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## Changes in Safety and Universal Precaution Practices During Covid-19 Pandemics: The Case of One Primary Health Care Center in Yogyakarta

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### ABSTRACT

**Keywords:** Health Workers, COVID-19, Preventive, Health Center, Occupational Health and Safety

The COVID-19 pandemic in Indonesia has adversely impacted the economy, healthcare, the environment, education, and various others aspects. In the field of healthcare, there has been a surge in the number of fatalities among medical personnel. This increase in medical personnel has rendered health workers a vulnerable group. In this case, guidelines are required to prevent and manage COVID-19 effectively, ensuring the health, safety, and productivity of healthcare workers. The objective of this study is to assess the implementation of the occupational health and safety (OHS) management system at the Tegalrejo Health Center in carrying out COVID-19 preventive measures for health workers. This research is a qualitative study employing a case study approach. The research was conducted at the Tegalrejo Health Center in Yogyakarta. There were 10 participants, including the health center's head, administrative head, OHS team leader, infection prevention and control (IPC) team leader, COVID-19 task force leader, risk management head, 2 OHS members, an IPC member, and a nurse. Data collection methods included in-depth interviews, observation, and document review. The preparedness of health centers in facing an abrupt pandemic significantly affects the prevention of COVID-19 infection among healthcare workers. Health centers have stringent regulations that encourage healthcare workers to take preventive actions. Tegalrejo Health Center takes preventive measures against health workers from COVID-19 infection by making policies and planning Occupational Health and Safety programs adapted to pandemic conditions.

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## **Introduction**

Coronavirus Disease 2019 (COVID-19) is an infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2. This novel virus had not been previously identified in humans. The global awareness of the outbreak began on December 31, 2019, the World Health Organization (WHO) reported a case of pneumonia with an unknown source in Wuhan City, China. By January 7, 2020, Chinese authorities confirmed that this pneumonia was a result of a novel coronavirus. Subsequently, on March 11, 2020, the WHO declared COVID-19 a global pandemic.

Indonesia confirmed the first Covid-19 case on March 2, 2020 (8). Among the regions in Indonesia, Yogyakarta City experienced a significant number of Covid-19 cases. In 2020, there were 1,905 confirmed positive cases, and in 2021, there were 19,961 confirmed positive cases. As of August 13, 2022, there were 12,785 confirmed positive cases (10). Data from December 28, 2020, 507 healthcare workers died due to exposure to the COVID-19 virus. Indonesia has one of the lowest ratios of doctors to the population in Southeast Asia, with only 0.4 doctors per 1000 people, underlining the urgent need to safeguard healthcare workers, as more than 270 million Indonesians rely on their services (Kang & Disemadi, 2021).

Healthcare workers are at the forefront of the battle against COVID-19, which causes them to become a vulnerable group (5). To protect their health and prevent overwhelming the healthcare system, it is imperative to provide them with adequate personal protective equipment (PPE) and establish comprehensive guidelines for Covid-19 prevention and control. Such measures are essential to ensure that healthcare workers remain healthy, safe, and productive while delivering healthcare services that meet the required standards (Sidabutar et al., 2022).

In the fight against the pandemic, the government has implemented various strategies to mitigate the spread of the virus. These strategies include promoting public awareness and preventive measures. The promotion strategy of the government is to ask the public to boost their immunity, prepare for COVID-19, and adopt clean and healthy living practices. The preventive strategy involves expediting the response to Covid-19 cases. Additionally, healthcare workers are encouraged to adhere to established health protocols, maintain physical distancing, and prioritize their own immunity (Wahidah et al., 2020).

PHC plays a pivotal role in organizing both public and individual health efforts at the primary level. PHC has a role in the national health system. The role of healthcare workers in PHC is paramount in executing healthcare programs. This study aims to investigate the Tegalrejo Health Center's role in implementing COVID-19 preventive measures for health workers and the strategies employed to encourage health workers to adopt these preventive measures.

## **Methods**

This is qualitative research with a descriptive case study approach conducted through direct observation. The research location was at the Tegalrejo Health Center in Yogyakarta City. The time used by researchers to carry out research is one month.

Research data were obtained from in-depth interviews, observations, and document reviews. The research subjects were informants who provided information during the research process. Research participants were selected by purposive sampling based on certain criteria

set by the researcher, considering that the selected participants have information that can be explored related to the research objectives to obtain representative data.

The selected participants were OHS policymakers, implementers, and those prone to experiencing OHS events. The subjects were taken from Tegalrejo Health Center, Yogyakarta City. There were 10 participants, consisting of the head of the health center, the head of administration, the head of the OHS team, the head of the IPC team, the head of the COVID-19 task force, the head of risk management, two OHS members, an IPC member, and a nurse.

**Table 1. Participant Characteristics**

<b>No</b>	<b>Position</b>	<b>Length of Position</b>	<b>Age</b>	<b>Education</b>
1	Health center's head	2 years	46	physician
2	OHS team leader	2 years	33	physician
3	IPC team leader	2 years	31	magister of management
4	Risk management head	1 years	59	dentist
5	OHS member	3 years	29	D3 health
6	OHS member	6 months	25	D3 environmental health
7	IPC member	1 year	36	physician
8	Administrative head	2 years	49	MPH
9	Nurse	3 years	26	D3 nursing
10	Covid-19 task force leader	2 years	40	physician

The preparation of interview transcripts containing narrative data from interviews with all participants served as the basis for data analysis. The results of the interview transcripts were then subjected to data reduction, data description, and data verification.

## **Result and Discussion**

### **Universal Precaution Practices**

#### **a. Use of hazmat and its challenges**

Throughout the COVID-19 pandemic, it is imperative for all healthcare workers to utilize personal protective equipment. It was discovered in the study that certain healthcare personnel at health centers experienced near fainting episodes as a result of wearing hazmat suits.

*If there was an incident of syncope or heat stroke, there were even two, one of which happened to be myself. (IPC team leader)*

*All places must have a reduction in hours, especially if you use hazmat because it is hot. Some have fainted, so it is too bad if it is too long. (OHS team leader)*

b. Use of masks and other preventive behaviors

During the pandemic, PHC initiated several programs, including the introduction of personal protective equipment. This socialization of PPE is a mandatory process for all employees to ensure the correct usage of PPE in all service units. The pharmacy department has also taken steps to ensure the availability of PPE. This comprehensive socialization encompasses protective gowns, masks, head caps, goggles, face shields, gloves, and boots.

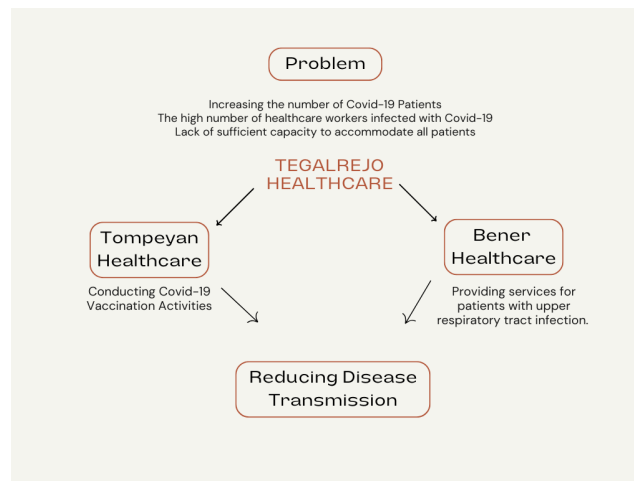
Before the pandemic, some service units did not receive PPE, such as masks. However, with the onset of the pandemic masks became available to all services units as per their specific requirements. Subsequently, the distribution of gown occurred in stages, with priority given to services that involved higher risk. Importantly, clear and detailed instructions on the proper use of PPE were disseminated to health center staff, recognizing differences in their educational and professional backgrounds. It's worth noting that the supply of PPE remains limited. Consequently, the allocation of masks is restricted to one per day and staff members who do not have direct patient contact are provided with surgical masks (Ehrenzeller et al., 2023).

*The first is, of course, from the health center to protect friends who provide services during the COVID-19 pandemic by providing PPE according to indications. (IPC team leader).*

At the beginning of the pandemic, PPE constraints existed. The health center strives by proposing the purchase of PPE, which will later be submitted to the health department.

*I usually report to the head of the health center if there are obstacles in the field, for example, PPE financing. Later, the head of the health center will submit it to the health department. (Covid-19 task force leader)*

## **Reorganization of Health Facility Workflow to Minimize Contact and Maintain Social Distancing**



During the pandemic, Tegalrejo Health Center made regulations on patient screening, employee health monitoring, restrictions on working hours, and the separation of acute respiratory infection (ARI) and non-ARI patients. Initially, ARI and non-ARI patients were restricted to separate rooms at the Tegalrejo Health Center. The increase in the number of infected patients led to a change of location at the auxiliary health center, Puskesmas Bener. With the permission of the City Health Office, the head of the health center moved all COVID-19 services from examination to treatment to be carried out at the Bener Health Center.

When the medication is not yet available, the only strategy against COVID-19 is to reduce the mixing of susceptible and infectious people through early ascertainment of cases or reduction of contact (Lewnard & Lo, 2020). The locations of ARI and non-ARI patients are also separated to protect patients who come to check on patients with comorbidities and reduce the risk of transmissions with these patients. This separation was also done to prevent crowds in the Puskesmas building.

*The policy was taken from the Tegalrejo Health Center because I came here already in the middle of COVID-19 and there was already a room arrangement for separating infectious and non-infectious patients. (Covid-19 task force leader)*

*At the beginning of the pandemic, the service flow was still the same, so it was not different; there was no special room for ARI patients, and then later on, it was evaluated, and then there was the establishment of an ARI room, and then it was re-evaluated for the ARI room at the Bener sub-primary health center. (OHS member)*

Some patients who come to the puskesmas for routine control are asked to delay their arrival unless it is an emergency. Dental services and examinations for pregnant women are restricted. PHC provides telemedicine for patients who need consultation.

*Postponement of routine control patients to the PHC Also, some procedures, such as tartar removal and integrated Antenatal care examinations, were delayed. The health center anticipates this by providing online services; patients can come when the examination is scheduled. (IPC team leader)*

## The Challenges Faced by The Primary Health Center

### **Rapid Changes in National Rules**

The determination of Tegalrejo Health Center policy is based on the direction of the Yogyakarta City Health Office. The Health Office follows the regulations issued by the Ministry of Health nationally. COVID-19 is a brand-new disease whose management is still under continuous evaluation. During the continuous change of regulations, health centers are required to be able to adapt to the new regulations immediately.

*We followed the guidelines issued by the Ministry of Health when they changed several times. Health workers still have no experience because COVID-19 is a new case. In addition, they must immediately follow the changes in existing regulations. (Covid-19 task force leader)*

### **Resistance to Change Among Health Care Providers**

Before the pandemic, the OSH regulations that were made were not very effective. The pandemic has made health workers change their attitudes to practice clean and healthy living behaviors and use personal protective equipment.

The process needed to make health workers want to take preventive action is due to the firmness of the regulations, and the COVID-19 Task Force always reminds them. If someone does not comply with the rules, sanctions will be given in the form of a letter of reprimand from the head of the health center and social sanctions from his coworkers.

*Since COVID-19, everything has been running even faster. (OHS team leader).*

*If the punishment from the Health Center is called, then we will reduce the remaining services and guidance. If it does not work from the Health Center, we give the health department the first, second, and third warning letters. (Health Center's head)*

OHS controls risks associated with work activities so that a safe, efficient, and productive workplace can be created. During this time, risk control at the health center is carried out by preventing infection through standard precautions and precautions based on transmission.

Tegalrejo Health Center's OHS program to prevent infection during the pandemic is to do swab examinations for symptomatic and close contact staff, provide COVID-19 immunization, sterilize the room, and socialize the use of PPE. The OHS team collaborated with the IPC team and health promotion to carry out these preventive measures.

*From the management side, we have the head of the health center. From the health worker side, we have environmental health, health promotion, and UKP (Administrative head).*

*The OHS works for employee safety, whereas the IPC concerns employees and patients. IPC is more dominant in outbreaks. (Health center's head)*

## **Discussion**

### **Main Findings**

This study found the importance of health center preparedness as a primary care facility at the first level in dealing with the outbreak. Tegalrejo Health Center must adapt to changes in

existing regulations to protect health workers from COVID-19 infections. Regulations related to the use of PPE, service flow, separation of ARI and non-ARI patient locations, and screening of patients and employees, and social distancing. The use of PPE is socialized to get officers used to wearing it. Some services require the use of hazmat as a means of personal protection. The head of the health center provides a limit on the use of hazmat settings, namely for 4 hours to prevent heat stroke.

Health workers are like a second victim of COVID-19. Their work experience is traumatizing because they never see so many sick people. They were shocked by the physical and psychological brutality of the virus. They sacrifice and fully commit to fulfilling their duty (Bennett et al., 2020).

During the pandemic, medical services in the building were modified to prevent transmission by applying triage or screening to every visitor who came, organizing the flow of services, providing a special room for ARI, providing seating distance between patients, and using transparent barriers. If it cannot be determined that the patient has the potential for COVID-19, then the patient is treated as a COVID-19 case. Inpatient labor services are only available for pregnant women not infected with COVID-19.

The forecast indicates that we will live with COVID-19 for a long time. We need to alternate between more and less social isolation, requiring adjustments to certain procedures. Information technology such as WhatsApp and telephones for teleconsultations guarantees the safe supply of activities to avoid discontinuity of care and aggravate conditions in users under treatment (Medina et al., 2020).

Tegalrejo Health Center has carried out prevention and management under existing guidelines. During the COVID-19 pandemic, there were limitations on service hours and actions. Some patients who get consultations from a doctor use telemedicine. Limiting service hours is done to protect healthy officers from experiencing fatigue due to the many officers who have to isolate themselves due to COVID-19.

### **Operational Consideration for Future Program Implications**

Implementing occupational health and safety requires consistency. Some programs are only stand-alone vertical services, lacking continuity, coordination, and effectiveness (Jeleff et al., 2022). The OHS program during this pandemic feels more active. The health centers were less prepared due to the pandemic and changing regulations. This indicates that the health center's OHS program is not given enough attention and becomes less effective, especially when facing a pandemic that comes suddenly. Developing OHS programs is expected to reveal possible blind spots concerning workers and health problems.

### **Conclusion**

The Tegalrejo Health Center takes preventive measures against health workers from COVID-19 infection by making policies and planning OHS programs adjusted to pandemic conditions. The strategy used to make health workers want to take preventive action against COVID-19 is strict regulation from the health center. Increasing the knowledge of Tegalrejo Health Center human resources about safety and Health and special training for the OHS team are needed to increase the team's capacity in dealing with outbreaks.

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