



SPATIAL BEHAVIOR ANALYSIS OF COVID-19 HEALTH PROTOCOL VIOLATION BY TRADERS ALONG PASAR CILUAR STREET

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ABSTRAK

Setiap individu memiliki pengetahuan dasar dalam pengambilan keputusan, karena informasi tidak hanya diperoleh dari setting lingkungannya, tetapi juga dari media massa, sehingga terjadi perbedaan perilaku dalam lingkungan, masyarakat, dan budaya suatu ruang. COVID-19 adalah penyakit pandemi yang baru ditemukan yang dikenal sebagai penyakit pernapasan akut virus SARS-CoV-2. Pencarian kebutuhan pokok di masa pandemi menjadi sangat krusial. Peraturan baru dibuat untuk membatasi semua kegiatan perdagangan di pasar tradisional. Penelitian ini dilakukan di sebuah pasar tradisional yang terletak di sepanjang Jalan Pasar Ciluar, Kecamatan Sukaraja, Kabupaten Bogor. Regulasi yang dibuat Pemprov Jabar, seperti program New Habit Adaptation sebagai wujud pedoman dari WHO, selain Peraturan Bupati Bogor Nomor 35 Tahun 2020 tentang protokol kesehatan bidang ekonomi yang mewajibkan pegawai menggunakan masker, desinfektan barang yang akan dijual, dan lain-lain. Banyak pedagang yang tidak mematuhi protokol, meningkatkan kerentanan penyebaran COVID-19. Penelitian ini bertujuan untuk mengkaji pola dan penyebaran protokol kesehatan serta motivasi perilaku yang dilakukan pedagang dalam protokol kesehatan. Dengan menggunakan pendekatan kualitatif, metode pemetaan terpusat tempat digunakan untuk analisis spasial. Hasil penelitian ini menceritakan perilaku spasial dengan pola distribusi linier di sepanjang Jalan Pasar Ciluar dan motivasi pedagang yang melanggar protokol kesehatan yang disyaratkan.

Kata Kunci: COVID-19, Perilaku spasial, Pemetaan Terpusat Tempat, Protokol kesehatan

ABSTRACT

Each individual has basic knowledge in decision-making because the information is not only obtained from the setting of his environment, but also the mass media, hence the differences in behavior in the environment, society, and culture of a space. COVID-19 is a newly discovered pandemic disease known as the acute respiratory disease SARS-CoV-2 virus. The search for basic necessities during a pandemic is very crucial. New regulations are made restricting all trading activities in traditional markets. This research was conducted in a traditional market located along Pasar Ciluar Street, Sukaraja District, Bogor Regency. Regulations were made by the West Java Provincial Government, such as the New Habit Adaptation program as a manifestation of the guidelines from WHO, in addition to the Bogor District Head Regulation Number 35 of 2020 concerning health protocols for economic areas requiring employees to wear masks, disinfect goods to be sold, and others. Many traders do not adhere to protocols, increasing the vulnerability of the spread of COVID-19. This study aims to examine the patterns and distribution of health protocols as well as behavioral motivations carried out by traders in health protocols. Using a qualitative approach, the place-centered mapping method is used for spatial analysis. The results of this study recount the behavioral spatial with a linear distribution pattern along Pasar Ciluar Street and the motivation of traders who violate the required health protocols.

Keywords: COVID-19, Spatial behavior, Place Centered Mapping, Health protocol

1. INTRODUCTION

COVID-19 or Coronavirus Disease-2019 is an infectious disease caused by the newly discovered coronavirus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Pratiwi, 2020). During late 2019 and early 2020, several cases of new coronavirus infection in humans were reported linked to the Huanan Seafood Wholesale Market (Li et. Al., 2020). The status upgrades from epidemic to the pandemic that was officially announced by the World Health Organization (WHO) on March 11, 2020 (WHO, 2020) was an unprecedented extraordinary event (Abdillah, 2020). Finally, the first case of COVID-19 infection arrived in Indonesia on March 2, 2020, amounting to two cases.

At this difficult time, obtaining basic needs is very crucial due to the new regulations imposed to restrict people's activities. This is reinforced by the New Habit Adaptation (AKB), which is implemented by the West Java Provincial Government. This policy is part of the efforts to tackle the spread of COVID-19, which is aimed at all people in preparing themselves to enter a new life order as previously carried out by the PSBB (Large-Scale Social Restrictions) (Herdiana, 2020). This policy is also an application of the World Health Organization's (WHO) prevention guidelines. The protocol covers the obligation of community members to wash their hands using running water and soap or alcohol-based hand sanitizer, wear masks at all times, and maintain physical distancing. Based on the Regulation of the District Head of Bogor Number 35 of 2020 (Bogor District Government, 2020), several health protocols for the market are requiring employees/workers to wear masks, hand gloves, and work clothes according to guidelines for occupational safety and health, to clean/disinfect items to be sold, limit the number of visitors to the number that is consistent with the level of vigilance, and so on.

With the enactment of health protocols by the West Java Provincial Government, all activities, especially those in public places, are restricted. However, despite the enactment, many people continue to act as usual and do not comply with the protocols, leading to many violations of people's behavior against their activity space, which in turn causes an increased level of vulnerability to the spread of COVID-19. A violation is defined as an act of violating something related to the law, which means nothing other than an act against the law (Wirjono, 2003). In short, the possible modes of transmission of SARS-CoV-2 are transmissions through physical contacts, droplets, airborne, fomites, fecal-oral, blood, from mother to child, and from animal to human. SARS-CoV-2 infection generally causes mild to severe respiratory illness and death, while some people infected with this virus may never show symptoms (WHO, 2020). This can happen to people, especially the traders, who commit the health protocol violations, or to people who interact with them.

Traditional markets are a meeting place for sellers and buyers and are marked by direct buying and selling transactions in buildings consisting of outlets, kiosks, booths, and open bases carried out by sellers and market managers (Harsasto & Astuti, 2013). The location of this research is in Ciluar Market. Ciluar Market is a traditional market located along Pasar Ciluar Street, precisely in Cijujung Village, Sukaraja District, Bogor District. Ciluar Market is a shopping place frequented by residents of the Cijujung and Ciluar villages. Ciluar Village is quite busy. Ciluar Market is under the management of PD Pasar Tohaga, a company owned by the Bogor District government. With so many visitors coming from different areas, during this pandemic, Ciluar Market the potential for the spread of COVID-19 in the market is really high. In terms of population, Cijujung Village has a population of 28,161 in 2019 (BPS Kab. Bogor, 2020). Of these, more than 15 people have tested positive for COVID-19 (the local office of the Ministry of Communication and Informatics, Bogor District, 2020).

This study focuses on the pattern and distribution of violations of health protocol committed by traders. This study also examines traders' reasons and perceptions of existing health protocols. Thus, this study aims to examine the pattern and distribution of violations of health protocols as well as the behavioral motivations of traders when violating health protocols.

The research was conducted using a qualitative method with a behavioral mapping approach, namely PCM (place-centered mapping), which was analyzed spatially. Place Centered Mapping (PCM) is an

observation technique that aims to understand how individuals or groups behave at a certain time in a location (Zubair et. al., 2020). Behavior Mapping aims to describe behavior on a map, identify types of behavior, and shows the relationship between these behaviors and specific design forms. (Pradani & Nurini, 2018).

This research refers to previous research in 2020 written and compiled by Ahmad Zubair, Hafid Setiadi, and Widyawati Sumadio, titled “Passengers’ deviant behavior mapping in train cars: the Tangerang-Duri Commuter Line” (Zubair et. al., 2020), which discusses the deviant behaviors in the cars of the Commuter Line (KRL) with similar observation method, namely, Place Centered Mapping. This research also uses triangulation analysis from other secondary data, which results are the points of deviant behavior and the level of vulnerability for the occurrence of deviant behavior. In this study, the description of spatial conditions is analyzed spatially to form a zone prone to the transmission of COVID-19. The difference in this research is that this research focuses on the COVID-19 pandemic, namely violations of health protocols, and it collects primary data by using the semi-structured method of interviewing the perpetrators of violations. In research using PCM, a behavioral setting is needed to explain the pattern and distribution of certain behaviors, namely violations of health protocols committed by traders in Ciluar Market.

2. DATA AND METHODS

2.1. Characteristics of Location

Ciluar Market is located in Cijujung Village, Sukaraja District, Bogor District, at $6^{\circ} 32' 40.51''$ South Latitude and $106^{\circ} 49' 36.56''$ East Longitude. The research focuses on the Ciluar Market area, covering the 300-meter long segment of Ciluar Market Road from the intersection with the Jakarta-Bogor Main Road (Figure 1). Ciluar Market’s position is relatively strategic as it is close to several public facilities and a law enforcement post. The Market is located only about 1 km away from the Cijujung Village Head Office along the Pasar Ciluar Street, only 50-100 meters away from the Sukaraja Bogor Police Post, which is positioned at the edge of the Jakarta-Bogor Main Road, and only 1.5 km away to the north of the Jakarta-Bogor Mainroad from the Cibinong Family Medical Center (FMC) Hospital and the Cimandala Community Health Center.

The Pasar Ciluar Street is used not only used for traditional market activities on both sides, but it is also the main access road to Cijujung Village, hence it is always congested with private cars, trucks, and shoppers visiting the traditional market. The street itself is 2 (two) meters wide. In this study, the Pasar Ciluar Street segment is divided into three zones with quite different criteria from one another. Ordinary maps and images are not going to be used as the instrument to facilitate data processing, this is because the boundaries of the research location in the form of road segments are difficult to visualize through images and ordinary maps, so the depiction of space and behavior is facilitated by a sketch plan divided into three zones according to the division based on each spatial characteristic. The three zones are the north zone, central zone, and south zone.



Figure 1. Research Location

The North Zone is the segmentation of Pasar Ciluar Street starting from the intersection with the Jakarta-Bogor Main Road to the Ciluar Market Building. Food sellers, mostly vegetables and fruits, dominate the North Zone. However, there are also four jewelry shops and several other non-food shops. The north zone has a situation in which the zone is where an arterial road (the Jakarta-Bogor Main Road) meets with a collective road (Pasar Ciluar Street). This zone is the entrance and easy access for visitors coming in. This zone is also the one closest to the law enforcement post of the Sukaraja Bogor Police, which plays a role in helping to monitor security and disseminate information on health protocols.

The middle zone is the segmentation of Pasar Ciluar Street, starting from the Ciluar Market Building to the Darussalam Mosque. The central zone is dominated by a wholesale grocery store, with busy activities of transportation of goods by workers and traders alike, as well as with visitors. Also, there are a number of trucks carrying and distributing goods to the grocery store in the central zone. As a result, the zone becomes a point of congestion and crowds at certain times.

The south zone is the segmentation of Pasar Ciluar Street from the Darussalam Mosque to the intersection with Cijujung Street. The zone is not dominated by trading activities because it is not in contact with the Ciluar Market. Although it is quite close to the market, the radius is reasonable far. There are only a few trading activities in the form of grocery stores, food stalls, and also traders of foodstuffs in the form of vegetables.

2.2. Research Method

The research method used in this research is a qualitative research method, which is aimed at describing various conditions, situations, or phenomena that exist both naturally and man-made, trying to draw that reality to the surface as a feature, character, trait, model or description of the condition, any situation or phenomenon (Bungin, 2007). This qualitative method seeks to explain the behavioral setting observed in health protocol deviations by traders in Ciluar Market.

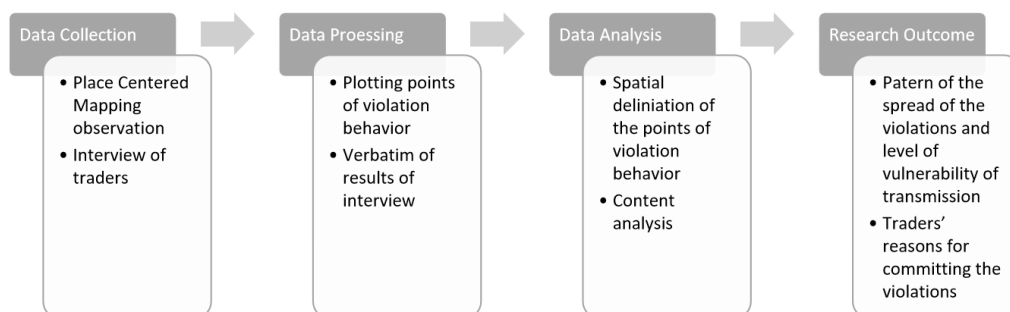


Figure 2. Research Work Flow

2.3. Data Collection

Data is collected from primary and secondary sources. Primary data is obtained through carrying out interviews and observations. Secondary data collected is in the form of location data obtained from related agencies. Primary data is data that is obtained directly from the object under study or has something to do with the object being studied, and it plays a very important role in supporting the objectives outlined in the study (Tika, 2005). Primary data collected in the study includes results of interviews and observations. Secondary data is data obtained not directly from the subject or object under study, but through other parties, such as related agencies (Tika, 2005). Secondary data is data that supports the primary data. Secondary data collected includes the research location, namely the online Google Maps map to support the making of Ciluar Market sketch plans, and other related documents. In this study, secondary data is used as

complementary and supporting data obtained from the market office of the Bogor District Government with regard to the dissemination of information on health protocols in the midst of the Covid-19 virus pandemic.

2.3.1. Interview

The interview method used is a semi-structured interview, which is conducted by first making a list of open-ended questions while the researchers have the freedom to explore answers and extract information from informants (Tika, 2005). Interviews are conducted with 5 informants with different characteristics according to the type of goods they sold, namely foodstuff traders, non-food traders, food stall traders, jewelry shop traders, and wholesale grocery store traders.

2.3.2. Observation

Observation is a data collection technique by conducting direct observation of the conditions in the field of the research objects. The observations are non-participatory and the researchers do not participate in the life of the object being observed (Tika, 2005). Observations are made using the PCM method to obtain behavioral settings depicted in the form of a sketch of an area where humans carry out various activities. The distribution of health protocol violation points was carried out by observing the PCM method in three-time conditions, namely peak hours between 06.00-08.00 WIB (Western Indonesia Time) and off-peak hours between 10.00-12.00 and 16.00-18.00. This study maps the behavioral setting of the health protocol deviant behavior shown by traders in Ciluar Market by taking the following steps:

- prepare a sketch of a place that includes all the physical elements affecting the objects' spatial behavior,
- make a list of behaviors to be observed by assigning symbols to each behavior,
- plot and document the behaviors,
- make observations at different times to compare existing behaviors.

2.4. Data Processing

The data processing includes interpreting the verbatim account of the interviews. Data that has been obtained from PCM observations by plotting the points of deviation by traders, points of traders who violate the protocol, and points of crowd of visitors from observations on the research location plan that has been made. The verbatim interview results are processed and coded for analysis.

2.5. Data Analysis

Spatial analysis is carried out by determining the areas where the violation behaviors occur. The determination of violation areas and the adherence to health protocols are carried out by connecting the points of the perpetrators of the violations by following the road network. Content analysis is carried out using the results of interviews conducted with traders. By setting the keywords for masks, washing hands, maintaining distance, and awareness, opinions of the traders regarding the health protocols are established. Traders are aware of what the health protocols were. Meanwhile, the reasons for traders to comply with or violate health protocols are analyzed using the themes of willingness to comply with health protocols, presence of staff, and availability of facilities. Based on the keywords and themes, then the position of the informants is placed on the map.

3. RESULTS AND DISCUSSION

The results obtained are the spatial pattern of health protocol violation behavior as well as the motivation that drives the traders to violate the health protocols. The spatial pattern will form the potential for transmission or transmission of COVID-19. The motivation to drive this behavior may result in the spatial behavior of traders in the form of awareness of the transmission or prevention of transmission of COVID-19.

3.1. The Spatial Pattern of Health Protocol Violation Behavior by Traders

3.1.1. Patterns of Health Protocol Violation Behavior in the North Zone

The distribution patterns of violation behavior in the northern zone is dominated by individual traders who trade in the morning (06.00-08.00), especially food traders, followed by cart food traders in the afternoon (16.00-18.00). There is a build-up of vehicles (congestion) on the street because not only that there is an intersection where motorbikes and pedestrians pass by, but the street is also directly linked to the Jakarta-Bogor Man Road, which is the entrance access for four-wheeled vehicles. This buildup of vehicles contributes to the creation of crowds of people.

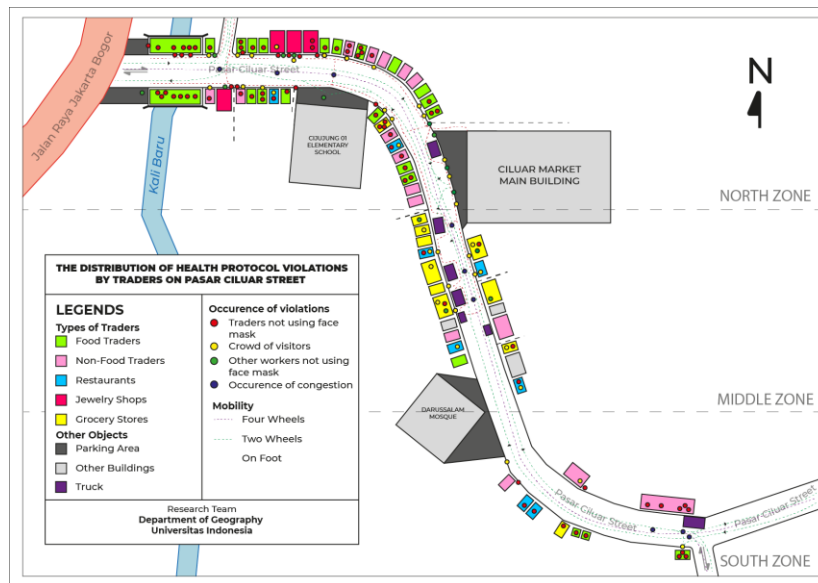


Figure 3. The distribution of protocol violations by traders on Pasar Ciluar Street



Figure 4. Market Activities and Violation of Protocols in the North Zone

Figure 4 (a) illustrates two traders in one stall who engage in trade by neither wearing masks nor keeping a distance from the buyer. The observed aspect is the fact that the merchandise, which is not only

directly exposed to the collective road but also exposed to the traders not wearing masks, could increase the risk of transmission of disease, especially the transmission of COVID-19. Furthermore, figures 4 (b) and 4 (c) illustrate traders as well as security guards who are quite casual about not wearing masks near shoppers with no attempts to comply with health protocols. This may be caused by the lack of strict supervision of health protocols in Ciluar Market. In addition, figure 4 (d) also shows congestion occurring, contributing further to the accumulation of shoppers and other workers. This is one of the factors contributing to the transmission of COVID-19. In the meantime, in figure 4 (e) social distancing does not apply in the grocery and there is no supervision from officers or parties around the Ciluar Market. Figure 4 (d) depicts the occurrence of congestion, which contributes to the accumulation of shoppers or visitors and other workers.

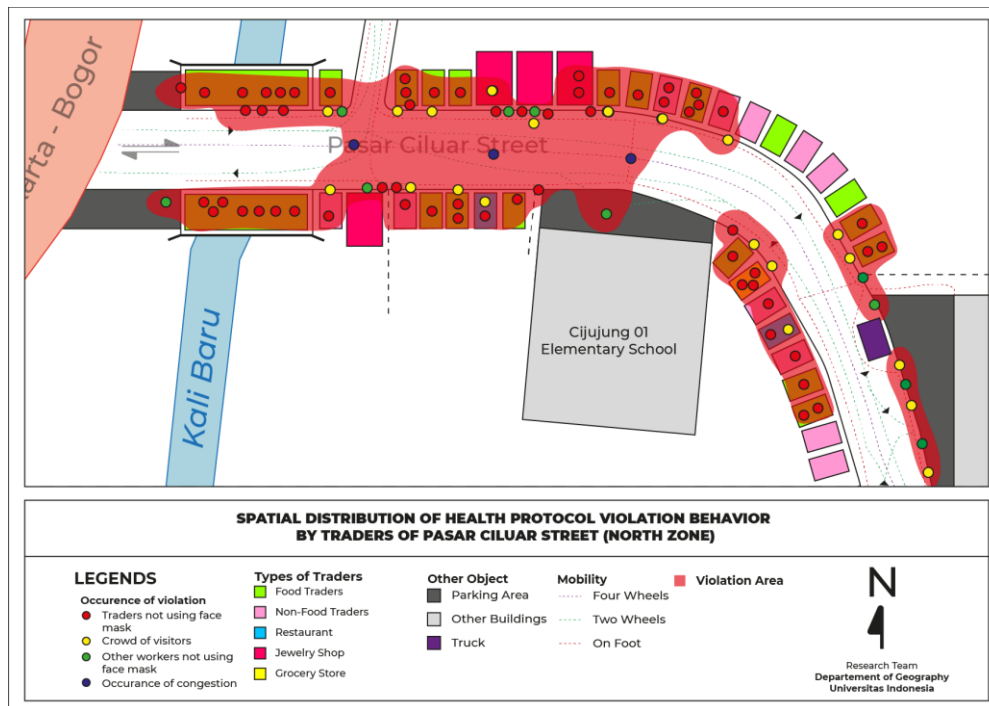


Figure 5. Patterns of Health Protocol Violation Behavior by Traders of Pasar Ciluar Street (North Zone)

The distribution pattern of protocol violation behavior by traders manifested in the northern zone is linear along the Pasar Ciluar Street, where traders who are in direct contact with the Jakarta-Bogor Main Road and the intersection are not wearing masks, with a fairly even distribution of large numbers, because the traders stay stationary in their respective trading places with the contribution of points of congestion, points of crowd and the other workers not wearing masks.

3.1.2. Patterns of Health Protocol Violation Behavior in the Middle Zone

The middle zone is dominated by wholesale grocery stores, which are bursting with shoppers and grocery store workers going in and out carrying goods, the points of traffic congestion, and the traders in the shops themselves. These grocery stores open in the morning at 07.00 WIB and start to get busy at noon at 10.00-12.00 WIB.



Figure 6. Market Activities and Violation of Protocols in the Middle Zone

Figure 6 (a) illustrates workers who are also traders, who are not wearing masks when lifting items that are handed over to the shoppers who were also not wearing masks. The violation is committed by the shopkeepers that do not explicitly remind shoppers to wear masks at all times and to comply with other health protocols. Figure 6 (b) illustrates violations by food vendors who are not wearing masks when serving food to their customers, who are unlikely to wear masks while eating. In this way, traders and shoppers may become potential agents and victims of COVID-19 transmission. Figure 6 (c) shows the flow of Pasar Ciluar Street, which is obstructed by a box pick up truck parked in front of the grocery store. This also contributes to the formation of a crowd if there are lots of activities going on, and has high potential for transmission.

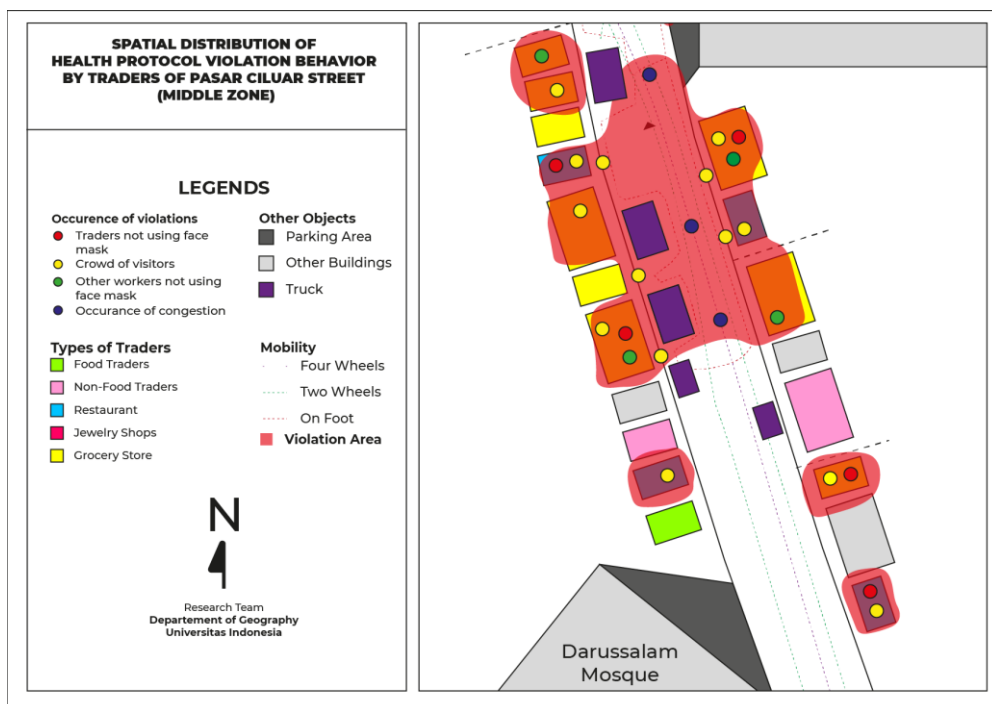


Figure 7. Patterns of Health Protocol Violation Behavior by traders of Pasar Ciluar Street (Middle Zone)

The pattern of distribution of violations by traders not wearing masks is uneven and small in number. Violations are more likely to be committed by other workers and there are also a few supporting factors,

namely the increasing number of groups of people due to the location of trucks and box pick-up trucks that are parked along the street, creating a linear pattern along Pasar Ciluar Street.

3.1.3. Patterns of Health Protocol Violation Behavior in the South Zone

The number of traders in the south zone is reasonably smaller since it is already quite far within the radius of Ciluar Market and it is almost within the range of the industrial area of Ciluar Village and the housing areas of Cijujung Village. Figure 8 (a) illustrates a crowd of visitors that may amount to 7 people at one point, namely a grocery store where there are three traders who are not wearing a mask and do not request incoming shoppers to apply health protocols, namely keeping their distance. Figures 8 (b) and 8 (c), illustrate the occurrences of congestion that contribute to the formation of a crowd of visitors, which occurs when a truck is parked at an intersection and also in the afternoon due to the large number of four-wheeled vehicles coming from the Jakarta-Bogor Main Road. Figure 8 (d) shows a trader sitting on a chair by a road congested with traffic jams and not wearing a mask.



Figure 8. Market Activities and Violation of Protocols in the South Zone

The distribution is concentrated in one area, namely at the intersection between the streets of Pasar Ciluar and Cijujung. The concentration of the protocol violation occurs in a grocery store with 3 (three) not wearing masks and interacting directly with visitors/shoppers. There are also non-food traders not wearing masks while their shops are in direct contact with Pasar Ciluar Street, which includes an electronic goods services provider, home goods traders, and mineral water gallon refilling services provider. The presence of trucks at the intersection causes congestion and an accumulation of vehicles.

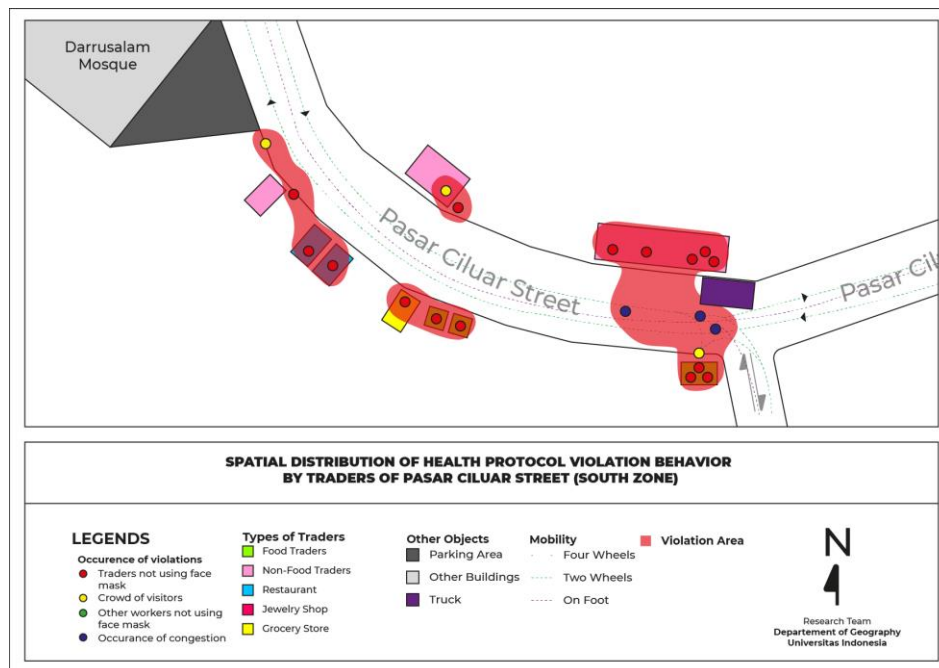


Figure 9. The Spatial Pattern of Health Protocol Violations by Traders on Pasar Ciluar Street (South Zone)

3.2. The Behavior of Violation of Health Protocols by Traders

The behavior of violation of the health protocols among traders is a form of group violation (Rabel, 2019). This violation was driven by motivation originating from the traders themselves because of several aspects, from spatial aspects to the environmental aspects around the traders who provided certain information about the COVID-19 pandemic as well as health protocols in that regard. Within a space, naturally, there is a human population who has basic knowledge of the state of the space that affects decision making (decision making and choice behavior) so as to form differences in behavior both in the environment, society, and culture of the space. At the individual level there is a knowledge construction called cognitive representation and in a group a culture is formed (Golledge & Stimson, 1996). To explore the behavior of health protocol violations by traders, a cognitive representation of each trader has to be established.

3.2.1. Self Awareness

One of the factors that prevent the infection or transmission or transmission of COVID-19 is an individual's self-awareness of each individual. This self-awareness is reflected in awareness and application of general knowledge regarding the imposed health protocols. However, some of the traders on Pasar Ciluar Street, who were the research informants, have had different reasons, different levels of concern, and levels of knowledge regarding the implementation of health protocols that should be followed and complied with.

Traders' awareness may be observed through the concern that arises in the traders when a colleague or visitor or buyer coming into their shops also violates health protocols, triggering a sense of concern or fear of getting infected by COVID-19. Some of the traders interviewed are not concerned about getting infected by COVID-19, while some others only felt concerned at the beginning of the pandemic, however, they no longer feel concerned now.

Traders' knowledge is of course one of the most important factors of self-awareness in order to protect oneself and others from the transmission of COVID-19 (Yanti, 2020). All informants are generally familiar with the health protocols that have been disseminated for carrying out activities at the Ciluar Market and what fines are imposed on those violating these protocols. All informants are aware that the current

information on the health protocols has not been disseminated and dispersed as frequently as it had in the early days of the implementation of the PSBB and AKB. All informants are familiar with the dissemination of information or socialization of the health protocols. The first, third, and fifth informants are aware of the socialization, the officers, and the related fines. With this knowledge, the first informant also continues to apply health protocols outside his trading places. However, knowledge alone is not sufficient to change their behavior to comply with the health protocols. Behavior change requires clarity of rules that are easy to implement (Lenert et al, 2005; Yanti, 2020b).

An analysis of Table 1 explains how the traders’ awareness is influenced by their general knowledge about the transmission of COVID-19 that is enhanced by the environment that supports the knowledge, which increased each of the traders’ confidence about their knowledge of the disease of the pandemic (Yanti et al, 2020a).

Table 1. Trader’s Statement with Regard to Issues of Health Protocol Violation Based on Self-Awareness

Informant	Type of trade	Self Awareness	
		Trader’s awareness regarding COVID-19 transmission	Trader’s knowledge on the prevention of COVID-19 transmission
1	Food stall	“Well, I do feel afraid of it, so I just maintain a distance. Once everything’s taken care of, I do wash my hands and so on, as I do feel worried. So, coming back from the market I take a shower, pray, and stay here and don’t go anywhere, just focusing on cooking”.	“As for that information, it has not been socialized as often as what was done with the PSBB in the beginning. Normally on Monday, at the weekend on Saturday and Sunday, but rarely on Tuesdays, Wednesdays, Thursdays and Fridays, so between Tuesdays and Fridays. Usually it would be the police that come here, together with the Dishub (officer from the local office of the Ministry of Transportaion). They rarely come on Tuesdays, Wednesdays, Thursdays and Fridays. So it is between Tuesdays or Fridays. So, normally it is the Police and the Dishub who come here. Those who are not wearing a mask are fined...”
2	Wholesale Grocery Store	“I do feel concerned, but not too much because we are taking care ourselves”	-
3	Non-Food	“Not too afraid, how should I say it, perhaps yes in the beginning I did feel afraid, but not too much now... Rarely... most of those who come here to shop may be more likely to be afraid of raids...”	“Wear a mask, wash hands, then... What else? Hahaha... I forgot... oh, keep a distance”.
4	Foodstuff	“I did feel worry in the beginning, but I get used to it now, people rarely got it (infected by Covid-19), anyway.”	-
5	Jewelry store	“No, because I don’t think Corona exists... Well, people say that we have to do this and that, I don’t know but as far as I’m concerned, the corona does not exist. It’s not that I don’t believe it, so if there’s a rule, I’ll follow it, but I don’t fully believe it”.	“As usual, I wash my hands, I cleanse them with hand sanitizer, I wear masks, I wear face shield”.

Source: Researchers’ results of observation and interviews, 2020

3.2.2. Reasons for Violation

Every person has his or her own views and reasons for behaving, like the behavior of health protocol violations of the traders on Pasar Ciluar Street. Traders obviously violate the health protocols either intentionally or unintentionally. Many of these violations may occur because of several reasons: a sense of indifference or lack of concern, lack of socialization of the protocols themselves, or because of the existing

spatial conditions (Lenert, 2005), and these violations are also committed by other traders (Rabel, 2019). Such violation in the end would make it easy for the Covid-19 virus to be transmitted to visitors or shoppers or to other traders.

Traders who deliberately choose not to wear masks may be due to the discomfort a mask may cause, for instance, it tends to generate heat on the face or make it difficult for one to breathe, as well as the unusual uncomfortable feeling of using masks, or one finds it difficult adapting with it. Some traders explain that they too choose not to wear masks because there is no visitor in their shops, but this is an exception in the violation because it only applies to traders who are alone in their shops, but it will also be a violation for traders and workers not wearing masks when there are several of them one area and if they do not keep a distance. The behavior of not worrying is of course a reason why not wearing a mask is not a big issue in trading activities (Yanti, 2020b).

Some traders simply do not care about the presence of other people violating the health protocols because they feel they have no right to reprimand or order visitors or other fellow traders to use masks or keep their distance. They think it is better to take care of themselves than to command others

Table 2. Traders' Statements with Regard to the Issue of Health Protocol Violations Based on Reasons of Violation

Informant	Type of trader	Reasons for Violation		
		Intentionally Not Wearing Masks	Unintentionally Not Wearing Masks	Feels That They Have No Rights to Reprimand Others
1	Food stall	"I have to cook, so it's hot, it's rather suffocating when you are cooking. As when serving customers, my reason not wearing it is similar, because it's hot and suffocating".	-	-
2	Wholesale Grocery Store	"The first reason is because there is no customers yet. The second reason is if one wears a mask it is suggested that it should be taken off after four hours at the minimum".	-	"We, actually wearing a mask is a must, but we have to right to give them the instruction to wear or not to wear (the mask). Well, just go with the flow".
3	Non-Food	-	"Normally it happens to me after eating, after praying, just like that".	-
4	Foodstuff	"...well, sometimes I do (take the mask off), how can you smoke when wearing a mask... hahaha... I do have the mask (pointing at it)... but it is suffocating, I can't get used to wearing it. These days traders rarely wear them".	"...well, sometimes it happens, when you smoke you cannot wear your mask hahaha... Although I do have the mask (pointing at it)..."	"Well, like I said earlier, I feel uncomfortable reprimanding other people, who are we to reprimand them. Sometimes if you force them they'll say it is their right not to (wear a mask). Just take care of yourself and mind your business, I guess".
5	Jewelry Store	"In my case I only wear a mask when there is a customer coming into my store, and rarely do when there is none".	-	"It's okay, we're not too close from one another any way, what's more important is we keep a distance, right? And wash our hands".

Source: Results of observations and researchers' interviews, 2020

By not reprimanding shoppers visiting their work places not wearing a mask traders actually have also violated the health protocols by not implementing a system of maintaining distances and the use of masks at all times. The authorities in the area must take this into consideration by maintaining strict supervision of health protocols. This is also because traders must increase their vigilance in maintaining the health, cleanliness and safety of their shops so as to avoid transmission of COVID-19.

3.2.3. Traders' Behavior of Health Protocols Violation

From the results of the analysis above, it was found that the traders' behavior of health protocol violations was based on two basic information, namely self-awareness as well as reasons for violations that triggered the Decision Making Process. This process begins from basic knowledge regarding the transmission of COVID-19 (Yanti, 2020a), and is supported by the spatial features and social features that exist on Pasar Ciluar Street, namely the area where it works, the conditions of the workplace in the form of a road segment with very high mobility, to lack of existing attempts to socialize or disseminate information regarding health protocols.

With a great number of traders having this basic knowledge, obviously there are other driving factors that stimulate each trader to respond by making the first decision, namely violating by not wearing masks unintentionally and will continue to wear them should the related officers carry out socialization of the protocols. It then proceeds with the second response, namely decision making that sees the situation that wearing masks is unintentional because there is no customer or visitor, there has been a lack of socialization, which has led to a decrease in trust in the existence of COVID-19 that in turn cause them to not really care about the violations committed. The response is continued with how the traders respond to visitors or other traders when there is a protocol violation in the form of not wearing masks and not maintaining their distance. Knowledge and awareness will increase the role of traders, avoid inappropriate patterns of adaptation, and reduce the transmission of disease (Anaki, 2021).

As a consequence, with a large number of traders with very busy activities, it is necessary to increase the socialization about the health protocols and decisiveness in dealing with violations committed by traders on Pasar Ciluar Street by related officers in charge in Pasar Ciluar Street. In addition, more strict supervision and better provision of health protocol facilities are required from the management of the Regional Public Company of Pasar Tohaga, District of Bogor. The lack of provision of facilities to support the implementation of health protocols would also have an impact on compliance (Awad-Nunez, 2021).

3.3. Spatial Patterns of the Potential of COVID-19 Transmission by Traders

In brief, the possible modes of transmission of SARS-CoV-2 are contact, droplet, airborne, phomite, faecal-oral, blood, mother to child, and animal to human transmission. SARS-CoV-2 infection generally causes mild to severe respiratory illness and death, while some people infected with this virus may never show symptoms (WHO, 2020). With regard to activities markets, traders are the main agents of COVID-19 transmission, which may occur through direct contact with the goods they sell. As a public space, the Ciluar market is not designed to deal with the Covid-19 outbreak, hence this is an opportunity to redesign urban planning and public space, and pay better attention to the welfare of its residents (Honey-Roses, J. 2021).

From the results of the analysis of observations with the place centered mapping method as well as the results of interviews, transmission vulnerabilities will appear to traders with no self-awareness to comply with health protocols leading to violations of intentionally or unintentionally not wearing masks as well as not applying social distancing in their shops (Van Bavel, 2020).

Figure 10 shows the spatial pattern of the level of vulnerability. The highest level of vulnerability or the most vulnerable in the northern zone with a linear transmission pattern by traders along Pasar Ciluar Street and supported by congestion causing almost all roads in the northern zone to have the potential for COVID-19 transmission to visitors or traders. High levels of vulnerability also exist in the middle zone of Pasar Ciluar Street with a linear pattern of hazards along Pasar Ciluar Street and scattered in wholesale grocery

stores and are supported by traffic jams. High vulnerability also occurs in the south zone with a small number but centered on the intersection between Pasar Ciluar Street and Cijujung Street and is also supported by congestion. The perpetrators are not aware of this condition as a dangerous location for themselves and others (Van Bavel, 2020).

With so many areas highly vulnerable to transmission of COVID-19, almost all areas of Pasar Ciluar Street have a status that is vulnerable to transmission or infection of the COVID-19 pandemic disease. However, in the middle of the middle zone and the southern zone there are areas that are reasonably vulnerable because although there are no trade activities or protocol violations occurring within the road segment, they are still within the surrounding areas that are vulnerable to COVID-19 transmission.

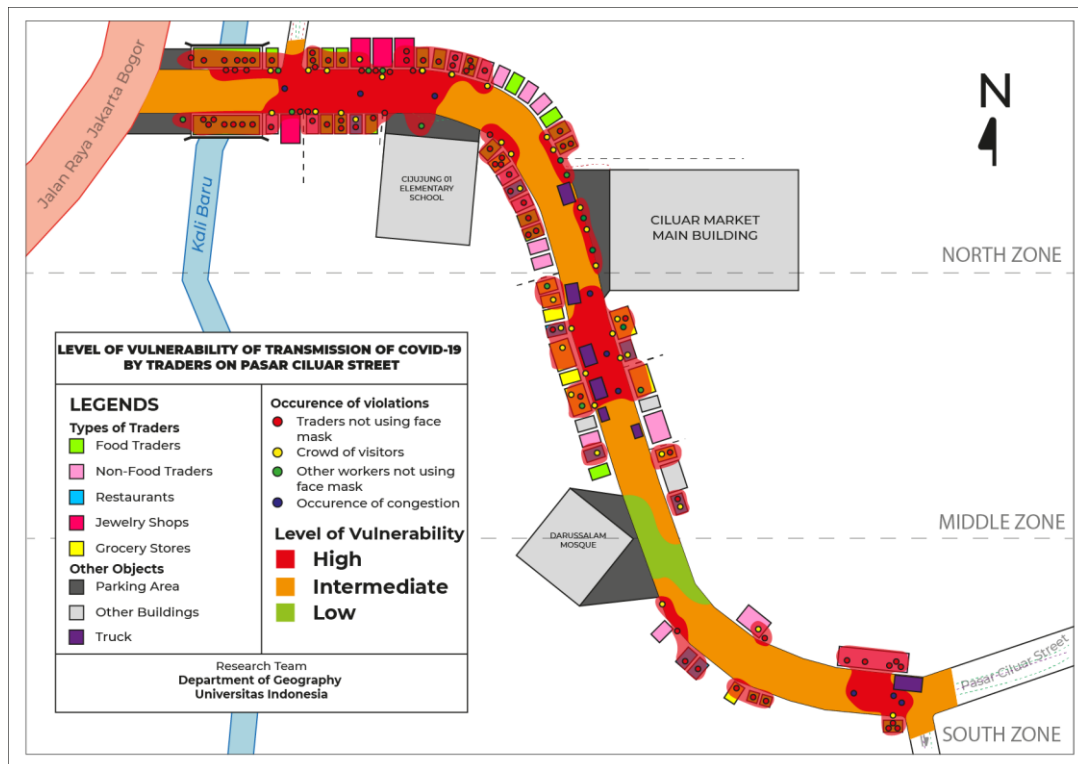


Figure 10. The Level of Vulnerability to the Transmission of COVID-19 by Traders on Pasar Ciluar Street

4. CONCLUSION

The pattern of distribution of traders violating health protocols is dominated by a linear distribution along Pasar Ciluar Street. From this distribution pattern, a sketch of the level of vulnerability of COVID-19 transmission in Pasar Ciluar Street is established, with the northern zone being the center of the distribution of violations with the highest number of very vulnerable traders, followed by the middle zone in the grocery store area and finally in the southern zone, which was concentrated in one particular foodstuff trader. The violation involves two parties, namely traders as the main transmission agent having less self-awareness and concern for the risk of COVID-19 transmission of infection through direct contact and their merchandise. The following opinions are obtained as reasons for each of the violations committed by the traders, which occur due to the trader’s knowledge as well as their self-awareness:

- Traders feel uncomfortable wearing masks, due to their small and sultry work space;
- Traders think they have no rights to reprimand other people;
- Traders are not worried of the risk of COVID-19.

Violations committed by the traders are also caused by the lack of proper supervision and enforcement of rules and regulation regarding issues related to the COVID-19 pandemic by the monitoring officer unit as well as in giving appropriate sanctions to the violators and in carrying out periodic socialization of information regarding the health protocols. Provision of good facilities by the Regional Public Company of Pasar Tohaga, District of Bogor, must also be improved and more supervised. This must be reiterated in order to support the implementation of health protocols and in providing a healthier market for the community during the COVID-19 pandemic. The next research is expected to examine other factors and variables that may influence community behavior in relation to violations of health protocols.

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