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Original article

Community behavioral change and management of COVID-19 Pandemic: Evidence from Indonesia

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A B S T R A C T

Objectives: This study aims to investigate the effect of information and motivation on behavioral change related to the COVID-19 pandemic management in Indonesia. It also examines the role of behavioral skills in mediating the information-behavioral change relationship and the motivation-behavioral change relationship.

Method: This study employs the partial least squares structural equation modeling (PLS-SEM) to test the research hypotheses. Using the online survey method to collect data, 845 responses were obtained from several main islands of Indonesia.

Results: The results of the study show that information and motivation positively influence people’s behavior changes. Behavioral skills mediate the influence of information and motivation on behavioral change. This study contributes to the development of the information-motivation-behavior model (IMB-Model). It also provides additional knowledge on pandemic management in the research setting of Indonesia as a country that has complex characteristics in terms of religion and belief, demography, culture, economy, and politics.

Conclusions: This study concludes that the success of Indonesia in dealing with the pandemic greatly depends on the success of changing the community behavior. Providing reliable and consistent information enhances people’s motivation to build their behavioral skills. With increased behavioral skills, people have changed their behavior in fighting against COVID-19 by obeying health protocols, participating in vaccination programs, and practicing a healthier lifestyle.

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1. Introduction

COVID-19 has become a global pandemic since the WHO (World Health Organization) announced it on March 11, 2020 (Sebayang, 2020). Referring to the WHO data, the virus has spread to 220 countries with infected cases of more than 198 million people and the number of deaths of more than 4 million people worldwide until July 31, 2021 (World Health Organization, 2021a). No single country has experience in dealing with the COVID-19 pandemic. Indonesia has been fighting the COVID-19 pandemic since early March 2020. Fig. 1 shows the development of COVID-19 in Indonesia from March 2020 to October 2021 with three outbreaks. Based on the assessment of John Hopkins University, Indonesia has succeeded in reducing 58% of COVID-19 cases in just 2 weeks (Setiyadi, 2021). The Director-General of WHO stated that Indonesia is one of the countries with the best achievement in vaccination programs compared to other countries in the world (Deni, 2022). As of October 12, 2021, there was a drastic decrease in the number of daily confirmed cases, confirmed deaths, and confirmed recoveries (covid.go.id, 2021).

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information, and (2) motivation. The model generates an increased self-efficacy knowledge as well as the quality and quantity of disease prevention behavior (Lee and Park, 2021).

The results of previous studies regarding the effect of information on behavioral skills are still inconsistent. Some scholars have revealed that information influences behavioral change (Luo et al. 2020; Fleary et al., 2020; Lee and Park, 2021). However, Nelson et al. (2018) proved that information has no effect on medication adherence. Thus, it does not show a change in behavior. Similarly, the results of previous studies regarding the effect of motivation on behavioral change are also inconsistent. Studies by previous scholars (Luo et al., 2020; Fisher et al., 2003; Lee and Park 2021) showed that motivation influences health behavioral change. Other researchers (Mayberry and Osborn, 2014; Nelson et al., 2018) revealed that personal and social motivation does not affect medication adherence and does not show any behavioral changes. This research gap motivates this current study to use the IMB-Model to analyze the community behavioral change in Indonesia during the COVID-19 pandemic.

This study is important for Indonesia which has unique characteristics in terms of demographic, geographical, cultural, social, economic, and political aspects. With the fourth largest population in the world and 17,000 islands, Indonesia needs a special approach to dealing with the COVID-19 pandemic. The results of this study can be used as a reference by other countries to change people’s behavior as the main key to controlling the COVID-19 pandemic.

2. Literature review and hypothesis development

2.1. Information Motivation Behavioral Skills Model (IMB-Model)

The IMB-Model of Fisher and Fisher (1992) explains that information, motivation, and behavioral skills are determinants of preventive behavior. If a person has adequate information and is well-motivated, he or she will acquire behavioral skills and apply these skills to change behavior. Behavioral skills are related to a variety of skills, such as practical knowledge, skills, and self-confidence or beliefs that lead to behavior. In the current study, information, motivation, behavioral skills, and behavioral change refer to behavioral changes in the 5Ms (wearing masks, washing hands, keeping a distance, staying away from crowds, reducing mobility) and 3Ts (tracing, testing, treatment), as well as participation in the vaccination program by the government.

2.2. Information and behavioral change

Luo et al. (2020) showed that information influences health behavior during COVID-19. Chen et al. (2018) demonstrated that information influences self-management behavior. Other scholars (Fisher et al., 2003; Fleary et al., 2020; Lee and Park, 2021; Ferarri et al., 2021) also revealed that information affects health behavior. In Indonesia, the information obtained by the public is remarkably diverse. The more accurate and reliable information, the higher the chance people change their behavior. Thus, the following hypothesis is proposed:

H1. Information is positively associated with behavioral change.

2.3. Motivation and behavioral change

Motivation influences behavioral change. Fleary et al. (2020) revealed that inadequate consumption of fruits and vegetables in adolescents can increase the risk of chronic diseases. Motivation explains the changes in fruit and vegetable consumption behavior. Other studies (Luo et al., 2020; Fisher et al., 2003; Lee and Park 2021; Ferarri et al., 2021) also demonstrated the same results. This study argues that the higher the motivation, the higher the chance of behavioral change. Then, the following hypothesis is proposed:

H2. Motivation is positively associated with behavioral change.

2.4. Information and behavioral skills

Information affects behavioral skills. Alexander et al. (2017) revealed that information affects behavioral skills on medication adherence of patients with rare diseases. Other scholars (Fisher and Fisher, 2006; Mayberry and Osborn, 2014; John et al., 2017; Luo et al., 2020; Ferarri et al., 2021) also demonstrated the same results. This study argues that the more reliable the information, the better the behavioral skills of the community. Therefore, the following hypothesis is proposed:
H3. Information is positively associated with behavioral skills.

2.5. Motivation and behavioral skills

Motivation affects behavioral skills. Lee and Park (2021) showed that motivation influences behavioral skills on preventive behavior against respiratory infections. Other scholars (Fisher and Fisher, 2006; Mayberry and Osborn, 2014; John et al., 2017; Chen et al., 2018; Luo et al., 2020; Ferarri et al., 2021) also proved the same results. This study argues that the higher the motivation, the higher the people have behavioral skills. Thus, the following hypothesis is proposed:

H4. Motivation is positively associated with behavioral skills.

2.6. Behavioral skills and behavioral change

Behavior change is a core component of self-management and compliance (Chang et al. 2014). Ferarri et al. (2021) revealed that behavioral skills have a direct influence on behavioral changes in physical activities. Other studies (Fisher and Fisher, 2006; John et al., 2017; Chen et al., 2018; Luo et al., 2020; Ferarri et al., 2021) demonstrated that behavioral skills also influence health behavioral change. Luo et al. (2020) stated that behavioral skills have the greatest impact on health behavior change. The higher the behavioral skills, the higher the chance of changing behavior. Then, the following hypothesis is proposed:

H5. Behavior skills are positively associated with behavioral change.

2.7. Mediating role of behavioral skills on information-behavioral change relationship

Reliable information will build people’s behavioral skills. This information will form the public self-awareness to make behavioral changes in the forms of consistently implementing the 5Ms health protocol, following the 3Ts practices, and participating in the vaccination program. The more reliable the information, the higher the behavioral skills, and then the greater the chance for behavioral change. Therefore, the following hypothesis is proposed:

H6. Behavioral skills mediate information-behavioral change relationship.

2.8. Mediating role of behavioral skills on motivation-behavioral change relationship

People’s behavioral skills are formed from personal motivation (self-awareness, fear of being infected, fear of infecting others) and social motivation (following the government, international organizations, and the community). This form of personal and social motivation will increase their behavioral skills, then enhances the chance to change their behavior. The higher the motivation, the higher their behavioral skills, and the higher the behavioral change. Thus, the following is proposed:

H7. Behavioral skills mediate motivation-behavioral change relationship.

Fig. 2 depicts the research conceptual framework of IMB-Model. The model is used to explain the relationship of four constructs employed by the current study, namely information, motivation, behavioral skills, and behavioral change.

3. Methodology

3.1. Sample and data collection

This study employs the snowball sampling method to obtain a wide sample based on a small sample and makes it easier to collect qualitative data (Cooper & Schindler, 2014: 360). Primary data were collected using an online survey. A pilot test that was conducted on 50 people in Surabaya confirmed the validity and reliability. Furthermore, 10 to 15 questionnaires were sent to respondents throughout Indonesia via the WhatsApp application. The online focus group discussions (FGD) were conducted in three regions with the representatives of various community groups as presented in Table 1. FGD was conducted using the following key questions: (1) What are the reliable sources of information on COVID-19? (2) Which forms of communication are the most effective? (3) Who are the parties conveying information? (4) What kind of media are used? (5) What are the motivations that make people change their behavior? and (6) What are the type of behavioral changes? Table 1 shows the participants of the FGD.

3.2. Definitions and measurements

Behavioral change. Behavioral change is defined as a change that a person makes to comply with health rules. Behavioral change is measured using six statements developed by Vannabouathong et al. (2020), Michie and West (2021), and Lee et al. (2021) which consist of the following main items: (1) application of the 5Ms health protocol, (2) healthy living behavior, both physically and mentally, (3) good behavior in spiritual life, (4) following 3Ts practices, (5) participating in the vaccination program, (6) behavior on digital technology and non-contact-based technology. A Likert scale rating from 1 (strongly disagree) to 5 (strongly agree) is used.

Behavioral skills. Behavioral skills are defined as beliefs (self-efficacy) and skills to use. Behavioral skills are measured by 12 statements developed by previous researchers (Robinson, 2017; Tsamlag et al., 2020) which consist of the following main items: (1) implementing programs consistently, orderly, and correctly to prevent COVID-19, (2) consistently implements self-awareness programs without being influenced by sanctions/punishments, (3) implementing programs without being influenced by government assistance, and (4) implementing programs without being influenced by various community leaders. A Likert scale rating from 1 (strongly unsure) to 5 (strongly sure) is used. The higher the score, the higher the behavioral skills associated with health behavior change.

Information. Information refers to the basic knowledge about the disease, health conditions, and preventive behavior. The information can be from the central/regional government, printed and electronic media, social media, and chat applications such as the WhatsApp groups. Information is measured using 16 statements developed by previous scholars (Robinson, 2017; Tsamlag et al., 2020) consisting of the following main items: (1) information related to COVID-19, (2) information on the implementation of the 5Ms health protocol, (3) information about the 3Ts practices, and (4) information on the benefits of vaccination. A Likert scale rating from 1 (very ignorant) to 5 (very knowledgeable) is used.

Motivation. Motivation refers to attitudes toward health behaviors, beliefs of intervention outcomes to minimize the spread of COVID-19, and social support to engage in certain behaviors. Motivation is measured using 12 statements developed by previous scholars (Robinson, 2017; Tsamlag et al., 2020; Michie & West, 2021) which consists of the following main items: (1) implementing the program in an orderly and correct manner to prevent and minimize COVID-19, (2) following government advice to imple-
ment programs, (3) following international organization' recommendations to implement programs, (4) following the majority of the population to implement programs. A Likert scale rating from 1 (strongly disagree) to 5 (strongly agree) is used. The higher the score, the higher the motivation.

4. Results

4.1. Characteristics of respondents

Table 2 shows that the respondents are dominated by male respondents with more than 40 years old. Their last education is mostly master’s degrees, undergraduate degrees, and senior high schools. Their occupations are mostly lecturer/teacher, students, and employees.

4.2. Descriptive statistics

The following interval class calculation is needed to categorize the respondents’ answers.

\[
\text{Interval class} = \frac{(\text{Highest score} - \text{Lowest Score})}{\text{Number of classes}}
\]

\[
\text{Interval class} = \frac{(5 - 1)}{5} = 0.8
\]

Based on the calculation, the respondents’ answers are categorized in Table 3:

Table 4 presents the result of descriptive statistics showing the categorization of the respondents’ answers. In summary, the answers tend to “agree” and “strongly agree”.

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Table 1

| Background | Region | Total |
|------------|--------|-------|
| Covid-19 survivors | East Java | 1 | 5 |
| University Students | Central Java | 2 | 9 |
| Epidemiologist | Bali | 1 | 4 |
| Public Health Officers | South Kalimantan | 1 | 4 |
| Lecturers | | 2 | 9 |
| Researchers | | 2 | 6 |
| Community Leaders | | 1 | 5 |
| Religious leaders | | 2 | 7 |
| COVID-19 Task Force | | 2 | 5 |
| Local COVID-19 Task Force | | 1 | 5 |
| Women and gender activist | | 0 | 3 |
| Representative of Health Office | | 1 | 4 |
| Head of Women Association | | 0 | 2 |
| NGO Representatives | | 1 | 3 |
| Total | | 19 | 71 |

Table 2

| Classification | Description | Frequency |
|----------------|-------------|-----------|
| Gender | Male | 548 | 64.9 % |
| | Female | 297 | 35.1 % |
| Total | | 845 | 100 % |
| Age | 17 – 25 years | 297 | 35.1 % |
| | 25 – 40 years | 211 | 25 % |
| | >40 years | 337 | 39.9 % |
| Total | | 845 | 100 % |
| Education | Junior High School | 4 | 0.5 % |
| | Senior High School | 234 | 27.7 % |
| | Diploma 3 | 51 | 6 % |
| | Undergraduate | 229 | 27.1 % |
| | Master | 239 | 28.3 % |
| | Doctoral | 88 | 10.4 % |
| Total | | 845 | 100 % |
| Occupation | Housewives | 29 | 3.4 % |
| | Entrepreneurs | 50 | |
| | Civil Servants | 73 | |
| | SOEs employees | 9 | |
| | Company Employees | 133 | |
| | Students | 222 | |
| | Army/ Police | 3 | |
| | Lecturer/Teacher | 260 | |
| | No occupation | 1 | |
| | Others | 43 | |
| Total | | 845 | 100 % |
4.3. Measurement model analysis

The PLS-SEM was employed because of its capability to simultaneously analyze many latent variables with various indicators (Hair, Ringle, and Sarstedt, 2013). Table 5 and Table 6 present the convergent validity and discriminant validity. In the first iteration, the factor loading value of BC 3 (good behavior in spiritual life) is 0.5, and it was deleted from the measurement model. In summary, the measurement model is valid and reliable.

4.4. Structural model analysis

Structural model analysis has two stages, namely: (1) direct effect test, and (2) indirect effect test. Table 7 shows the results of the direct effect test (Panel A) and indirect test (Panel B). Fig. 3 presents the results of the full model test. It shows that all paths are significant.

Before including the behavioral skills as the mediating variable, the results (Panel A) show that H1 is supported and H2 is supported. After including behavioral skills as the mediating variable, the results (Panel B) reveal that H3, H4, and H5 are also supported. The β coefficient of the information-behavioral change relationship decreases from 0.22 to 0.074 and is significant. The β coefficient of the motivation-behavioral change relationship decreases from 0.399 to 0.151 and is significant. According to Baron and Kenny (1986), the results indicate the existence of partial mediation. Hence, H6 and H7 are supported.

5. Discussions

5.1. Information and behavioral change

This study provides empirical evidence for the hypothesis stating that information has a positive effect on behavior change. The results support some previous scholars (Chen et al., 2018; Luo et al., 2020; Fisher et al., 2003; Fleary et al., 2020; Lee & Park, 2021). As presented in Table 8, additional information obtained from the questionnaires and focus group discussions also supports the first hypothesis. First, the public receives information on COVID-19 from the Central/Regional Government as their most trusted source of information.

Second, the type of media which is the most widely accessed by the public is social media as presented in Table 9. Television and online media are also the next choices.

5.2. Motivation and behavioral change

The results prove that motivation has a positive effect on behavior change. These results support previous scholars (Fleary et al., 2020; Luo et al., 2020; Fisher et al., 2003; Lee & Park 2021; Ferrarri et al., 2021). Table 10 shows that motivation to implement health protocols is based on the motivation of fear of infecting other people (parents, children, etc.). The motivation encourages people to change their behavior to consistently implement the health protocols.

5.3. Information and behavioral skills

The results prove that information has a positive effect on behavioral skills. The results support the studies of previous researchers (Fisher & Fisher, 2006; Mayberry & Osborn, 2014; John et al., 2017; Alexander et al., 2017; Nelson et al., 2018; Luo et al., 2020). Respondents believe that the information they get will form their behavioral skills. The campaign for the 5Ms health protocol, 3 T practices, and vaccination program is one of the efforts to provide reliable information for people to have behavioral skills to fight the virus.

5.4. Motivation and behavioral skills

This study proves that motivation has a positive effect on behavioral skills. The results support studies conducted by the previous researchers (Lee & Park, 2021; Fisher & Fisher, 2006; Mayberry & Osborn, 2014; John et al., 2017; Chen et al., 2018; Luo et al., 2020; Ferrarri et al., 2021). Respondents strongly believe that motivation such as fear of infecting others, self-awareness, and fear of being infected by the virus will build the community’s behavioral skills to fight against the virus.

5.5. Behavioral skills and behavioral change

The results prove that behavioral skills have a positive effect on behavior change. The results support the previous researchers (Fisher & Fisher, 2006; John et al., 2017; Chen et al., 2018; Luo et al., 2020; Ferrarri et al., 2021). The behavioral skills are reflected in the people’s capabilities to implement the 5Ms health protocol, the 3Ts practices, and other government programs without being influenced by punishment, government assistance, leaders, family, community, and colleagues.

5.6. Mediating role of behavioral skills on information-behavioral change relationship

This study proves that behavioral skills mediate the effect of information on behavior change. The community gets information from both digital and conventional types of media. Based on this information, the community increases their self-awareness and behavioral skills that are ready to be used for action. These behavioral skills serve as the basis for behavioral change to support COVID-19 pandemic management programs such as implementing the 5Ms health protocol in daily life, participating in the 3Ts pro-

Table 3
Category of respondents’ answers.

| Interval          | Category                        |
|-------------------|---------------------------------|
| 1.00 < x < 1.80   | Strongly disagree/ignorant/unsure |
| 1.80 < x < 2.60   | Disagree                        |
| 2.60 < x < 3.40   | Neutral                         |
| 3.40 < x < 4.20   | Agree                           |
| 4.20 < x < 5.00   | Strongly agree/knowledgeable/sure |

Table 4
Descriptive statistics.

| Variable          | Score | Min | Max  | Mean | Category           |
|-------------------|-------|-----|------|------|--------------------|
| Information       | 1     | 1   | 5    | 4.32 | Very knowledgeable |
| Motivation        | 1     | 1   | 5    | 4.36 | Strongly agree     |
| Behavioral Skills | 1     | 1   | 5    | 4.33 | Strongly sure      |
| Behavioral Change | 1     | 1   | 5    | 4.52 | Strongly agree     |
gram, participating in the vaccination program, and living in a healthy lifestyle.

5.7. Mediating role of behavioral skills on motivation-behavioral change relationship

The results prove that behavioral skills mediate the influence of motivation on behavioral change. Personal motivation (self-awareness, fear of infecting others, and fear of being infected by the COVID-19 virus) and social motivation (following the government, international organizations, and the community) have shaped the people's behavioral skills that are used to change their

Table 5
Results of measurement model analysis.

| Variable | Indicator | Factor Loading | Variable | Indicator | Factor Loading |
|----------|-----------|----------------|----------|-----------|----------------|
| Information (Composite Reliability = 0.853; Cronbach’s Alpha = 0.847; AVE = 0.560) | IN1 | 0.727 | Behavioral skills | BS1 | 0.776 |
| Information | IN2 | 0.718 | BS2 | 0.806 |
| Information | IN3 | 0.632 | BS3 | 0.816 |
| Information | IN4 | 0.737 | BS4 | 0.857 |
| Information | IN5 | 0.778 | BS5 | 0.859 |
| Information | IN6 | 0.786 | BS6 | 0.859 |
| Information | IN7 | 0.775 | BS7 | 0.872 |
| Information | IN8 | 0.793 | BS8 | 0.894 |
| Information | IN9 | 0.792 | BS9 | 0.870 |
| Information | IN10 | 0.727 | BS10 | 0.814 |
| Information | IN11 | 0.711 | BS11 | 0.843 |
| Information | IN12 | 0.702 | BS12 | 0.853 |
| Information | IN13 | 0.777 | | |
| Information | IN14 | 0.807 | | |
| Information | IN15 | 0.746 | | |
| Information | IN16 | 0.744 | | |
| Motivation (Composite Reliability = 0.853; Cronbach’s Alpha = 0.847; AVE = 0.630) | MO1 | 0.808 | Behavioral Change | BC1 | 0.814 |
| Motivation | MO2 | 0.825 | BC2 | 0.608 |
| Motivation | MO3 | 0.817 | BC3 | 0.779 |
| Motivation | MO4 | 0.852 | BC4 | 0.777 |
| Motivation | MO5 | 0.866 | BC5 | 0.777 |
| Motivation | MO6 | 0.850 | BC6 | 0.710 |
| Motivation | MO7 | 0.777 | | |
| Motivation | MO8 | 0.814 | | |
| Motivation | MO9 | 0.832 | | |
| Motivation | MO10 | 0.644 | | |
| Motivation | MO11 | 0.674 | | |
| Motivation | MO12 | 0.726 | | |

Table 6
Results of discriminant validity test.

| IN | MO | BS | BC |
|----|----|----|----|
| Information (IN) | 0.748 | 0.588 | 0.626 | 0.453 |
| Motivation (MO) | 0.588 | 0.793 | 0.708 | 0.532 |
| Behavioral skills (BS) | 0.626 | 0.708 | 0.846 | 0.617 |
| Behavioral Change (BC) | 0.453 | 0.532 | 0.617 | 0.741 |

Table 7
Results of direct effect test.

| Panel A: Direct effect test before including a mediation | Decision |
|--------------------------------------------------------|----------|
| Variable | β | P-Value |
| Information → Behavioral Change | 0.222 | 0.000*** |
| Motivation → Behavioral Change | 0.399 | 0.000*** |
| Panel B: Direct effect test after including a mediation | Decision |
| Variable | β | P-Value |
| Information → Behavioral Change | 0.074 | 0.084* |
| Motivation → Behavioral Change | 0.151 | 0.002*** |
| Information → Behavioral skills | 0.320 | 0.000*** |
| Motivation → Behavioral skills | 0.520 | 0.000*** |
| Behavioral skills → Behavioral Change | 0.463 | 0.000*** |

Note: *** P < 0.01; ** P < 0.05; * P < 0.1.

Fig. 3. Results of Full Model.
behavior, especially in implementing the 5Ms health protocol their daily life, following the 3Ts practices, vaccination program, and living in a healthier lifestyle.

6. Conclusions

Using 845 data and employing PLS-SEM, this study concludes that information and motivation affect behavioral change, and behavioral skills mediate the information-behavioral change relationship as well as the motivation-behavioral change relationship. This study has the following limitations. First, the study limits its sample size to only 845 respondents. Second, the use of snowball sampling might raise the issue of randomness. Third, the use of an online survey method and online questionnaires have caused some respondents difficulty due to their digital illiteracy. Due to the limitations, caution must be applied when generalizing the results of this study.

Theoretically, this study contributes to the IMB-Model by providing empirical evidence in the research setting of Indonesia. Practically, this study reveals some mechanisms for how to manage the COVID-19 pandemic focusing on behavioral change and the principle of gotong royong (togetherness). This mechanism is useful information for managing the pandemic because there is no single country in the world that has the experience to handle the COVID-19 pandemic.

Future researchers are recommended to do the following: (1) using the qualitative approach to improve the depth of the analysis; (2) employing the experiment method for better assessing the causal effect; (3) testing the IMB-Model using a bigger sample size; and (4) conducting further studies regarding the community behavioral change during the post-pandemic era (new normal era).

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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| Table 8 | Results of sources of information on COVID-19. |
| --- | --- | --- |
| # | Sources of information | 5Ms health protocol (%) | 3Ts practices (%) | Vaccination program (%) |
| 1 | Central/Regional Government | 72.5 | 68.3 | 72.4 |
| 2 | Self-searching | 42.6 | 38.2 | 34.3 |
| 3 | Workplace | 29.7 | 28.2 | 32.1 |
| 4 | Family | 28.1 | 23.2 | 25.8 |
| 5 | University/Schools | 23.9 | 19.5 | 23.4 |
| 6 | Friends | 18.7 | 15.2 | 19.8 |
| 7 | Community figures | 17.4 | 15.9 | 13.5 |
| 8 | Neighbors | 12.7 | 9.9 | 15.1 |
| 9 | Religious figures | 8.8 | 6.5 | 7.1 |
| 10 | None | 0.5 | 2.5 | 0.5 |

a. Each respondent is required to choose at least three sources of information regarding the 5Ms health protocol, 3Ts practices, and vaccination program.

| Table 9 | Results of media types. |
| --- | --- | --- | --- |
| # | Media types | 5Ms health protocol (%) | 3Ts practices (%) | Vaccination program (%) |
| 1 | Social media | 76.3 | 70.7 | 71.9 |
| 2 | Television | 51.9 | 44.9 | 44.6 |
| 3 | Online media | 46.7 | 42.1 | 43.2 |
| 4 | WhatsApp Group | 38.8 | 33.2 | 39.4 |
| 5 | Local governments’ announcements | 33.4 | 30.5 | 38.8 |
| 6 | Public poster | 22.4 | 16.9 | 16.5 |
| 7 | Newspaper, magazine | 11.2 | 10.8 | 10.1 |
| 8 | Other network applications | 10.1 | 9.2 | 11.2 |
| 9 | Radio | 8.2 | 7.3 | 7.6 |
| 10 | Public figures | 8.2 | 6.9 | 9.2 |

| Table 10 | Results of motivation survey. |
| --- | --- | --- | --- |
| # | Motivation | 5Ms health protocol (%) | 3Ts practices (%) | Vaccination program (%) |
| 1 | Fear of infecting others | 63.6 | 61.7 | 55.4 |
| 2 | Self-awareness | 62.5 | 58.6 | 58.5 |
| 3 | Fear of being infected | 61.7 | 57.6 | 54.7 |
| 4 | More protected | 48.9 | 46.9 | 51.9 |
| 5 | Good role model | 30.9 | 27.1 | 29.1 |
| 6 | Pride to participate | 30.2 | 27.6 | 30.4 |
| 7 | A normal citizen | 9.7 | 11.2 | 12.3 |
| 8 | Fear of being punished | 7.1 | 7.8 | 9.7 |
| 9 | Feeling of shame | 1.8 | 1.2 | 1.1 |
