

COVID-19 in Indonesia: Challenges and Multidisciplinary Perspectives for a Safe and Productive New Normal

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ABSTRAK

Pandemi COVID-19 menimbulkan gangguan di semua aspek kehidupan. Negara-negara di seluruh dunia telah memerangi pandemi ini dengan berbagai pendekatan. Sukses di satu negara tidak menjamin pendekatan yang sama dapat diaplikasikan di negara lain dengan konteks berbeda. Ulasan ini memaparkan tantangan pengelolaan COVID-19 di Indonesia sebagai negara kepulauan yang berpenduduk padat dan terdiri atas beraneka ragam budaya. Tulisan ini bertujuan untuk memberikan perspektif multidisiplin untuk normal baru yang berbasis bukti, aman, dan produktif. Tulisan ini juga menjadi masukan kebijakan yang komprehensi, terintegrasi dan mampu laksana untuk mengendalikan COVID-19.

Kata kunci: COVID-19, Indonesia, multidisiplin, normal baru.

ABSTRACT

The COVID-19 pandemic has caused disruption in all aspects of life, and countries around the world have been combating this pandemic using multiple approaches. Success in one country does not guarantee a transferable approach to other countries with different contexts. This review describes the challenges of COVID-19 management in Indonesia as a populous, socially and culturally diverse, and archipelagic country. It aims to provide multidisciplinary perspectives for a safe, evidence-based, and productive new normal as well as a comprehensive and integrated actionable policy for COVID-19 control.

Keywords: COVID-19, Indonesia, multidisciplinary, new normal.

INTRODUCTION

Indonesia—a country rich in diversity and inhabited by more than 260 million people spread across 17,504 islands from Aceh to Papua—faces

distinctive challenges in managing the COVID-19 pandemic. As a member of G-20, Indonesia is a major economic player in the world—its GDP has increased more than 5% year-on-year for

three consecutive years, from 2017–2019, yet Indonesia's Gini coefficient for inequality stood at 0.381 in March 2020. Indonesia's response to the pandemic is naturally influenced by the country's unique health system and universal health coverage, including the readiness of the public health system that has traditionally been burdened with maternal mortality, stunting, and various infectious diseases¹ such as dengue² and tuberculosis. Non-communicable diseases also double the burden, as many hospitalized COVID-19 cases and fatalities are patients with these comorbidities.³

As a highly contagious respiratory virus, COVID-19 clearly requires a different approach, and measures to contain it must involve significant changes to the lifestyle and behavior of society; therefore, COVID-19 management must be viewed from multidisciplinary perspectives. In this paper, the challenges of COVID-19 management in Indonesia are described, and multidisciplinary perspectives for an evidence-based new normal for policy-making are provided. Various approaches from clinical, medical science, public health, sociology, social psychology, and health economics are presented for an integrated view of solutions for Indonesia to move forward safely in combating COVID-19 and transitioning into the new normal era.

CLINICAL EPIDEMIOLOGY: MOBILITY, QUO VADIS?

As of October 2020, the mortality rate of COVID-19 infection in Indonesia has decreased from 8.9% (March 2020) to 2.92%. This decrease may be attributed to the increased volume of testing that was available by then, especially in the big cities, as well as improved responses by authorities compared to the initial stage of pandemic. Tremendous efforts from government and private sectors alike have raised the number of testing labs from fewer than 10 at the beginning of the pandemic to more than 250 PCR and Rapid Molecular Testing labs nationwide. In an effort to avoid severe disease progression and to reduce the case fatality rate (CFR), groups with comorbidities, such as obesity, must be given special attention.⁴ A screening protocol is critically needed for finding active cases among

these groups to avoid their late presentation to hospitals. In October, the government set the ceiling price for PCR tests at IDR 900,000 (US\$ 62) to make testing more accessible.

Entering the eighth month of the pandemic since its first case was confirmed, Indonesia is still seeing an upward trend of confirmed cases in October 2020 (**Figure 1**), with no sign of "flattening the curve." Although testing delays have been reduced in Jakarta from 4–6 days to 1–2 days, in other cities there are still significant testing delays, as long as 7–10 days. There has been huge variability in testing delays, as well as in the time between the onset of disease and when the test results were reported, on an individual level and across regions.

In fact, the large-scale social restriction (PSBB) was deemed successful enough due to reduction in β -value from 0.20 to 0.11 before the lifting of full PSBB moving into the transition period. This means that the risk of the population to be infected with COVID-19 during PSBB is now 0.55 times the risk during the period before PSBB. The second PSBB in Jakarta was implemented from September 14th, 2020 to October 12th, 2020.

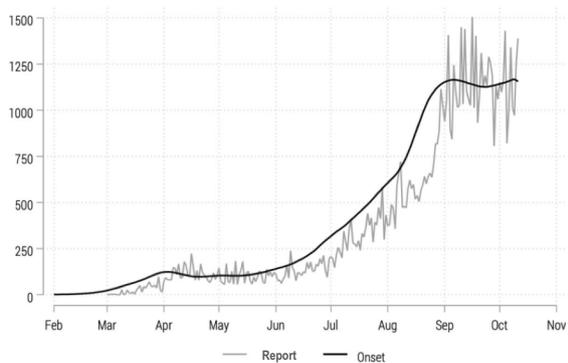


Figure 1. The growing of new case in Capital Jakarta. Onset was calculated based on PDF (Probability Density Function) the window period of onset and reporting, as well as CDF (Cumulative Density Function) to overcome right censored.

To lift the PSBB, at least three domains must be fulfilled, including epidemiology measures, public health surveillance indicators, and medical facility preparedness. First, the control of an epidemic, including COVID-19, can be demonstrated by the Effective Reproduction Number (R_t) among the susceptible population.⁵

Even though the national R_t still lingered around 1.14 at the beginning of July 2020, several provinces and cities had prematurely lifted the PSBB or moved it into a transition period based on local data. The R_t in Jakarta remained at approximately 1.07–1.09 in September and October 2020. Easing social restriction before an epidemic is fully controlled at $R_t < 1$ or ideally, approaching zero, may increase the risk of transmission.

Second, public health management must be ready. The classic epidemic control cycle of testing, isolation, and contact tracing was enforced and mandatory. A recent model study showed that the combination of mass testing, isolation, close- or all-contact tracing, and home quarantine may significantly reduce R_t by 57 to 64%.⁶ The public also must adhere to three key measures: hand washing, wearing a mask, and physical distancing. Risk of COVID-19 transmission was reduced significantly by washing hands (35%), wearing cloth face masks (45%), and observing one-meter physical distancing (85%) as demonstrated by a recent meta-analysis study.⁷

Third, medical facilities must be fully prepared to respond to the COVID-19 pandemic. One measure of readiness is an adequate number of hospital beds, including isolation rooms, ICU, and ventilators. In addition, health professionals must be provided with sufficient amounts of personal protective equipment⁸ and adequate periodical knowledge updates—for instance, through an online course module.⁹ At the beginning of the pandemic, there was a shortage of PPE, and the supply needed to be increased immediately.¹⁰ By mid-June 2020, the government began allowing the export of PPE and its raw materials, which may have been a sign of domestic PPE sufficiency or even oversupply.¹¹ Nevertheless, questions remained about the distribution of PPE in rural and remote areas. Unfortunately, to date there is no exact published data on the number of confirmed cases and CFR of COVID-19 among health professionals, which reflects the data collection gap in Indonesia. One rough estimation from a public health expert in Indonesia revealed that approximately 6.5% of the COVID-19 death

cases in Indonesia were health professionals, which turned out to be much higher than the global average of 0.37%.¹²

The COVID-19 Response Acceleration Task Force had previously introduced the “zone system,” whereby cities, regencies or provinces were classified into six zones of risk, from high risk (dark red) to no cases (light green), as well as “not affected” (dark green).¹³ This risk zoning was beneficial and suited the archipelagic geography of Indonesia, in combination with the domestic flight restrictions. Nevertheless, risk zoning without strict border enforcement may present biased information and distort vigilance, as there was in fact some movement of people between zones. In Indonesia’s case, a moderate to strong correlation has been demonstrated between the mobility of people and the number of daily new cases ($r^2 = 0.66$). High mobility remained concentrated in the Greater Jakarta Area and Java Island, especially in daily commuting to and from Jakarta and its suburbs, alongside accumulation at business and industrial areas.

INEQUALITY: ECONOMIC OR HEALTH INDICATORS?

Decreased mobility of people during the PSBB period was associated with a reduction in transmission; nevertheless it also meant a reduction in economic activities (14). COVID-19 is a health crisis translated into economic disruption.¹⁵ The decrease in economic consumption has caused job and income losses.¹⁶ The main priorities for recovery are to save lives and minimize recession, with human life being the utmost concern. In Indonesia, it has been predicted that 5–10 million people will fall into poverty as a result of the COVID-19 pandemic alongside economic contraction.¹⁶ In the 1998 Asian Financial Crisis (AFC), there was an increase in poverty but also a decrease in inequality. Post-COVID-19, it is predicted that both poverty and inequality in society will escalate, badly affecting the most vulnerable groups. Statistics Indonesia, based on the National Socio-economic Survey of March 2020, reported that the poverty incidence had increased 0.56 percentage points from 9.22% in

September 2019 to 9.78% in March 2020, which is equivalent to 1.63 million people.¹⁷

Another effect of the economic contraction has been a drop out of 5.4 million JKN members; this is equivalent to 2.7% of total active JKN membership. The highest drop-out is observed in the membership of informal sectors that is around 2.4 million (or 16%) from January to September 2020.¹⁸ A drop in JKN membership, limited health services as well as fear to seek healthcare during Covid-19 have significantly dropped both in inpatient and referral outpatient by more than 50%. This will potentially further jeopardize the condition of the national health systems.

Socio-economic disaster relief was needed to protect society in the form of fiscal stimulus, especially the marginal and vulnerable groups. The government developed a National Economic Recovery Package (*Pemulihan Ekonomi Nasional* (PEN)), amounting to Rp. 695 trillions in which the largest component of the package is social protection, amounting to Rp. 204 trillion to protect low and vulnerable groups.¹⁹ The social protection also included expansion of electricity subsidies, staple food cards, health insurance, village funds for COVID-19 management, and pre-employment cards. The social protection system in Indonesia had been opened for society in the lowest 40th to 60th percentiles of income. There is a need to evaluate the actual implementation of these programs on the ground.

COVID-19 will also increase income inequality in Indonesia due to the digital divide and changes in the nature of human activities. Early indicators showed that the Gini Index also increased from 0.380 in September 2019 to 0.381 in March 2020.¹⁷ Indonesian society was originally largely divided based on income and the digital nature of work. Groups with lower incomes tended to have limited access to the internet, and their work tended to be of the sort that could not be performed remotely from home. These conditions offered pressing challenges for the lower income groups because their economic activities were restricted. On the other hand, groups with higher income had more variable—and more digital—skills, better broadband internet access, and more work that could be performed online. The network society

and digital sector such as online supermarkets, online food delivery, farm-to-table concept, online logistics, telemedicine service, drug delivery service, robotic service, etc., have seen particularly significant growth in their business. Therefore, COVID-19 will make the lower classes poorer, while the upper classes can still earn an income and be assured of their welfare. In the new normal, internet access has certainly been moved to the lowest level of Maslow's pyramid of needs, and it is time for the government to guarantee internet access as human right to all.

Moving forward, the narratives of confronting health and economy indicators should be avoided. In a decentralized local autonomy system, the local government has a crucial role in saving lives and aiding in economic recovery. While COVID-19 vaccines and drug treatments are still some ways beyond our current reach, the current key to maintaining positive economic indicators is the implementation of strict health protocols through a resilient social interaction.

SOCIAL INTERACTION: WHO ARE THE EFFECTIVE INFLUENCERS AGAINST FALSEHOOD?

In Indonesia, data shows that contact between younger age groups and older age groups is higher than in other countries, both at the workplace and at home. This phenomenon may be associated with the multi-generational family household system that is prevalent in Indonesian society.²⁰ Should there be any occupational restriction policy under which only younger workers were allowed to work, it may still increase the possibilities of infection transmission once the younger worker returns home and interacts with the older members of the household. Elderly people with COVID-19 are known to be at greater risk of severe disease and mortality.²¹

A recent study on risk perception towards COVID-19 infection revealed that Jakarta citizens had low perceptions of the possibilities of infections to themselves or their close relatives, despite having adequate general knowledge.²² This observation raises questions as to whether individuals are exhausted and no longer willing

to maintain safety behavior by adhering to key public health measures including hand washing, wearing a mask, and physical distancing. A deeper study is needed to understand the risk perception among health professionals who actually possess the highest knowledge, since there was occasional ignorance and, therefore, transmission between colleagues in hospitals.

Society could be easily exhausted because people feel that they are always facing uncertainties and ought to find a new orientation. Some mental health issues may arise, including anxiety and depression, especially for those who, prior to the pandemic, already had difficulty coping with stressors and adapting to new situations.²³ This condition requires special attention from experts, and channels for mental health service, including online, should be established for wider social awareness.²⁴

Indonesia faces a vicious social cycle catalyzed by sectoral ego and poor law enforcement. Amidst the daunting crisis like COVID-19, there has been extensive misinformation, false news and hoaxes from untrusted sources that led to members of the public being disinclined to adhere to health protocols.^{25,26} This condition subsequently increased the number of COVID-19 patients at a time when the hospitals were not ready, resulting in more fatalities, both among society at large and health professionals in particular. The cycle of increased infection and mortality contributed to a further erosion of trust between the people and the health professionals, leading to the spread of even more misleading information.

In combating hoaxes and misinformation, a synergy between religious leaders,²⁷ custom (adat) leaders, and anthropology experts is required to build effective communication within a resilient community with a healthy lifestyle. These informal social leaders, allied with social media influencers, should step up in delivering health promotion in the midst of emerging skepticism toward health professionals and monotonous government spokespersons.

Because the majority of Indonesians are Muslim, a concrete action taken was to collaborate with the two largest religious organizations, since their clerics were more effective in delivering

the government's message through their deep-rooted organ structure across the country into the villages.²⁸ The Ulema Council of Indonesia (MUI) issued several fatwa seeking to mitigate COVID-19. Religion is at the heartbeat of the Indonesian citizen's life. To date, the government has been successful in preventing large religious gatherings during Eid Al Fitr, Easter, Vesak, and Nyepi, thanks to the full cooperation of religious leaders.

At the end of the day, the people of Indonesia still also look up to the leadership performance of their government and health professionals, which calls for optimism, yet honesty and realism at the same time. All the actions reflected the values of the leaders toward COVID-19. There is hardly a one-fits-all solution for communication, considering the vast diversity of Indonesian people, let alone the various norms and values in society.

DOES NATIONAL RESEARCH SHOW A LIGHT AT THE END OF THE TUNNEL?

COVID-19 had also definitely challenged the intelligence of human beings in finding new ways to adapt. In one such adaptation, the Indonesian government accelerated the review process of COVID-19 research funding, and the Indonesian vaccine prototype was predicted to be available in October 2020. Although the majority of research groups, including WHO's solidarity trials, move at an extremely fast pace, drugs and vaccines are still required to pass phase III of the clinical trials, and most are at risk of failure at later stages.²⁹ The sustainability of SARS-CoV-2 antibody levels, whether post-infection or post-vaccination, remains a heated argument.³⁰

Even when a drug or vaccine does receive approval, questions still remain as to how it can be mass-produced to fulfill nationwide demand and guarantee equitable access for everyone, especially the marginal groups in society.³¹ A thorough study then needs to assess Indonesia's ability to produce such vaccines and drugs; one of the state-owned companies has an excellent history in producing large quantities of polio vaccine and distributing it to the world.

A national study was performed to assess the potential efficacy of herbal compounds,

such as *Psidium guajava* (guava), that were potential candidates to have antiviral activities against SARS-CoV-2.³² Other herbals, such as onions and red ginger (*Zingiber officinale* var. *rubrum*), were largely speculated although clinical validation lacked.

The field of medical technology development in Indonesia had also significantly progressed. Responding to the demand of ventilators, at least 10 different local institutions had been developing and finishing previously-rare medical device clinical trials with the approval of the National Medical Device Clinical Trial Committee. Other medical devices that were developed and manufactured nationally included swab flock, PCR kit, antibody rapid test kit, UV disinfectant tool, and various PPEs.^{33,34}

The appearance of COVID-19 in the midst of industrial revolution 4.0 had cultivated the use of Artificial Intelligence (AI) in many areas, including contact tracing, prediction, diagnosis, treatment, and social control.³⁵ A collaborative multidisciplinary research were key to generate COVID-19 related AI product that are clinically validated, augmenting clinician's analytic skills, and most importantly safe for the patients.³⁶ An international collaborative study had been conducted in Indonesia to develop AI technology that can detect COVID-19 through analysis of chest X-Ray images.³⁷

A research group had been formed to continue accumulating big data together with the Geographical Information System (GIS) and spatial analysis in collaboration with one of the largest social media providers in the world reviewed from various aspects including mental health and health economy.³⁸ Furthermore, coordination of standardized clinical big data collection is an important step, especially among the Academic Health System (AHS) of all medical schools across the nation. Academician launched two widely popular screening and tracking mobile applications, namely "EndCorona" and Kirab card.^{39,40}

Local academicians need to remain innovative, collaborative, and communicative to build the trust of the public. Multidisciplinary, even transdisciplinary, efforts became a strategic scientific movement way forward. On the other

hand, the public were also urged to avoid the propagation of pseudoscience and conspiracy theories that continuously ripping advantages upon anxiety of the public as well as anonymity of the digital world.⁴¹

CONCLUSION

COVID-19 has definitely become a game changer in society, far more impactful than the invention of the engine during the industrial revolution. The basic purposes remain the same for humans, which are to improve physical well-being, wealth building, and spirit of recognition. COVID-19 pandemic is also a great influencer for the nation unity and solidarity to fight the same invisible enemy. Considering its strong and disruptive influence towards all aspects of human life in Indonesia, more careful attempts to adequately communicate risk regarding COVID-19 should strategize to better engage people with diverse backgrounds and different levels of coping and adaptation.

The success of a safe and productive new normal will not only depend solely on the clinical and public health efforts, but also in transdisciplinary research and approach. Policy taken by the authorities and the way society reacted to the health & socio-economic crisis will define the post-pandemic face of Indonesia.

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