still relatively difficult to apply as a habit let alone become a behavior.<sup>6</sup> Health promotion efforts

to increase knowledge are still needed as a basis for changing habits and even new behaviors to adapt to the conditions of COVID-19. Health workers are at the forefront of preventing and dealing with COVID-19, so the risk of being infected with the disease is very large. Together with this, the potential for health workers to transmit the disease to their families is also very large.<sup>7</sup>

We aimed to explore the knowledge, attitudes and practice (KAP) of health workers when returning home from work in Mamuju District, West Sulawesi province, Indonesia against COVID-19 infection.

## 2. Methods

### 2.1 Study design and setting

This research used the quantitative descriptive method conducted from September 21 to October 12, 2020. The research variables were knowledge, attitude and practice of health workers against the COVID-19 prevention when returning home. This was an online survey that designed by Google Forms and then the survey's link shared to the health workers' *WhatsApp* groups in Mamuju District, West Sulawesi, Indonesia. Each member of the *WhatsApp* group was invited to answer the survey and requested to forward the survey link to others. It required 5–7 minutes to complete the online survey.

The population of the study was all of health workers in Mamuju District, West Sulawesi Province, Indonesia. Respondents were health workers who sent feedback the online questionnaires to the researchers.

### 2.2 Data collection

The questionnaire consisted of two parts: demographics detail section and knowledge, attitude and practice section. Demographic detail section included age, gender, level of education, occupation, work place and length of work.

### 2.3 Statistical analysis

The respondent's knowledge, attitude and practice score about COVID-19 was calculated as the sum of the response scores. The total number of questions in the survey was 70 questions. To measure the knowledge of the respondents as much as 18 questions were asked to the respondents. Each correct respondent's answer will get a score of 1 and 0 for each incorrect/unknown answer. To measure the attitude of the respondents there were 27 questions were asked. The questions consist of three main questions about agreement on using face mask, washing hand or using hand sanitizer and physical/social distancing. To measure the practice, there were 25 questions consist of two main questions about the practice using face mask, washing hand or using hand sanitizer on the way returning home and before entering home. All of the respondents' answer will be tabulating in the frequency distribution table.

## 3. Results

### 3.1 Characteristics of participants

**Table 1:** Characteristics of Respondents (n=166)

Characteristics	f	%
<b>Gender</b>		
Male	30	18.4
Female	133	81.6
<b>Age group (year)</b>		
≤25	25	15.3
26 – 30	48	29.4
31 – 35	43	26.4
36 – 40	27	16.6
>40	20	12.3
<b>Occupation</b>		
Midwife	48	29.4
Nurse	47	28.8
Sanitarian	19	11.7
Pharmacist	9	5.5
Nutritionist	9	5.5
Public health	7	4.3
Medical doctor	4	2.5
Dentist	4	2.5
Other	16	9.8
<b>Work place</b>		
Public health center	123	75.4
Hospital	40	24.6
<b>Level of education</b>		
Senior high school	1	0.6
Diploma degree	80	49.1
Bachelor degree	38	23.3
Profession	37	22.7
Master degree	6	3.7
Specialist	1	0.6
<b>Length of work (year)</b>		
≤5	60	36.8
6 – 10	56	34.4
11 – 15	27	16.6
16 – 20	17	10.4
>20	3	1.8

A total of 166 participants were collected during the survey period. Most of participants were female 133 (81.6%), the highest age group was 26-30 years (29.4%), occupation was midwife (29.4%), work place was in public health center (75.4%), level of education was diploma degree 49.1%, and length of work was ≤5 year (36.8%) (Table 1).

**Table 2:** Knowledge of respondents against prevention of COVID-19

Questions	Yes		No	
	n	%	n	%
By using a hand sanitizer when returning home from work can prevent the transmission of COVID-19	154	94.5	9	5.5
By providing hand washing facilities in front of the house is one of the efforts to prevent the transmission of COVID-19	163	100	0	0.0
By maintaining personal hygiene can prevent the transmission of COVID-19	162	99.4	1	0.6
By washing work clothes after work can prevent COVID-19 transmission	159	97.5	4	2.5

The results showed that knowledge of respondents against prevention of COVID-19 was very good. Almost of respondents (94.5%) know that by using a hand sanitizer

when returning home from work can prevent the transmission of COVID-19. There was 100% of respondents know that by providing hand washing facilities in front of the house is one of the efforts to prevent the transmission of COVID-19 (Table 2).

**Table 3:** Attitude of respondents against prevention of COVID-19

Questions	Agree		Disagree	
	n	%	n	%
Keep using a face mask on the way home from work	163	100	0	0.0
By using hand sanitizer when getting off the vehicle	160	98.2	3	1.8
Washing hands with soap in running water before entering the house	161	98.8	2	1.2
The first thing to do when arrived at home from work is take a shower	161	98.8	2	1.2
Immediately wash the clothes used at work when arrived at home	162	99.4	1	0.6

The results showed that in general the attitude of health workers in preventing COVID-19 infection when returning home from work was good. All of respondents (100%) agreed that by keep using a face mask on the way home from work can prevent of COVID-19 infection. There were 160 respondents (98.2%) agreed that by using hand sanitizer when getting off the vehicle can prevent COVID-19 infection (Table 3).

**Table 4:** Practice of respondents against prevention of COVID-19

Questions	Yes		No	
	n	%	n	%
Keep wearing a face mask on the way home from work	163	100.0	0	0.0
Using a different face mask when going and returning home from work	115	70.6	48	29.4
Washing hands with soap or hand sanitizer before entering home	158	96.9	5	30.1

The results showed that in general the practice of health workers in preventing COVID-19 infection when returning home from work was good. All of the respondents (100%) keep wearing a face mask on the way home from work. Unfortunately, there was 115 respondents (70.6%) using a different face mask when going and returning home.

**Table 5:** Practice of respondents when arriving at home in preventing of COVID-19 infection

Questions	f	%
Actions that are taken immediately upon arrival home		
Change clothes	50	30.7
Take a rest	2	1.2
Shower	111	68.1
The act of putting clothes after work		
Hang on the wall	3	1.8
Put into the basket	37	22.7
Washing	123	75.5

The results showed that the highest action taken immediately upon arrival home was shower (68.1%) and washing their clothes while arriving at home was 123 respondents (75.5%).

## 4. Discussion

### Knowledge

Knowledge is the fact or condition of knowing something, is a logical prerequisite to the intentional performance of health-related behaviors, prevention beliefs, individual's cognition, and positive behaviors. Good knowledge will enhance and maintain self-confidence in carrying out competent actions. The results of the study showed that knowledge of respondents was very good.

This is also supported by the existence of government programs to promote health protocols which are carried out massively. In addition, the respondents' knowledge is also greatly influenced by the level of education. This was also emphasized that people who have good knowledge will have a positive impact in preventing of COVID-19.<sup>8</sup> The previous studies have explored the knowledge of COVID-19 among health care workers.<sup>9,10</sup>

The COVID-19 incident is something that has just happened to humans globally. This also encourages the public, especially health workers to seek information about it, and it will enhance the knowledge of the health workers. The development of information and communication technology has also contributed greatly to increase health worker's knowledge.<sup>11</sup> The high level of knowledge possessed can contribute positively to efforts to prevent and control COVID-19.<sup>12</sup>

Dissemination of information through print and electronic media (television, radio, online media, social media, leaflets, banners and others) is also a step taken to increase knowledge. The media convey such information so it can be the source of knowledge to increase awareness in preventing COVID-19 infection.<sup>13</sup>

### Attitude

Attitude is one of the elements of personality to influence practice or behavior.<sup>8,14</sup> The factor directly related to the attitude of health workers is knowledge. The main predictor for the formation of behavior is or actions in everyday life is attitude. Thus, in certain cases attitude can determine action. Attitudes can be internalized well if they are often reminded and exemplified.<sup>15,16</sup> To ensure prevention and control, one of the things needed is an attitude towards adherence to implementing health protocols<sup>14</sup>. This finding is in line with some previous studies that revealed good attitude of health workers against COVID-19 infection.<sup>14,16,17</sup>

### Practice

Practice is the main key in the prevention against COVID-19 infection. Good knowledge and attitude will be useless if not supported by good practices.<sup>17</sup> The results showed that the practice of health workers when they returning home was good, but there were still practice that could lead to the occurrence of COVID-19 infection, including the number of respondents who did not shower while returning and storing the dirty clothes in baskets. The actions of health workers can be influenced by two factors, namely internal factors and external factors. Internal factors can be in the form of knowledge, perception, emotions and motivation.

Meanwhile, external factors can be influenced by the physical and non-physical environment.<sup>18</sup>

In addition, awareness is urgently needed by every individual to prevent the transmission of COVID-19 infection through tight control.<sup>19</sup> Individual empowerment can be done through health promotion efforts<sup>20</sup>, so that this can control health determinants. This empowerment can produce beneficial individual actions in order to improve health status and ultimately result in good health practices.<sup>21</sup>

## 5. Conclusion

Knowledge, attitude and practice of health workers in preventing COVID-19 infection when they returning from work were good. It is suggested that keep maintaining and improving healthy living protocols not only in the working area and home but also in the way in returning home.

## Conflict of interest

None

## 6. Acknowledgements

The authors would like to acknowledge to the Director of Polytechnic of Health, Mamuju, West Sulawesi, Indonesia for valuable advice, Head of Department of Nutrition, and all respondents.

## References

- [1] Kementerian Kesehatan RI. Halaman Sampul. 2020;4(3):1-214. doi:10.33654/math.v4i3.272
- [2] WHO. WHO Director-General's Opening Remarks at the Media Briefing on COVID-19 - 11 March 2020.; 2020. <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-COVID-19---11-march-2020>.
- [3] CDC. Coronavirus. <https://www.cdc.gov/coronavirus/types.html>. Published 2020. Accessed April 17, 2020.
- [4] Zahrotunnimah. Langkah Taktis Pemerintah. *J Sos dan Budaya Syar'i*. 2020;7(3).
- [5] Syadidurrahmah F, Muntahaya F, Islamiyah SZ, et al. *Perilaku Dan Promosi Kesehatan: Indonesian Journal of Health Promotion and Behavior*. Vol 2.; 2020.
- [6] Rosidin U, Rahayuwati L, Herawati E. Perilaku dan Peran Tokoh Masyarakat dalam Pencegahan dan Penanggulangan Pandemi Covid -19 di Desa Jayaraga, Kabupaten Garut. *Umbara*. 2020;5(1):42. doi:10.24198/umbara.v5i1.28187
- [7] Rosyanti L, Hadi I. Dampak Psikologis dalam Memberikan Perawatan dan Layanan Kesehatan Pasien COVID-19 pada Tenaga Profesional Kesehatan. *Heal Inf J Penelit*. 2020;12(1):107-130. doi:10.36990/hijp.vi.191
- [8] Reuben RC, Danladi MMA, Saleh DA, Ejembi PE. Knowledge, Attitudes and Practices Towards COVID-19: An Epidemiological Survey in North-Central Nigeria. *J Community Health*. 2020;(July). doi:10.1007/s10900-020-00881-1
- [9] Zhang M, Zhou M, Tang F, et al. Knowledge, attitude, and practice regarding COVID-19 among healthcare workers in Henan, China. *J Hosp Infect*. 2020;105(2):183-187. doi:10.1016/j.jhin.2020.04.012
- [10] Giao H, Thi N, Han N, et al. Knowledge and attitude toward COVID-19 among healthcare workers at Knowledge and attitude toward COVID-19 among healthcare workers at District 2 Hospital , Ho Chi Minh City. *Asian Pac J Trop Med*. 2020;13(April):1-5. doi:10.4103/1995-7645.280396
- [11] Al-Hanawi MK, Angawi K, Alshareef N, et al. Knowledge, Attitude and Practice Toward COVID-19 Among the Public in the Kingdom of Saudi Arabia: A Cross-Sectional Study. *Front Public Heal*. 2020;8(May):1-10. doi:10.3389/fpubh.2020.00217
- [12] Sitepu FY, Depari E, Aditama W, et al. A Survey of the Knowledge of Surveillance Officers and Outbreak Investigation Team toward COVID-19 in North Sumatera Province, Indonesia. *Open Access Maced J Med Sci*. 2020;8(T1):55-60. doi:<https://doi.org/10.3889/oamjms.2020.4910>
- [13] Sulistyanningtyas T, Jaelani J, Suryani Y. Power of Knowledge and Community Social Class above COVID-19 Pandemic Information on Social Media. *J Komun Ikat Sarj Komun Indones*. 2020;5(1):52-62. doi:10.25008/jkiski.v5i1.372
- [14] Ngwewondo A, Nkengazong L, Ambe LA, et al. Knowledge, attitudes, practices of/towards COVID 19 preventive measures and symptoms: A cross-sectional study during the exponential rise of the outbreak in Cameroon. *PLoS Negl Trop Dis*. 2020;14(9):e0008700. doi:10.1371/journal.pntd.0008700
- [15] Ramaci T, Barattucci M, Ledda C, Rapisarda V. Social stigma during COVID-19 and its impact on HCWs outcomes. *Sustain*. 2020;12(9). doi:10.3390/su12093834
- [16] Abdel Wahed WY, Hefzy EM, Ahmed MI, Hamed NS. Assessment of Knowledge, Attitudes, and Perception of Health Care Workers Regarding COVID-19, A Cross-Sectional Study from Egypt. *J Community Health*. 2020;(0123456789). doi:10.1007/s10900-020-00882-0
- [17] Prasad Singh J, Sewda A, Shiv DG. Assessing the Knowledge, Attitude and Practices of Students Regarding the COVID-19 Pandemic. *J Health Manag*. 2020;22(2):281-290. doi:10.1177/0972063420935669
- [18] Yanti B, Wahyudi E, Wahiduddin W, et al. Community Knowledge, Attitudes, and Behavior Towards Social Distancing Policy As Prevention Transmission of COVID-19 in Indonesia. *J Adm Kesehat Indones*. 2020;8(2):4. doi:10.20473/jaki.v8i2.2020.4-14
- [19] Zaid AA, Barakat M, Al-Qudah RA, Albetawi S, Hammad A. Knowledge and awareness of community toward COVID-19 in Jordan: A cross-sectional study. *Syst Rev Pharm*. 2020;11(7):135-142. doi:10.31838/srp.2020.7.22
- [20] Sitepu FY, Nasution H, Supriyadi T, Depari E. Epidemiological and Entomological Investigation of Dengue Fever Outbreak in. *Outbreak, Surveillance, Investig Response J*. 2018;11(3):8-12.
- [21] Kebede Y, Yitayih Y, Birhanu Z, Mekonen S, Ambelu A. Knowledge, perceptions and preventive practices

towards COVID-19 early in the outbreak among  
Jimma university medical center visitors, Southwest  
Ethiopia. *PLoS One.* 2020;15(5):1-15.  
doi:10.1371/journal.pone.0233744