

The Correlation Of Community Knowledge Level Of Makassar Citizens About Covid-19 And Compliance With The Use Of Mask

Rosdiana Sahabuddin¹, M. Muhlis Ananta², Bramantyas Kusuma Hapsari³, Ami Febriza^{4,*}

¹Departemen Obstetri dan Ginekologi, Fakultas Kedokteran dan Ilmu Kesehatan Universitas Muhammadiyah Makassar, Indonesia

²Mahasiswa Prodi Pendidikan Dokter, Fakultas Kedokteran dan Ilmu Kesehatan Universitas Muhammadiyah Makassar, Indonesia

³Departemen Mikrobiologi, Fakultas Kedokteran dan Ilmu Kesehatan Universitas Muhammadiyah Makassar, Indonesia

⁴Departemen Fisiologi, Fakultas Kedokteran dan Ilmu Kesehatan Universitas Muhammadiyah Makassar, Indonesia

ARTICLE INFO

Keywords :
Knowledge,
Covid-19,
Mask

Email :

amifebriza@med.unismuh.ac.id

ABSTRACT

Acute Respiratory Syndrome caused by a virus that is a subtype of the SARS-CoV virus is called Covid-19 (SARS-CoV-2). This virus targets the respiratory system and results in COVID-19, an illness (Coronavirus Disease-2019). In addition, several other clinical signs of this illness are frequently seen, such as fever, anosmia, coughing, sore throat, or dyspnea. According to information from the Makassar City Health Office, as of August 1, 2021, there are 4310 current cases in Makassar City, with a downward trend in mask use. Aim: This study aims to determine whether there is a correlation between the amount of community knowledge about COVID-19 and the amount of mask compliance in Gunung Sari Village, Makassar. Methods: The study used observational analytical research with a cross-sectional design sample of 52 people. The sampling used a random sampling technique. Results: About 61.5% of respondents know about COVID-19 awareness. Among them, 21.8 % (7 respondents) rarely use masks, 31.2% (10 respondents) sometimes use a mask, and 46.9% (15 respondents) continuously use a mask. Furthermore, there was a statistical association between the level of knowledge about COVID-19 and compliance using a mask ($p < 0.05$). Conclusions: It can be concluded that there is a significant correlation between community knowledge about Covid-19 awareness and mask compliance in Gunung Sari Sub-district.

Copyright © 2022 Jurnal Eduhealth.

All rights reserved.

is Licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License \(CC BY-NC 4.0\)](https://creativecommons.org/licenses/by-nc/4.0/)

1. INTRODUCTION

At the start of 2020, people worldwide were shocked by the appearance of a new health issue, namely the emergence of the Covid-19 outbreak. Covid-19 was in the spotlight when it was first reported in December 2019 in Wuhan, China. Shortly following that circumstance, on March 2, 2020, the first confirmed COVID-19 case was discovered. According to data provided by WHO on August 2, 2021, this virus has infected more than 200 countries with 198,000 confirmed cases and resulted in 4 million deaths. Meanwhile, more than 3 million people in Indonesia have been confirmed positive for COVID-19, and 97,000 have died. The number of cases is the 14th in the world and the highest compared to other ASEAN countries [1].

Severe Acute Respiratory Syndrome Covid-19 is a new type of virus that is part of the SARSr-CoV virus. This virus attacks the respiratory system, causing a disease widely known as COVID-19

The Correlation of Community Knowledge Level of Makassar Citizens About Covid-19 and Compliance with The Use of Mask. Rosdiana Sahabuddin, M. Muhlis Anant², Ami Febriza

(Coronavirus Disease-2019) [2,3]. The disease can cause various kinds of clinical manifestations that are often encountered, including fever, anosmia, cough, sore throat, or dyspnea. Usually, certain groups are susceptible to this virus, such as the elderly, smokers, and those suffering from chronic illnesses, including diabetes mellitus, hypertension, cardiovascular disease, or respiratory diseases [4].

Transmission of this disease can occur from COVID-19 patients to other humans through droplets that are released during activities such as talking, coughing, sneezing, or singing, as well as other behaviors that require the mouth to open. In addition, results from a study indicate that this virus has the ability to survive on aerosol media for several hours or at least 3 hours. [5]. Furthermore, indirect transmission can happen when there is contact between hands that have direct contact with SARS-CoV-2-exposed objects and the entry points of this virus into the body, which include the eyes, nose, and mouth.

According to data collected by the Makassar Health Office as of August 1, 2021, there were 4310 active cases in Makassar, with three sub-districts with the highest number of reported cases, including Rappocini (5628), followed by Biringkanaya (5249), and Tamalate (4697). These were followed by a trend of public knowledge of wearing masks and awareness to maintain a safe distance, which tends to decrease. This condition follows the results of a survey conducted by the Consultant Team for the South Sulawesi COVID-19 Handling Task Force, which indicated a deterioration in citizens' awareness of using masks recorded in inspections at various major stations in Makassar.

As explained, COVID-19 spreads primarily with respiratory droplets and there is controversy about airborne transmission (droplet particles with 5 µm in diameter or droplet nuclei). Meta-analysis has shown that medical masks have protective effects against respiratory infection [6,7]. Previous studies have shown that face mask use could effectively reduce the community's spread of viral diseases [8,9]. A way that can be done to prevent COVID-19 is to disseminate the chain of its spread. This may be achieved in many ways, such as isolation, early detection, and essential protection, such as hand washing with soap and running water, appropriate coughing and sneezing etiquette, and one of them is to use masks that adhere to health standards. In addition, the government has also attempted to implement various social distancing policies, such as imposing restrictions on community activities and intensive socialization of health protocols and healthy lifestyles. This has contributed to a positive influence on maintaining the general public's health so that it can prevent transmission and the impact of health problems from COVID-19 [7]. In light of the abovementioned issues, researchers are interested in carrying out a study to investigate the correlation between the community knowledge level of Makassar Citizens about Covid-19 and compliance with using masks.

2. METHOD

The type of research applied in this study is a cross-sectional design with observation of citizens in Sub-District Gunung Sari, Makassar. It was carried out from September to the end of November 2021. The data collection was done using a randomized technique, randomly selecting samples from the population to the desired number of samples. There were 52 respondents that participated. This study used primary data or data obtained directly from the respondents by filling out questionnaires administered by researchers on research samples. Furthermore, the data will be converted using Microsoft Excel and analyze using SPSS. Finally, the researcher used Chi-Square test Analysis to find the correlation between the two variables. This study was approved by the Health Medical Research Ethics Committee at the Faculty of Medicine and Health Sciences, University of Muhammadiyah Makassar (Makassar, Indonesia) with registration number 087/UM.PKE/XI/43/2021.

3. RESULTS AND DISCUSSION

Based on the research that has been carried out aims to correlation between the community knowledge level of Makassar Citizens about Covid-19 and compliance with using masks with 52 respondents, the authors can describe the results of the research in the exposure below:

Characteristics of respondents

The results showed that the distribution of characteristics of the respondents in Sub-District Gunung Sari, Makassar can be described as follows.

Table 1. Frequency Distribution of Respondents' Characteristics at Sub-District Gunung Sari

Variables	Frequency (n=52)	Percentage (%)
Age		
< 20 years old	5	9.6%
20-40 years old	37	71.2%
41-61 years old	8	15.4%
> 61 years old	2	3.8%
Gender		
Male	20	38.5%
Female	32	61.5%
Education		
Lower (SD-SMA)	40	76.9%
Higher (D3-S2)	12	23.1%
Knowledge level for Covid-19 Awareness		
Aware	32	61.5%
Unaware	20	38.5%
Compliance in using mask		
Always	16	30.8%
Sometimes	26	50.0%
Rarely	10	19.2%

The frequency based on the age of the Gunung Sari Sub-district population is the most in the age category 20-40 years with 37 respondents (71.2%), the age category 41-61 with 8 respondents (15.4%), while category < 20 years as many as 5 respondents (9.6%) and 2 respondents (3.8%) in age category of >61 years. The female gender category in the Gunung Sari Sub-district is prevalent, with 32 respondents (61.5% of the total), while the male gender category has 20 respondents (38.5%). The frequency based on the latest education of the Gunung Sari Sub-district community is mostly in the lower education category (SD-SMA) as many as 40 respondents (76.9%), whereas only 12 respondents (23.1%) are in the higher education category. The community of Gunung Sari Subdistrict is mainly included in the aware category, consisting of 32 respondents (61.5%), while 20 respondents (38.5%) are included in the unaware group. Our data reported that the frequency of mask usage in the community of Gunung Sari Sub-district as follows; 16 (30.8%) respondents always wear masks, 26 (50.0%) respondents wear mask occasionally, and 10 (19.2%) individuals rarely use masks (Table 1).

Table 2. Correlation between knowledge level of Makassar Citizens about Covid-19 awareness and compliance with using masks

Knowledge level for Covid-19 Awareness	Compliance in using mask						p-value*
	Rarely		Sometimes		Always		
	n	%	n	%	n	%	
Aware	7	21.8	10	31.2	15	46.9	0.001
Unaware	3	15	16	80	1	5	

*Data expressed as frequency (percentages) and p-value with Chi-square test

A statistical test for association was conducted between knowledge level of Makassar Citizens about Covid-19 awareness and compliance with using masks. All expected cell frequencies were greater than five. On statistical analysis, a significant association was found between knowledge level of Makassar Citizens about Covid-19 awareness and compliance with using masks (p -value < 0.05). Our result is consistent with the previous study and found a correlation between the knowledge about COVID-19 and knowledge of the previous masks in the community in Sindang Sari RT 001 RW 006 Ciburial Sub-district, Leles Garut [10]. Other several studies indicated the same results [11,12].

Behavior is a combination of internal factors consisting of intelligence, perception, motivation, interests, and emotions and external factors consisting of group objects and cultural results. Behavior also depends on the characteristics or other aspects of the workforce itself. One of the characteristics of the force is the age factor that influences the behavior of consciously using masks [13]. One external factor that also affects the level of knowledge about COVID-19 is the source of information. Technology advancements have made it easier for all walks of life to access information related to COVID-19. A previous study on COVID-19 information sources on university students shows that most of them use social media, the internet, and mass media as sources of information about COVID-19 [14].

Knowledge is an essential domain for the development of one's actions. Knowledge is treated as a supportive aspect in growing self-confidence as well as attitudes and daily behavior, so it can be said that knowledge is a fact that supports one's actions. One of the factors that can affect compliance is knowledge. A citizen with good knowledge of 3M (*Memakai Masker, Mencuci Tangan, Menjaga Jarak*) is expected to be more aware of COVID-19 and be more compliance with 3M application. Knowledge, attitudes, intentions, and behavior will affect a person's participation in certain activities. The knowledge about the benefits of something will cause someone to have a positive attitude toward it [15].

4. CONCLUSION

Based on the study, it can be concluded that there is a significant correlation between community knowledge about Covid-19 awareness and mask compliance in Gunung Sari Sub-district.

REFERENCES

- [1] A.L. Phelan, R. Katz, L.O. Gostin, The Novel Coronavirus Originating in Wuhan, China: Challenges for Global Health Governance., *JAMA*. 323 (2020) 709–710. <https://doi.org/10.1001/jama.2020.1097>.
- [2] Q. Ye, B. Wang, J. Mao, The pathogenesis and treatment of the 'Cytokine Storm' in COVID-19., *J. Infect.* 80 (2020) 607–613. <https://doi.org/10.1016/j.jinf.2020.03.037>.
- [3] D. Blanco-Melo, B.E. Nilsson-Payant, W.-C. Liu, S. Uhl, D. Hoagland, R. Møller, T.X. Jordan, K. Oishi, M. Panis, D. Sachs, T.T. Wang, R.E. Schwartz, J.K. Lim, R.A. Albrecht, B.R. tenOever, Imbalanced Host Response to SARS-CoV-2 Drives Development of COVID-19., *Cell*. 181 (2020) 1036-1045.e9. <https://doi.org/10.1016/j.cell.2020.04.026>.
- [4] W.-J. Guan, Z.-Y. Ni, Y. Hu, W.-H. Liang, C.-Q. Ou, J.-X. He, L. Liu, H. Shan, C.-L. Lei, D.S.C. Hui, B. Du, L.-J. Li, G. Zeng, K.-Y. Yuen, R.-C. Chen, C.-L. Tang, T. Wang, P.-Y. Chen, J. Xiang, S.-Y. Li, J.-L. Wang, Z.-J. Liang, Y.-X. Peng, L. Wei, Y. Liu, Y.-H. Hu, P. Peng, J.-M. Wang, J.-Y. Liu, Z. Chen, G. Li, Z.-J. Zheng, S.-Q. Qiu, J. Luo, C.-J. Ye, S.-Y. Zhu, N.-S. Zhong, Clinical Characteristics of Coronavirus Disease 2019 in China., *N. Engl. J. Med.* 382 (2020) 1708–1720. <https://doi.org/10.1056/NEJMoa2002032>.
- [5] A. Susilo, C.M. Rumende, C.W. Pitoyo, W.D. Santoso, M. Yulianti, H. Herikurniawan, R. Sinto, G. Singh, L. Nainggolan, E.J. Nelwan, & Yuniastuti, E.(2020). Coronavirus disease 2019: Tinjauan literatur terkini, *J. Penyakit Dalam Indones.* 7 (n.d.) 45–67.
- [6] E.M. Sorrell, H. Wan, Y. Araya, H. Song, D.R. Perez, Minimal molecular constraints for respiratory droplet transmission of an avian & human H9N2 influenza A virus, *Proc. Natl. Acad. Sci.* 106 (2009) 7565–7570. <https://doi.org/10.1073/pnas.0900877106>.
- [7] S.-A. Tabatabaeizadeh, Airborne transmission of COVID-19 and the role of face mask to prevent

The Correlation of Community Knowledge Level of Makassar Citizens About Covid-19 and Compliance with The Use of Mask. Rosdiana Sahabuddin, M. Muhlis Anant², Ami Febriza

- it: a systematic review and meta-analysis., Eur. J. Med. Res. 26 (2021) 1. <https://doi.org/10.1186/s40001-020-00475-6>.
- [8] J.T.F. Lau, H. Tsui, M. Lau, X. Yang, SARS transmission, risk factors, and prevention in Hong Kong., Emerg. Infect. Dis. 10 (2004) 587–592. <https://doi.org/10.3201/eid1004.030628>.
- [9] J. Wu, F. Xu, W. Zhou, D.R. Feikin, C.-Y. Lin, X. He, Z. Zhu, W. Liang, D.P. Chin, A. Schuchat, Risk factors for SARS among persons without known contact with SARS patients, Beijing, China., Emerg. Infect. Dis. 10 (2004) 210–216. <https://doi.org/10.3201/eid1002.030730>.
- [10] S. Maulani, Supriyadi, Hubungan Tingkat Pengetahuan Masyarakat tentang COVID-19 dengan Kesadaran Masyarakat dalam Menggunakan Masker The Relationship of Community Knowledge Levels on Covid-19 with Community Awareness in Mask Usage, J. Kesehat. Poltekkes Kemenkes RI Pangkalpinang. 9 (2021) 59–68.
- [11] C.V.P. Lesilolo, Pengetahuan Masyarakat tentang Covid-19 Berhubungan dengan Kepatuhan Menggunakan Masker pada Masa Pandemi Covid-19, J. Penelit. Perawat Prof. 3 (2021) 557–564. <https://doi.org/10.37287/jppp.v3i3.551>.
- [12] S.F. Rizqah, A.R.A. AP, Haeruddin, Hubungan Perilaku Masyarakat Dengan Kepatuhan Penggunaan Masker Untuk Memutus Rantai Penularan Covid - 19, J. Muslim Community Heal. 2 (2021) 165–175.
- [13] S. Notoatmodjo, Promosi kesehatan dan perilaku kesehatan, Rineka Cipta, Jakarta, Indonesia, 2012.
- [14] A.N. Olaimat, I. Aolymat, H.M. Shahbaz, R.A. Holley, Knowledge and Information Sources About COVID-19 Among University Students in Jordan: A Cross-Sectional Study, Front. Public Heal. 8 (2020). <https://doi.org/10.3389/fpubh.2020.00254>.
- [15] F.L. Mustofa, I. Husna, M. Anggraini, R.A. Putra, HUBUNGAN TINGKAT PENGETAHUAN DAN SIKAP MASYARAKAT TERHADAP KEPATUHAN PENERAPAN 3M DALAM RANGKA PENCEGAHAN COVID-19 DI RT 11 RW 12 JATINEGARA JAKARTA TIMUR, J. Med. Malahayati. 12 (2021) 187–193.