Community Compliance to Physical Distancing, Clean and Healthy Lifestyle, and Healthy Protocol during COVID-19 Pandemic

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Abstract

**Background:** The total number of COVID-19 global cases on May 28, 2020, was 5,593,631, with 6.3% CFR. Various strategies have been used to reduce COVID-19 transmissions, such as physical distancing, individual quarantine, increased PHBS and social distancing. This research was conducted to investigate the community's adherence to the implementation of physical distancing appeal, a clean and healthy lifestyle in the prevention of COVID-19 transmission. **Aim:** This study aimed to determine the community's compliance with the appeal of implementing physical distancing and clean living habits during the COVID-19 pandemic. **Setting and Design:** This study was conducted using a cross-sectional design. The sample selection method was purposive sampling. Internet-based research with the rapid survey method. **Method and Material:** This research used a cross-sectional design and was conducted in 11 districts from May 5-15, 2020. It involved participants from Blora, Boyolali, Klaten, Karanganyar, Kebumen, Banyumas, Purbalingga, Humbang Hasundutan, Semarang City, East Jakarta, and Pekanbaru aged 15-64 years old. All of the participants had a smartphone. Univariate
analysis was used to describe the study variables. **Statistical Analysis Used:** The statistical analysis used in this research is univariate by frequency distribution and bivariate analysis used crosstabs.

**Result:** The results showed that from 22 respondents with basic education, 95.5% had knowledge about physical distancing and 40.9% implement physical distancing appeal every day. Meanwhile, out of the 474 respondents with advanced education, 99.6% had the knowledge and 35.5% received physical distancing appeal every day. A total of 52% of the respondents stated that they were often exposed to information about maintaining distance and PHBS. That information is obtained from various media and one of the most reaching people is television. Whereas with television 43% of the total respondents received information about maintaining distance, while 39% received information about PHBS. **Conclusion:** There was a relationship between education level and the respondents' knowledge and intensity of receiving physical distancing appeal. Television is the most capable media to reach the community compared with other media used for preventing the transmission of COVID-19.

**Keywords:** COVID-19, compliance, physical distancing, PHBS

**Introduction**

Pneumonia cases were first reported in Wuhan, Hubei Province.[1] The infection source had not been identified, but from December 18-29, 2019, there were 5 cases with Acute Respiratory Distress Syndrome (ASDR).[2] These cases rapidly increased from December 31, 2019, to January 3, 2020, with 44 reported cases. This case has spread to various countries such as China, Thailand, Japan, and South Korea in less than a month. The research found that the studied samples showed the etiological results of a new type of coronavirus that had never been identified in humans before.[2] This disease was named 2019 Novel Coronavirus (2019-nCov) and later, Coronavirus Disease (COVID-19) was declared by WHO on March 11, 2020, as a global pandemic. Coronavirus Disease (COVID-19) is caused by the Severe Acute Respiratory Syndrome Coronavirus (SARS-Cov2) virus.[3]
The most common signs and symptoms of COVID-19 infection are acute respiratory distress such as fever, cough, and shortness of breath.[4] Other symptoms that rarely occur in all patients include aches and pains, nasal congestion, sore throat, loss of taste and smell, and discoloration of fingers or toes.[5] Severe cases of COVID-19 can lead to pneumonia, acute respiratory syndrome, kidney failure, and even death. The clinical signs and symptoms reported in most cases were fever. Some cases had difficulty breathing, and X-rays showed pneumonia infiltrates widely in both lungs. The incubation period is 5-6 days on average and the longest is up to 14 days.[4]

COVID-19 spreads very rapidly. The virus can be transmitted through droplets that come out of the mouth and nose of a confirmed positive person for COVID-19 while talking, coughing, and sneezing. Therefore it is important to maintain a minimum distance of 1 meter from other people.[5] People at risk of contracting this disease the most are people who have close contact with COVID-19 patients, including taking care of COVID-19 patients.

The increase of Coronavirus Disease cases based on WHO data on global situation updates on May 28, 2020, the total confirmed cases of COVID-19 were 5,593,631 cases, with 353,334 deaths (CFR 6.3%) in 215 infected countries. The total number of confirmed COVID-19 and the list of affected countries can increase every day following the development of data and information obtained from the WHO Situation Report.[6]

Coronavirus Disease (COVID-19) has spread to numerous countries in the world. One of them is Indonesia. Indonesia had reported the first confirmed positive cases of COVID-19 on March 2, 2020, that there were 2 cases. Positive cases of COVID-19 in Indonesia is increasing day by day. According to data released by the Indonesian Ministry of Health on May 3, 2020, 11,192 positive cases of COVID-19 have been confirmed throughout 34 provinces in Indonesia. On the previous day, May 2, 2020, there were an additional 349 positive cases. The province with the highest number of cases was DKI Jakarta, with 4,463 cases and 398 deaths. The COVID-19 outbreak in Indonesia by May 28, 2020, was still increasing, with 24,538 confirmed positive cases and 1,496 deaths (CFR 6.1%).[7]

Central Java confirmed 776 positive cases of COVID-19 and 62 deaths. In Riau, there were eight new cases in a day, and on May 3, 53 confirmed positive cases and five deaths were reported. Furthermore, there were 123 confirmed positive cases of COVID-19 and four deaths in North Sumatra. Confirmed positive cases of COVID-19 were also found in 30 other provinces spread out across Indonesia.
Standards recommended by the Ministry of Health to prevent the spread of COVID-19 infection are implementing health protocols such as washing hands using soap regularly after touching objects, covering mouth or nose when coughing and sneezing, avoiding direct contact with wild animals or even livestock, and avoiding close contact with people showing symptoms of a respiratory illness such as coughing and sneezing.[4] The non-pharmaceutical public health strategies are also carried out to reduce the transmission of the spread of the COVID-19 virus because there is no vaccine or particular therapy for handling COVID-19. The strategies implemented are physical distancing, individual quarantine, increasing PHBS, and social restrictions.

Seeing the worsening situation of the COVID-19 pandemic in Indonesia, the Indonesian government has issued an appeal to carry out physical distancing or maintain physical distance between people. This appeal is also recommended directly by the World Health Organization (WHO) to break the chain of COVID-19 transmission. In Indonesia, the physical distancing policy was enforced for the first time on March 23, 2020. The physical distancing and social distancing appeal implementation are the most effective ways to prevent the transmission of COVID-19 besides the discipline of washing hands using soap with running water. [8] However, there are still people who do not comply to these health protocols, affecting the spread of COVID-19 cases in Indonesia.

Therefore, this study aimed to determine the community's compliance with the appeal of implementing physical distancing and clean living habits during the COVID-19 pandemic.

**Subjects and Methods**

This study was conducted using a cross-sectional design. The descriptive methods were used to explain how the community implemented physical distancing and PHBS during a pandemic. Internet-based research with the rapid survey method refers to a survey conducted by the Agency of Health Research and Development of Indonesia.

This study's populations were residents of Blora, Boyolali, Klaten, Karanganyar, Kebumen, Banyumas, Purbalingga, Humbang Hasundutan, Semarang City, East Jakarta, and Pekanbaru. The samples in this study were residents aged 15-64 years and owned a smartphone, with a sample size using the rapid survey method's minimum sample size, namely 210 respondents. The sample selection method was purposive sampling. The research variables consisted of independent variables,
namely the level of knowledge, attitudes, practices, and exposure to information, while the dependent variable was the level of community compliance with the COVID-19 prevention strategies.

Data collection through a questionnaire on social media regarding the issue of community compliance toward physical distancing and PHBS was conducted. The questionnaire was distributed for ten days, from May 5, 2020, until May 15, 2020, to the residents of Blora, Boyolali, Klaten, Karanganyar, Kebumen, Banyumas, Purbalingga, Humbang Hasundutan, Semarang City, East Jakarta, and Pekanbaru. The questionnaire distributed to respondents was in an electronic questionnaire form utilizing an application, Kobotoolbox, which can be accessed online via smartphone.

A total of 628 responses were obtained. The data used were data that had gone through the cleaning process by removing duplicate submissions and disapproving or filling in incomplete data, resulting in 495 responses. This study’s analysis was a quantitative analysis using SPSS (Statistical Package for the Social Sciences) as a data processing application since univariate and bivariate analyses were performed.

Results

The total number of respondents in this study was 495, scattered in four provinces in Indonesia. The highest number of respondents came from Central Java Province, amounting to 387 (78.2%), the lowest was from Riau Province with 31 people (31%), and the others scattered in North Sumatra (8.1%) and DKI Jakarta (6.3%). A total of 333 (67.3%) respondents were female, while the rest were male.

Based on the study results, 59% of the total respondents have the least educational background of SMA/SMK/equivalent. Only 0.8% of the respondents have an elementary education background. A total of 41.8% of respondents chose another answer option for the educational background. Therefore, it could be concluded that the respondents came from various educational backgrounds. Furthermore, 97.6% of the respondents stated that they were in good health.
Based on Figure 1 above, it could be known that out of the 473 respondents with advanced education, the majority (35.5%) received an appeal to physical distancing every day. Meanwhile, out of the 22 respondents with elementary education, 40.9% received an appeal to physical distancing every day. It could be concluded that the higher level of education was, the more often an appeal to physical distancing was received.

Therefore, there is a relationship between education level and the intensity of physical distancing appeal being advised. It was in line with research conducted by Maritza Y, 2012, which states that people with high education indicate that they have more exposed to various information, including information about physical distancing [9]. Meanwhile, other research conducted by Election T, 2008, states that the acceptance and understanding of information received by someone with higher education are better than someone with low education [10].
Based on Figure 2, most respondents who did not know about physical distancing (75%) had never received an appeal to implement physical distancing. For respondents who knew about physical distancing, the majority (35.8%) received an appeal every day. It could be concluded that the more often the community got an appeal to implement physical distancing, the community would know better about physical distancing. Notoatmojo (2010) states that the presence or absence of information about health or health facilities will affect a person's behavior towards health facilities. The results of the study by Setyowati (2015) state that there is an influence between access to information on the role of the husband in preventing LBW with a t-value of 0.008 < 0.005 so that health information and media information can influence preventive behavior[11]. The more health information a person gets, the more preventive behavior changes. In line with Dwi Ari Astanti’s research (2018), the level of knowledge is also obtained from exposure to information, which is getting better and easier to obtain from time to time, affecting a person's level of knowledge [12].
Figure 3: Implementation of the appeal to physical distancing based on gender

Figure 3 above showed that 50.6% of the male respondents, mostly implemented physical distancing in their environment, and 0% did not. Meanwhile, 52.9% of female respondents mostly implemented physical distancing in their environment, and 2.4% did not. Thus, it could be assumed that there was no significant relationship between gender and compliance toward physical distancing implementations because it should be done by everyone to break the chain of spreading COVID-19. Therefore, both males and females have the same obligation in implementing the appeal to physical distancing.

Figure 4: Implementation of the appeal to physical distancing based on knowledge about physical distancing

Figure 4 above showed that 50.6% of the male respondents, mostly implemented physical distancing in their environment, and 0% did not. Meanwhile, 52.9% of female respondents mostly implemented physical distancing in their environment, and 2.4% did not. Thus, it could be assumed that there was no significant relationship between gender and compliance toward physical distancing implementations because it should be done by everyone to break the chain of spreading COVID-19. Therefore, both males and females have the same obligation in implementing the appeal to physical distancing.
As presented in Figure 4, of the four respondents who did not know how to implement physical distancing, a bigger number of the people (75%) occur in respondents whose small part of the community around them implemented physical distancing. As many as 491 respondents who knew about the existence of an appeal to physical distancing, the majority (52.1%) stated that most of the people around them had implemented physical distancing. With knowledge about the appeal to physical distancing in the community, the community will implement this appeal because the form of behavior to implement physical distancing can be influenced by knowledge of physical distancing. This finding was in line with what was stated in the research of Putria (2016) that there is a relationship between the level of knowledge and the practice of clean and healthy life habits (PHBS) in families with the P value of 0.000 < 0.05, that families who have good knowledge about PHBS have good habits of PHBS [13].

Figure 5: Use of PPE based on gender

Based on Figure 5 above, it could be concluded that of the 162 male respondents, 94.4% used PPE and the others did not. Meanwhile, 95.2% of female respondents used PPE. Here it could be assumed that there was no relationship between the use of PPE and gender because everyone has the same obligation to use PPE during the COVID-19 pandemic. This was in line with previous research, namely Wibowo 2013, which states that there is no relationship between nurses’ gender and the use of gloves (p = 0.136). It is because whatever gender does not affect either using PPE or not. Male and females have the same opportunity to use PPE or not[14].
As shown in Figure 6, of the 470 respondents who used PPE, the majority of men (53.6%) wore masks. Meanwhile, women (46.7%) mostly used gloves.

**Figure 7: Daily media information exposure**

It can be seen in Figure 7 that the delivery of information about physical distancing via television could reach 43% of the total respondents, while the newspaper reached 5% of the total respondents. Delivery of information about PHBS through television could reach 39% of the total respondents, and radio reached 5% of the total respondents. Thus, it could be shown that television has become a media for delivering information about physical distancing and PHBS, and could reach the community the most every day compared to other media. Radio and newspapers were the information media with the lowest information source preference compared to other media.
A total of 495 respondents were selected. In Figure 8, the frequency distribution of the variables was presented. It was found that the majority of respondents who had a history of higher education (99.4%) knew about physical distancing. Only a few respondents with higher education did not know (0.6%). Respondents with elementary education backgrounds (95.5%) knew about physical distancing and only 4.5% of respondents did not know. It was in line with research conducted by Election T, 2008, which states that the level of education can affect the level of respondent's knowledge because a person's ability to accept and understand is determined by the level of education one has [10]. Another research states that the difference in education level causes respondents to have different abilities in understanding information, including related to knowledge about physical distancing[15].
Based on Figure 9, the largest percentage was among respondents who knew about physical distancing (99.6%) with the frequency of exposure to information <4 days in 1 week. Thus, it could be concluded that information about physical distancing can be understood by the public easily. Information exposure did not statistically influence the level of parental knowledge. There might be the influence of confounding factors such as information comes from one's own experiences, the environment, stories heard, or others' experiences [16].

**Figure 10: Implementation of CTPS based on gender**

A total of 495 respondents were selected. In Figure 10, the frequency distribution of the variables was presented. It was found that the majority of female respondents, more than 50%, had never done CTPS (washing hands with soap) (67.6%) and as many as 33.3% had done it. While the male respondents, which were less than the female, (32.5%) had never done CTPS and 66.7% had done it.
Table 1: Attitude, practice, and knowledge of implementation of the appeal to physical distancing

<table>
<thead>
<tr>
<th>Implementation of the Appeal to Physical Distancing</th>
<th>No one has implemented the appeal</th>
<th>Only a few people have implemented the appeal</th>
<th>Most of the people have implemented the appeal</th>
<th>All the people implemented the appeal</th>
<th>Total</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitude</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>1.0</td>
<td>30.2</td>
<td>62.3</td>
<td>6.5</td>
<td>45</td>
<td>199</td>
</tr>
<tr>
<td>Good</td>
<td>1.6</td>
<td>17.7</td>
<td>49.4</td>
<td>31.3</td>
<td>55</td>
<td>243</td>
</tr>
<tr>
<td><strong>Practice</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>2.0</td>
<td>34.3</td>
<td>48.5</td>
<td>15.2</td>
<td>47.1</td>
<td>99</td>
</tr>
<tr>
<td>Good</td>
<td>0</td>
<td>16.2</td>
<td>60.4</td>
<td>23.4</td>
<td>52.9</td>
<td>111</td>
</tr>
<tr>
<td><strong>Knowledge</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>1.7</td>
<td>24.8</td>
<td>53.0</td>
<td>20.5</td>
<td>83.8</td>
<td>413</td>
</tr>
<tr>
<td>Good</td>
<td>1.3</td>
<td>28.8</td>
<td>47.5</td>
<td>22.5</td>
<td>16.2</td>
<td>80</td>
</tr>
</tbody>
</table>

Almost all of the good attitudes (62.3%) were found in the respondent group, in which most people around them implementing physical distancing. A total of 1.6% unfavorable attitude was found in the respondent group, in which no one around them implementing physical distancing. It showed that the better the attitude, the more people would implement physical distancing.

Based on Table 1 above, it could be known that the majority (60.4%) of good practices were found in the respondent group, in which most people around them implementing physical distancing. The majority of poor practices were found in the respondent group, in which most people around them
implementing physical distancing (48.5%). It could be concluded that there was a relationship between practice and the implementation of the appeal of physical distancing.

Most of the poor knowledge was found in the respondent group, in which most people around them implementing physical distancing (53.0%). Good knowledge was found in the respondent group, in which most people around them implementing physical distancing (47.5%).

Of the total respondents, 83.8% of respondents had poor knowledge about physical distancing and PHBS. It affected the practices and attitudes; as many as 47.1% and 45% of respondents had bad practices and attitudes regarding PHBS.

**Discussion**

Television was a medium that could reach and educate 43% of respondents about physical distancing and 39% of respondents about PHBS from the total respondents in this study. The reach of television was broader than other media. According to the Household ICT Indicator Survey (2015) in the Handbook of Indonesian ICT Trends and Data (2015), most of the ICT equipment owned by households was a television (86.7%) with the distribution in urban areas (93.5%) and rural areas (81.1%). Meanwhile, the national ownership of radio reached 37.5% [17]. Television, as an information media, is part of the individual infrastructure in obtaining information. The ownership of infrastructure is an enabling factor in creating individual behavior. Based on the results of research by Vience Mutiara Rumata (2017), the reach of television media is wider than other information media. The community's needs for government policy information are met by television (84%), then neighbors around the house or friends (53.8%), and the internet (27.2%) [18].

Instagram, Facebook, WhatsApp, Twitter, and official websites are information media that can be accessed using the internet. However, none of these media has a higher reach of information dissemination every day compared to television. Based on the results of the Survey on the Number and Behavior of Indonesian Internet Users (2016), the increasing usage of the internet had not been able to shift the breadth of television coverage in conveying information to the community. There was an increase in internet users in 2016 (51.7%) compared to the number of users in 2015 (34.9%). The types of content most frequently accessed were social media, entertainment, and news. Meanwhile, public service content was in the sixth position[19]. It showed that individual interest in using social
media to obtain information on public services, including government policies such as the appeal to physical distancing and PHBS is still low. People prefer to watch television to get this information and use social media for other purposes.

The percentage of good knowledge was in line with the frequency of people who were implementing physical distancing. The more people implemented the appeal, the higher the good knowledge percentage. The fewer people implemented the appeal, the higher the percentage of bad knowledge. Therefore, knowledge was related to the implementation of the appeal to physical distancing. Understanding respondents’ knowledge in this study was by studying did the respondents knew about the appeal to physical distancing during the pandemic and why they needed to do it. It was in line with research, which showed a relationship between knowledge and behavior of the Wonosobo people during the COVID-19 pandemic with a p-value of 0.047 [20]. Another study showed a significant relationship between knowledge and community compliance during the COVID-19 pandemic with a p-value of less than 0.0001 and an OR value: 0.75-0.90 [21]. One of the efforts to prevent the transmission of COVID-19 is through PHBS [22]. The community needs to be equipped with knowledge related to PHBS. Proven by the current study, a community good knowledge about the appeal to the physical distancing is related to the increasing implementation of PHBS. It could be seen from the respondents who had good knowledge, the majority implemented PHBS well (33.3%). Likewise, most respondents with poor knowledge (83.9%) had poor PHBS implementation. In a study conducted on chronic disease patients in an Ethiopian hospital, it was found that poor knowledge could influence bad practices, which had an AOR value of 8.6, 95 CI (3.81-19.45) [23].

The majority of respondents who took the survey in this study had good attitudes. A good attitude was in line with the number of people who implemented physical distancing and PHBS. This study examined the respondents’ attitudes regarding personal hygiene, their attitudes when there were positive cases of COVID-19 around them, responses to the effectiveness of physical distancing during the pandemic, and the like. A previous study states that the attitude taken during the pandemic was almost 100% of the respondents were agreed to quarantine and limit travel. [24].

Good practices were in line with the habits in implementing physical distancing. The more people who implemented physical distancing, the higher the percentage of good practices. Good practices also correlated with knowledge and a good attitude. Community compliance practices were related to the implementation of PHBS. The practices of physical distancing and clean and healthy
lifehabits (PHBS) according to the questionnaire in this study were including the practices of washing hands after traveling, carrying hand sanitizers, avoiding touching things while outside the home, using personal protective equipment (PPE), choice of vehicles used during the pandemic, and others. Another study stated that positive knowledge correlates with positive attitudes and practices, while negative ones correlate with risk factors. It was proven by the p-value, which was less than 0.05[25].

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