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Penulis : Erika Martining Wardani<sup>1</sup>, Riezky Faisal Nugroho, Nur Ainayah, Siti Nurhasina

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*by Erika Martining Wardani*

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# Mask Wearing Behavior, Type of Mask, Frequency Replacement of Mask, and Duration of Mask Wearing with Skindemic

Erika Martining Wardani<sup>1, a)</sup>, Riezky Faisal Nugroho<sup>2</sup>, Nur Ainiyah<sup>1</sup>, Siti Nurhasina<sup>1</sup>

<sup>1</sup>Departemen of Nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, 60237 Surabaya, East Java, Indonesia

<sup>2</sup>Departemen of Nutrition, Politeknik Kesehatan Kemenkes Surabaya, 60237 Surabaya, East Java Indonesia

<sup>a)</sup>Corresponding author: erika@unusa.ac.id

**Abstract.** One of the health protocols to prevent the occurrence of being infected with the coronavirus is using a mask. The use of masks can be a skin disorder, one of which triggers the emergence of a skin epidemic, especially if you don't pay attention to cleanliness, especially on facial skin. The purpose of the study was to determine the mask-wearing behavior, type of mask, frequency of replacement of mask, and duration of mask-wearing with skindemic. This research is an analytical study of Rank Spearman with the cross-sectional method. The sample used was 5400 respondents using the total sampling technique. The data was obtained by giving a questionnaire with google form to the respondents. Data were collected and then analyzed using SPSS. The results of the research on the behavior of mask-wearing with skindemic ( $p = 0.000$ ). The behavior of the use of this type of mask with the incidence of skindemic ( $p = 0.001$ ). Frequency replacement of mask with skindemic ( $p=0.001$ ). the duration of mask-wearing on skindemic ( $p = 0.003$ ). Mask-wearing behavior, type of mask, frequency replacement of mask, and duration of mask-wearing with skindemic. It is necessary to keep the facial clean and replace masks regularly to prevent facial irritation, especially skindemic.

## INTRODUCTION

Mask wearing is part of a series of prevention and control measures that can limit the spread of certain viral diseases, including COVID-19. Masks can be used either to protect healthy people (worn to protect themselves when in contact with an infected person) or to control the source where masks are worn by infected people to prevent further transmission [1].

The mortality and morbidity of COVID-19 continues to increase every day [2]. Based on data from the World Health Organization as of December 27, 2020, there were a total of 79,231,893 COVID-19 cases spread throughout the world with a total death of 1,754,574 people [1]. The use of masks in public is far more prevalent in many Asian countries, which have longer experience with the novel coronavirus epidemic, the use of which has reportedly been effective in limiting the relatively successful spread of Covid19 in Taiwan [3]. Masks as a method to limit community spread by asymptomatic carriers or at least clinically undetected infected people [4], which may be the main driver of the rapid transmission of Covid-19 [5].

One of the health protocols to prevent the transmission of coronavirus infection is the use of masks. The use of masks as a preventive measure by providing protection to uninfected users against exposure to this virus [1]. The mask wearing with frequency and duration as well as the use of surgical masks can have an impact on the skin, especially facial skin such as physical trauma to the skin due to masks and facial skin, acne, contact dermatitis, urticaria and aggravate previously suffered skin diseases [6]. This can trigger irritation and inflammation of the skin. The most common skin disorders include erythema, papules, scales, fissures, erosions, ulcers, vesicles, and wheals

[6]. Manifestations that are often felt by mask users include dry skin, numbness, itching, and burning. The most frequently affected areas of the skin are the nose and cheeks [7].

Lack of attention to skin hygiene, especially the skin after using a mask, will have an impact. The impact that often arises is masked, namely, acne that arises due to the use of masks, one needs to pay attention to the impact of using masks on facial skin health. Based on this background, the researcher conducted a study with the title "Mask wearing behavior, type of mask, frequency replacement of mask and duration of mask-wearing with skindemic".

### **Problem of Research**

Lack of attention to facial skin hygiene and lack of information about the duration of mask-wearing and types of masks cause irritation on the face. The friction and pressure of the mask on the nose, cheeks, the area under the eyes, and the chin as well as moisture from breathing can also cause skin irritation around the mouth, even triggering a skin epidemic.

### **Research Focus**

Inappropriate use of masks by not paying attention to the method, type, frequency, and duration causes problems not only in the respiratory tract but also on the skin so respondents are expected to behave more wisely when using masks. The research was conducted as a contribution of knowledge to the coronavirus pandemic in Indonesia and became a pandemic, which will be examined skin problems because by using masks. This study focuses on the behavior of using masks, types of mask, frequency of mask replacement, and duration of mask use with skindemic events, where masks are one of the health protocols that must still be carried out to prevent the spread of coronavirus.

### **METHOD**

#### **General Background of Research**

This research is a Rank Spearman correlational analytic study with a cross-sectional approach.

#### **Sample of Research**

The population used in this study were university students and college students in Indonesia. The sample used is all students who live in Indonesia. Sampling technique as many as 5400 students were taken by total sampling.

#### **Instruments and Procedures**

This study uses a questionnaire sheet instrument in the form of a google form. Collecting data by providing a link form to be filled out by students who are willing to become respondents. The data that has been collected is then analyzed and tested by Rank Spearman with the SPSS 25 for the windows program with a significant level of = 0.05.

#### **Data Analysis**

Data were analyzed using univariate and bivariate, where univariate analysis to see the distribution and frequency of the dependent variable and independent variable while bivariate analysis to determine the relationship between the dependent variable and the independent variable analyzed by Spearman Rank test using the SPSS program with a value of = 0.05, with the applicable provisions are if the p-value (0.05), then there is a significant relationship between the independent variable and the dependent variable. If the p-value (0.05) then there is no significant relationship between the independent variable and the dependent variable.

## RESULTS

### 1) Univariate Analysis

**TABLE 1.** Demographic characteristics of respondent (n = 5400)

No	Variable	Frequency (n= 5400)	Percentage (%)
1.	Gender		
	Male	2480	45,9
	Female	2920	54,1
2.	Age		
	18-22 years old	3650	67,6
	More than 23 years old	1750	32,4
3.	Level of education		
	D1/D2	178	3,3
	D3	1577	29,2
	DIV/S1	3321	61,5
	S2	261	4,8
	S3	63	1,2

The table above shows that most respondents 54.1% are female, with an age range of 18-22 years, DIV/S1 education 61.5%.

### 2) Analisis bivariat

#### a) Behavior of using masks with skindemic events

**TABLE 2.** The behavior of mask-wearing with skindemic

Mask wearing behavior	Skindemic				P value
	Yes		No		
	N	%	N	%	
Mask wearing	1241	70,5	3124	85,9	0,000
No mask wearing	521	29,5	514	14,1	
Total	1762	100	3638	100	

Based on table 2 shows that the behavior of mask-wearing with skindemic was obtained among as many as 1241 respondents (70.5%). From the results of the Spearman Rank test with a significance value of  $\alpha = 0.05$ , the value of  $p = 0.000$ , which means  $p < \alpha$ , then  $H_0$  is rejected, meaning that there is a relationship between the mask-wearing and the incidence of skindemic.

#### b) The behavior of mask-wearing with skindemic

**TABLE 3.** The behavior of mask-wearing with skindemic

Type of mask	Skindemic				P value
	Yes		No		
	N	%	N	%	
Medical mask	1388	62,6	367	11,5	0,001
Non-medical mask	829	37,4	2816	88,5	
Total	2217	100	3188	100	

Based on table 3 above, it shows that the behavior of using medical masks with skindemic was obtained among as many as 1388 respondents (62.5%) while the behavior of using non-medical masks with skindemic was among

829 respondents (37.4%). From the results of the Spearman Rank test with a significance value of = 0.05 the value of = 0.001 which means < then H0 is rejected, meaning that there is a relationship between the behavior of the use of this type of mask and the incidence of skindemic.

c) The behavior of mask replacement frequency with skindemic

**TABLE 4.** The behavior of mask replacement frequency with skindemic

Mask replacement frequency	Skindemic				P value
	Yes		No		
	N	%	N	%	
Less than 1 time/day	1753	72	747	25,2	0,001
More than 1 time/day	682	28	2218	74,8	
Total	2435	100	2965	100	

Based on the table above, shows that the behavior of the frequency of changing masks less than once a day with skindemic was obtained as many as 1753 respondents (72%) while the behavior of changing the frequency of masks more than once a day with skindemic was 682 respondents (28%). From the results of the Spearman Rank test with a significance value of = 0.05, obtained a value of = 0.001 which means < then H0 is rejected, meaning that there is a relationship between the behavior of the frequency of mask replacement and the incidence of skindemic.

d) Duration of mask replacement on skindemic

**TABLE 5.** Duration of mask replacement on skindemic events

Mask replacement duration	Skindemic				P value
	Yes		No		
	N	%	N	%	
1- 4 hours	1041	37,3	998	38,3	0,003
More than 4 hours	1752	62,7	1609	61,7	
Total	2793	100	2607	100	

Based on table 5 shows that the behavior of mask replacement duration is 1-4 hours per day with skindemic obtained by as many as 1041 respondents (37.3%) while the behavior of mask replacement duration is more than 6 hours with skindemic as many as 1752 respondents (62.7%). Rank Spearman test with a significance value of = 0.05, the value of = 0.003 which means < then H0 is rejected, meaning that there is a relationship between the behavior of the duration of changing the mask on the incidence of skindemic.

## DISCUSSION

Based on the results of research that has been examined, there is a relationship between mask-wearing behavior, type of mask, frequency of replacement of mask, and duration of mask-wearing with skindemic.

One of the health protocols during the COVID-19 pandemic era is the use of masks. The behavior of using masks is very necessary because by using masks, the spread of Covid-19 infection cases can be controlled [8].

This is in line with research conducted by Wardani [9], the transmission of covid-19 through the air that has been exposed to the coronavirus and attacks the respiratory part of the human body. One of the absolute preventions that students must do is mask-wearing.

During the COVID-19 pandemic, health protocols must still be followed, including wearing a mask every time you go outside. Skindemic is a problem on facial skin that occurs due to the use of masks that are too long. The use of masks for a long time makes the facial skin continue to rub against the mask. This friction triggers irritation so that the facial skin will become inflamed and acne will appear more easily. Other factors such as breathing and talking while using a mask will also trap heat which makes facial skin too moist. This condition not only causes



problems on the skin in the form of clogged pores but also makes it easier for bacteria and germs to multiply. Clinical manifestations of skin problems include irritation, skin that is too moist, and the number of bacteria on the facial skin that causes various skin-demic problems, ranging from blackheads, rosacea, and folliculitis, to acne.

Improper use of masks can also cause masks. Medical masks that are used repeatedly or non-medical masks that are washed improperly can be a breeding ground for microorganisms such as bacteria and viruses. The use of masks every day with maximum use of masks is only 4 hours and must be replaced with new ones, or clean ones. The mask must also be replaced if it is dirty, wet, or too damp, when the mask is torn or damaged, and when the mask is less elastic. The importance of carrying a supply of masks when you have to go out of the house for activities.

## CONCLUSIONS

The importance of paying attention to the right way of mask-wearing, recognizing the type of mask, changing medical masks regularly every day, and replacing them every 4 hours is a way to avoid skindemic problems. It is necessary to pay attention to hand hygiene before changing and after disposing of the mask because skin hygiene, especially facial skin is effective in preventing skin demi.

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