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Protecting healthcare workers during COVID-19 pandemic through health protocol guidelines implementation in Maluku, Indonesia

Frangky Ertanto[1]*, Robiana Modjo[1], Riskiyana Sukandhi Putra[2]

Abstract

Purpose: This study describes the implementation of two ministerial decrees stipulated by The Ministry of Health that serve as Health Protocol Guidelines in Maluku, Indonesia. **Method:** Cross-sectional with a quantitative and qualitative approach was conducted from March to August 2021. Self-administered questions were sent to respondents, and interviews were conducted where confirmation was necessary. **Result:** Implementation of Health Protocol Guidelines in five healthcare providers in Maluku was good and very good, as indicated by the total score of the overall implementation. **Conclusion:** This study revealed that protection measures taken and adopted from Health Protocol Guidelines issued by Indonesia were well implemented. However, future improvement might be necessary to maintain the current implementation even after the pandemic ends.

Keywords: COVID-19, health protocol guidelines, healthcare providers, healthcare workers.

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[1]Occupational Health and Safety Department, Faculty of Public Health, Universitas Indonesia

[2]General Directorate of Occupational Health and Sport, The Ministry of Health Republic of Indonesia

*Correspondence:
bian@ui.ac.id

INTRODUCTION

Originated from Wuhan, China, the new coronavirus disease (COVID-19) pandemic has claimed more than 4.2 million fatalities worldwide as of August 6, 2021 [1, 2, 3]. Meanwhile, in Indonesia, the positive cases have reached more than 3.6 million cases and claimed more than 104,000 lives as of August 6, 2021 [1]. Among Southeast Asia, Indonesia once held the most active COVID-19 cases and a higher fatality rate than the global average in late February 2021 [4]. The pressing situation that the COVID-19 pandemic brought has urged the Indonesian government to impose comprehensive social restrictions, including closing schools, limiting public activities, restricting religious activities, and implementing work-from-home policy for business sectors [5, 6, 7].

In a dire public health event, uncertainty occurs in many aspects; hence an effective public health preparedness strategy is required [3]. As recommended by World Health Organization, risk communication as part of public health preparedness strategy be incorporated in a national health capacity and capability [8, 9, 10]. A recent study in China found that one way to develop awareness and improve risk communication in a nation is by creating and distributing a guideline that highlights the role of risk communication in an emergency response plan [10]. Later in May 2020, through the Ministry of Health, the Indonesian government issued ministerial decree

number 413 of 2020 regarding Guidelines of Coronavirus Disease (COVID-19) [11]. This guideline may act as a source of information, advice, and perspectives for healthcare workers and the public to prepare and adopt preventive and protective behavior during a hard time of an outbreak [9, 12].

During the active restriction measures taken by the Indonesian government during the COVID-19 pandemic, some industries were categorized into two major sectors: essential and critical. These sectors were excluded from the social restriction policy and still allowed to conduct their business activity from office. Amongst a long list of industries, public healthcare facilities fall into critical sectors and can run the business as usual without obligation to implement work-from-home policy. Although, any adjustment related to the health concerns of the healthcare worker should be taken into account. The exclusion of healthcare facilities from the restriction measures due to their pivotal role as the forefront and resources of a national health system in controlling a wide-spread outbreak [13, 14]. However, healthcare workers are still vulnerable and prone to viral transmission in their workplace [13, 15]. Any fatality among healthcare workers can cause fear and panic that eventually affect the general population [14]. Therefore, strategies and measures are essential to preserving their vital role and function as public stronghold protection when anxiety and fear grow exponentially [14].

Even though the Indonesian Health Minister has issued ministerial decree number 413 of 2020 regarding Guidelines of Coronavirus Disease (COVID-19), little do we know about the virus itself. The insufficient knowledge about the novel coronavirus and the complications resulting from the infection has put many healthcare workers at an inevitable risk of infection in the workplace setting at any time [13, 16]. Moreover, not only the fear of getting infected but also the mental health deprivation may pose a threat for the healthcare workers. A qualitative study in Indonesia and China found that anxiety, depression, and stress while providing treatment for COVID-19 patients increase the risk of work accidents and medical errors [13, 15, 16]. Understand the healthcare workers' threats during the COVID-19 pandemic and avoid the collapse of a national healthcare system. The Indonesian government issued a Ministry of Health Decree Number 327 of 2020 regarding Stipulation of Coronavirus Disease (COVID-19) as An Occupational Disease on Certain Occupation in May 2020 [17]. The decree stipulates that infection caused by COVID-19, which results in an illness or fatality to any healthcare worker and non-healthcare worker providing treatments in a workplace setting, can be diagnosed as an occupational disease and reserve the right to be treated by using the national health protection [17, 18].

Understanding the pivotal role of healthcare workers during a pandemic and the government's efforts to protect them, it is obligatory to discover to what extent adherence to such actions has been made by the healthcare workers. The proposition is clear as Indonesia was continuously recording a high rate of new confirmed positive cases of COVID-19. Interestingly, a recent study discovered that adherence to prevention and control guidelines of COVID-19 infections was insufficiently implemented in some nursing homes in China, the epicenter of the COVID-19 pandemic [19]. Therefore, it is interesting to understand how healthcare providers and healthcare workers in Indonesia adhere to health protocol guidelines issued by the Indonesian government. To the best of our knowledge, there are only limited studies of health protocol guidelines implementation in Indonesia and specifically in an archipelagic area far away from the nation's capital.

This paper aims to describe the implementation of health protocol guidelines issued by the Indonesian government. We highlight the performance in hospitals and community health centers in some aspects that are important in combating a pandemic.

METHODS

This study was conducted online and offline in Maluku Province, Indonesia, between March to August 2021. As an area far from the epicenter of the COVID-19 pandemic, Maluku is one of the areas with the least reported cases of infection in Indonesia, following Gorontalo, Sulawesi Barat, and Maluku Utara. It contributes only 0.4% to the nationally confirmed cases [20]. Despite the multiple probabilities of low reported cases in Maluku, it is pertinent to understand how healthcare providers implement active measures to protect their healthcare workers during the COVID-19 pandemic, including comprehensively putting provided health protocol guidelines into practice.

We used a cross-sectional study design to underpin this research to understand and assess the adherence to health protocol guidelines in the first year since its first issuance. Furthermore, we used two research approaches to obtain measurable and comprehensive data we used two research approaches: quantitative and qualitative. The quantitative approach was the primary methodology, whereas the qualitative

approach was used to obtain rich and comprehensive data.

This study uses primary data from six healthcare providers in Maluku appointed as the locus of data collection, with the criteria including status as a referral healthcare providers for COVID-19 patients, available treatments for COVID-19 patients despite the absence of referral status, and experience of contracting coronavirus disease-19 within the healthcare workers. The six healthcare providers were divided into hospitals and community health centers (Puskesmas). Four hospitals involved in this study consisted of three public COVID-19 referral hospitals (RSUDH, RST2L, RSUDU) and one private hospital (RSS), whereas only two community health centers were involved: W Community Health Center and HU Community Health Center.

This study uses a self-assessment evaluation as the data collection method. The data obtained will be analyzed descriptively. Before commencing the data collection, the six chosen healthcare providers were asked to establish a critical informant team to fill out a self-administered questionnaire. The questionnaire was adapted from World Health Organization and customized following Ministry of Health Decree Number 327 of 2020 and Number 413 of 2020. We also administered in-depth interviews should we find it necessary to explore more data and information.

We administered questionnaires and in-depth interviews throughout this study. As we divided the healthcare providers into two categories, we also differentiated a set of questions within the questionnaires due to the nature of each category. The questionnaire administered for hospitals consists of twelve components that make up to 87 questions and no open-ended questions, whereas the questionnaire administered for a community health center consists of eleven parts with 66 questions without open-ended questions. We used three guideline answers and in-depth interviews for both categories in a component that we deemed comprehensive data could be gained.

The elements of the questionnaire consisted of (1) General …, (2) Leadership and incident management system, (3) Coordination and communication, (4) Surveillance and information management, (5) Administration, finance, and business sustainability, (6) Human resources, (7) Surge capacity, (8) Essential support services sustainability, (9) Patient management, (10) Occupational health, mental health, and psychosocial support, (11) Quick diagnose and identification, (12) Infection prevention and control. The questionnaire was for hospitals and community health centers. However, the "surge capacity" component was exclusively administered only for hospitals.

RESULTS

Table 1 indicates, among four hospitals, the highest overall implementation rate of health protocol guidelines was at RSS (86.14%), and the lowest was at RST2L (71.78%).

Table 1. Overall evaluation of health protocol guidelines implementation in hospitals

Healthcare Providers	Total Score	Weighted Score (%)	Category
RSUDH	850	84.16	Very Good
RST2L	725	71.78	Good
RSUDU	835	82.67	Very Good
RSS	870	86.14	Very Good

Figure 1 indicates the achieved percentage for various aspects by four hospitals in Maluku, highlighting some elements categorized as good and very good. In RSUDH, elements of Leadership and Incident Management System, Coordination and Communication, and Quick Diagnose and Identification showed maximum achieved percentage. However, Patient Management and Occupational Health, Mental Health, and Psychosocial Support recorded a low rate.

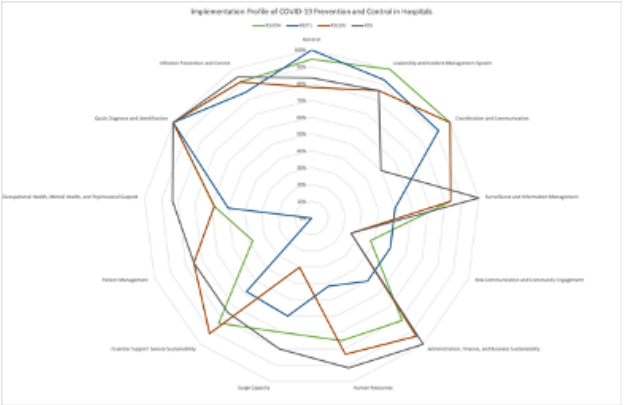

Figure 1. Implementation Profile of COVID-19 Prevention and Control in Hospitals

In RS2TL, only four elements showed a poor implementation: Surveillance and Information Management, Administration, Finance, and Business Sustainability, Human Resources, and Patient Management. In RSUDU, different findings indicated a low implementation for elements of risk

communication, community engagement, and surge capacity compared to other aspects. In RSS, the least implemented elements were coordination and communication, risk communication, and community engagement. The guideline implementation in sample hospitals in Maluku was in line with the Ministry of Health Decree Number 413 and of Number 327. Nevertheless, Health facility managers should make improvements in some elements, including patient management, risk communication, community engagement, and surge capacity.

In the community health center context, the highest implementation rate was found at HU Community Health Center with a weighted score of 91.76%, whereas W community health center showed a significant gap with a recorded rate at 79.41%, as indicated in Table 2.

Table 2. Overall evaluation of health protocol guidelines implementation in the community health center

Healthcare Providers	Total Score	Weighted Score (%)	Category
W Community Health Center	675	79.41	Good
HU Community Health Center	780	91.76	Very Good

Figure 2 indicates that the implementation of health protocol guidelines in two samples was undertaken well but HU community health center was ahead of the other one in almost all elements. In W community health center, only four elements showed least optimum implementation: coordination and communication, risk communication and community engagement, human resources, and occupational health, mental health, and psychosocial support. On the other hand, almost all of the elements were implemented very well and only one element showed the least implementation: patient management.

According to such result, it is concluded that the implementation of health protocol guidelines in sample community health center in Maluku, Indonesia was in line with the Ministry of Health Decree Number 413 of 2020 regarding to Guidelines of Coronavirus Disease (COVID-19) and Ministry of Health Decree Number 327 of 2020 regarding to Stipulation of Coronavirus Disease (COVID-19) as An Occupational Disease on Certain Occupation. In addition to it, a monitoring measure should be undertaken to ensure that the quality of implementation remains consistent over time.

Figure 2. Implementation Profile of COVID-19 Prevention and Control in Community Health Center

DISCUSSIONS

This research study describes the protection efforts made by the Indonesian government for healthcare workers in Maluku during the pandemic of COVID-19. Amidst various efforts carried out by the government, the issuance of ministerial decree was expected to be a legal basis for healthcare facilities in order to provide protection for their healthcare workers. In addition to it, having healthy healthcare workers during the pandemic could give assurance for the public in general. Findings in this study suggest that the protection efforts stipulated in two ministerial decree have been implemented in a very good manner by sample hospitals and community health centers in Maluku. However, a number of protection elements which are regulated within the ministerial decree should be improved for a better health status of the healthcare workers.

In this study, each of the hospitals has various elements that have been well implemented or need improvements. Despite the characteristic and COVID-19 referral status, hospitals and community health centers in Maluku showed several interesting findings. The overall implementation of healthcare protection was excellent although improvement was needed in terms of patient management, finance, administration, and business sustainability, occupational health, mental health, and psychosocial support, coordination and communication, surge capacity, and risk communication and community engagement. This improvement is pertinent to be made and taken care of by the COVID-19 referral hospital, particularly when facing a surge of infected patients during the pandemic of COVID-19 [13]. Some studies suggest addressing workplace setting issues effectively in healthcare

facilities could affect healthcare workers as they hold critical roles in a dire public health event [21]. For instance, mental health issues arising during the COVID-19 pandemic in healthcare workers should be addressed properly as its effect will remain in the long run even after the pandemic ends [15, 16].

As stipulated in the ministerial decree, surveillance and information elements are important during a pandemthe ic that may serve as a basis for the healthcare provider to undertake infection and prevention controls, preventing the healthcare workers from getting exposed to the virus. This study highlights how hospitals and community health centers manage the collection, analysis, dissemination, and documentation of information in regards to the number of infections and adherence to the prevailing regulations, such as guidelines, standard operating procedure, or other legal products. Partial implementation of proper information management was shown by a number of hospitals at the time of this study. We recommend that hospitals and community health centers update the surveillance methods and procedures from time to time by referring to guidelines issued by authority or international organizations. However, it is also important to ensure that all healthcare workers exhibit a stringent compliance to such guidelines, hence profound and robust monitoring and evaluation mechanisms are required.

In terms of administration, finance, and business sustainability, this study findings suggest that this element might need to be improved, in particular the mechanism, policy, and or procedure on how to prevent the organization from collapsing in the long run due to the economic burden caused by the pandemic. We highlight financial and administration issues on how procuring personal protective equipment might be challenging for healthcare facilities. The lack of personal protective equipment during this pandemic might lead to anxiety, uncertainty, and fear within the healthcare workers and eventually affect how they work and increase the possibility of making an error [22]. Hence, it is pertinent for healthcare facilities to administer a financial and administration policy which allows business sustainability at the same time. We recommend healthcare facilities to continuously review the organizational budget in order to manage the expenses effectively and prioritize needs for the healthcare workers as well as the patients. The budget should be made meticulously and involve stringent risk management. In addition to that, as the pandemic has become a national concern that creates a rise of the national budget on health sector, healthcare facilities are expected to utilize the coordination with central or regional government.

Risk communication and Community Engagement is also the element which the government believes could play a significant role in protecting healthcare workers during the pandemic. In this study, we highlight the presence of standard operating procedures and protocol of infection prevention and control that can be used by healthcare workers, patients, visitors, and other stakeholders, including community members. Not only the presence of procedure and protocols, we also highlight the presence of an evidence-based key message in the implementation of risk communication strategy. Learning from the past global public health events, such as Severe Acute Respiratory Syndrome, Middle East Respiratory Syndrome, Influenza A, and Ebola, many studies suggest that risk communication and community engagement were integral parts to the success of control measures taken to deal with certain hazards [2]. We recommend that hospitals and community health centers update the risk communication methods and procedures from time to time by referring to guidelines issued by authority or international organizations, such as World Health Organization. The dynamic situation of a pandemic brings healthcare facilities to always update and keep up with the current situation and issues. Failure to deliver a key message of a risk communication may generate a greater failure in society during a battle with invisible enemies. We also recommend considering the opportunity to strengthen the community by actively engaging them in internal support made by the healthcare facilities. Forms and examples of community engagement are made publicly by some institutions which can be used as references. However, as the characteristics of a community may vary, we recommend community engagement programs should be tailor-made.

In times of a pandemic, surge capacity also plays a significant role. Healthcare providers should administer capacity enhancement plans and rapid addition of infrastructure to address staffing, supply, and logistic issues. For instance, provision of expertise in critical areas andexpansion of extra beds for inpatient cases following real-time calculation should a surge of positive cases occur. We highlight some improvements that should be made by hospitals and community health centers in Maluku, Indonesia. First, healthcare providers should provide a procedure allowing COVID-19 cases management with increased essential medicines supplies, diagnostic, and clinical

service. Second, healthcare providers should also agree or create a memorandum of understanding with the Indonesian Ministry of Health or other institutions that allow healthcare providers to procure supplies in time surge cases occur, such as mechanical ventilators and oxygen tubes.

CONCLUSION

In this study, protection measures guided by Health Protocol Guidelines issued by the Indonesian government were well implemented by the sample healthcare providers in Maluku, Indonesia. The findings of this study might become a potential suggestion for the Indonesian government to issue another policy or legal products that allow healthcare providers to administer monitoring procedures of the stipulated elements. In addition to it, healthcare facilities might also provide administrative products, such as standard operating procedure work instruction, that may ensure the current implementation will still be consistent even after the pandemic ends.

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