

# Implementation of Protective Measures to Prevent Covid-19 Transmission in Traditional Markets: A Behavioral Perspective

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**Abstract**—Covid is the most contagious virus in the world today. It is transmitted through human interaction, making the traditional market as a potential hotspot for Covid-19 transmission. After several months implementing large-scale social restrictions (PSBB), the Indonesian government implemented a new policy, namely the new normal. Where economic, social and medical activities including traditional markets were recovered under the requirements of strict health protocols. This recovery has implications for loosening the interaction restriction between people who are susceptible to transmission. Therefore, it is necessary to know how was the implementation of protective measures to prevent covid transmission in traditional markets in order to ensure that the economic conditions can recover without increasing the number of covid sufferers as the primary goal. This study was conducted by interviewing, observing and documenting market stakeholders, market facilities and their surrounding environment. The focus of this study was on the knowledge of the stakeholders (ie., market managers, traders, and buyers) about the health protocols and how they implement them at the traditional market. Based on the data found in the field, stakeholders' knowledge was very good. This knowledge includes basic knowledge about Covid, how it is transmitted and how to prevent it. However, their attitude were still far from standard. The traders and market managers were receiving and responding corona virus issues but were not responsiveness about it. The practice stages were not implemented properly. Only buyers having a good attitude and practice and achieved all stages. This was obtained from the process of knowledge, attitude, and practice stages outside the market. Based on KAP's analysis, stakeholders only fulfill the knowledge domain, while attitude only reached the valuing and responding stages. Valuing and responding were not missed. The health protocols were well implemented by the buyers because the process of knowledge, attitude, and response has been completely achieved personally. In other words, even though the input is good, if the process of behavioral changes did not well achieve, the responses of behavioral changes will also be suboptimal.

**Keywords**—*knowledge, attitude, practice, traditional market, covid 19 prevention, behavioral perspective, KAP analysis*

## I. INTRODUCTION

Since its emergence in early 2020, Covid 19 has become the world's deadliest virus, as stated by WHO in January 2020 [1]. This virus is transmitted through human-to-human droplets [2]. Therefore, the Indonesian government responded to this problem by issuing PP No. 21 of 2020 concerning the large-scale social restrictions (PSBB) policy. The policies taken by the government aim to reduce interaction between people, including in traditional markets where large numbers of people interact. Traditional markets has been proven to become the central location of coronavirus transmission in Latin America and China.

Nevertheless, after reviewing the implementation of the PSBB in the past few months and the new normal policy, the new normal policy was finally executed as a program to accelerate the recovery of social, economic and medical conditions amid the Covid-19 pandemic. In this new order, services in the Economic, Social and Medical Sector were reopened under the requirements of strict health protocols. The success of this acceleration program really depends on the compliance with its regulation so that the economic, social and medical activities can operate as usual without increasing the Covid-19 transmission. Therefore, it is important to do a research on the implementation of protective measures to prevent covid transmission in the three sectors to assess whether or not they were in line with the initial objectives of the new normal policy.

In the field of Economy and Services the Government issued a new regulation through SE No. HK.02.01-MENKES-335-2020 concerning Protocol for the Prevention of COVID-19 in the workplace for services and trade sectors [3]. This regulation includes the provision of preventive facilities and the implementation of preventive behavior.

The provision of preventive facilities includes disinfectant sprayers to sterilize the market every 4 hours, the provision of hand sanitizers and hand washing stations, the provision of information boards displaying about standard operating procedures for buying and selling activities, facilities for

checking body temperature, socialization program about the importance of using mask, socialization program on the clean and healthy lifestyle (PHBS), the provision of distance marks between stalls or traders and buyers. The implementation of protective measures includes the use of masks, the habit of hand washing or the use of hand sanitizers, physical distancing, the habit of touching the face, using special clothes for work, changing clothes and cleaning items exposed to public areas immediately after returning from the market and ensuring self health condition before going to the market. In addition, this study assessed the level of stakeholders' knowledge about coronavirus, including how to prevent it and how it is transmitted.

This study was conducted in a traditional market located in the area of public transportation terminal, the border between 2 cities, where the location is also a tourism spot that allows high interactions between different city residents.

It is expected that this study can give the insight about the level of compliance with health protocols so that anticipatory measures can be prepared in order to achieve the primary goal of new normal regulation, to recover the socio-economic conditions without increasing covid-19 transmission.

## II. METHODS

This study used a descriptive qualitative research method that aim to obtain descriptive data both oral and written from traditional market stakeholders. The research data were collected by trained researchers through interviews with stakeholders (ie., traders, market managers, and buyers). The data were collected using interviews, observation, and documentation.

The results of the interviews were processed and triangulated among respondents (managers, traders / workers, and buyers). The calculations were performed between interviews, observation, and documentation methods. In addition to interviews, researchers also conducted an observation to confirm the information provided by the stakeholders, checking standard facilities that comply with health protocol regulations in the trade and services sectors. Documentation served as a complement in triangulating data collection tools. The triangulation included time triangulation where the data collection was carried out at 3 different times; morning at peak hour, day time when the market is not crowded, and afternoon before the market closes.

The data were taken in Parongpong traditional market, West Bandung Regency, which was under the management of the Department of Transportation. The research location was chosen because of its unique characters; close to the terminal, under the supervision of the Ministry of Transportation, close to the district office, on the border between Bandung City and West Bandung Regency.

## III. FINDINGS AND DISCUSSION

The data produced by this study focus on two issues, namely knowledge and implementation behavior of health protocols based on the Ministry of Health's standards for trade and services sectors.

### A. Knowledge on Covid-19

Data related to knowledge consisted of 3 sections, including stakeholders' knowledge about symptoms, modes of transmission and protective measures to prevent coronavirus. Of the three types of knowledge observed, both managers, traders and buyers had a quiet good knowledge. However, only buyers could perform a complete steps of hand washing.

### B. Implementation of Health Protocols

The implementation of health protocols in trade and services sectors include many facilities, both related to the physical facilities and the provision of knowledge. The implementations related to the physical facilities are as mentioned below.

1) *Spraying disinfectant every 4 hours*: Based on the information from the interview, spraying was carried out but it was very rare and not routine depending on the outside party's event being held at the market. The stakeholders were not able to mention the past and the future spraying schedule. This shows that the disinfectant spraying were not carried out routinely (were not programmed) and there are no plans for re-spraying in the future.

2) *The provision of hand sanitizers and hand washing facilities*: The manager has only ever provided 1 hand washing facility in front of the market. The hand washing facility was not available when the data collection was carried out. However, the manager and traders confidently answered that there is a hand washing facility at the front of the market. It can be concluded that the hand washing facility might have been existed, but was later removed without announcement. The provision of hand sanitizers and hand washing facilities were not included in the list of covid-19 prevention program because they were not mentioned in the SOP of the market and there were no plans for reinstallation.

3) *The provision of information boards related to standard operational procedures (SOPs) during the pandemic*: There was no single visual information, warning, or suggestion regarding SOP for buying and selling activities during the pandemic.

4) *Facility for cheking the body temperature*: In Parongpong traditional market, there were no body temperature checking facilities. The market managers, traders and buyers only take precautionary measures based on subjective self-assessment; if they feel healthy, they will go to the market and if they feel sick, they will stay at home. They did not perform a standard quantitative examination.

5) *The installation of distance marks between stalls:*

Based on observations made by the research team, there was no single distance mark between stalls. It was also known from the interviews that such distance marks have not been installed since the start of the pandemic. However, there was a semi-permanent wall between stalls and the width of the hallway along the traditional market was 1.5 meters, which provide a sufficient safe distance for stalls who opposite each other. Nevertheless, outside of buying and selling activities, the traders interacted without caring about a safe distance as a protective measure to prevent coronavirus transmission. The traders gathered and talked face to face without paying attention to a safe distance and other precautions.

6) *Setting the distance between workers:* There was no visual information, guidance, warning or suggestion regarding spacing between workers. In this market, traders who have workers in their shops were only about 5% of all traders. The owners and workers were in the same stalls without implementing standard health protocols.

7) *Addition of facilities that limit physical interactions between traders and buyers:* There were no facilities that limit the physical interactions between traders and buyers. There were no glass dividers, or other facilities.

8) *Encourage the use of cashless transactions:* There were no facilities for cashless transactions and traders had no desire or plan to provide it.

9) *Provide facilities to handover money without direct contact:* This kind of facilities were not provided in traditional market.

10) *Implementing service hours in accordance with government recommendations:* Neither the manager nor the traders have heard of the any service hour restriction regulation and they did not have certain service hours.

11) *Regulates the number of buyers entering the market and prevents crowds:* In this market there was no attempt to regulate the number of buyers. In general, the more buyers come to the market, the happier the traders are. During busy hours (eg., 7 a.m.) buyers were free to come and there were no special officers who supervise and regulate the maximum number of people who may enter the market. 1.5 meters width of market hallway was not wide enough to provide a safe distance for buyers who shop at stalls which opposite to each other, this did not include buyers who were walking in the hallway. Without limiting the number of visitors, buyers were very likely to make a close contact to each other.

12) *Using a queuing system:* There was no queue arrangement facilities. Although the market is small and usually only 3 visitors who comes in the same stall at the same time, if there is no limitation on the number of visitors, then the distance between buyers is uncontrollable and does not comply with health protocol standards.

13) *Install a barrier, keep the distance between buyers:* There were no barriers installed to keep the distance between buyers in this market.

14) *Provide a barrier between cashier and buyers:* In the Parongpong market, the system of direct sales between sellers and buyers is not coordinated as one cashier. So the process of exchanging money and goods in one place. There were no barrier between traders and buyers when doing transactions.

15) *The use of mask. All stakeholders (ie., market managers, traders, workers, buyers) used masks:* However, only buyers used masks appropriately, that is, covering their nose and mouth. The managers and traders used masks inappropriately, which only cover their chins.

16) *Keep the distance:* There was no systemic or structured implementation of distancing in this market. Distancing was done by the buyers on their personal initiative. Such initiative did not perform by the traders and market managers.

17) *Face-touching behavior:* There was no activity of excessive face touching found during the observation.

18) *Wearing a special work clothes:* In general, there were no specific work clothes for traders and workers. Traders wore the same clothes for work and social life. Even if there were additional special clothes, they only used additional apron and only a few traders wore it. The market managers wore a government official uniform during work. Whereas the buyers wore ordinary daily clothes, the only difference was that they used mask and some of them also used gloves.

19) *Cleaning clothes and items exposed in public areas:* Managers, traders, workers and buyers in general usually change their clothes when they get home. However, their motivation to change clothes was different. The manager changed his work clothes because it has become a routine activity that is usually done upon arrival at home and they do not perform a special cleaning or treatment for the items exposed to public areas. Traders and workers also usually change clothes upon arrival at home, but with the motivation that it is good to be done during pandemic and they also do not perform special treatments for items exposed in the public area. Buyers were the only stakeholders who change their clothes because they aware of the opportunity to be exposed to the virus while in the market and they were the only one who perform cleaning using disinfectant for any items exposed to public areas.

The implementation of health protocols is not only appreciated from the provision of physical facilities provided the committee, but also includes the provision of information facilities in the form of counseling and so on. The implementation related to the provision of information, in Parongpong market, is described below.

20) *Routine socialization program on the mandatory to wear mask:* Socialization program has been carried out at the

Parongpong market with the support from Parongpong sub-district and National Anti Narcotics Agency (BNN). However, routine socialization program did not performed even though the market manager mentioned that it was done once a month. Based on the results of triangulation analysis, the data concluded that there was no routine socialization program. The socialization program was not carried out as a regular program, but was usually as an occasional event held by related agency.

The mandatory to wear a mask was generally well implemented, but specifically inappropriately used by the managers, traders and workers who wore masks on the chin.

*21) Education Program on Clean and Healthy Lifestyle (PHBS):* There has never been any education about clean and healthy lifestyle and there are no plans to do so in the future. The only education that has been done is about general health protocols. Therefore, the knowledge and behavior of stakeholders related to clean and healthy lifestyle are not different before or after the pandemic.

Parongpong market is close to the sub-district office. This market is located on the border of Bandung City and West Bandung Regency. As this area is included in an agro-tourism area, this market is usually passed by tourists. This market is located in the area of Parongpong terminal. This market is smaller than the other traditional markets, as there are only two rows of stalls facing each other. Like any other market in the terminal area, this market is under the management of the Department of Transportation.

Despite its small area, this market provides a complete range of foodstuffs. There are chicken, fish, fresh and processed meat, various kinds of vegetables from the surrounding plantations, and various fruits.

With the unique characteristics described above, this market is very interesting to be an object of a research on the implementation of health protocols. The reason was that traditional market is one of the central location for coronavirus transmission. The health protocols used in this study were the health protocols mentioned in official regulation on the Covid 19 prevention protocols for trade and services sectors [3].

The facts on the field were very concerned, especially because of the high chance of transmission in the market. Ideally, market stakeholders should implement health protocols to prevent covid-19 transmission. However, changing behavior cannot be done instantly and easily.

Behavioral changes generally consist of cognitive, affective and psychomotor changes [4]. Behavior can be measured through 3 components, namely knowledge, attitude, and practice [5].

- Knowledge, knowledge is generally defined as knowing the results of sensing. The level of knowledge is divided into 6 levels, namely know, comprehension, application, analysis, synthesis, and evaluation [6]. Based on data in

the field, general knowledge about coronavirus was very good, both related to knowledge of what corona is, what the symptoms are, how it is transmitted, and how to prevent it. However, this knowledge was not obtained in the market, but through digital media such as TV and social media. Of the 6 months coronavirus existence in Indonesia, education about coronavirus has only been done less than 5 times. It can be concluded that parongpong market stakeholders already have knowledge about coronavirus and the source of their knowledge is not obtained from market services but from digital media.

- Attitude, what is meant by attitude in this research is an individual stimulus which includes knowledge and emotions. As in knowledge, attitudes also have stages, including receiving, responding, valuing, and responsible [6].

Based on the data obtained in the field, all stakeholders were receiving the issue by following socialization and education program that has been held in the market or reading, listening, or watching information from digital media. Specifically, buyers were also responding, valuing and responsible for the existing issues by giving positive responses, making it a conversation in their social environment and also inviting families to have the same attitude. However, it was only limited to their personal social environment, did not extend to the market environment. Traders and market managers also gave a positive response, but they were not used to discussing it with their respective social environment or in the market environment, nor do they do it responsibly by inviting, reminding, encouraging and reprimanding their social environment to have the same attitude.

- Practice, just like knowledge and attitudes, practice also has stages, including a guided response, mechanism, and adoption [6]. Before we discuss the three stages, we will discuss the results of field observation as follows.

The support facilities such as information facilities were not found in the market. There were no posters, information boards, warning signs, suggestion or any other information. There were also no facilities related to the health protocol standards, such as hand sanitizers, hand washing facilities, etc.

In the absence of facilities, based on the perspective of buyers and traders and workers, the guided response cannot be carried out in the initial stage. Interestingly, buyers, as the parties who do not stay at the market, were more likely to implement the health protocol standards properly than the traders and workers do.

Meanwhile, from the manager's perspective, they did not initiate prevention program nor provide any support facilities for market users.

Behavioral implementation. The buyers has implemented a behavior that comply with the health protocol standard, while

the traders, workers and market managers were still far from standard.

The second and third stages of practice in traders and market managers have the same results, namely there was no appropriate implementation. They used masks, but they used it improperly. Meanwhile, buyers generally have implemented health protocols up to the adoption stage.

Based on the data obtained in the field, knowledge domain has been fulfilled by all stakeholders, as well as the attitude that includes receiving and responding stages. However, the valuing and responsible stages of attitude did not meet the standard in traders, workers and managers. The managers as providers did not provide facilities to support the traders and buyers implementing health protocols. Of course, this has a broader domino effect. Different results were found in buyers. Valuing and responsible stages of attitude were seen in buyers. They gave positive responses and making a conversation about the issues in their social environment and also inviting families to have the same attitude. All practice stages were also performed except those related to the market conditions and market facilities which are beyond their authority.

This different practice shows that the market as an organizational environment has no influence on behavioral change. If viewed from a behavioral perspective which consist of a stimulant response process, the market did not fulfill its strategic task of implementing the health protocols by providing facilities that encourage behavior to prevent Covid transmission.

Behavioral theory places a black box (which cannot be observed) between stimuli and responses, which is different from social learning theory which places a mediational process (mental event) between the two [7]. This mediational process includes attention, retention, reproduction, and motivation [8,9]. It can be illustrated based on the results of this study that the social learning process occurs as depicted in the figure 1 below:



Fig. 1. Covid 19 prevention behavior in traditional market.

Regulations that include health and environmental protocols that contribute to stakeholders' knowledge were not well implemented in this traditional market. The process of

knowledge and attentions did not take place completely according to the stages, resulting in behavior that did not comply with the standard. This is unfortunate because if the market were more proactive in using its strategic position in managing the market, changes in stakeholders' behavior could occur and a positive domino effect of in preventing the spreading of covid-19 could be achieved.

**IV. CONCLUSION**

It can be concluded that all stakeholders, including buyers, traders, workers and managers, already have adequate knowledge about Covid-19. However, both traders and managers could not practice the health protocol standards, except for the use of masks. The provision of supporting facilities and behavioral changes were not implemented. Meanwhile, buyers practiced preventive behavior very well. This was related to individual initiatives.

The implementation was not performed at all when being analyzed using KAP's domain of behavior, because stakeholders only fulfill the knowledge domain, while attitude only reached the valuing and responding stages. Valuing and responding were not missed. The health protocols were well implemented by the buyers because the process of knowledge, attitude, and response has been completely achieved personally.

In other words, even though the input is good, if the process of behavioral changes did not well achieved, the responses of behavioral changes will also be suboptimal.

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