

The Relationship Between Knowledge About The Immunity System And Behaviours Of Maintaining Immunity In Nurses During The Covid-19 Pandemic

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ABSTRACT

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The main disease Coronavirus Disease 2019 (Covid-19). Covid-19 is classified as a new virus for the human body's immune system so it does not have a natural immune system that can fight the virus. Seeing the ease with which Covid-19 is transmitted and the high and increasing cases is of particular concern to health workers who are at the forefront of treating patients, especially nurses. Nurses are one of health workers who provide services to patients in the hospital for 24 hours are at high risk of infection. Based on data from the Health Influence Index for Health Workers as of 21 July 2020, the ratio of a deal between his medical personnel and health workers compared to total confirmed Covid-19 deaths in Indonesia has reached 2.4%, and one of highest compared to other countries. Emergency and Special Isolation Rooms, like it or not, have an obligation to be ready to be at the forefront of struggling with a virus that is very deadly and can infect them, not to mention the condition of fatigue and nutrition that they even have enough of while busy caring for patients. their immunity decreases so that it is easier for the virus to enter to attack the immune system in these nurses. Efforts to prevent and transmit Covid-19 to nurses, one of health workers must be carried out and tightened to minimize the continued rise of Covid-19 cases among health workers. The Indonesian Ministry of Health has issued a Guide to Balanced Nutrition During the COVID-19 Pandemic.

Keywords: knowledge; behavior; nurses; immunity; Covid-19

INTRODUCTION

Body immunity is the body's ability to fight bacteria, viruses, and foreign objects that enter the body. The immune response that appears is a reaction of the immune system to form artificial immunity. The immune system is able to recognize pathogenic salty bodies that enter the body. Foreign bodies that first infect the body will activate the sensitivity of immune cells. If the body is again exposed to the same pathogen, the body will be able to recognize it and the pathogen will be able to destroy it (Wijayanto et al., 2020).

According to WHO data as of January 11 2022, globally the number of confirmed cases of Covid-19 was 308,458,509 with a total of 5,492,595 deaths in 226 countries. Meanwhile in Indonesia on January 11 2022 there were 4,267,451 positive cases of Covid-19, with 144,144 deaths and 4,116,648 who were declared cured (COVID-19, n.d.). Basic Health Research data from the Ministry of Health of the Republic of Indonesia on January 11, 2022, showed the province of DKI Jakarta had the highest number of cases, followed by West Java, Central Java, East Java, East Kalimantan, DKI Yogyakarta, Banten, Riau, Bali, South Sulawesi. In the province of South Sulawesi itself, the number of cases that died was 3081, and 107,763 were declared cured ("Ministry of Health of the Republic of Indonesia," n.d.).

The high and increasing number of cases is of particular concern to health workers who are at the forefront of treating Covid-19 patients, especially nurses. Nurses, as one the health workers who provide services to patients in the hospital for 24 hours, are at high risk of being infected with Covid-19. Based on data from the Health Influence Index for Health Workers (IPKN) up to 21 July 2020, the ratio of deaths of medical personnel and health workers compared to the total confirmed deaths of Covid-19 in Indonesia has reached 2.4% and is one of the highest compared to other countries (Yanti et al. , 2021). Nurses who are on duty in the Emergency Room and Special Isolation Room, like it or not, have an obligation to be ready to be at the forefront of struggling with a virus that is very deadly and can be transmitted to them, not to mention the condition of fatigue and nutrition that they even fulfill on the sidelines. Interruptions in the busyness of caring for patients allow their immune conditions to decrease so that viruses can more easily enter to attack the immune system in these nurses (Vianti and Hasanah, 2021).

According to Subrata et al. (2020) there are various factors that can support or weaken the immune system, namely balanced nutrition, regular physical activity, adequate rest and controlled stress levels have been shown to increase the immune system. On the other hand, unhealthy nutrition, lack of physical activity (undertraining) or overtraining, lack of rest and uncontrolled stress levels have been shown to weaken the immune system and are associated with an increased risk of infection, including Covid-19.

According to Ung (2020), the immune system in humans is dynamic, that is, it can go up or down depending on the human immune system. If a person has a good rest pattern and a good diet, the immune system is formed so that it is in good condition. However, if

a person is in bad condition or is stressed so that he does not have enough time to rest or eat according to the pattern that has been formed, then gradually, the immune system in the body will decrease and this can cause the virus to develop.

The impact that occurs when the body's immune system decreases has an impact on the body's immune system disorder, causing the immune system to weaken; when the immune system weakens, the Covid-19 virus actually enters the body more easily, it is easy to get infected and has an impact on organ failure, if not treated it can cause death (Ung, 2020).

MATERIALS AND METHODS

The research approach used is a quantitative approach. The quantitative approach is a research method that has a foundation, namely the philosophy of positivism, which is used to examine certain populations or samples. This research is a type of correlation quantitative research, namely a research method with the aim of knowing the relationship between two or more variables (Khoiri, 2018).

Place of Research: This research was carried out at the Sulthan Daeng Radja Hospital, Bulukumba Regency. Time of Research: This research was conducted in April-May 2022. The population in this study were nurses who worked at the Sulthan Daeng Radja Bulukumba Hospital who treated Covid-19 patients. Based on preliminary data that has been carried out by researchers at H. A. Sulthan Daeng Radja Bulukumba Hospital. The number of nurses treating Covid-19 patients is 135 people.

The number of samples was determined based on the opinion of Suharsimi Arikunto that "if there are less than 100 subjects, then it is better to take all of them to serve as research samples, but if the number of subjects is more than 100 then the sample can be taken 15%, 25% or more" (Arikunto, 2014). Based on these considerations, because the total population is more than 100, 40% of the total population is taken as the research sample, namely 50 nurses. The sampling technique (sample taking) used is a purposive sampling technique, namely a sampling technique that is carried out with certain considerations (Sugiyono, 2016). Data collection techniques used in this study are:

Tests are tools or procedures containing questions, worksheets or the like that are used to measure knowledge, skills, talents and so on (Siyoto and Ali, 2015). The test instrument in this study was used to measure nurses' knowledge about the immune system, while the type of instrument used was an objective test in the form of multiple

choice questions, in which each question prepared was equipped with multiple choice which served as a distraction.

Questionnaires are data collection techniques by providing questions or written statements to research respondents to then answer according to the circumstances of the respondents (Sugiyono, 2016). The questionnaire used is a closed questionnaire, which is a questionnaire in which alternative answer choices have been provided by the researcher (Sukardi, 2011). This questionnaire instrument is used to measure the dependent variable, namely the behavior of maintaining the body's immunity during a pandemic by nurses. The instruments in this study were made in the form of a Google form, which then the link was distributed to respondents.

The measurement scale used in this questionnaire is the Likert scale, which is to measure respondents' attitudes, opinions, and perceptions of a social phenomenon (Sugiyono, 2016). The form of the questionnaire in this study was a written positive statement with scoring.

RESULTS

Table 1. Frequency Distribution Based On the Demographic Data Of the Respondents

Variable	Frequency	Percentage
Age (Mean, \pmSD)	33.1	4.3
Gender		
Male	3	11.5
Female	23	88.5
Education		
D3	11	42.3
S1	1	3.8
Profesi Ners	14	53.8
Long Work		
> 5 Years	14	53.8
< 5 Years	12	46.2

Table 1 shows that in general, the respondents were female ($n = 23$, 88.5%), and the average age of the respondents was 33.1 years ($SD \pm 4.3$). In the last level of education, most of the respondents had a Diploma in Nursing Education ($n=11$, 42.3%) and Nursing ($n=14$, 53.8%) and length of service > 5 years ($n=14$, 53.8%).

Table 2. Relationship between Knowledge and Behavior of Nurses in Maintaining the Immune System

Variabel	Behavior (n=26)				P Value	r
	Good		Not Good			
	n	%	n	%		
Good Knowledge	5	26. 3	5	71. 4	0.727	- 0.072
Bad Knowledge	14	73. 7	2	28. 6		

Table 2 shows that the results of the Spearman test among variables show that there is no significant relationship between knowledge and behavior, where the significant value of Spearman = 0.727 ($p = > 0.05$). and there is no correlation between knowledge and behavior where the value of the correlation coefficient is -0.072.

DISCUSSION

Based on the hypothesis testing that has been done, it is known that the significance value of the Spearman test = 0.727 ($p = > 0.05$). and there is no correlation between knowledge and behavior where the value of the correlation coefficient is -0.072. this shows that the significance value (α) > 0.05 , which means that there is no relationship between knowledge of the immune system and behavior to maintain body immunity during a pandemic in nurses at Sulthan Daeng Radja Hospital, Bulukumba Regency. These results are the same as the conclusions of a study conducted by Azrimaidaliza et al (2021), which showed that there is no relationship between knowledge and a person's behavior in preventing Covid-19 through increasing body immunity. In addition, the results of research from Benjamin et al (2020) also show that there is no relationship between a person's knowledge and behavior related to Covid-19 prevention. The results of other studies also show that there is no relationship between the level of knowledge and people's behavior in consuming multivitamins/supplements during the Covid-19 pandemic as an effort to increase the body's immune system (Kurnia and Siti. 2020).

Based on the results of this study, it can be seen that someone who has good knowledge does not necessarily have good behavior in maintaining body immunity, especially during a pandemic. This is because there are other factors that influence a person's behavior including gender, a person's level of awareness and interest in something (Adventus et al, 2019). The results of research from Gumantan et al (2020), show that the anxiety level of women is higher than the level of anxiety in men in dealing with Covid-19, so this can affect the attitudes and behavior that women have in leading a healthy life which tends to be better with man.

The results of this study are expected to be used as material for evaluation in the morning for service personnel, especially nurses and health service agencies in increasing the awareness of nurses who not only increase knowledge but also improve attitudes and behavior in maintaining body immunity.

CONCLUSIONS

Based on the results of research regarding the relationship between knowledge of the immune system and the behavior of maintaining body immunity during a pandemic in nurses at Sulthan Daeng Radja Hospital, Bulukumba Regency, it can be concluded that based on the results of the Spearman test among the variables, it shows that there is no significant relationship between knowledge and behavior, where the value spearman significant = 0.727 ($p = > 0.05$). and there is no correlation between knowledge and behavior where the value of the correlation coefficient is -0.072; for future researchers to be able to conduct further research by adding other variables and increasing the number of samples, the research results are more accurate.

To fellow nurses as front liners to always improve their knowledge, attitudes, and behavior about maintaining body immunity.

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