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Health Protocol Implementation in Indonesia During the COVID-19 Pandemic

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ABSTRACT
The implementation of health protocols is a crucial strategy in controlling the spread of COVID-19. This study aims to describe the compliance level of mask-wearing and physical distancing in Indonesia and its relation to the number of COVID-19 cases during the pandemic. The study used a descriptive research design based on secondary data obtained from the Ministry of Health of the Republic of Indonesia and the National COVID-19 Task Force. The dataset covered all 34 provinces from January to August 2021 and included monthly and cumulative COVID-19 cases, as well as the percentage of compliance with mask-wearing and physical distancing. Data were analyzed descriptively and presented in figures to illustrate provincial differences and national trends. The findings show that as of August 2021, Indonesia recorded 4,089,801 confirmed cases, with the highest numbers in DKI Jakarta, West Java, and Central Java. Provinces with high mask-wearing compliance (above 85%) included Bali, the Special Region of Yogyakarta, East Java, and Central Kalimantan, while low compliance (below 70%) was observed in North Maluku, Bengkulu, and Maluku. Similarly, provinces with high physical distancing compliance (above 80%) were Bali, Yogyakarta, and East Java, while lower compliance rates were observed in North Maluku and Bengkulu. Descriptive analysis indicated that provinces with higher compliance levels generally experienced lower COVID-19 transmission rates. This study highlights the importance of public adherence to health protocols, particularly mask-wearing and physical distancing, in reducing the spread of COVID-19. Effective government policies, continuous public education, and community engagement are essential to maintaining high compliance levels. The findings suggest that behavioral and policy interventions must be strengthened and adapted to regional characteristics to ensure sustainable pandemic control in Indonesia.

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INTRODUCTION

Coronavirus Disease 2019 (COVID-19) is a new type of disease that had never been previously identified in humans. The virus that causes COVID-19 is named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) (Huang et al., 2020). On January 30, 2020, the World Health Organization (WHO) declared COVID-19 a Public Health Emergency

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of International Concern (PHEIC) (WHO, 2020). The number of COVID-19 cases increased rapidly, and the virus had already spread across countries.

The first confirmed COVID-19 cases in Indonesia were reported on March 2, 2020, by the Government of Indonesia. The two confirmed patients were a 31-year-old woman and her 64-year-old mother. The transmission originated from a Japanese citizen residing in Malaysia who visited Indonesia. Before being diagnosed with COVID-19, the 31-year-old woman was reported to have been dancing with the Japanese citizen at Paloma Club (Tosepu et al., 2020). As of August 31, 2021, Indonesia had recorded 4,089,801 confirmed cases, 3,760,497 recoveries, and 133,023 deaths (case fatality rate 3.3%) across 34 provinces. The five provinces with the highest number of COVID-19 cases as of August 31, 2021, were DKI Jakarta (850,583), West Java (690,924), Central Java (469,321), East Java (383,252), and East Kalimantan (150,698) (Ministry of Health, 2021).

National monitoring of compliance with health protocols as of August 29, 2021, showed that the mask-wearing compliance rate in Indonesia was 90.7%. The locations with crowd gatherings where mask-wearing compliance was below 60% included restaurants/cafes (18.7%), public roads (14%), homes (13.1%), public sports facilities (8.7%), and places of worship (8.5%) (COVID-19 Task Force, 2021).

Wearing a mask has become a mandatory practice for all individuals when engaging in social interactions (Shereen et al., 2020). Masks reduce the inhalation of virus-laden aerosols emitted by infected individuals during speaking, coughing, or sneezing (Leung et al., 2020). In addition, masks serve as a reminder for users to avoid touching their faces and help prevent transmission from hands to the eyes, nose, and mouth (Lustig et al., 2020).

The use of masks is effective in reducing the transmission rate of COVID-19 (Eikenberry et al., 2020). Different standards and types of masks are recommended for healthcare workers and the general public (Howard et al., 2020). Cloth masks can still provide partial filtration, although they are less effective compared to surgical masks. The effectiveness of cloth masks depends on the fabric type and the number of layers (Worby & Chang, 2020). The N95 mask can block up to 99.98% of viral aerosols, medical masks up to 97.14%, and cloth masks up to 95.15% (Ma et al., 2020).

The national compliance rate for maintaining physical distance and avoiding crowds in Indonesia was recorded at 89.47%. Crowded locations with less than 60% compliance included restaurants/cafés (13.2%), public sports facilities (12.7%), airports (11.8%), public roads (11%), and residential areas (10.6%) (COVID-19 Task Force, 2021). Maintaining physical distance is essential for controlling the COVID-19 pandemic (Lewnard & Lo, 2020).

The recommended social distance to prevent aerosol transmission from an infected person during speech ranges between 1.6 and 3.0 meters. Increasing social distancing can reduce infection rates by 20–40% within the first 30 minutes of exposure (Sun & Zhai, 2020). Government regulations and interventions, particularly mobility restriction policies, have proven effective in preventing the large-scale transmission and spread of COVID-19 (Abouk & Heydari, 2021). It is therefore expected that the public will recognize the importance of COVID-19 prevention, including consistently wearing masks properly and maintaining physical distance (Herwati, 2020).

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Public non-compliance with health protocols is not merely a form of indifference toward regulations but also represents a protest against dissatisfaction with government policies. This reflects the public's lack of concern regarding social distancing measures and inconsistent government responses in managing the pandemic (Heni, 2020). Moreover, the limited involvement of medical personnel in educating and convincing the public about the dangers of COVID-19 remains a concern, as health officers are often perceived merely as enforcers conducting inspections of protocol compliance (Sari, 2021).

Most studies on the COVID-19 pandemic in Indonesia have focused on medical, epidemiological, and socio-economic aspects, while comprehensive research examining public compliance with health protocols at the national level remains scarce. Previous studies were generally limited to specific regions and did not explore the relationship between compliance behavior and the dynamics of case transmission across areas. Therefore, this study aims to fill that gap by utilizing secondary data obtained from the Ministry of Health of the Republic of Indonesia and the National COVID-19 Task Force. Data from 34 provinces collected between January and August 2021 were analyzed descriptively to illustrate the level of compliance with mask usage and physical distancing practices, as well as their association with the number of COVID-19 cases.

METHODS

This study employed a descriptive research design using secondary data obtained from the Ministry of Health of the Republic of Indonesia and the National COVID-19 Task Force. The data covered all 34 provinces in Indonesia from January to August 2021 and included variables such as monthly COVID-19 cases, cumulative confirmed cases, and the percentage of compliance with mask-wearing and physical distancing. The data were analyzed descriptively to illustrate patterns, distributions, and trends of compliance levels and COVID-19 cases across provinces. The results were presented in figures showing the percentage of compliance and the number of cases for each province. This descriptive approach was used to provide an overview of the implementation of health protocols and their relation to the spread of COVID-19 in Indonesia during the study period.

RESULTS AND DISCUSSION

Monthly COVID-19 Cases in Indonesia

The number of COVID-19 cases in each province from January to August 2021 shows that the ten provinces with the highest cumulative COVID-19 cases were DKI Jakarta (666,449), West Java (606,218), Central Java (386,970), East Java (297,777), the Special Region of Yogyakarta (137,224), East Kalimantan (123,074), Banten (110,581), Riau (98,158), Bali (88,865), and North Sumatra (77,363). Meanwhile, the ten provinces with the lowest cumulative COVID-19 cases were Gorontalo (7,333), Maluku (8,580), North Maluku (8,978), West Sulawesi (9,568), Southeast Sulawesi (11,708), West Papua (16,198), Bengkulu (18,818), Papua (18,959), West Nusa Tenggara (20,069), and North Sulawesi (22,475). The monthly and cumulative COVID-19 cases for all 34 provinces are presented in Figure 1.

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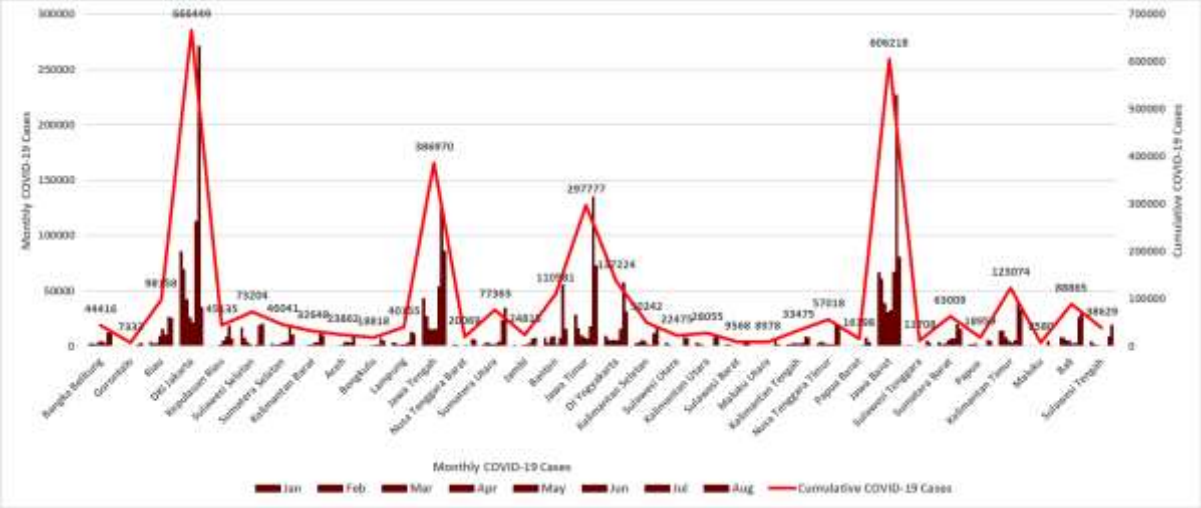

Figure 1. Monthly COVID-19 Cases and Cumulative COVID-19 Cases in Indonesia

Mask-wearing Compliance

Mask-wearing compliance in each province from January to August 2021 indicates that the provinces with an average compliance rate above 85% were Bali (98.08%), the Special Region of Yogyakarta (93.09%), East Java (89%), Central Kalimantan (87.49%), West Java (86.85%), East Kalimantan (86.29%), North Kalimantan (85.79%), and Central Java (85.34%). Provinces with relatively low mask-wearing compliance rates below 70% included North Maluku (52.89%), Bengkulu (58.91%), Maluku (59.86%), Papua (62.13%), West Sumatra (66.48%), Southeast Sulawesi (67.74%), Bangka Belitung Islands (67.90%), and Gorontalo (69.10%). Mask-wearing compliance in Indonesia is divided into four categories, namely: three provinces categorized as non-compliant, six provinces as less compliant, twenty-three provinces as compliant, and two provinces as highly compliant. The percentage of mask-wearing compliance and cumulative COVID-19 cases across the 34 provinces are presented in Figure 2.

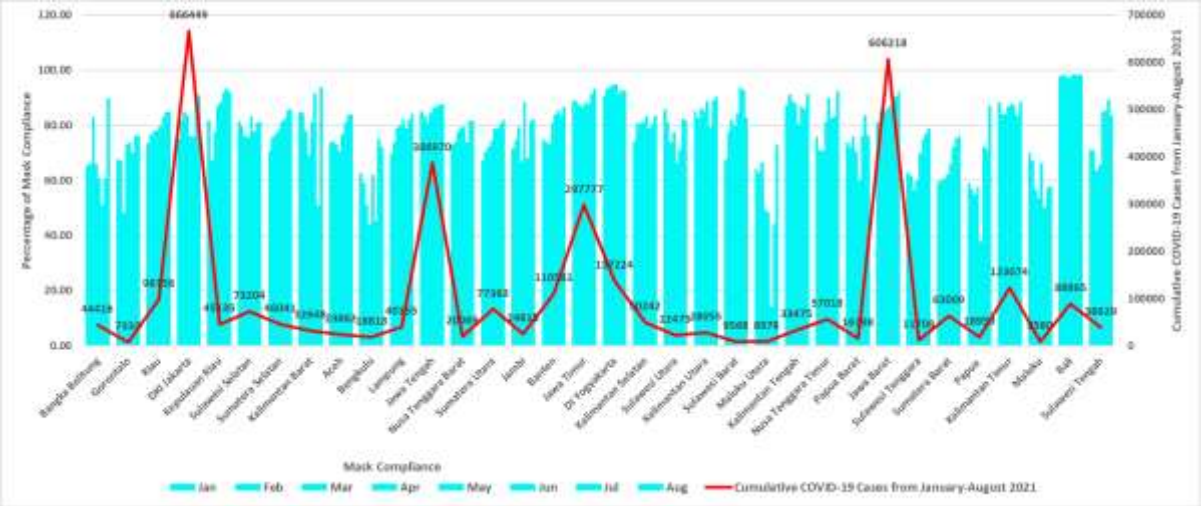

Figure 2. Percentage of Mask Compliance and Cumulative COVID-19 Cases in Indonesia

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Physical Distancing Compliance

Physical distancing compliance in each province from January to August 2021 shows that provinces with an average compliance rate above 80% included Bali (96.05%), the Special Region of Yogyakarta (90.86%), East Java (87.32%), West Java (84.27%), Central Sulawesi (83.99%), East Kalimantan (83.95%), Central Kalimantan (83.62%), Aceh (82.11%), East Nusa Tenggara (81.14%), Banten (81.12%), West Nusa Tenggara (80.98%), Central Java (80.92%), North Kalimantan (80.63%), Riau Islands (80.14%), and Lampung (80.13%). Provinces with relatively low compliance rates below 70% were North Maluku (50.28%), Bengkulu (52.44%), Maluku (62.13%), Gorontalo (63.28%), Bangka Belitung Islands (65.51%), and West Sumatra (68.16%). Physical distancing compliance in Indonesia is categorized into four groups, namely: two provinces classified as non-compliant, eight provinces as less compliant, twenty-three provinces as compliant, and one province as highly compliant. The percentage of physical distancing compliance and cumulative COVID-19 cases across the 34 provinces are presented in Figure 3.

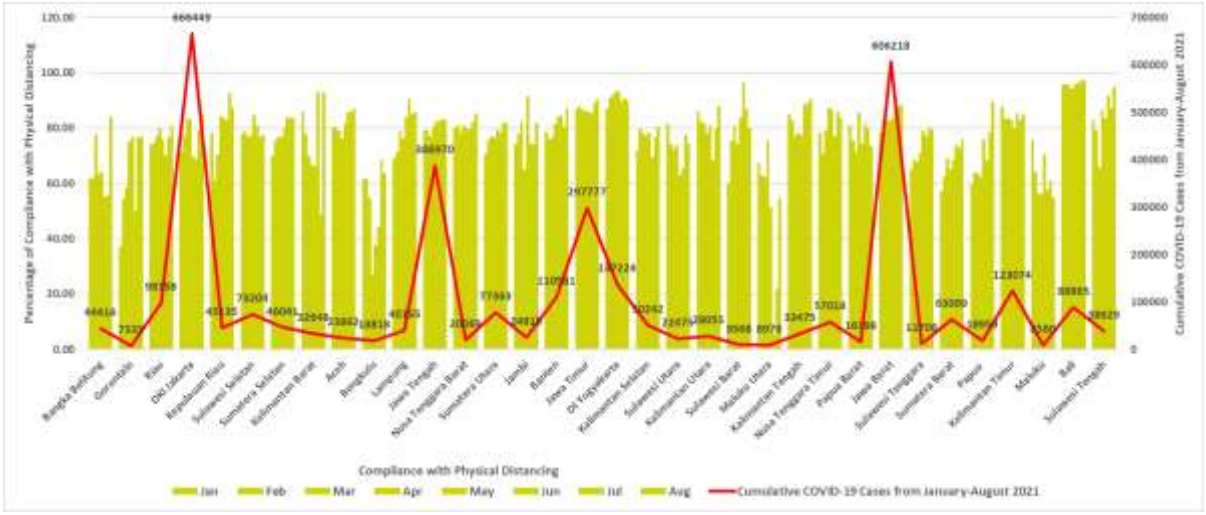

Figure 3. Percentage of Physical Distancing Compliance and Cumulative COVID-19 Cases in Indonesia

COVID-19 spreads through droplets containing the virus as well as through airborne aerosols. During a pandemic, it is crucial to control the source of transmission (Atmojo et al., 2020). COVID-19 can also be transmitted through physical contact (such as touching or shaking hands) with an infected person, as well as by touching the face, mouth, and nose with hands contaminated by the coronavirus (Zukmadini et al., 2020).

Transmission of the SARS-CoV-2 virus can occur from person to person through droplet transmission and contact with contaminated surfaces. SARS-CoV-2 can remain viable in the air for several hours and persist on surfaces for more than 2–3 days. Specifically, the virus can survive up to 4 hours on copper and up to 2–3 days on stainless steel (Doremalen et al., 2020). Touching the face increases the risk of SARS-CoV-2 infection since transmission can occur through mucous membranes such as the eyes (Lu et al., 2020).

The Indonesian government implemented a mandatory mask policy for all citizens during daily activities. The use of masks during the COVID-19 pandemic serves as an

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important measure to reduce the transmission rate of SARS-CoV-2. Effective communication strategies and the provision of adequate facilities and infrastructure can promote healthy living behaviors in the community. Public mask-wearing campaigns should target individuals, communities or organizations, and policymakers to raise awareness of the importance of protecting oneself and others. Proper and hygienic mask use has been proven effective in preventing the transmission of SARS-CoV-2 (Eikenberry et al., 2020).

Low compliance with mask-wearing may be influenced by factors such as age, education, knowledge, attitude, and motivation (Afrianti, 2021). Attitude can be defined as an individual's opinion toward a particular condition or situation (Tandijono et al., 2018). Factors that increase quarantine compliance include knowledge about the disease and quarantine procedures, social norms, perceived benefits, as well as practical and financial issues (Webster et al., 2020).

The universal masking policy must be accompanied by other preventive measures such as body temperature screening and symptom monitoring. Universal masking has also been reported to improve the psychological well-being of healthcare workers, reduce anxiety about infection, and prevent exposure. However, it may also create a false sense of protection if mask selection and usage are inappropriate (Tirupathi et al., 2020). A study found that in COVID-19 patients who did not use surgical or cloth masks properly, a higher level of viral contamination was detected on the outer surface of masks compared to the inner surface (Bae et al., 2020).

The mask-wearing policy has been proven to reduce COVID-19 cases in the United States. A study examining the effect of mask mandates in fifteen U.S. states found that public mask use reduced daily cases by 0.9–2.0%. A decline in COVID-19 cases was observed within 21 days after the policy was implemented. During the enforcement period, more than 200,000 cases were potentially prevented, indicating that public mask use can significantly reduce COVID-19 transmission (Lyu et al., 2020).

N95 masks can block 99.8% of virus-containing aerosols, while medical masks can filter up to 97.14%. Proper mask usage, storage, cleaning, and disposal are essential to maintain effectiveness (Ma et al., 2020). Different mask standards and types are recommended for healthcare professionals and the general public (Howard et al., 2020). Cloth masks provide a certain level of filtration, though less effective than surgical masks. The effectiveness of cloth masks depends on the type of fabric and the number of layers, with polyester providing the highest filtration efficiency (Worby & Chang, 2020).

The spread of COVID-19 is influenced by human activities, including the number of people in a confined space or participating in an activity (Kissler et al., 2020). Human-to-human transmission is affected by the degree of social interaction. Variations in transmission rates depend on factors such as age and location of contact, for instance, in schools, workplaces, and communities. Wuhan City, as the initial epicenter of the COVID-19 outbreak, implemented physical distancing as a non-pharmaceutical intervention to control transmission (Prem et al., 2020).

Limiting physical contact with others is influenced by individual knowledge and awareness of the importance of maintaining physical distance. Compliance refers to a positive

behavioral response of individuals in following instructions, rules, or authoritative values applicable in daily life. Several factors influence compliance, including knowledge, education, motivation, perception, belief, social environment, health quality, attitude, information sources, and psychological factors (Sari, 2020). A compliant attitude is essential to prevent and break the chain of SARS-CoV-2 transmission. Factors contributing to public adherence to health protocols include awareness of COVID-19 dangers, respect for social and humanitarian values, solidarity, and strict sanctions for protocol violations (Arditama, 2020).

Maintaining physical distance is vital for controlling the COVID-19 pandemic. The safe distance recommended to prevent aerosol transmission during speech ranges from 1.6 to 3.0 meters. Increasing social distance can reduce infection rates by 20–40% within the first 30 minutes of exposure (Sun & Zhai, 2020). Social distancing is one of the most effective interventions in preventing COVID-19 transmission (Lewnard & Lo, 2020; Xie et al., 2020). A study on the effect of social distancing measures on the spread of COVID-19 conducted in ten countries—namely the United States, Spain, Italy, the United Kingdom, France, Germany, Russia, Turkey, Iran, and China—showed that it took 1–4 weeks after implementing social restriction measures for daily confirmed cases and deaths to begin declining. The effectiveness of social distancing varied among these countries, influenced by differences in the level of restrictions applied and the epidemiological conditions in each country (Thu et al., 2020).

CONCLUSION

The enforcement of health protocols, particularly mask-wearing and physical distancing, has played a crucial role in controlling the spread of COVID-19 in Indonesia. Provinces with higher levels of compliance generally reported lower transmission rates compared to those with lower adherence. Continuous public education, effective communication, and equitable access to health resources are essential to strengthen community compliance. However, this study has certain limitations, as it relies solely on secondary data and does not account for individual behavioral factors that may influence compliance, such as risk perception, access to health information, and local policy implementation. Therefore, future research is recommended to adopt mixed-method or longitudinal approaches that integrate quantitative and qualitative data to provide a more comprehensive understanding of the determinants of public compliance and to assess the effectiveness of health protocol implementation across diverse social and cultural contexts.

REFERENCE

Abouk, R., & Heydari, B. (2021). The Immediate Effect of COVID-19 Policies on Social-Distancing Behavior in the United States. *Public Health Reports*, 136(2), 245–252. https://doi.org/10.1177/0033354920976575

Afrianti, N., & Rahmiati, C. (2021). Faktor-Faktor Yang Mempengaruhi Kepatuhan Masyarakat Terhadap Protokol Kesehatan Covid-19. *Jurnal Ilmiah STIKES Kendal*, 11(1), 113–124.

Arditama, E., & Lestari, P. (2020). Jogo Tonggo: Membangkitkan kesadaran dan ketaatan warga berbasis kearifan lokal pada masa pandemi Covid-19 di Jawa Tengah. *Jurnal*

Pendidikan Kewarganegaraan Undiksha, *8*(2), 157-167.

Bae, S., Kim, M. C., Kim, J. Y., Cha, H. H., Lim, J. S., Jung, J., & Kim, S. H. (2020). Effectiveness of surgical and cotton masks in blocking SARS–CoV-2: a controlled comparison in 4 patients. *Annals of internal medicine*, *173*(1), W22-W23.

Eikenberry, S. E., Mancuso, M., Iboi, E., Phan, T., Eikenberry, K., Kuang, Y., ... & Gumel, A. B. (2020). To mask or not to mask: Modeling the potential for face mask use by the general public to curtail the COVID-19 pandemic. *Infectious Disease Modelling*, *5*, 293-308.

Heni, A. (2020). Analisis Penyebab Masyarakat Tidak Patuh Pada Protokol Covid-19. Available from: https://theconversation.com/analisis-penyebab-masyarakat-tidak-patuh-pada-protokol-covid-19-138311.

Herwati, I. (2020). 3M Discipline Counseling (Using Masks Correctly, Washing Hands with Soap, Keeping Distance) In The New Normal Era COVID-19. *Indonesian Journal of Health Care Management*, *1*(1).

Howard, J., Huang, A., Li, Z., Tufekci, Z., Zdimal, V., van der Westhuizen, H. M., & Rimoin, A. W. (2020). Face masks against COVID-19: an evidence review.

Huang, C., Wang, Y., Li, X., Ren, L., Zhao, J., Hu, Y., Cheng, Z. (2020). Clinical Features of Patients Infected with 2019 Novel Coronavirus in Wuhan, China. *Lancet*. 497–506. Available from: https://doi.org/https://doi.org/10.1016/S0140-6736(20)30183-5.

Kementerian Kesehatan RI. (2021). Infeksi Emerging Kementerian Kesehatan RI. Available from: https://infeksiemerging.kemkes.go.id/

Kissler, S. M., Tedijanto, C., Lipsitch, M., & Grad, Y. (2020). Social distancing strategies for curbing the COVID-19 epidemic. *MedRxiv*.

Leung, N. H., Chu, D. K., Shiu, E. Y., Chan, K. H., McDevitt, J. J., Hau, B. J., & Cowling, B. J. (2020). Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nature medicine*, *26*(5), 676-680.

Lewnard, J. A., & Lo, N. C. (2020). Scientific and ethical basis for social-distancing interventions against COVID-19. *The Lancet infectious diseases*, *20*(6), 631-633.

Lu, C. W., Liu, X. F., & Jia, Z. F. (2020). 2019-nCoV transmission through the ocular surface must not be ignored. *Lancet (London, England)*, *395*(10224), e39. https://doi.org/10.1016/S0140-6736(20)30313-5

Lustig, S. R., Biswakarma, J. J., Rana, D., Tilford, S. H., Hu, W., Su, M., & Rosenblatt, M. S. (2020). Effectiveness of common fabrics to block aqueous aerosols of virus-like nanoparticles. *ACS nano*, *14*(6), 7651-7658.

Lyu, W., & Wehby, G. L. (2020). Community Use of Face Masks And COVID-19: Evidence From A Natural Experiment of State Mandates In The US: Study examines impact on COVID-19 growth rates associated with state government mandates requiring face mask use in public. *Health affairs*, *39*(8), 1419-1425.

Ma, Q., Shan, H., Zhang, H., Li, G., Yang, R., & Chen, J. (2020). Potential utilities of mask-wearing and instant hand hygiene for fighting SARS-CoV-2. *Journal of Medical Virology*. Available from: https://doi.org/10.1002/jmv.25805

Prem, K., Liu, Y., Russell, T. W., Kucharski, A. J., Eggo, R. M., Davies, N., & Klepac, P. (2020). The effect of control strategies to reduce social mixing on outcomes of the COVID-19

epidemic in Wuhan, China: a modelling study. *The Lancet Public Health*, *5*(5), e261-e270.

Sari, R.K. (2021). Identifikasi Penyebab Ketidakpatuhan Warga terhadap Penerapan Protokol Kesehatan 3M di Masa Pandemi COVID-19 (Studi Kasus Pelanggar Protokol Kesehatan 3M di Ciracas Jakarta Timur). *Jurnal Akrab Juara*. *6*(1), 84-94.

Satuan Tugas Penanganan COVID-19. (2021). Monitoring Kepatuhan Protokol Kesehatan. Available from: https://covid19.go.id/monitoring-kepatuhan-protokol-kesehatan

Shereen, M. A., Khan, S., Kazmi, A., Bashir, N., & Siddique, R. (2020). COVID-19 infection: Origin, transmission, and characteristics of human coronaviruses. *Journal of advanced research*, *24*, 91.

Sun, C., & Zhai, Z. (2020). The efficacy of social distance and ventilation effectiveness in preventing COVID-19 transmission. Sustainable Cities and Society, 62, 102390. Available from: https://doi.org/10.1016/j.scs.2020.102390

Tandijono, V., Rahayu, M.P.F. (2018). Pengaruh Persepsi Etika, Pengalaman Kerja, Dan Tipe Kepribadian Terhadap Kemampuan Auditor Mendeteksi Kecurangan. *J Akunt Kontemporer*. 10(1):32–45.

Thu, T. P. B., Ngoc, P. N. H., & Hai, N. M. (2020). Effect of the social distancing measures on the spread of COVID-19 in 10 highly infected countries. *Science of the Total Environment*, *742*, 140430.

Tirupathi, R., Bharathidasan, K., Palabindala, V., Salim, S. A., & Al-Tawfiq, J. A. (2020). Comprehensive review of mask utility and challenges during the COVID-19 pandemic. *Infez Med*, *28*(suppl 1), 57-63.

Tosepu, R., Effendy, D. S., & Ahmad, L. O. A. I. (2020). The first confirmed cases of COVID-19 in Indonesian citizens. *Public Health of Indonesia*, *6*(2), 70-71.

Webster, R. K., Brooks, S. K., Smith, L. E., Woodland, L., Wessely, S., & Rubin, G. J. (2020). How to improve adherence with quarantine: rapid review of the evidence. *Public Health*, *182*, 163-169.

Worby, C. J., & Chang, H. H. (2020). Face mask use in the general population and optimal resource allocation during the COVID-19 pandemic. *Nature communications*, *11*(1), 1-9.

World Health Organization (WHO). (2020). Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). Available from: https://www.who.int/news/item/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)

Xie, W., Campbell, S., & Zhang, W. (2020). Working memory capacity predicts individual differences in social-distancing compliance during the COVID-19 pandemic in the United States. *Proceedings of the National Academy of Sciences*, *117*(30), 17667-17674.