

Original Article

**Relationship between Knowledge, Attitude and Anxiety with the Implementation of Health Protocols among Food Vendors at the UMS Campus Environment**

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**ABSTRACT**

Food vendors are a group that is prone to contracting Covid-19 because they are still selling foods during a pandemic which can be a source of contamination through droplets or touching surfaces affected by droplets. Food vendors who do not implement health protocols are very vulnerable to being infected with Covid-19 which can further infect other people. This study aims to determine the relationship between knowledge, attitude and anxiety with the implementation of health protocols among food vendors at the UMS campus environment. This was an analytical observational study with a cross sectional approach. The current study was conducted at the Suherman Medical University (UMS) campus Environment, Pasir Gombong area, Bekasi District, from September to November 2021. The population in this study involved food vendors in the Pasir Gombong area with a sample size calculated using the Lemeshow formula which obtained 64 food vendors. The samples were selected using accidental sampling technique. Data collection was conducted by enumerators through interviews using questionnaires and observations. Data were analyzed using Chi-Square test, fisher's exact and logistic regression to determine the relationship between each variable. Furthermore, multivariate analysis was applied using the logistic regression test. The results of the study showed that there was a significant relationship between anxiety and implementation of health protocols with a p-value of 0.024 and OR=11.7 (1.214–113.3), between knowledge and implementation of health protocols with a p-value of 0.001 and OR= 6.3 (1.937–20.880); between attitude and implementation of health protocol with a p-value of 0.000 and OR=8.6 (2.579-29.126). It can be concluded that knowledge, attitude and anxiety had a significant relationship with the implementation of health protocols among food vendors. Continuous education can be an effort to prevent health problems.

**Keywords : Knowledge, Attitude, Anxiety, Health Protocols, Food Vendors.**

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**INTRODUCTION**

A food vendor is someone who sells food every day to meet people's demands. Implementation of health protocols among food vendors is an effort to prevent the spread of COVID-19 which can occur through droplets or by touching the surface of objects affected by droplets. According to a study conducted by Kuntardjo in 2020, it was found that there were still many people who did not comply with certain protocols such as applying physical

distance, washing hands and using masks properly<sup>1</sup>. If such practices are continuously performed, there will be worse spread of Covid-19 infection as well as food contamination. One way of to prevent the spread of Covid-19 infection is through implementation of health protocols related to washing hands after handling objects or surfaces before touching face, wearing masks and applying physical distance<sup>2</sup>.

Based on WHO data, Indonesia was ranked 5th in the world with the highest positive

cases of Covid-19. Meanwhile, according to data derived from the Indonesian Ministry of Health, West Java was the 2nd highest Province in Indonesia for the prevalence of positive cases of Covid-19 with the highest number of cases being in the vulnerable age group of 31-45 years. One of the Government's efforts to reduce the spread of Covid-19 cases is through the Decree of the Minister of Health concerning sanitation hygiene requirements in restaurants regarding the implementation of the Covid-19 protocols in services, provision of a place to wash hands with soap, etc. This policy is an effort to prevent the spread of Covid-19 in public dining areas <sup>3</sup>.

The implementation of health protocols among food vendors is very important to prevent contamination through direct droplets or droplets on the surface of objects. In addition, bacterial contamination in foods can cause further health problems among customers/community. Based on the results of initial observation, many food vendors in the Suherman Medical University (UMS) environment did not implement the Covid-19 protocols. If such practice is not followed up well, it can become a source of contamination that can spread to other people. the UMS area was selected as the study site since it is located in an industrial environment and close to a hospital which could be crowded with people and students.

Based on the description above, the author is interested in conducting a study on the relationship between knowledge, attitude and anxiety with the implementation of health protocols among food vendors in the UMS campus environment.

## METHOD

This was an analytical observational study with a cross sectional approach. The current study was conducted from September to November 2021 at the UMS Campus Environment, Pasir Gombong area, Bekasi District. The population in this study involved food vendors in the Pasir Gombong area with a sample size calculated using the Lemeshow formula which obtained 64 food vendors. The samples were selected using accidental sampling technique. The study site was the UMS campus environment, namely the UMS campus canteen and around the UMS campus in the Pasir Gombong area. The study applied a

relationship approach between the dependent variable and the independent variable. The dependent variable in this study was the behavior of implementing health protocols and the independent variables were knowledge, attitude and anxiety. Data collection was carried out based on the results of interviews and observations among food vendors using a study questionnaire that had been previously used in other studies. The contents of the questionnaire were related to knowledge, attitude and anxiety of food vendor, which were assessed based on the questionnaire provided. Data were analyzed using Chi-Square test, fisher's exact and logistic regression processed in SPSS 24 program. Furthermore, multivariate analysis was applied using the logistic regression test.

**Table 1. Characteristics of Respondents**

Variable	n= 64	%
Gender		
Male	31	48.4
Female	33	51.6
Age		
Young ( $\leq 25$ years old)	7	10.9
Adult ( $> 26$ years old)	57	89.1
Level of Education		
High (SHS-College)	31	48.4
Low (Elementary - JHS)	33	51.6
Marital Status		
Unmarried	16	25.0
Married	48	75.0
Years of Service		
$< 3$ years (New)	47	73.4
$\geq 3$ years (Old)	17	26.6
Type of Canteen		
UMS Canteen	6	9.4
Roadside stall	58	90.6
Anxiety		
Yes	59	92.2
No	5	7.8

Source: Primary Data in 2021

Table 1 shows a description of characteristics of the respondents regarding gender, age, level of education, marital status and type of canteen. Based on the results of the univariate test, it was shown that the total sample of this study was 64 people which was dominated by 33 female vendors (51.6%), while the remaining 31 people (48.4%) were male vendors. Most of the food vendors in this study were adults aged  $>26$  years old, as many as 57 people (89.1%). Furthermore, most of respondents had low level of education as many as 33 people (51.6%); were married as many as

48 people (75.0%). 6 people (9.4%) were food vendors in the UMS canteen and 58 people (90.6%) were food vendors around UMS (Pasir

Gombong area). Most of food vendors involved here were anxious about the Covid-19 pandemic, as many as 59 people (92.2%).

**Table 2. Relationship between characteristics of the respondents and the implementation of health protocols.**

Characteristic	Implementation of health protocols				p-value
	Complied		Didn't Comply		
	n	%	n	%	
Gender					
Male	23	51.1	8	42.1	0.510
Female	22	48.9	11	57.9	
Age					
Young ( ≤ 25 years)	7	100	0	0.0	0.094
Adults ( > 26 years)	38	66.7	19	33.3	
Level of Education					
High (SHS-College)	25	80.6	6	19.4	0.080
Low (Elementary - JHS)	20	60.6	13	39.4	
Marital Status					
Unmarried	10	22.2	6	31.6	0.530
Married	35	77.8	13	68.4	
Type of Canteen					
UMS Canteen	5	11.1	1	5.3	0.660
Roadside stall	40	88.9	18	94.7	
Years of Service					
< 3 years (New)	37	82.2	10	52.6	0.014*
≥ 3 years (Old)	8	17.8	9	47.4	

Table 2 shows the relationship between characteristics of the respondents and the implementation of health protocols. Based on the table, it was revealed that there was a significant relationship between years of service and implementation of health protocols

with a p-value of 0.014 and OR = 4.168 (1.278 – 13.561). Such finding indicated that people with years of service of <3 years were 4.163 times more compliant in implementing health protocols compared to those with years of service of ≥ 3 years.

**Table 3. Relationship between knowledge, attitude and anxiety with the implementation of health protocols.**

Relationship	Implementation of health protocols				p-value	OR (95%CI)
	Complied		Didn't Comply			
	n	%	n	%		
Knowledge						
Good	37	82.2	8	42.1	0.001*	6.3 (1.937 – 20.880)
Poor	8	17.8	11	57.9		
Attitude						
Positive	36	80.0	6	31.6	0.000*	8.6 (2.579 – 29.126)
Negative	9	20.6	13	68.4		
Anxiety						
Yes	44	97.8	15	78.9	0.024**	11.7 (1.214 – 113.3)
No	1	2.2	4	21.1		

Table 3 shows the relationship between knowledge, attitude and anxiety with the implementation of health protocols. Based on the table, it was revealed that there was a significant relationship between knowledge and compliance with the implementation of Covid-19 protocols with a p-value of 0.001 and OR=6.359 (1.937 – 20.880). Furthermore,

relationship between attitude and compliance with the implementation of Covid-19 protocols obtained a p-value of 0.000 and OR=8.667 (2.579-29.126), and relationship between anxiety of food vendors with the implementation of Covid-19 protocols obtained a p-value of .024 and OR=11.73 (1.214 – 113.3).

**Table 4. Multivariate Analysis.**

Variable	B	Sig (p-value)	Exp (B)	95% CI
Attitude	1.7	0.010	5.5	1.505-20.665
Knowledge	1.1	0.081	3.2	0.863- 12.486

## DISCUSSION

### Knowledge

Implementation of the protocols is highly recommended for food vendors as an effort to prevent transmission of Covid-19, namely by using masks, washing hands with soap/hand sanitizer, applying physical distance, reducing mobilization and avoiding crowds. The study finding showed that there was a significant relationship between knowledge, attitude, anxiety and years of service with the implementation of health protocols. People who had good knowledge could increase compliance with the implementation of the Covid-19 protocol 6.3 times compared to those had poor knowledge. Such finding is in line with a study conducted by Syadidurrahman which found that people who had good knowledge had the opportunity to apply physical distancing 1.7 times better than those who had poor knowledge<sup>4</sup>. Another supporting study conducted by Tetartor et al (2021) found that health protocols ignorance of food vendors was due to poor knowledge about COVID-19<sup>5</sup>. Several studies also revealed that there was a significant relationship between knowledge and the use of masks during the COVID-19 pandemic<sup>6,7</sup>.

### Attitude

In addition to knowledge, attitude also had a significant relationship with the implementation of health protocols with a p value of 0.000. Such finding indicated that people with a positive attitude tended to have compliance with the implementation of health protocols 8.6 times compared to those with a negative attitude. A positive attitude had a significant relationship with the implementation of health protocols<sup>8,9</sup>.

This is supported by several studies which found that knowledge and attitude had a significant relationship with the implementation of health protocols as a preventive effort<sup>9,10,11,12,13</sup>.

Another factor that supported the implementation of health protocols was anxiety. Food vendors who were anxious about the pandemic situation and the Covid-19 virus had the opportunity to implement the health protocol 11.7 times compared to those who were not anxious about the pandemic situation. This statement is supported by a study conducted by Sari and Utami which found that there was a relationship between anxiety levels and compliance with health protocol implementation during the Covid-19 pandemic<sup>14</sup>. In addition, according to Laksmi, the high level of public anxiety led to changes in behavior in using masks<sup>15</sup>. The level of anxiety surely affected a person in implementing health protocols recommended by the government<sup>16,17</sup>. In addition to anxiety related to Covid-19 transmission, many people also felt anxious about the economy, social and income<sup>18</sup>.

In addition to knowledge, attitude and anxiety, there were also factors related to the implementation of health protocols, namely years of service. In this study, someone with years of service of <3 years had a 4.1 times higher chance of implementing health protocols compared to those years of service of >3 years. Such finding is due to in terms of business development prospects, the 3 year period is a development period wherein certain unwanted things, such as Covid-19 infection, can cause a decrease in business income. Therefore, many food vendors implemented the Covid-19 protocols to prevent unwanted things (Covid-19 infection) which might cause a decrease in

business income. According to Ferdous, there was a significant relationship between income and implementation of health protocols<sup>19</sup>.

The results of this study also revealed that a factor that had a strong relationship with the implementation of health protocols was attitude. People with a positive attitude tended to have compliance with the implementation of health protocols 8.6 times compared to those with a negative attitude. Such finding is supported by a study conducted by Rahman which revealed that there was a significant relationship between attitude and implementation of health protocols<sup>20</sup>. Based on the results of this study, it was found that good knowledge and positive attitude could improve a person's behavior in implementing health protocols and there is a need for continuous education towards food vendors.

## CONCLUSION

The results of the study indicated that there was a significant relationship between knowledge, attitude, anxiety and years of service (effort) with the implementation of health protocols. Efforts are needed to provide continuous education by the Department of Trade or the Department of Health so that food vendors can implement health protocols during a pandemic. The results of this study can be used as material for further research related to the effect of good knowledge and positive attitude towards health protocols on food safety in food administration.

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## CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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