

ORIGINAL ARTICLE

ANALYSIS OF THE RELEVANCE OF PROPHET MUHAMMAD'S ISOLATION-QUARANTINE PRACTICAL MODEL IN INDONESIA: FROM COVID-19 TO FUTURE PANDEMIC PREPAREDNESS

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ABSTRACT

Coronavirus disease 2019 (COVID-19) has severely impacted the world, remaining a pandemic over the three years from 2019 to 2022 with fluctuating cases and no definitive treatment. Preventive measures, including vaccination, are crucial but not entirely protective, highlighting the importance of effective public health emergency strategies. The 'new normal' concept has been controversial, particularly in the early phase of the pandemic and during the uncontrolled spread of the virus. The Prophet Muhammad, a role model for Muslims, advocated for the models of prevention in managing the plague at that time. This study aims to identify effective preventive strategies, including the Prophet's isolation-quarantine models for early implementation during the COVID-19 pandemic in Indonesia, and to propose a model for managing future pandemics. A mixed-method approach was used, with quantitative data from the COVID-19 National Database, and reference to the policies of the Indonesian Government and the Regional Government of Daerah Khusus Ibukota (DKI) Jakarta. Qualitative data were gathered through a literature review. Significant case fluctuations occurred during the periods June-August 2021 and January-March 2022, with rising new cases and death rates. These were driven by regulatory relaxations and the premature 'new normal' implementation. Based on the findings and analysis, the isolation and quarantine model taught by the Prophet Muhammad remains relevant for application during the COVID-19 pandemic in Indonesia. The concept taught by the Prophet is most effective during the early onset of a pandemic and in uncontrolled situations. The researcher proposes an anticipatory learning model to manage future pandemics effectively. This model strengthens public health emergency strategies by enhancing early intervention and preparedness.

Keywords: COVID-19, public health emergency, isolation-quarantine model of Prophet Muhammad.

INTRODUCTION

Coronavirus disease 2019, first identified on December 31, 2019, in Wuhan, China, is an infectious disease causing respiratory issues^{1,2}. Its rapid transmission led to a global pandemic. By March 3, 2020, there were 90,870 confirmed cases and 3,112 deaths across 72 countries, with a case fatality rate (CFR) of 3.4% in Indonesia, where the first cases were reported on March 2, 2020²⁻⁴. DKI Jakarta had the highest levels, with 861,943 cases and 13,564 deaths. By March 22, 2023, Indonesia had reported 6,742,510 cases and 160,982 deaths, with DKI Jakarta contributing 1,544,205 cases and 15,973 death of these respectively⁵. Despite a decline in daily cases, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) remains highly contagious⁶.

The surge in COVID-19 cases overwhelmed hospitals globally, driving up treatment costs due to high hospitalisation rates⁶. The lack of scientifically-proven specific treatment underscores the importance of preventive measures^{7,8}. Initial vaccine development aimed to control the pandemic, but immunity from natural infection may wane over time and not fully protect against reinfection⁹. Mutations in

RNA viruses have led to variants with increased adaptability, including drug resistance and enhanced invasion of host cells^{10,11}. The World Health Organization (WHO) has identified five significant variants: Alpha, Beta, Gamma, Delta, and Omicron^{12,13}.

The concept of plague and other life-threatening infectious diseases is familiar to Muslims, as it was addressed during the time of the Prophet Muhammad (approximately 627-632 AD / 6-11 H, known as the *Tha'un Amwas*). He taught isolation and quarantine as a preventive strategy, such as instructing people not to enter plague-affected areas, and those inside not to leave. The approach emphasized containment, limited mobility, and support for affected populations, principles which mirror modern containment practices such as zoning, lockdowns, and border controls. While lacking medical technology, the Prophet's measures emphasised social responsibility and community resilience, similar to the social interventions observed during the COVID-19 pandemic. This principle remains relevant today¹⁴.

To support the weakened economy, the Indonesian government implemented various

health protocols under the "new normal" concept, aiming to adapt lifestyles to coexist with the virus. The concept seeks to achieve herd immunity (HI), whereby 70% of the population has recovered or has been vaccinated^{15,16}. HI, a concept utilised since 1923, was notably applied during the 1930 measles pandemic^{17,18}. However, implementing the concept requires careful scientific consideration to ensure effective intervention^{19,20}.

As we transition to an endemic phase, it is crucial to learn from the COVID-19 pandemic, particularly for Islamic countries. This research aims to identify the most appropriate preventive strategy by comparing the Prophet Muhammad's isolation and quarantine methods with the new normal concept and proposing an anticipatory model for future epidemics. Scientific analysis will ensure that policies adhere to rigorous scientific standards.

METHODS

The study is a concurrent mixed-method project consisting of qualitative and quantitative data. Qualitative data were obtained from literature studies on isolation and quarantine practices during the time of the Prophet Muhammad, including peer-reviewed articles, classical Islamic health jurisprudence texts, and modern interpretations of prophetic traditions. The search was conducted using keywords such as "Prophet Muhammad," "quarantine," "isolation," "epidemic," and "plague" via academic databases such as PubMed, Google Scholar, and ScienceDirect. Studies were included based on relevance to Islamic health jurisprudence, clarity of interpretation, and alignment with the aims of the study's aim. Thematic analysis was performed narratively to identify key patterns and concepts, without employing meta-synthesis or systematic review protocols. This approach intended to map recurring themes from the literature, particularly those that offered interpretive relevance to the research objectives. Cross-validation between classical and contemporary sources was also used to ensure consistency of interpretation.

Quantitative data were obtained from the COVID-19 National Database and the Jakarta COVID-19 Surveillance Portal, as well as from policies issued by the Government of Indonesia and the Regional Government of Daerah Khusus Ibukota (DKI) Jakarta during the COVID-19 pandemic.

The researcher analysed epidemiological data (case trends and case fatality rate) together with testing rates and mobility restriction phases and integrated these with a conceptual review of Prophet Muhammad's quarantine principles to assess their relevance in the Indonesian context.

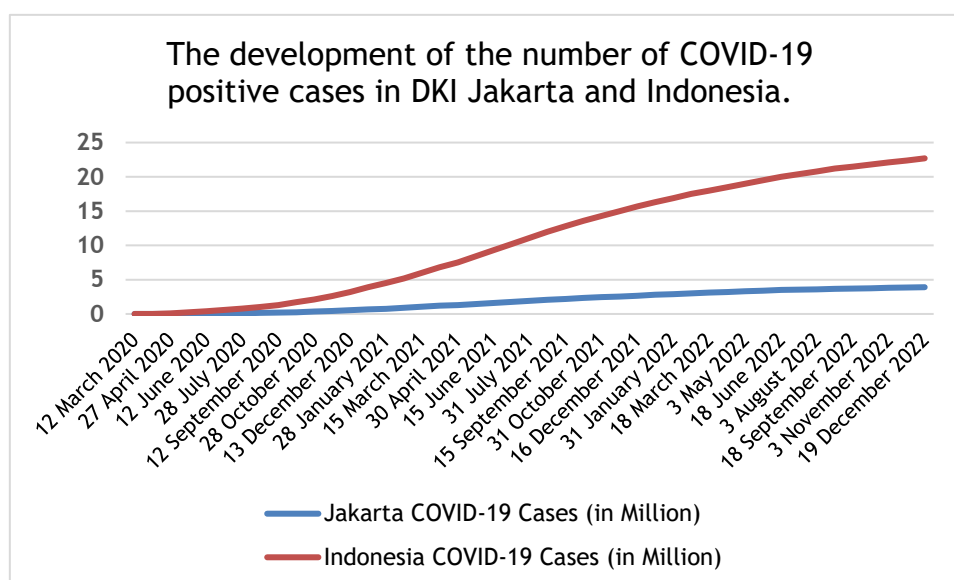
The data were obtained, entered, and processed using Microsoft Excel 2019 and presented in graphs to facilitate trend interpretation. Descriptive statistics and visual trend comparisons were used. The analysis was conducted at 2-week intervals, following standard surveillance cycles to observe short-term trend shifts and intervention impact timing.

RESULTS

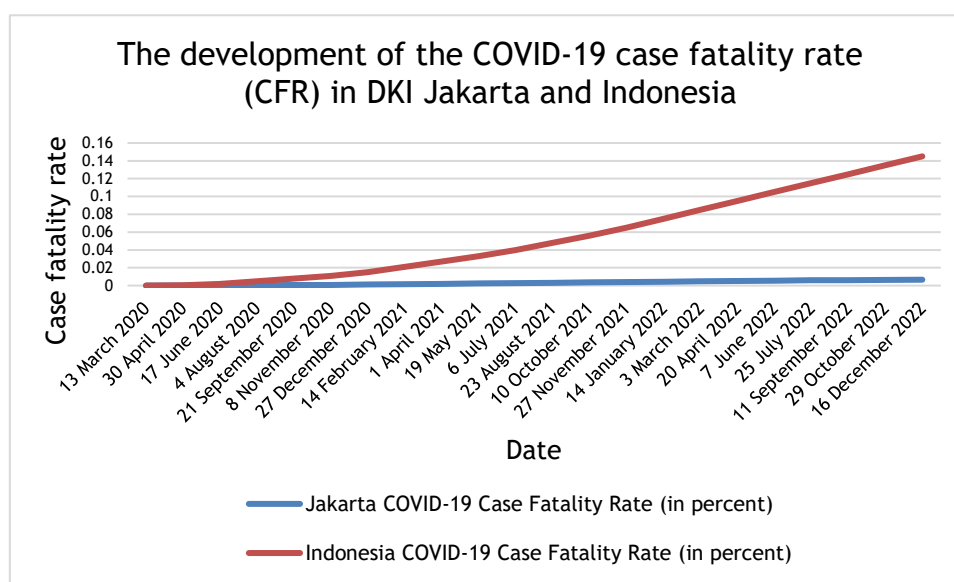
Based on the data obtained from the COVID-19 National Database and the DKI Jakarta Government COVID-19 Monitoring Portal, the number of COVID-19 positive cases in Jakarta and Indonesia showed a consistent increase until the end of 2022, as illustrated in the Graph 1.

The data trends reflect the consequences of delayed and inconsistent isolation policies, particularly during the early phase of the pandemic. In contrast, the Prophet Muhammad's model emphasises early isolation and movement restrictions, even before clinical confirmation. The absence of strict early intervention may have contributed to the rapid case escalation shown in the graph, especially during the periods July-August 2021 and January-March 2022. This contrast highlights the relevance of the Prophet's anticipatory approach to pandemic containment.

The graph 1 shows the trend of increasing cases in Indonesia and Jakarta. Since the initial case report in March 2020, confirmed cases rose rapidly, indicating that the transmission of COVID-19 was still not under control. Several factors contributed to the transmission, including the ineffectiveness of preventive measures such as Large-Scale Social Restrictions (*Pembatasan Sosial Berskala Besar/PSBB*) and the Implementation of Restrictions on Community Activities (*Pemberlakuan Pembatasan Kegiatan Masyarakat/PPKM*) in Indonesia; the general adoption of unhealthy lifestyles; and the level of understanding and knowledge among citizens about the disease. A rapid increase in cases, as illustrated in Graph 1, was observed during the period June-August 2021 due to a spike in the transmission of the new corona virus variant (B.1.617.2), also known as the Delta variant, as reported by WHO (2021). The same increase occurred in period January-March 2022, when the Omicron variant entered Indonesia and spread rapidly. Changing government policies, such as lowering the PPKM level when cases fell resulted in inadequate control. As a result, cases continued to increase, as supported by data from the Ministry of Health of the Republic of Indonesia (2023).



Graph 1: Development of the number of COVID-19 positive cases in DKI Jakarta and Indonesia ^{4,5}.



Graph 2: Development of the COVID-19 case fatality rate in DKI Jakarta and Indonesia ^{4,5}.

Graph 2 shows a continuous increase in the case fatality rate of COVID-19 in Indonesia and DKI Jakarta over the period from March 2020 to December 2022. A noticeable surge occurred during the period July-August 2021, aligning with the Delta variant wave, followed by another increase in January-March 2022 during the emergence of the Omicron variant. The CFR figures reflect the impact of highly transmissible variants and healthcare system constraints during peak periods of the pandemic. These trends underscore the challenges in controlling fatalities, particularly in areas with limited access to critical care and high-risk populations.

The Prophet Muhammad taught preventive measures during the *Tha'un Amwas* plague (627-632 AD). As Muslims, it is obligatory to follow his teachings. He stated: "If you hear about plagues in a country, then do not enter it. But if there is an epidemic somewhere you are, then do not leave that place." (Hadith narrated by Bukhari and Muslim). He implemented strict quarantine and isolation only for the affected regions, allowing the rest of the population to function normally. Cleanliness and health were emphasised, in alignment with Islamic values. Supplies were provided for those in isolation, and spiritual support was maintained. The model demonstrates swift action, isolation focus, and community-based care during crises ^{14,23}.

CONCEPT OF ISOLATION AND QUARANTINE IN HANDLING LIFE THREATENING INFECTIOUS DISEASE BY THE PROPHET MUHAMMAD

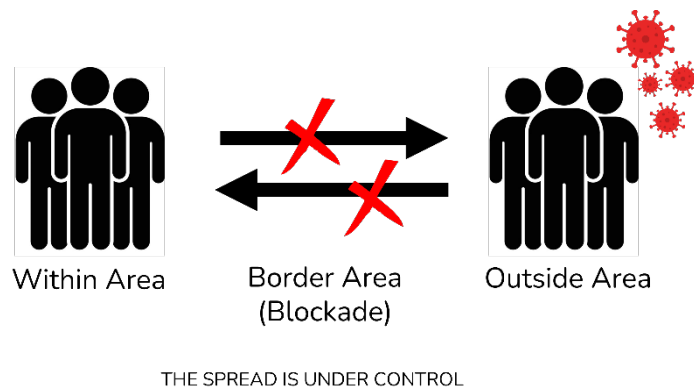


Figure 1: Concept of isolation and quarantine in handling life-threatening infectious disease by the Prophet Muhammad, demonstrating how the spread of COVID-19 can be brought under control.

These teachings were echoed centuries later, including during the caliphate of Umar bin Khattab, and they remain relevant today in the context of public health. During the COVID-19 pandemic, the lack of public adherence and regulatory inconsistency showed the gap between contemporary strategies and such anticipatory Islamic models.

DISCUSSION

At the beginning of the pandemic, following the first confirmed COVID-19 case in Indonesia, the government implemented prevention strategies under Large-Scale Social Restrictions (Pembatasan Sosial Berskala Besar/PSBB) according to Minister of Health Regulations (PMK) No. 9 of 2020, published on April 12, 2020. The decision was based on the rising number of cases, their spread to other areas, and evidence of local transmission. PSBB aimed to reduce contact by maintaining at least distance of 1 meter between people, avoiding crowded gatherings, and prohibiting mass events. However, PSBB did not demonstrate significant effectiveness in reducing cases, indicating the need for more careful measures and analysis to identify effective strategies. Strict isolation and quarantine remained essential, particularly in Jakarta as the transmission epicenter^{22,23}.

Islamic theology holds significant sway over the socio-religious dynamics of Indonesian society, which has the largest Muslim-majority population globally. This strong religious influence leads to high responsiveness to religious leaders, especially in matters such as the COVID-19 pandemic. As a result, conflicts arose between religious and government policies due to differing priorities and interpretations of the disease. These varying perspectives and approaches to managing the pandemic contributed to clashes among groups, leading to issues such as non-compliance with health protocols, public fear,

economic downturns, and poorly implemented policies^{24,25}.

Research indicates that the implementation of fatwas issued by the Indonesian Ulema Council (MUI) during the COVID-19 pandemic played a critical role in supporting public health policies. These emphasised the necessity of compliance with public health measures, including vaccination and physical distancing²⁵. Although the fatwas were designed to ensure compliance with health protocols, significant disparities were observed in their acceptance and adherence among Muslims in Indonesia. Variables such as educational level, age, and access to information were key determinants influencing the effectiveness of their implementation. In certain regions, particularly rural areas with limited educational access, there was a higher incidence of non-compliance with health protocols. Recent studies have shown that collaboration between religious institutions and government improves confidence in vaccines and protocol adherence. Their findings underscore the urgency of adopting a more comprehensive public health approach that integrates social, cultural, and religious considerations in the design and implementation of more effective and inclusive health policies^{24,25}.

Had this strategy been implemented at the onset of the SARS-CoV-2 pandemic prior to the first reported case in Indonesia, the spread of the virus could have been better controlled, potentially reducing the economic impact. Policies involving serious isolation and quarantine measures, along with active community screening, also referred to as surveillance, could have prevented significant transmission and increases in cases.²⁰ Swift and decisive action, similar to measures taken by Vietnam, Taiwan, and Singapore, was necessary at the time¹⁸. These countries anticipated and implemented preventive actions consistent with the teachings of the Prophet Muhammad,

enforcing measures even before detecting their first cases. Their quick, alert, and responsive measures against COVID-19 contrasted sharply with Indonesia's delayed and less effective response, marked by ongoing debates over non-

critical issues, resulting in a less sensitive and serious strategy for controlling the entry and spread of the virus. This disparity is evident in the lower number of new cases and mortality rates in these three countries compared to Indonesia^{14,19}.

EARLY RESPONSE TO COVID-19 IN INDONESIA

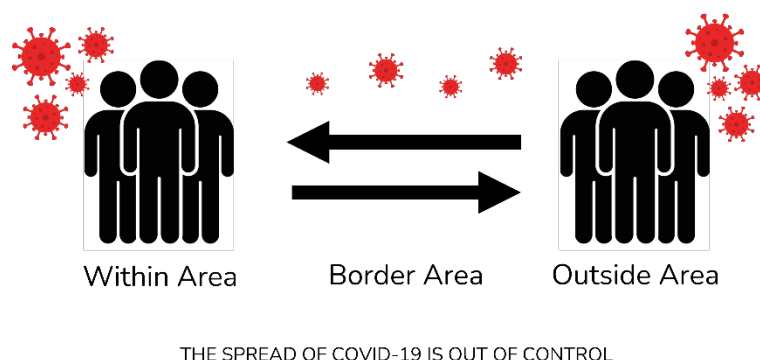


Figure 2: Early response to COVID-19 in Indonesia: Uncontrolled spread of COVID-19.

The rise in positive cases at specific times highlighted the early-phase inefficiency of Indonesian government policies, which failed to quickly enforce strict quarantine and isolation, making it difficult to control the spread from the onset of the first cases (Figure 2). The plague during the Prophet's time, similar to COVID-19 in terms of its fatality rates, rapid spread, and high casualty rates, required swift anticipation and action. Therefore, the Prophet enforced strict quarantine and isolation, as shown in Figure 1¹⁴. On the other hand, the new normal policy, which aimed to ease PSBB restrictions, is viewed as a passive herd immunity strategy, which may have been too accommodating to the virus. Given the virus's capacity for mutation and the uncertainty surrounding vaccine efficacy, achieving active herd immunity remains questionable. For the new normal to be effective, several conditions must be met, including controlled COVID-19 transmission and a robust health system capable of identifying, testing, isolating, tracing contacts, and quarantining patients to manage transmission risk^{14,17}.

As a consequence of inadequate measures to anticipate the entry of COVID-19, the analysis suggests the adoption of actions such as promoting healthy behaviours (PHBS), social and physical distancing, strict isolation and quarantine measures, as practised during the time of Prophet's leadership, to mitigate the spread of the disease during the pandemic^{14,16}. Although there were restrictions on movement during the outbreak, in accordance with the teachings of Prophet Muhammad, he also taught about

adaptive learning models for clean areas. The Prophet's flexibility in adapting religious practices during health crises—such as modifying pilgrimage practices and communal gatherings—demonstrates a model of adaptive learning with surely by continuing to comply with the rules that were been taught during the crisis²⁴.

In addition to proposing anticipatory learning model to address future infectious disease outbreaks (Figure 3), other strategies are needed to bridge the gap between public health needs and national religious communities. One such strategy is ensuring that leaders fulfil specific roles during crises and disasters to manage and resolve such situations effectively. Therefore, the effectiveness of crisis management depends on how well leaders understand and perform their designated responsibilities²⁶. One of example is the incorporation of religious leadership and values into crisis governance, which can enhance legitimacy and community compliance²⁷. Moreover, studies have demonstrated that religious leaders, faith-based organisations, and religious communities played a vital role in fostering emotional resilience, maintaining social cohesion, and ensuring adherence to public health measures during the COVID-19 pandemic^{28,29}. The collaboration between religious leaders, governmental authorities, and healthcare professionals was crucial in overcoming vaccine hesitancy and enhancing the effectiveness of pandemic control efforts. Consequently, leaders who understand the religious context in Indonesia, which has the largest Muslim population in the world, are needed.

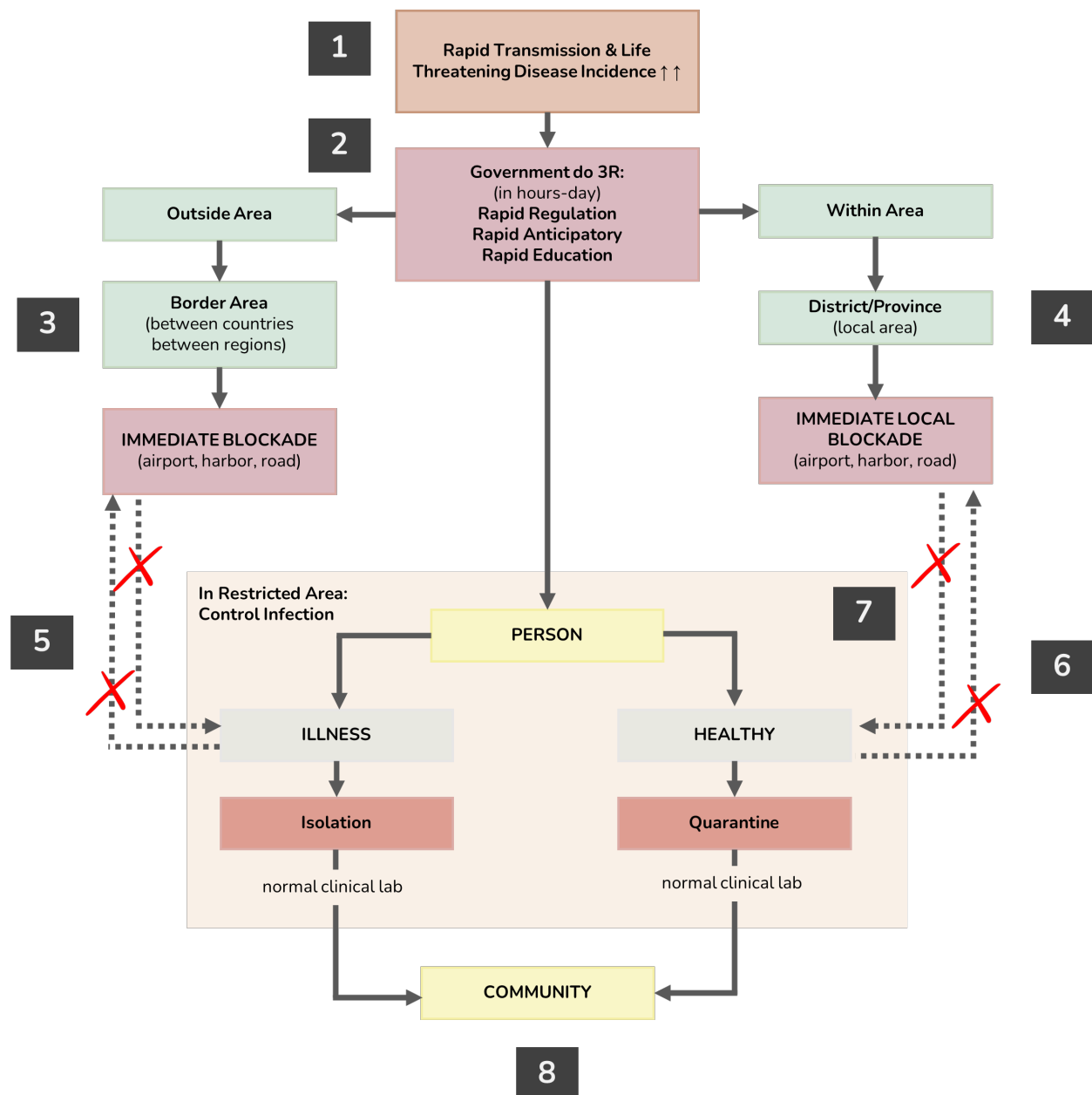


Figure 3: Proposal of an anticipatory learning model for handling epidemics and other similar emerging rapidly-spreading life-threatening infectious diseases ^{2,7,16,23}.

1). Increase in the morbidity rate of rapid transmission and life threatening diseases that have the potential to cause epidemics or even pandemics. 2) The government's initial response was made immediately (3R): a. Rapid regulation (development of regulations or policies to accelerate the handling and prevention of disease, as well as fulfilling people's economic needs); b. Rapid anticipation (blocking border areas and preparing appropriate and isolated treatment for infected patients); c. Rapid education (conducting widespread health education and promotion to the public through digital mass media concerning disease and health protocols to suppress the spread.). 3). Implementation of an immediate large scale blockade in the country's border areas (closing access to transportation in and out of the country such as at airports, harbours and roads); regions must consider implementing social distancing on a large scale according to the level of risk. 4). Implementation of immediate small-scale blockades in local provincial/district border areas (closing transportation access in and out of the country, such as through airports, harbours and roads); regions should consider implementing social distancing on a small scale according to the level of risk. 5 & 6). People from outside (whether or not potentially infectious) not allowed to enter the area, while those within it not permitted to travel outside. 7). Everyone in the area is traced and differentiated as having the illness or being healthy. Those infected are isolated for a set number of days, while healthy people are quarantined to avoid transmission. 8). People who have gone through isolation and quarantine and obtained normal results both clinically and in the laboratory are allowed to rejoin their community, with support from tests such as PCR or antigen ones, depending on etiology.

In parallel, the principles of quarantine and isolation introduced by Prophet Muhammad have been emphasised by various studies as conceptually consistent with modern epidemiological practices^{30,31}. Historical Islamic directives on infectious disease—such as the prohibition on entering or exiting a plague-affected area—mirror present-day containment policies such as zoning and lockdowns. These religiously-rooted principles provided clear guidelines on limiting transmission while fostering communal responsibility³². Incorporating religious motivations into public health strategies can enhance their moral legitimacy and promote greater acceptance among Muslim communities³¹. In this regard, the role of religious fatwas are particularly vital. Fatwas issued by credible Islamic authorities, including the Indonesian Ulema Council (MUI), have served as spiritual frameworks to guide behavioral adherence during pandemics³³. Such fatwas do not merely permit adjustments to worship practices, but also encourage compliance with vaccination programmes, physical distancing, and temporary closures of communal worship spaces, aligning with the Shari'ah principle of protecting life³⁴. Accordingly, alignment between religious decrees and health advisories enhances public trust and encourages unified compliance³⁵.

However, compliance is not solely a function of religious endorsement, but is also shaped by local sociocultural dynamics. Studies have shown that during festive periods, such as Eid al-Fitr, public compliance with health protocols can deteriorate due to long-held traditions that involve communal gatherings and physical greetings³⁶. This highlights the tension between health norms and entrenched religious-cultural practices, which must be addressed through culturally-adaptive strategies. Risk communication, therefore, must not only be linguistically accessible, but also tailored to the value systems of target communities, especially in rural or conservative settings³⁷.

Moving forward, a sustainable pandemic preparedness model should integrate religious leadership not only in its dissemination, but also in policy formulation. In countries such as Sri Lanka, the Ministry of Health has successfully institutionalized partnerships with religious leaders to co-deliver public health messages, manage stigma, and even assist in contact tracing and vaccination outreach³⁸. These collaborative models showcase the potential of interfaith coalitions in strengthening public health responses, particularly in settings where state trust is limited and spiritual authority is revered^{30,32}.

Indonesia, as the world's largest Muslim-majority country, is uniquely positioned to pioneer such integration. Effective crisis leadership requires an appreciation of Indonesia's religious context and

the moral authority that religious figures wield. Surveys in Saudi Arabia during the pandemic confirmed that when state policies were reinforced by religious leaders, public compliance improved significantly, even when the measures involved restricting sacred practices³⁹. Therefore, harmonising public health goals with spiritual mandates is not merely strategic, but also essential in shaping coherent, inclusive responses to health crises³⁶.

In light of these findings, the Prophet's approach offers more than a historical framework, as it provides a blueprint for synergistic governance that unites scientific rigour with religious sensitivity. Anticipatory models that reflect these dual imperatives are more likely to achieve sustainable compliance and community resilience. As this study has shown, grounding pandemic policies within both medical and theological legitimacy enhances not only their acceptability, but also their ethical integrity⁴⁰.

CONCLUSION

Preventive medicine actions taken in the early stages of the pandemic would have helped greatly to successfully manage the COVID-19 pandemic in Indonesia. However, the fluctuating morbidity rates and increasing number of positive cases indicate that the transmission of COVID-19 was not effectively controlled. This illustrates that Indonesia was unprepared to face the new normal era in the early phase of the pandemic due to lack of clarity in central policy. The concepts and preventive actions taught by the Prophet Muhammad during the outbreak of plague were original and enduring teachings, rich in wisdom. Theoretically, the teachings would have remained relevant for implementation during the early phase and uncontrolled transmission of the COVID-19 pandemic in Indonesia, especially compared to the new normal concept. Finally, we propose the anticipatory learning model taught by the Prophet Muhammad for handling epidemics and other rapidly spreading, life-threatening infectious diseases, as illustrated in Figure 3.

Author's Contributions

All the authors contributed to the conception and design of the study. Material preparation, data collection, and analysis were undertaken by SR, NHS and SAT. All the authors worked together to write the first draft of the manuscript and made comments on the previous version. All read and approved final manuscript.

Ethical Consideration

Data were taken from open access institutional websites, with analysis conducted based on literature and scientific corridor. The authors conducted the study for scientific learning and are not affiliated with specific organisations.

Conflict Interest

The authors have no conflicts of interest related to the material presented in this paper.

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