



The Behavior of Using Masks during the Coronavirus Disease 19 Pandemic in Malang Regency, Indonesia: Application of Theory of Planned Behavior and Social Support

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Abstract

Edited by: Ksenija Bogoeva-Kostovska
Citation: Fikriana R, Afik A, Marinda M. The Behavior of Using Masks during the Coronavirus Disease 19 Pandemic in Malang Regency, Indonesia: Application of Theory of Planned Behavior and Social Support. Open Access Maced J Med Sci. 2021 Sep 05; 9(B):1006-1010. <https://doi.org/10.3889/oamjms.2021.6761>
Keywords: Coronavirus disease 2019; Intention; Masks; Social support
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Received: 02-Jul-2021
Revision: 16-Aug-2021
Accepted: 25-Aug-2021
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Funding: Research Grant of Sekolah Tinggi Ilmu Kesehatan Kepanjen, Malang, Indonesia
Competing Interests: The authors have declared that no competing interests exist

BACKGROUND: The use of masks during the coronavirus disease 2019 (COVID-19) pandemic is one of the efforts to prevent its transmission. However, it was found that the behavior of the use of masks in the community is still low.

AIM: This study aims to analyze people's behavior in the use of masks with the theory of planned behavior and social support approach.

METHODS: Research using a cross-sectional design. The study was conducted on 90 people in Malang, Indonesia, taken with simple random sampling techniques. Variables measured are behavioral beliefs, evaluation of behavioral outcomes, normative beliefs, motivation to comply, control beliefs, perceived power, attitude, subjective norm, perceived control, intention, family support, peer support, and mask usage behavior. Research instrument is questionnaire. The data were analyzed using a linear regression test.

RESULTS: Results showed that the behavior of mask use according to the theory of planned behavior was significantly influenced by perceived power ($p < 0.001$), normative beliefs ($p = 0.019$), and intention to perform the behavior ($p = 0.041$). While in the social support component, peer support obtained a significant effect ($p = 0.002$).

CONCLUSION: As an effort to improve the behavior of the use of masks in the community during the COVID-19 pandemic, it is necessary to strengthen perceived power, normative beliefs, and intentions accompanied by good peer support so that the community complies with the use of masks for the prevention of transmission.

Introduction

Coronavirus disease 2019 (COVID-19) is a current global problem. The high spread of COVID-19 occurs throughout the world results in increased worldwide burden [1], [2]. The number exposed to COVID-19 continues to increase daily around the world. As of August 5, 2020, the WHO reported 18,354,342 confirmed COVID-19 patients with 696,147 deaths [3]. The C-19 pandemic not only causes health problems for people exposed, such as acute respiratory diseases and resulting in death [4], [5], but this also impacts the surrounding environment where the COVID-19 pandemic increases psychosocial burden [6], [7], [8].

The WHO, as an organization that plays an important role in health issues in the world, provides recommendations to the public to be able to protect themselves from contracting COVID-19 [9]. The use of masks is one of the preventive efforts that must be made to reduce the spread of COVID-19 in addition to other preventive measures such as hand hygiene, physical distancing, etc. [10]. But study in Sulawesi Tenggara Indonesia shows that the use of masks in society is still

very low. It is known that only 57.8% use masks when out of the house, 35.5% rarely use and 6.7% do not use masks [11]. These results illustrate that the level of public awareness in the use of masks as part of preventing the transmission of COVID-19 is still not maximized.

Health behavior is influenced by several factors. The previous studies have shown that a person's behavior during the COVID-19 pandemic is influenced by COVID-19 awareness, knowledge, and preparedness [12], [13], [14]. Other studies also support the results of this study where practices during the COVID-19 pandemic are significantly influenced by knowledge and attitudes [15]. Theory of planned of behavior explains that a person's behavior is initiated by the intention that forms it, where this intention is influenced by attitude, subjective norm, and perceived behavioral control [16]. Studies show behavioral intentions are strongly associated with perceived behavioral control, either directly or indirectly [17].

Social support is also one of the important components in influencing one's health status [18]. Studies show social support affects emotional response [19]. Social support is positively related to the search for health information for a person and has an indirect

impact in influencing one's intention to conduct healthy living behaviors [20].

Several studies have been conducted related to the problem of COVID-19, but studies that analyze the behavior of mask use by referring to theory planned of behavior and social support have not been found. The purpose of this study is to analyze the behavior of mask use in theory-based society planned behavior and social support during the COVID-19 pandemic.

Methods

Study design and setting

Research uses a cross-sectional design. The population is a community in Boro Selatan Kepanjen, Malang regency Indonesia. The population of this research as many as 120 people. Sample criteria were aged 15–50 years and willing to fill out the online form. If participant do not meet these criteria, participants are excluded from the sample. Sample was taken by a simple random sampling technique as many as 90 people sample recruitment in March 2021.

Data collection

Variables studied include independent variables such as behavioral beliefs, evaluation of behavioral outcomes, normative beliefs, motivation to comply, control beliefs, perceived power, attitude, subjective norm, perceived control, intention, family support, and peer support. Dependent variable is the behavior of the use of masks. Instrument is in the form of questionnaires taken from the Theory of Planned Behavior Questionnaire [21] and modified according to the needs of researchers. Questions listed in the TPB questionnaire consist of behavioral beliefs, evaluation of behavioral outcomes, normative beliefs, motivation to comply, control beliefs, perceived power, attitude, subjective norm, perceived control, and intention. The family and peer support questionnaires are taken from the researcher's modified social support questionnaire [22]. Data retrieval is done online by filling in the answer to the questions through Google Forms. The answer of each statement on each variable is measured using a Likert scale consisting of four answer options. Variable behavioral beliefs, evaluations of behavioral outcomes, attitude toward the behavior, subjective norm, perceived behavioral control using answer option are disagreeing, agreeing, and strongly agreeing. Variable normative beliefs, control beliefs, perceived power, intentions to perform the behavior, family support, peer support, and behavior using answer options are never (not once), sometimes (1–3 day/week), often (4–5 day/week), and always (everyday). Variable

motivations to comply with the choice of answers from do not care (never pay attention), little care (little attention: 1–3 day/week), care (more attention: Almost everyday), and care deeply (full attention: Everyday).

Statistical analysis

The presentation of the respondent's characteristic data uses a frequency distribution. Meanwhile, each variable is calculated the mean and standard deviation. Data analysis to show a significant effect of independent and dependent variable is performed with linear regression tests using the SPSS for Windows 25 program.

Results

The characteristics of respondents in this study are people over the age of 17 years with the distribution of characteristics by Table 1. Table 1 also displays the behavior of using masks.

Table 1: Respondent Characteristics and the Behavior of Using Masks

Respondent Characteristics	n (frequency)	Percentage
Age (years)		
15–20	28	31
21–30	40	44
31–40	14	16
41–50	8	9
Sex		
Male	34	38
Female	56	62
Education		
Elementary school	6	7
Junior high school	14	15
Senior high school	50	56
College	20	22
The Behavior of Using Masks		
Good	40	44.4
Enough	38	42.2
Less	12	13.3

Table 2 describes that behavioral belief has the highest mean value and control beliefs have the lowest value compared to other components of the theory of planned behavior approach. In the social support component, it is obtained that family support has the highest mean value compared to peer support.

Table 2: Theory of Planned Behavior and Social Support

Theory of Planned Behavior and Social Support	Mean	Deviation SD
Behavioral belief	3.354	0.594
Evaluation of behavioral outcome	3.299	0.565
Normative beliefs	2.950	0.811
Motivation to comply	3.333	0.734
Control beliefs	2.923	0.521
Perceived power	2.952	0.577
Attitude toward the behavior	3.291	0.623
Subjective norm	3.244	0.646
Perceived behavioral control	2.778	0.546
Intention to perform the behavior	3.178	0.773
Family support	3.118	0.622
Peer support	2.373	0.678

Table 3 illustrates that peer support, perceived power, normative beliefs, and intention to perform the behavior have a significant effect on the behavior of mask use in the community during the COVID-19 pandemic. These results illustrate that high normative

beliefs, strong perceived power, high intentions, and good peer support will improve the behavior of mask use in society.

Table 3: Interpretation of Linear Regression Test

Model	B	SE	β	T	p
(Constant)	2.800	3.122		0.897	
Normative beliefs	0.191	0.080	0.226	2.388	0.019
Perceived power	0.378	0.099	0.319	3.815	0.000
Intention to perform the behavior	0.195	0.094	0.220	2.071	0.041
Peer support	0.256	0.082	0.254	3.131	0.002

Discussion

The use of masks is an important behavior to prevent the transmission of COVID-19. The results of the study illustrate that the behavior of using masks is good enough. This behavior is influenced by perceived power, peer support, normative beliefs, and intentions. Perceived power is the most influential component of mask usage behavior. Perceived power describes the effect a person feels on a condition that causes the behavior to be easy or difficult to carry out. This means that the perceived power possessed by a person becomes the main key to the formation of one's behavior. The internal strength felt toward the self and the environment becomes an important factor in behavior. This study is in line with other studies that result in perceived power encourages one's behavior in organizing [23]. Perceived good power will be able to improve good health behavior as well. Perceived power is bad where a person feels the condition in his environment becomes an obstacle to conduct health behavior, and then it also affects the behavior shown by a person.

The results of the study showed that peer support had a significant effect on the behavior of mask use in the community. This illustrates that peer support becomes an important component of the social environment for a person to influence how to behave. This result is in line with other studies, which obtained that peer support can improve one's self-care and quality of life [24]. Peer support provides benefits in efforts to prevent disease and risky behaviors [25], [26]. Peer support is the provision of a supportive environment from peer groups in the form of informational support, instrumental support as well as emotional support, and awards. The availability of such support can affect a person's behavior.

Normative beliefs are also found to have a significant effect on the behavior of mask use. These results illustrate that a person's beliefs regarding whether the existing reference to the behavior of the use of masks by a person is appropriate or inappropriate, making guidelines for him to take action on the importance of the use of masks for the prevention of transmission of COVID-19. The rules set out in the

environment relate to the obligation to comply with health protocols where one is obliged to use a mask, making a person choose to comply with the rules by carrying out the behavior of the use of masks. Other studies show that normative beliefs become predictors that influence a person's behavior in choosing food [27]. Normative beliefs have a positive influence on social norms and attitudes, which will affect one's intentions in behaving [28].

The last construct of planned behavior has a significant effect on the behavior of the use of masks, namely, intention. A strong intention will improve compliance behavior toward the use of masks. The intention of a person to comply with the use of a mask indicates a perceived possibility to take action to use the mask to protect himself from contracting COVID-19. The intention is indirectly influenced by one's knowledge [29]. The intention is also influenced by self-efficacy, response-efficacy, and fear where it can be linked to a person's health behavior [30].

Conclusion

The behavior of the use of masks during the COVID-19 pandemic in the community to prevent the transmission of COVID-19 is influenced by perceived power, normative beliefs, peer support, and intention. Perceived good power, high normative belief, and strong intention from the community will have an impact on compliance in using masks. Besides, the presence of good peer support in providing informational, instrumental, and emotional support will have a positive impact on the use of masks. The practical implication of this study is that there needs to be sustainable health promotion efforts so that people have a high awareness of the use of masks through strengthening internal beliefs and providing good peer support.

The Limitation of Study

This study has not described the bias factors that can affect the behavior of using masks in the community. Further studies are needed to analyze these factors.

Ethical Approval

The research study was approved by the

Health Research Ethics Committee of Sekolah Tinggi Ilmu Kesehatan Kepanjen, Malang, Indonesia.

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