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ORIGINAL RESEARCH

# Implementation of health protocols in the workplace during the Covid-19 pandemic in Indonesia

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## Abstract

**Background**: Covid-19 is a new disease for which no cure has been found; prevention of disease transmission is an alternative to reducing cases. The workplace is one of the places that have the potential for information of Covid-19 because workers will have direct contact in one place with other workers. This study aims to analyze the characteristics and availability of health protocol facilities on worker compliance in the workplace during the Covid-19 pandemic.
**Methods**: The research method uses quantitative methods with a cross-sectional approach. The population in this study are workers who work in formal and informal sectors in Indonesia, with a sample of 217 respondents. Data collection used a survey method and obtained as much as 217 data. For data processing, we used the Rank Spearman test.
**Results**: The results showed that there was a relationship between years of service (p-value 0.008; rho: 0.148), educational level (p-value 0.000; rho: 0.363), number of employees (p-value 0.000; rho: 0.488), and the availability of health protocol facilities (p-value 0.000; r: 0.498) at the workplace. As for age and the level of compliance with the application of health protocols, there was no relationship (p-value 0.044).
**Discussion**: The level of compliance with suitable health protocols at the workplace can help suppress the spread of Covid-19. There are still workplaces where workers do not comply with health protocols, such as workers who do not practice social distancing and lower masks to their chins when talking to colleagues.


***Keywords***: *compliance, Covid-19, health protocols, workplace.*

**Conflicts of interest:** None declared.

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## Introduction

The World Health Organization has declared the COVID-19 outbreak as a global pandemic. It spread to more than 200 countries and infected about 4.5 million people. The epidemic is alarming people worldwide and has resulted in several million deaths (1,2). Indonesia is one of the countries affected by the Covid-19 pandemic. According to the data site of the Covid-19 task force as of March 14, 2021, the number of cases in Indonesia was 1,419,455 and the number of deaths 38,426 (3). WHO recommends always maintaining hand hygiene and a distance of at least 1 meter from other people to avoid Covid-19 (4,5). The government's role is very decisive in reducing the spread of Covid-19. It is necessary to develop a systematic Covid-19 control protocol (6,7). Many countries worldwide have implemented health protocols. For example, the government in Korea has enforced physical distancing, maintaining proper cough etiquette, and using personal sanitation such as face masks, face shields, and sanitizers (8). In Indonesia, the government has implemented physical distancing policies, regional lockdowns, and maintaining hand hygiene (9). Governments are also responsible for protecting workers' health at their workplaces (10,11). Based on research conducted by Alanezi et al., more than 60% of health workers in seven selected hospitals in Saudi Arabia ignore health protocol regulations (12). The same was found in India, although there are regulations governing health workers at the workplace (13). Just below 50% of the health workers have not been able to maintain distance while talking to colleagues. Also, they work with used protective equipment because they do not have time to replace it (13). Therefore, our study aims to analyze the characteristics and applications of health protocols concerning workers' compliance at the workplace during the Covid-19 pandemic in Indonesia.

## Methods

We use a cross-sectional design based on an online questionnaire implemented over one month in this study. The questionnaire has been prepared based on the Decree of the Director-General of Labor, Supervision and Occupational Safety, and Health Number 5/151/AS.02/XI /2020 concerning guidelines for occupational safety and implementation of workforce health checks duringthecovid-19 pandemic. The distribution of respondents' workplaces covers the following Indonesian provinces: South Kalimantan, West Kalimantan, Central Kalimantan, North Kalimantan, Banten, DIY, Central Java, East Java, West Java, Riau, NTT, DKI Jakarta, and Papua. We obtained 217 questionnaires. Data processing used the Spearman rank test because data distribution is not normal.

The study was approved by the Health Research Ethics Commission of the State University of Semarang with No. 015/KEPK/EC/2020.

## Results

The respondents are workers from various work units, both informal and formal. Of the 217 respondents analyzed in Table 1, more than half, i.e., 59.9%, are aged 21 to 40. The tenure of service is predominantly in the range of 1-10 years (63.6%); about two-thirds (66.8%) have education in tertiary institutions. One-third work at workplaces with <10 employees (34.1%).

**Table 1. Characteristics of respondents (N=217)**

| Characteristics of respondents | Category | f | % |
|---|---|---|---|
| Age | ≤20 | 5 | 2.3 |
| | 21-40 | 130 | 59.9 |
| | ≥41 | 82 | 37.8 |
| Tenure | 1-10 | 138 | 63.6 |

| | | | |
|---|---|---|---|
| | 11-20 | 44 | 20.3 |
| | 21-30 | 26 | 12.0 |
| | ≥31 | 9 | 4.1 |
| Education | Elementary School | 15 | 6.9 |
| | Junior High School | 11 | 5.1 |
| | Senior High School | 46 | 21.2 |
| | College | 145 | 66.8 |
| Number of employees | ≤10 | 74 | 34.1 |
| | 11-50 | 53 | 24.4 |
| | 51-100 | 31 | 14.3 |
| | ≥101 | 59 | 27.2 |

Table 2 shows that almost all workplaces have issued regulations on health protocols. To increase the success of regulations, a socialization effort is to be implemented so that employees pay more attention to the health protocols. Figure 1 explains that the most widely used media at the workplace are banners. In addition, some workplaces use posters, safety talks, and circulars. Several health protocols require employees to wash their hands before entering the workspace, providing hand sanitizers and a sink with running water and soap. More than 70% of workplaces have provided personal protective equipment during the pandemic, taking temperature measurements before entering the workplace, keeping distance during work, and preventing crowds in specific workplace facilities such as places of worship, canteens, and rest areas. In addition, several workplaces have also established sanctions if employees do not wear masks and regularly spray disinfection to reduce the spread of Covid-19. However, there are still many workplaces where safety or health officers do not monitor their employees' health and do not carry out preventive engineering such as installing barriers or glass screens for workers who serve customers.

**Table 2. Availability of Health Protocol Facilities at the Workplace**

| No | Availability of health protocol facilities in the workplace | Yes (%) |
|---|---|---|
| 1 | Regulations for implementing health protocols in the workplace | 93.1 |
| 2 | Workplaces provide PPE during the Covid-19 pandemic | 75.1 |
| 3 | There is a temperature measurement | 75.1 |
| 4 | There are sanctions if you don't wear a mask | 63.1 |
| 5 | Availability of sink | 84.8 |
| 6 | Sufficient number of sinks/hand washers | 87.1 |
| 7 | There is running water and soap at the sink | 87.1 |
| 8 | Employees are required to wash their hands before entering the workspace | 70.5 |
| 9 | Hand sanitizer available | 78.3 |
| 10 | There are rules to keep your distance while working | 73.3 |
| 11 | The workplace has been sprayed with disinfection | 79.7 |
| 12 | Workplace restricts attendance of employees | 43.8 |
| 13 | There are arrangements for the use of workplace facilities to | 74.2 |

| | | |
|---|---|---|
| | prevent crowds (facilities of worship, canteens, rest areas) | |
| 14 | Safety or health officers monitor the health of their employees | 59.0 |
| 15 | Your workplace carries out transmission prevention engineering such as installing barriers or glass screens for workers serving customers and so on | 54.8 |
| 16 | Have you ever taken the Covid-19 Rapid Test at work? | 58.1 |
| 17 | The supervisor where you work guides workers who do not implement the Covid-19 prevention and control protocol | 69.1 |

**Figure 1. Forms of socialization in applying health protocols at the workplace**

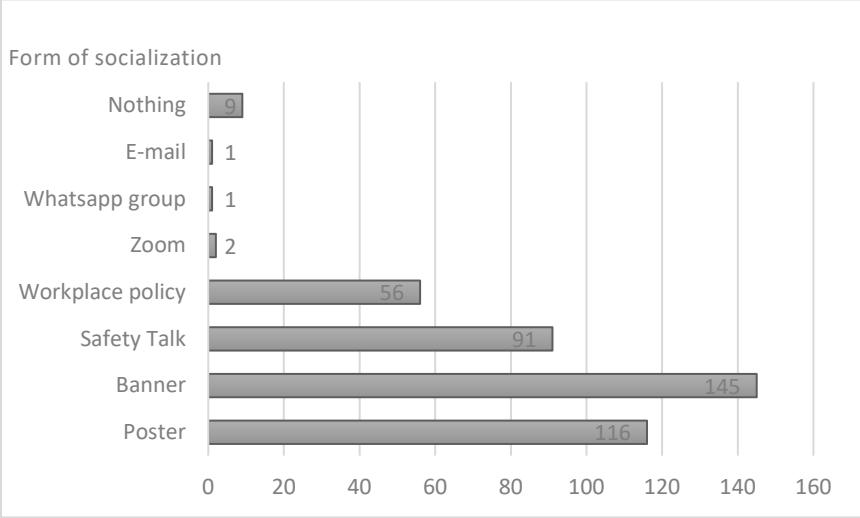


**Table 3. Frequency distribution of compliance level implementing health protocols at the workplace**

| No | Questions | Always (%) | Often (%) | Sometimes (%) | Never (%) |
|---|---|---|---|---|---|
| 1 | I implement complete health protocols at work | 62.2 | 15.7 | 22.1 | 0 |
| 2 | I wash my hands with soap before work | 57.6 | 15.2 | 27.2 | 0 |
| 3 | I wash my hands with soap after work | 60.4 | 14.7 | 24.9 | 0 |
| 4 | I use hand sanitizer after work | 49.8 | 20.7 | 28.1 | 1.4 |
| 5 | I wear a mask at work except when eating | 70.0 | 7.4 | 22.6 | 0 |
| 6 | I did not change my mask for more than one day | 9.7 | 9.2 | 30.9 | 50.2 |
| 7 | I lower my mask to my chin/neck when talking at work | 0.9 | 6.5 | 55.3 | 37.3 |

| | | | | | |
|---|---|---|---|---|---|
| 8 | I keep a distance of 1 meter from my co-workers | 34.6 | 24.9 | 38.7 | 1.8 |
| 9 | I immediately went to the nearest polyclinic or health service if I had a cough/flu/fever | 38.7 | 17.5 | 35.5 | 8.3 |
| 10 | I still go to work even though I have a cough/flu/fever | 6 | 6.9 | 38.7 | 48.4 |

The results of the frequency distribution of compliance levels in implementing health protocols in the workplace are shown in Table 3. It demonstrates that many employees do not change masks the latest after one day and lower the mask to their chin or neck when talking to other people. This maybe so because sanctions are often applied only to those not wearing masks, not if somebody wears the mask incorrectly, such as not changing masks or lowering masks while talking. Many employees do not maintain a distance of one meter as per the regulations set by WHO, government regulations, and workplace regulations. In addition, some employees still go to work even though they have a cough/flu/fever, possibly a Covid-19 infection. Moreover, many employees lack the self-awareness to immediately go to the nearest polyclinic or health service if they have a cough/flu/fever.

**Table 4. Bivariate analysis of respondent characteristics and the application of health protocols at the workplace**

| Variable | P-value | r |
|---|---|---|
| Age | .442 | .044 |
| Tenure | .008 | .148** |
| Education | .000 | .363** |
| Number of employees | .000 | .488** |
| Availability of Health Protocols at the Workplace | .000 | .498** |

Table 4 shows that except for age, the respondents' characteristics are related to the protocol: Tenure, education, number of employees, and essentially the availability of protocols.

**Discussion**

Three categories of measures are employed to strengthen the protection of workers during the Covid-19 pandemic, namely organizational, environmental and individual factors. Organizational factors are usually a safety culture and climate that lead to particular policies or procedures employed in the workplace (14). According to our findings, almost all workplaces in Indonesia have issued regulations to implement health protocols at the workplace. Based on research conducted by Fernardo (15), providing banners or posters with high threat and efficacy as a medium of socialization can increase compliance in implementing health protocols and seeing high threat posters can evoke the memory of workers to remember the closest people, family, and relatives who have been affected by Covid-19. The use of social media and social influencers also needs to be considered because the research of Yousuf et al. (16) stated that socialization media were effective in promoting health protocols.

Furthermore, for environmental factors, the study results show that most workplaces in

Indonesia have provided a sink or sanitizer to maintain hand hygiene, provide personal protective equipment, and take temperature measurements before entering the workspace. However, most of the safety or health officers in the workplace still do not routinely check the health of their workers. A study conducted by Sunandar et al. (17) concludes that the most critical aspect in preventing the transmission of Covid-19 is to carry out regular health checks as a form of preventive service to workers. Regular check-ups can also be used to further assess comorbidities of Covid-19, for example, obesity, kidney disease, diabetes mellitus, and hypertension. Workers who have these comorbidities are at higher risk of complications. Therefore, companies or job providers must pay more attention to their workers by setting policies for workers who have comorbidities of Covid-19, e.g., to work from home.

Finally, individual factors usually consist of knowledge, beliefs, behaviour, risk perception, and sociodemographic characteristics of the workers themselves (14). From our study results, it turns out that some workers still go to work even though they are sick with cough/flu/fever. Therefore, it is necessary to have a weekly or monthly evaluation of the regulations. In addition, it is essential to have health education held regularly to make workers more aware of the importance of consistently implementing health protocols correctly and adequately and the dangerous consequences of ignoring them.

A study conducted by Zhong et al. (18,19) found that age was a determining factor for risky behavior against Covid-19 and that compliance with health protocols would increase with age. In this study, we found that education relates to compliance. Research conducted by Muklis et al. (20), Labban et al. (21), and Bawazir et al. (22) stated that the educational background of workers could determine the level of vigilance against the spread of Covid-19. Employers or companies with 100 or more workers will have a higher risk of spreading Covid-19, including the risk of later being forced to reduce the company's productivity.

## Conclusion

Compliance with the application of health protocols in the workplace supports successfully suppressing the spread of Covid-19. Many workplaces still do not practice social distancing and lower masks to their chins when talking to colleagues. In addition to the lack of application of health protocols in the workplace, numerous younger people constitute a high risk of workers being infected with Covid-19 because younger workers feel they will be more immune and more robust if they have to fight Covid-19.

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