

Implementation of the 5 M and Health Protocol Determinants of Vaccination Covid-19 Events in the Region Central City Health Center

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ABSTRACT: The Indonesian government through the Ministry of Health has made various preventive efforts to reduce the transmission rate of COVID-19 in Indonesia, including implementing the 5M health protocol and promoting the COVID-19 vaccination program for all levels of society. This research was conducted to determine the effect of implementing the 5M health protocol and the determinants of vaccination on the incidence of COVID-19 in the Kota Tengah Public Health Center area, Gorontalo City. This type of research is an analytic survey, cross sectional design, with Chi-Square test and logistic regression test. The independent variables are the 5M Health protocol (Wearing Masks, Washing hands, Keeping distance, Avoiding crowds, Reducing mobility) and the determinants of vaccination (age, sex, education level, occupation, comorbidities, completeness of vaccinations), while the dependent variable is the incidence of COVID-19. The research was conducted in November and December 2022 with a total sample of 392 people. The sampling technique used was proportional stratified random sampling. The results of the analysis found that of the 11 variables that had been tested, all of them had a significant relationship with the incidence of COVID-19, but only 5 variables had a significant influence on the incidence of COVID-19 in the Kota Tengah Public Health Center area with a P-value = < 0.05, namely wearing a mask (0.000), keeping a distance (0.000), reducing mobility (0.000), gender (0.012) and completeness of vaccination (0.000). The conclusion from this study I that the variable that has the most influence on the incidence of COVID-19 in the Kota Tengah Public Health Center area is reduced mobility (p-value 0.000; OR 9.560; CI = 4.657-19.626), which means that respondents who never or occasionally reduce their mobility have a 9.6 times risk of being infected with COVID-19. The community should self-awarely adhere to the 5M health protocol and vaccinate so that it can prevent the spread of COVID-19.

KEYWORDS: Health Protocol, Vaccination, COVID-19.

INTRODUCTION

Implementation of health protocols is an essential aspect of today's society, especially in the era of the COVID-19 pandemic. The goal is to break the chain of transmission of COVID-19 (RI Ministry of Health, 2020). Efforts to prevent and handle COVID-19 have been carried out in various ways through the 3M strategy, namely wearing masks, keeping a distance, and washing hands with running water and soap, as well as 3T, namely testing, tracing, and treatment.). The government has appealed to the public to better stay at home to break the virus's transmission chain.

METHODS

Location and Research time

This research was conducted at the Kota Tengah Health Center, Gorontalo City, with a working area covering six sub-districts, namely Dulalowo, Dulalowo Timur, Pulubala, Paguyaman, Wumialo, and Liluwo sub-districts. This research was carried out for two months, namely in November and December 2022.

Population and sample

1. Population

The population in this study were all residents in the Kota Tengah Health Center area aged 19-64 years, a total of 19,275 people.

2. sample

The sample in this study were patients who visited the Central City Health Center, aged 19-64 years and domiciled in the work area of the Central City Health Center. The formula used to calculate the size of the research sample was using the sample size formula according to Slovin so that a total sample of 392 was obtained.

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INSTRUMENTS AND MATERIALS

The instruments used in this study were questionnaires and observation sheets/checklists.

DATA ANALYSIS

The type of research used is quantitative research with an analytic survey research design with a cross-sectional design .

RESULTS AND DISCUSSION

Bivariate Analysis

The results of the analysis of the relationship between the act of wearing a mask and the incidence of COVID-19 at the Central City Health Center are presented in the following table:

Table 1. Analysis of the Relationship between Wearing a Mask and the Incidence of COVID-19

Use of Masks	Covid-19 case				Total		P-values
	Yes	%	No	%	n	%	
Always	71	18,1	48	12,2	119	30,4	0.000
Often	94	24,0	7	1,8	101	25,8	
Sometimes	168	42,9	4	1,0	172	43,9	
Total	333	84,9	59	15,1	392	100	

Source : Primary Data, 2023

The Chi-Square Test value obtained P-value = 0.000 (<0.05), meaning there is a significant relationship between respondents wearing a mask and the incidence of COVID-19 in the Central City Health Center area. The results of the analysis of the relationship between the act of washing the hands of respondents and the incidence of COVID-19 at the Central City Health Center are presented in the following table:

Table 2. Analysis of the Relationship between Hand Washing and the Incidence of COVID-19

Wash Hand	COVID-19 events				Total		P-values
	Yes	%	No	%	n	%	
Always	64	16,3	32	8,2	96	24,5	0.000
Often	74	18,9	21	5,4	95	24,2	
Sometimes	77	19,6	4	1,0	81	20,7	
No Once	118	30,1	2	0,5	120	30,6	
Total	333	84,9	59	15,1	392	100	

Source : Primary Data, 2023

The Chi-Square Test value obtained P-value = 0.000 (<0.05), meaning a significant relationship exists between the respondent's hand-washing actions and the incidence of COVID-19 in the Central City Health Center area. The results of the analysis of the relationship between respondents' distance measures and the incidence of COVID-19 in the Central City Health Center area are presented in the following table:

Table 3. Analysis of the Relationship between Maintaining Distance and the Incidence of COVID-19

Guard Distance	COVID-19 events				Total		P-values
	Yes	%	No	%	n	%	
Always	87	22,2	40	10,2	127	32,4	0.000
Often	68	17,3	12	3,1	80	20,4	
Sometimes	86	21,9	5	1,3	91	23,2	
No Once	92	23,5	2	0,5	94	24,0	
Total	333	84,9	59	15,1	392	100	

Source : Primary Data, 2023

The Chi-Square Test value obtained P-value = 0.000 (<0.05), meaning there is a significant relationship between the respondent's act of keeping a distance from the respondent and the incidence of COVID-19 in the Central City Health Center area. The results of the analysis of the relationship between avoiding crowds of respondents and the incidence of COVID-19 in the Central City Health Center area are presented in the following table:

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Table 4. Analysis of the Relationship between Avoiding Crowds and the Incidence of COVID-19

Avoid crowd	COVID-19 events				Total		<i>P-values</i>
	Yes	%	No	%	n	%	
Always	65	16,6	31	7,9	96	24,5	0.000
Often	69	17,6	21	5,4	90	23,0	
Sometimes	86	21,9	4	1,0	90	23,0	
No Once	113	28,8	3	0,8	116	29,6	
Total	333	84,9	59	15,1	392	100	

Source : Primary Data, 2023

The results of the analysis of the relationship between actions to reduce respondent mobility and the incidence of COVID-19 in the Central City Health Center area are presented in the following table:

Table 5. Analysis of the Relationship between Reduced Mobility and the Incidence of COVID-19

Reduce Mobility	COVID-19 cases				Total		<i>P-values</i>
	Yes	%	No	%	n	%	
Always	7	1,8	28	7,1	35	8,9	0.000
Often	16	4,1	15	3,8	31	7,9	
Sometimes	161	41,1	13	3,3	174	44,4	
No Once	149	38,0	3	0,8	152	38,8	
Total	333	84,9	59	15,1	392	100	

Source : Primary Data, 2023

The Chi-Square test value obtained a P-value = 0.000 (<0.05), meaning a significant relationship exists between actions to reduce respondent mobility and the incidence of COVID-19 in the Central City Health Center area. The results of the analysis of the relationship between the age of the respondent and the incidence of COVID-19 in the Central City Health Center area are presented in the following table:

Table 6. Analysis of the Relationship between Age and the Incidence of COVID-19

Age	COVID-19 cases				Total		<i>P-values</i>
	Yes	%	No	%	n	%	
19-29 Years	92	23,5	28	7,1	120	30,6	0.001
30-49 Years	131	33,4	24	6,1	155	39,5	
50-64 Years	110	28,1	7	1,8	117	29,8	
Total	333	84,9	59	15,1	392	100	

Source : Primary Data, 2023

The Chi-Square Test value obtained P-value = 0.001 (<0.05), meaning that there is a significant and significant relationship between the age of the respondent and the incidence of COVID-19 in the Central City Health Center area. The results of the analysis of the relationship between the sex of the respondents and the incidence of COVID-19 in the Central City Health Center area are presented in the following table

Table 7. Analysis of the Relationship between Gender and the Incidence of COVID-19

Type Sex	COVID-19 events				Total		<i>P-values</i>
	Yes	%	No	%	n	%	
Woman	117	29,8	33	8,4	150	38,3	0.002
Man	216	55,1	26	6,6	242	61,7	
Total	333	84,9	59	15,1	392	100	

Source : Primary Data, 2023

The Chi-Square Test value obtained P-value = 0.002 (<0.05), meaning that there is a significant and significant relationship between the gender of the respondent and the incidence of COVID-19 in the Central City Health Center area. The results of the analysis of the relationship between the education level of respondents and the incidence of COVID-19 in the Central City Health Center area are presented in the following table:

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Table 8. Analysis of the Relationship between Respondents' Education Level and the Incidence of COVID-19

Education	COVID-19 events				T otal		<i>P-values</i>
	Yes	%	No	%	n	%	
Low	27	6,9	1	0,3	28	7,1	0.008
Currently	160	40,8	20	5,1	180	45,9	
Tall	146	37,2	38	9,7	184	46,9	
Total	333	84.9	59	15,1	392	100	

Source : Primary Data, 2023

The Chi-Square Test value obtained $P\text{-value} = 0.008 (<0.05)$, meaning there is a significant and significant relationship between the education level of the respondents and the incidence of COVID-19 in the Central City Health Center area. The results of the analysis of the respondent's employment relationship with the incidence of COVID-19 in the Central City Health Center area are presented in the following table:

Table 9: Analysis of Occupational Relations with COVID-19 Incidents

Work	Covid-19 case				T otal		<i>P-values</i>
	Yes	%	No	%	n	%	
Work	188	48.0	14	3,6	202	51.5	0.000
No Work	145	37.0	45	11.5	190	48.5	
Total	333	84.9	59	15,1	392	100	

Source : Primary Data, 2023

The Chi-Square Test value obtained $P\text{-value} = 0.000 (<0.05)$, meaning a significant relationship exists between the respondent's occupation and the incidence of COVID-19 in the Central City Health Center area. The results of the analysis of the respondent's comorbid relationship with the incidence of COVID-19 in the Central City Health Center area are presented in the following table:

Table 10: Relations between drug variants and compliance

Comorbid	COVID-19 events				T otal		<i>P-values</i>
	Yes	%	No	%	n	%	
Yes	247	63.0	51	13.0	298	76.0	0.042
No	86	21,9	8	2.0	94	24.0	
Total	333	84.9	59	15,1	392	100	

Source : Primary Data, 2023

The Chi-Square Test value obtained $P\text{-value} = 0.042 (<0.05)$, meaning a significant relationship exists between the respondent's comorbidities and the incidence of COVID-19 in the Central City Health Center area. The results of the analysis of the relationship between the completeness of the respondent's vaccine and the incidence of COVID-19 in the Central City Health Center area are presented in the following table:

Table 11. Analysis of the Relationship between Vaccination Completion and COVID-19 Incidence

Completeness Vaccination	COVID-19 events				T otal		<i>P-values</i>
	Yes	%	No	%	n	%	
Complete	144	36,7	50	12,8	194	49.5	0.000
No Complete	189	48,2	9	2,3	198	50.5	
Total	333	84.9	59	15,1	392	100	

Source : Primary Data, 2023

The Chi-Square Test value obtained $P\text{-value} = 0.000 (<0.05)$, meaning there is a significant relationship between the completeness of the respondent's vaccination and the incidence of COVID-19 in the Central City Health Center area.

Multivariate Analysis

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The results of the multivariate analysis of risk factors for Covid-19 cases at the Central City Health Center are presented in the following table:

Table 12. Analysis of Factors Influencing the Event of COVID-19

No	Variable Study	P-values	Odds Ratio	95% CI for EXP (B)	
				Lower	Upper
1	Education	0.358	0.628	0.233	1,694
2	Disease Comorbid	0.133	0.211	0.028	1,608
3	Wearing a Mask	0.000	4,039	1,889	8,636
4	Wash Hand	0.899	1.106	0.234	5,242
5	Guard Distance	0.001	3,309	1,627	6,730
6	Reduce Mobility	0.000	10.107	4,523	22,581
7	Avoid crowd	0.580	1,565	0.321	7,642
8	Age	0.217	0.597	0.264	1.354
9	Type Sex	0.035	0.311	0.105	0.923
10	Work	0.263	2,051	0.584	7,207
11	Completeness Vaccination	0.003	13,358	2,355	75,779

Source : Primary Data, 2023

Table 12 shows the results of the Multivariate test; it was found that of the 11 variables that had been tested, five variables had a P-value = <0.05. This means that five variables significantly influence the incidence of COVID-19. The OR value of wearing a mask is 4,039, which means that wearing an inappropriate mask has a 4,039 risk of being confirmed with COVID-19. The OR value of keeping a distance is 3,309, meaning respondents who never or sometimes keep their distance have a 3,309 risk of being confirmed with COVID-19. The OR value of reducing mobility is 10,107, which means that respondents who never or occasionally reduce their mobility have 10,107 times the risk of being confirmed with COVID-19. The OR value of completeness of vaccination is 13,358, which means that respondents with an incomplete vaccination history are at risk of being confirmed with COVID-19 13,358 times.

Table 13. Multivariate Analysis of the Most Influential Factors on the Incidence of COVID-19

No	Variable Study	P-values	Odds Ratio	95% CI for EXP (B)	
				Lower	Upper
1	Wearing a Mask	0.000	5,323	2,646	10,709
2	Guard Distance	0.000	3,304	1,734	6,295
3	Reduce Mobility	0.000	9,560	4,657	19,626
4	Type Sex	0.012	0.274	0.099	0.757
5	Completeness Vaccination	0.000	8,734	2,696	28,296

Source : Primary Data, 2023

Table 13 explains that all variables have a significant relationship with the Covid-19 case with a P-value = <0.05. The OR value of wearing a mask is 5,323, meaning respondents who never or rarely wear masks are at risk of being confirmed with COVID-19 5,323 times. The OR value of social distancing measures is 3,304, meaning respondents who never or occasionally keep their distance are at risk of being confirmed with COVID-19 3,304 times. The OR value of reducing mobility is 9,560, meaning respondents who never or occasionally reduce their mobility are at risk of being confirmed with COVID-19 9,560 times. The OR value for sex is 0.274, which means that men are 0.274 times more at risk of being confirmed with COVID-19. The OR value of vaccine completeness was 8,734, meaning that respondents with incomplete vaccination histories were 8,734 times more at risk of being confirmed with COVID-19.

Factors Influencing the Occurrence of COVID-19

The results of the Multivariate test found that of the 11 variables that had been tested, five variables had a P-value = <0.05. The OR value of wearing a mask is 5,323, meaning respondents who never or rarely wear masks are at risk of being confirmed with COVID-19 5,323 times. The OR value of social distancing measures is 3,304, meaning respondents who never or occasionally keep their distance are at risk of being confirmed with COVID-19 3,304 times. The OR value of reducing mobility is 9,560, meaning respondents who never or occasionally reduce their mobility are at risk of being confirmed with COVID-19 9,560 times. The OR value for sex is 0.274, which means that men are 0.274 times more at risk of being confirmed with COVID-19. The OR value of vaccine completeness was 8,734, meaning that respondents with incomplete vaccination histories were 8,734 times more at risk of

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being confirmed with COVID-19. The results of the Multivariate test of the five variables above show that the factors influencing the incidence of COVID-19 are Reducing mobility, Completeness of Vaccinations, Wearing Masks, and Keeping distance.

The Task Force for the Acceleration of Handling COVID-19 states that many people must consistently comply with the 5M health protocol (washing hands, wearing masks, keeping distance, staying away from crowds, reducing mobility). Compliance with the 5M is a prerequisite for breaking the chain of transmission of COVID-19 (Irwan et al., 2021). Research from Hisi in 2019 in Rifati 2021 stated that human mobility played a vital role in the spread of the plague. However, when this pandemic lasts a long time, people start to feel bored and remain silent. By limiting this mobility, it is likely to reduce the number of confirmed cases of COVID-19. Besides reducing mobility to risky places, the key to handling COVID-19 is discipline in implementing health protocols (Rifati, 2021).

In addition to prevention in the form of limiting activities in the community, vaccination can also help a person maintain their immunity against disease. In order to stop the transmission of COVID-19, the Indonesian government has carried out a vaccination program for the Indonesian population from the age of 6 to the elderly. However, this effort encountered problems with the emergence of hoax news in various media. Hoax news about the COVID-19 vaccine related to composition is that the COVID-19 vaccine contains dangerous ingredients, including borax, formalin, and Vero cells; some even say the vaccine is made from male fetuses. The hoaxes about side effects are death, infertility, enlarging the male genitalia, and modifying human DNA. This makes people anxious, and ends up not wanting to be vaccinated (Rahayu & Sensusiyanti, 2021).

CONCLUSIONS

Based on the results of the multivariate test, it was found that the variable that had the most influence on the incidence of COVID19 was the variable reducing mobility (P-value = 0.000; OR: 9.560; CI = 4.657-19.626).

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