



# The Relationship Between Anxiety and Compliance of Swab Officers in Using Masks During the Covid-19 Pandemic

<sup>1</sup>Assyifa Oktavia Wiraningtyas, <sup>2</sup>Dewi Yuniasih\*, <sup>3</sup>Widea Rossi Desvita, <sup>4</sup>Rokhmayanti

Email (Corresponding Author) : \* [dewi.yuniasih@med.uad.ac.id](mailto:dewi.yuniasih@med.uad.ac.id)

<sup>1</sup>Faculty of Medicine, Universitas Ahmad Dahlan, Yogyakarta, Indonesia

<sup>2</sup>Department of Public Health, Faculty of Medicine, Universitas Ahmad Dahlan, Yogyakarta, Indonesia

<sup>3</sup>Department of Psychiatry, Faculty of Medicine, Universitas Ahmad Dahlan, Yogyakarta, Indonesia

<sup>4</sup>Faculty of Public Health, Universitas Ahmad Dahlan, Yogyakarta, Indonesia

## ARTICLE INFO

## ABSTRACT

### Article history

Received 20 Aug 23  
Revised 05 Oct 23  
Accepted 18 Oct 23

### Keywords

Anxiety  
Compliment  
COVID-19

The Covid-19 has spread in Indonesia, including Kulon Progo, causing casualties. Symptomatic patients will interact with *swab* officers at Wates and Nyi Ageng Serang Regional Public Hospital it can cause anxiety for the swab officers on duty. Coping with the spread of Covid-19 is by obediently wearing a mask. Anxiety is a factor that can affect a person's compliance. This study aims to determine the relationship between anxiety levels and compliance with the use of hospital swab masks. This study used an observational analytic method with a cross-sectional study approach. The sample of this study **was** swab officers who served at Wates and Nyi Ageng Serang Regional Public Hospital in August-September 2022 and who had met the inclusion criteria. The sampling technique of this study used total sampling with a sample of 27 people. Of the 27 samples, only 26 respondents were appropriate with inclusion criteria. Data analysis used the *Chi-Square* test to test the hypotheses obtained from the answers to the questionnaire as a research instrument. From the results of the analysis, it was obtained sig (2-tailed) of 0,236 (sig> 0.05), so there was no relationship between anxiety and compliance with the use of masks for *swab* officers at Wates and Nyi Ageng Serang Regional Public Hospital. The conclusion is the majority of respondents were female, and there was no correlation between anxiety and compliance with swab officers' use of masks at Wates Hospital and Nyi Ageng Serang Hospital. At Wates Hospital and Nyi Ageng Serang Hospital, there is no gender difference in swab workers' compliance with mask use.

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## INTRODUCTION

COVID-19 first occurred and attacked humans in December 2019 in Wuhan Province, China. Covid-19 is a disease caused by the coronavirus. The coronavirus (CoV) comes from a

family of viruses that can cause illnesses ranging from the common cold to Middle East Respiratory Syndrome (MERS-CoV) and severe acute respiratory syndrome (SARS-CoV)<sup>1</sup>. Transmission of COVID-19 occurs through droplets when someone is within 1 meter of another person who has respiratory symptoms such as sneezing or coughing. These drops run the risk of hitting the nasal and oral mucosa or the conjunctiva of the eyes<sup>2</sup>. The spread of Covid-19 spread quickly among humans so Covid-19 was declared by WHO as a Public Health Emergency of International Concern on January 30, 2020<sup>3</sup>.

The COVID-19 case was first announced in Indonesia by President Joko Widodo on March 2 2020 and is increasing <sup>4</sup>. There were 4.13 million cases in Indonesia on Saturday (16/4/2022) with 136 thousand deaths<sup>5</sup>. Based on data from the Kulon Progo Health Office on September 6, 2021, in Kulon Progo, there have been 21,461 cases of Covid-19 with 417 deaths<sup>6</sup>.

People with symptoms or who have a history of close contact with COVID-19 cases will carry out swab tests at the Wates and Nyi Ageng Serang Hospitals. This aims to establish a diagnosis so that early prevention and control measures can be taken. Health workers have close contact with COVID-19 patients as well as people with symptoms who carry out swab examinations, so they are more at risk of being exposed to COVID-19. Research by Handayani et.al. states that there is a 3.8% chance that health workers will be infected with Covid-19, mainly due to unprotected initial contact with infected Covid-19 patients<sup>7</sup>. The number of health workers who died in Indonesia due to COVID-19 as of June 23 2022 was 2087 people<sup>8</sup>. The number of deaths among medical laboratory workers was 51 people, including the swab workers who had direct contact with COVID-19 patients<sup>8</sup>. This can cause anxiety about contracting Covid-19. Research data conducted at the ASA PPNI Jember Clinic stated that all officers in the study (100%) experienced anxiety during the COVID-19 pandemic era<sup>9</sup>. Covid-19 cases are still increasing and have not yet been eradicated, thus causing fear, worry, and anxiety in dealing with the Covid-19 pandemic. This is in accordance with the opinion that Covid-19 can have an adverse effect on mental health, namely stress, fear, panic, and anxiety<sup>10</sup>.

Anxiety is a fear that is not clear and the cause of the fear is not known. Anxious states make a person feel afraid, uncomfortable, or have a hunch that a catastrophe will befall them even though they do not understand that these emotions can occur<sup>11</sup>.

To prevent transmission, it is necessary to apply health protocols and use proper personal protective Equipment (PPE), one of which is by using a mask. Masks are one of the personal protective equipment against disease transmission, especially through droplets, and are a key component for minimizing disease transmission and maintaining an environment free of infection<sup>12</sup>. The application of wearing masks that comply with medical staff can protect

against transmission of Covid-19 disease. Compliance is the basic word of compliance which means actions, behavior, habits, and willingness to comply with specified policies, regulations, laws, provisions, orders, regulations, and prohibitions<sup>13</sup>. 51.6% of health workers comply with using PPE and comply with health protocols, while 48.4% of health workers are disobedient in using PPE<sup>14</sup>.

According to Green, anxiety is a predisposing factor or a factor that comes from within a person which is a component of emotional life, so it can affect human health behavior. Anxiety is in the personality itself, which comes from unconscious feelings and is not related to real objects or situations that really exist <sup>16</sup>.

Research conducted by Fitriani (2017) explains that respondents who are worried about disease transmission have a tendency to adhere to the use of personal protective equipment (gloves and masks) 2.4 times more than respondents who are not worried about disease transmission. Research conducted by Suryaatmaja, et al (2020) entitled "The Relationship between Anxiety Levels and Adolescent Attitudes Due to the Covid-19 Pandemic" explains that there is a strong relationship (closeness relationship 0.063) between anxiety and the attitude of obedient adolescents in implementing health protocols. Research conducted by Sari and Utami (2020) states that individuals who experience anxiety at moderate and high levels take action to comply with health protocols<sup>17</sup>.

The purpose of this study is to investigate the link between anxiety levels and adherence to wearing masks for swab workers at Wates and Nyi Ageng Serang Regional Public Hospitals in Kulon Progo because the hospital is a referral facility for Covid-19 patients in Kulon Progo.

## **METHODS**

This study used an analytical quantitative method with a cross-sectional study design to determine the relationship between anxiety and adherence to wearing masks for hospital swab workers with the independent variables used, namely anxiety and compliance as the dependent variable. The research was conducted from April 2021 – November 2022, located at Wates and Nyi Ageng Serang Regional Public Hospital, Kulon Progo. This study used 27 respondents who were swab officers at Wates and Nyi Ageng Serang Hospitals using a total sampling technique in their collection and who fulfilled the inclusion criteria. This study used the Zung Self Anxiety Scale questionnaire to measure anxiety and a questionnaire with 5 questions used to measure compliance. Data analysis used bivariate to examine the relationship between anxiety and adherence to wearing masks, which previously carried out univariate

analysis related to gender frequency, work unit level, anxiety level, and adherence to wearing masks. Test analysis of patient data results using the Chi-Square test to test the hypothesis.

## RESULTS

### Frequency Distribution of Gender

Table 1. Frequency Distribution Based Gender

	<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
Valid	Male	3	11.5
	Female	23	88.5
	Total	26	100.0

Based on Table 1, it is known that the most respondents were women, 23 people (91.8%). Respondents with a frequency of 3 people (11.5%) are male respondents.

### Frequency Distribution of Work Unit

Table 2. Frequency Distribution Based on the Respondent's Work Unit

	<b>Location</b>	<b>Frequency</b>	<b>Percent</b>
Valid	Wates	16	61.5
	NYIA	10	38.5
	Total	26	100.0

Based on Table 2, it is known that, based on data collection from respondents who worked in two hospitals, namely Wates Hospital and Nyi Ageng Serang Hospital, it was found that 16 respondents worked in Wates Hospital (61.5%). The remaining respondents worked at Nyi Ageng Serang Hospital with a frequency of 10 people (38.5%).

### Frequency Distribution of Anxiety Level

Table 3. Frequency Distribution Based on Respondent's Anxiety Level

	<b>Anxiety</b>	<b>Frequency</b>	<b>Percent</b>
Valid	Mild	26	100.0

Based on Table 3, it was found that the level of anxiety experienced by all respondents was in the mild anxiety category with a frequency of 26 people (100%). Data retrieval was obtained after the respondents filled out a questionnaire via the Google form distributed by previous researchers.

### Frequency Distribution of Compliance Using Mask

Table 4. Frequency Distribution Based on Respondent's Compliance

	<b>Compliance</b>	<b>Frequency</b>	<b>Percent</b>
Valid	No	1	3.8
	Yes	25	96.2
	Total	26	100.0

Based on Table 4, it is known that, based on data collection, after the respondents filled out the questionnaire through the Google form that had been distributed by the researchers, it was found that the majority of respondents were obedient to wearing masks, namely 25 people (96.2%). Only 1 respondent (3.8%) was disobedient in wearing a mask.

### Bivariate Analysis

Relationship Anxiety and Mask Wear Compliance

Table 5. Relationship Anxiety and Compliance of Mask Wearing

		<b>Anxiety * Compliance Crosstabulation</b>			<b>Chi-Square Test</b>	<b>Value</b>
		<b>Compliance</b>		<b>Total</b>	<b>Pearson Chi-Square</b>	
		<b>No</b>	<b>Yes</b>			
Anxiety Mild	Count	1	25	26	N of valid cases	26
	Expected Count	1.0	25.0	26.0		
Total	Count	1	25	26		
	Expected Count	1.0	25.0	26.0		

The results of the test using Chi-Square did not meet the requirements or could not be carried out because the anxiety experienced by all respondents was mild anxiety, so the table obtained was only 1x2 and there was an expected count below 5.

### Nonparametric Correlations

Table 6. Correlation Anxiety and Compliance of Mask Wearing

<b>Correlation</b>		<b>Anxiety</b>	<b>Compliance</b>
<b>Spearman's rho</b>	Anxiety	Correlation Coefficient	1.000
		Sig. (2-tailed)	.
		N	26
	Compliance	Correlation Coefficient	.241
		Sig. (2-tailed)	.236
		N	26

Because the Chi-Square test could not be carried out, researchers used Spearman's rho relationship test to test the hypothesis of the relationship between anxiety and adherence to wearing masks. Testing using Spearman's rho from 26 respondents found that all respondents (100%) experienced mild anxiety with compliance the majority of respondents were obedient (96.2%) and only 1 respondent was disobedient to wearing masks (3.8%), so results sig (2-tailed) of 0.236 (sig>0.05) indicating that there is no relationship between anxiety and adherence to wearing masks.

### Result of Relationship between Gender with Compliance of Mask Wearing

The researcher also conducted an analysis of the relationship between gender and the compliance of swab officers in wearing masks, the results obtained were that

Table 7. Relationship between Gender and Mask Wear Compliance

			Compliance		Total
			No	Yes	
<b>Gender</b>	Male	Count	1	2	3
		Expected Count	.1	2.9	3.0
	Female	Count	0	23	23
		Expected Count	.9	22.1	23.0
<b>Total</b>	Count	1	25	26	
	Expected Count	1.0	25.0	26.0	

Table 10. Relationship between Gender and Compliance with Using Mask

Chi-Square Test					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
<b>Pearson Chi-Square</b>	7.973 <sup>a</sup>	1	.005		
Continuity Correction <sup>b</sup>	1.507	1	.220		
Likelihood Ratio	4.658	1	.031		
<b>Fisher's Exact Test</b>				.115	.115
Linear-by-Linear Association	7.667	1	.006		
N of Valid Cases	26				

a. 3 cells (75.0%) have an expected count of less than 5. The minimum expected count is .12.

b. Computed only for a 2x2 table

In the gender variable with adherence to wearing a mask, it is known that the Chi-Square test cannot be used because the expected calculation results in the table contain data

less than 5, so an alternative test is used, namely the Fisher Exact test with sig 0.115 (sig> 0.05). The results showed that there was no relationship between gender and adherence to wearing masks for swab officers.

## **DISCUSSION**

This research was carried out at Wates Hospital and Nyi Ageng Serang Hospital with permission to conduct research. From a total sample of 27 people, only 26 respondents fit the inclusion criteria in this study. The results obtained were 10 respondents who served at Nyi Ageng Serang Hospital consisting of 8 female respondents and 2 males, and 16 respondents who served at Wates Hospital consisting of 15 females and only 1 male respondent. Based on Table 1 and associated with the work distribution unit, it is known that the majority of respondents in this study were female. This is related to population data for DI Yogyakarta for the 2021 period, in which the majority of the Indonesian population in Kulon Progo Regency are in the productive age group and are female.

The level of anxiety of 26 respondents (100%) experienced mild anxiety, and none experienced moderate, severe anxiety or panic. According to Stuart, the more severe the anxiety experienced by a person, the more severe and often these symptoms are experienced by the individual<sup>18</sup>. In this study, respondents who experienced symptoms of anxiety did not experience these symptoms frequently or gradually. The majority of respondents in the questionnaire answered never or only rarely experienced symptoms, indicating that the respondent experienced anxiety. This indicated that the respondents in this study only experienced anxiety at a mild level. Anxiety is influenced by negative experiences or trauma experienced in the past, irrational thoughts can also affect a person's anxiety. Besides that, it can also be influenced by age, the environment, and knowledge. The environment is the situation that exists around humans, if the environmental conditions are conducive, so individual will have a low risk of anxiety. Besides, the knowledge of the environment can help individuals to solve their psychological problems, including the anxiety they experience<sup>19</sup>.

From the results of the study, it was found that the majority of respondents were obedient to wearing masks, namely 25 people (96.2%) and only 1 person (3.8%) who were not obedient to wearing masks. This shows that the swab officers on duty at the Wates and Nyi Ageng Serang Hospitals have complied with the health protocol by wearing masks while in the work environment and when treating patients. Wearing a mask is useful to prevent COVID-19 from infecting droplets through the nose and mouth so they don't enter the body. So that it can reduce the spread of infection, which will reduce cases of Covid-19<sup>20</sup>. Of the 26 respondents, only 1 respondent was disobedient in wearing a mask in terms of its inappropriate use, namely

not covering the nose and mouth and not placing flexible metal on the nose when providing health services to patients. Wearing a mask without covering the nose and mouth places the swab worker at risk of inhaling substances or viruses that stick to the surface of the mask. The use of masks that are not perfect, such as not fitting the flexible metal properly on the nose, causes the COVID-19 virus to enter quickly into the body and infect the swab workers because, in the nasal cavity, there are many ACE2 proteins that can be the entry gate for the Covid-19 virus, so by quickly infect the cells in the nasal cavity<sup>21</sup>. Improper use of masks can also pose a risk of transmission between swab workers and patients or vice versa because of droplets between individuals that can affect the nasal mucosa, mouth, or conjunctiva of the eye<sup>2</sup>. The uncomfortable feeling of breathing when wearing a mask causes the attitude to wear a mask inappropriately. This is not recommended because it can increase contamination, especially when this action is carried out by swab officers who often interact with patients<sup>22</sup>.

### **Relationship between Anxiety and Mask Wear Compliance**

We used Spearman's Rho relationship test to determine the relationship between anxiety and adherence to wearing masks. Based on the results of the relationship test using Spearman's Rho from 26 respondents, it was found that all respondents (100%) experienced mild anxiety and almost all respondents (96.2%) adhered to wearing masks, only 1 person (3.8%) was disobedient in wearing a mask so that the sig (2-tailed) is 0.236 (sig>0.05). This shows that there is no relationship between anxiety and adherence to wearing masks.

These results are in line with the analysis conducted by Rahayu (2022) concerning the relationship between the level of knowledge and anxiety toward mother's adherence to basic immunization during the Covid-19 pandemic, explaining that anxiety does not affect mothers to compliance with basic immunization with a p-value of 0.624 (p> 0.05) because the research was conducted at a time when Covid-19 cases had decreased which caused mothers to dare to come to the hospital to immunize their children<sup>23</sup>. Researchers experienced the same thing when conducting research, namely COVID-19 cases which had decreased, resulting in reduced COVID-19 patients being referred to Wates and Nyi Ageng Serang Hospitals and interacting with swab officers. The decline in cases of COVID-19 has made the hospital environment more conducive and calm. This conducive environment can reduce anxiety among hospital residents, including the swab workers on duty at the hospital<sup>19</sup>. However, the majority of respondents from the results of the study adhered to wearing masks, this is related to the government's program regarding New Normal, namely getting used to complying with health protocols, especially

wearing masks and swab officers are medical personnel who need to comply with work safety procedures when interacting or handling patients.

Respondents are laboratory workers who have a minimum educational qualification of diploma 3 which indicates that the respondents in this study have high knowledge. This is in line with the analysis conducted by Damayanti and Sofyan<sup>24</sup> regarding the relationship between education level and the level of public knowledge in the Sumberan Sedayu Bantul hamlet regarding the prevention of Covid-19 in January 2021 which explains that individual knowledge will be higher when the level of education is also higher<sup>24</sup>. Knowledge is a factor that affects a person's compliance with high knowledge indicating that a person has the right source of information so that he can make decisions in acting or complying with an order that applies<sup>23</sup>. Information exposure is a supporting factor for a person to gain knowledge that can change a person's behavior. Individuals are currently easily exposed to or obtain information through mass media, both print and online, related to the COVID-19 case and how to prevent it from contracting the virus, thus making these individuals aware of complying with health protocols, especially in using masks<sup>25</sup>.

According to Sriwiyati & Yulianti<sup>26</sup> regarding the relationship between public anxiety during the Covid-19 pandemic and quality of life, it explains that someone who has mild or low anxiety will have a good quality of life. Quality of life is a person's view of his position in life, which is related to physical and emotional conditions in the ability to carry out daily activities<sup>26</sup>. When someone has a good quality of life he will understand and understand what he is doing, including being obedient in wearing a mask, because he is able to achieve the desired goal, namely not contracting Covid-19.

### **Relationship between Gender with Mask Wear Compliance**

From the results of 26 respondents, the results obtained were 23 (88.5%) female respondents and 3 (11.5%) other male respondents with the majority of respondents complying with wearing masks, namely 25 people (96.2%) only 1 person (3.8%) was disobedient in wearing a mask. The results of the analysis using SPSS from the alternative chi-square test, namely the Fisher's exact test, obtained an exact sig of 0.115 (sig > 0.05), indicating that there is no relationship between gender and adherence to wearing masks. These results are in line with research conducted by Novianus and Wilti<sup>25</sup> concerning adherence to the use of PPE masks in efforts to prevent COVID-19 disease in students, the results obtained were a p-value of 0.782 (p>0.05) from the relationship test of 190 students that there was no relationship between gender with adherence to the use of PPE masks. Both male and female genders have risk factors for exposure to COVID-19 from different factors, so that female and male respondents are not a

benchmark for someone being easily exposed to COVID-19. There is no evidence to suggest that the female sex is more easily infected with the COVID-19 virus, and both male and female sexes have the same rights and opportunities to obey or disobey in wearing masks<sup>25</sup>.

The results of this study are not in line with those conducted by Febriansyah, Amirus, and Dalfian<sup>27</sup> concerning the relationship between gender and work with adherence to implementing the 6M health protocol from 214 respondents, the results obtained were a p-value of 0.01 ( $p < 0.05$ ) which indicated that there is a gender relationship with compliance in implementing the 6M health protocol for COVID-19 cases. The female adheres more to health protocols, especially related to wearing masks, this is because the female sex has an important role for the family in caring for their children, and related to their behavior women are more obedient, emotional, anxious, gentle and sensitive.<sup>27</sup>

## CONCLUSION

Our conclusion is the majority of respondents were female, and there was no correlation between anxiety and complying with the use of masks by swab officers at Wates Hospital and Nyi Ageng Serang Hospital. There is no gender difference in swab workers' compliance with the use of masks at Wates Hospital and Nyi Ageng Serang Hospital.

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