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Research Article

Analysis of the Behavior of Pregnant Women About the Importance of the Covid-19 Vaccine in the Work Area of the Regional Technical Implementation Unit (UPTD) of the Tirtajaya Health Center

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Abstract. According to WHO (2021) Indonesia itself has confirmed 4,066,404 cases, with 131,372 confirmed cases of death (Covid-19 Task Force, 2021). Vulnerable groups are at greater risk, one of which is pregnant women. Pregnant women with COVID-19 occur in the first, second and third trimesters. COVID-19 infection in pregnant women can affect the organs of genesis and fetal development. The earlier the case of infection, the greater the risk of miscarriage. Pregnant women with COVID-19 are more likely to give birth prematurely. Research Objectives is to find out the factors that influence the behavior of pregnant women carrying out the Covid 19 vaccine in the Working Area of the Tirtajaya Health Center, Tirtajaya District, Karawang Regency in 2022. Analytical with cross sectional approach. The sample in this study were 76 pregnant women at the Tirtajaya Health Center in March-November 2022 (total sampling). The results of this study indicate that the factors that influence the behavior of pregnant women carrying out the Covid 19 vaccine are work factors (p value = 0.045), information factors (p value = 0.000), distance factors (p value = 0.032), education factors (p value = 0.015) with the behavior of the Covid-19 vaccine in pregnant women. Health centers are expected to hold education about the covid-19 vaccine through seminars and it is hoped that health workers will increase information around the puskesmas or posyandu such as posters, leaflets, banners related to the importance of the covid-19 vaccine in pregnant women.

Keywords: *Covid-19 Vaccine for Pregnant Women, Work, Information, Distance, Education.*

A. INTRODUCTION

Indonesia alone has confirmed 4,066,404 cases, with 131,372 confirmed deaths. Vulnerable groups are at greater risk, one of which is pregnant women. Pregnant women with COVID-19 occur in the first, second and third trimesters. COVID-19 infection in pregnant women can affect the organs of genesis and fetal development. The earlier the case of infection, the greater the risk of miscarriage. Pregnant women with COVID-19 are more likely to give birth prematurely (WHO, 2021).

Indonesia and other countries are still struggling to overcome the COVID-19 pandemic. To date, there have been more than 120 million confirmed cases at the global level and 1.4 million confirmed cases in Indonesia. The Ministry of Health provides the COVID-19 vaccine to pregnant and lactating women. If the vaccination coverage is high and evenly distributed in an area, herd immunity will be formed. This group immunity causes cross-protection, where the child remains healthy even though he is not immunized because other adults in his neighborhood have received complete immunization, so that children who are not immunized get protection benefits through group immunity resulting from the high immunization coverage earlier (RI Ministry of Health, 2021).

Physiological and immunological changes that occur as a normal component of pregnancy can have systemic effects that increase the risk of obstetric complications, respiratory infections in pregnant women, decreased lung capacity and the cardiovascular system. This can lead to respiratory failure in pregnant women (Flannery et al., 2018; Kilich et al., 2020; Bivia et al., 2020).

A number of recent studies have shown that most pregnant women with Covid-19 virus infection only have mild symptoms. One of the research on this matter was conducted by the Priority Study from the University of California, San Francisco. This study involved around 30 pregnant women in China who were exposed to Covid-19. The results showed the symptoms were relatively mild, that all the women survived, they did not appear likely to have severe disease, and there was no evidence of transmission to the baby during pregnancy. Another study in March 2020 suggested that there was no concrete evidence to suggest that pregnant women are more susceptible to Covid-19 (Ahorsu et al., 2020; Masjoudi et al., 2020).

The efforts made by the government are 3T (test, treat and trace), the community by implementing health protocols and administering vaccinations to form herd immunity. Pregnant women are one of the groups who were not given the Covid-19 vaccination, even up to the last circular issued by the Ministry of Health on 11 February 2021, pregnant women were not included as targets for receiving the Covid-19 vaccination. Therefore, the things that can be done now are to optimize efforts to prevent Covid-19 in pregnant women, to prevent mortality and morbidity in mothers and babies (Ministry of Health, 2021). Midwife Independent Practice (PMB) as a health service facility where one of the duties and authorities is to provide health services to pregnant women (Fathenzhad et al., 2019; Walter et al., 2021); most of the prenatal checks were carried out by midwives (82.4%) and took place at PMB (41%) (Riskesdas, 2018).

Precautions for the transmission of Covid-19, using Personal Protective Equipment (PPE) as needed by using and removing it correctly, collaborating and referring patients to the hospital if they are not ready with PPE as needed. The ANC service standard, which was originally 4 times during the pandemic, was increased to 6 times. Efforts made by PMB did not directly change the behavior of pregnant women during the Covid-19 pandemic (Ministry of Health, 2021).

Related research conducted by Ronni, et al (2020) regarding "Understanding of pregnant women about efforts to prevent Covid-19 infection during pregnancy" which was conducted in Deliserdang Regency, North Sumatra, it was found that the majority of respondents (57%) had a poor understanding of efforts to prevent Covid-19. Knowledge or cognitive is a very important domain in shaping one's actions (over behavior) (Notoatmojo, 2014).

Pregnant women who meet health requirements can receive all COVID-19 vaccines in Indonesia. "Initially the Sinovac vaccine was approved by WHO. But now everything has gone through observation and is safe, but of course, vaccinations must be carried out under the supervision of health workers. If there are no aggravating diseases or the disease is under control, pregnant women can register for vaccinations at vaccine service points or health facilities appointed by the government. Officers will carry out detailed screening of the condition of pregnant women as potential vaccine recipients. Vaccination against Covid -19 will not have a bad impact on the baby as long as the mother is healthy (Dineya et al., 2020).

Severeacute respiratory syndrome coronavirus-2 (SARS-CoV-2) infects the respiratory system, ranging from mild infections such as the flu to severe infections such as lung infections (pneumonia). Its spread through sputum droplets (droplets) has resulted in the

spread of a total of 216 million confirmed cases worldwide with 4.49 million confirmed cases of death due to COVID-19 infection (Fan et al., 2021; Salehi et al., 2020).

Vaccination for pregnant women in Karawang began on Thursday (26/8/2021). The vaccine given itself is the Sinovac type. Karawang Regent Cellica Nurrachadiana revealed, the condition for pregnant women who can be vaccinated is pregnancy at the age of 13 to 33 weeks for the first dose. The screening will be carried out more strictly (Kabupaten District Health Office 2021). Based on report data from the Tirtajaya Health Center, it was found that the number of mothers who were vaccinated against Covid 19 in 2021 was 117 people out of 357 pregnant women (Tirtajaya Health Center, 2021).

From this background, researchers are interested in and view the importance of pregnant women's behavior regarding the importance of the Covid-19 vaccine in the working area of the Tirtajaya Health Center, Tirtajaya District, Karawang Regency in 2022. A preliminary study conducted by researchers in March 2022 through interviews with 40 pregnant women at the Tirtajaya Health Center in Karawang Regency, they said that all pregnant women have not had the covid vaccine so far because they are afraid.

The screening process for pregnant women should be carried out in detail and thoroughly. For pregnant women, the screening or rejection process must be carried out in detail compared to other targets. The thing to remember is that giving the COVID-19 vaccine does not fully protect pregnant women from the Corona virus. Pregnant women still need to follow health protocols while this pandemic is still ongoing, so that the risk of pregnant women getting infected with Covid-19 can be minimized. One effort that can be done is an education program (Matvienko et al., 2021; Xie et al., 2020; Molenaar et al., 2020). The implementation of education must involve the participation of all levels of society, without exception, to achieve the desired goal, namely COVID-19 vaccination for pregnant women.

Based on the description above, it is related to student motivation in completing the thesis, with the research that researchers have done. Thus, the research topic that the researcher is doing is truly original. Based on the background description above, the problem that you want to examine is the Behavioral Analysis of Pregnant Women about the Importance of the Covid-19 Vaccine in the Work Area of the Tirtajaya Health Center, Tirtajaya Subdistrict, Karawang Regency in 2022. In March 2022, out of 40 pregnant women interviewed, only 40.0% wanted to be vaccinated, 60.0% did not want to be vaccinated for Covid-19 at the Tirtajaya Health Center, Karawang Regency. Based on the results of the preliminary study, it was found that pregnant women in the working area of the Tirtajaya Health Center are making efforts to accelerate the achievement of the Covid-19 vaccine in pregnant women.

B. METHOD

The research method uses analytic with cross sectional method. Data collection was carried out using primary data, namely data obtained from the results of distributing questionnaires. The data collection instrument used was a questionnaire. The population in this study were 76 pregnant women at the Tirtajaya Health Center in March-November 2022, the sampling technique was total sampling. The analytical method used is univariate and bivariate analysis with the chi square test.

C. RESULT AND DISCUSSION

Frequency Distribution of Respondents' Behavior of Pregnant Women About the Importance of the Covid-19 Vaccine in the Work Area of the Uptd Health Center Tirtajaya, Tirtajaya District, Karawang Regency in 2022 is presented in the following table:

Table 1. Frequency Distribution of Respondents' Behavior of Pregnant Women About the Importance of the Covid-19 Vaccine

No	Variable	Frequency	Percent (%)
1.	**Vaccine Behavior**		
	No Vaccine	24	31.6
	Vaccine	52	68.4
	Total	76	**100.0**
2.	**Job**		
	Doesn't work	15	19.7
	Working	61	80.3
	Total	76	100.0
3.	**Information**		
	Inadequate	13	17.1
	Adequate	63	82.9
	Total	76	100.0
4.	**Distance**		
	Close	56	73.3
	Far	20	26.7
	Total	76	100.0
5.	**Education**		
	Low	18	23.7
	High	58	76.3
	Total	76	100.0

Based on the table above, it can be seen that of the 76 respondents who treated pregnant women by implementing the Covid-19 vaccine, namely 24 respondents who did not have the vaccine (31.5%) and treated pregnant women by implementing the Covid-19 vaccine, there were 52 people (68.4%).

Table 2. The Relationship Between Work and Pregnant Women's Behavior About the Importance of the Covid-19 Vaccine at the Tirtajaya Health Center in 2022

Job	Behavior of the Covid-19 Vaccine in Pregnant Women				Total		*p Value*
	Not Getting the Vaccine		Yes Get Vaccines				
	F	%	F	%	F	%	
Doesn't work	1	1.3	14	18.4	15	19.7	0.045
Working	23	31.6	38	50	61	80.3	
Total	**24**	**31.6**	**52**	**68.4**	**76**	**100.0**	

Based on the table above, it can be seen that regarding the behavior of the Covid-19 vaccine in pregnant women, it shows that of the 15 respondents who did not work, 1.3% of them did not work and did not receive the vaccine. Meanwhile, of the 61 respondents who worked, 31.6% did not get the vaccine. The results of the cross-tabulation between work and the behavior of the Covid-19 vaccine in pregnant women show the results of the Chi-Square statistical test. It can be seen that the results of the ρ value are $0.045 < 0.05$, meaning that the hypothesis stating that work has a significant relationship with the behavior of the Covid-19 vaccine is accepted, meaning that work has a significant relationship with the behavior of the Covid-19 vaccine. The results of the odds ratio (OR) obtained a value of 0.188, which means that the respondent's work will be related 0.188 times to the behavior of the Covid-19 vaccine.

Table 3. The Relationship Between Information and the Behavior of Pregnant Women About the Importance of the Covid-19 Vaccine at the Tirtajaya Health Center in 2022

Information	Behavior of the Covid-19 Vaccine in Pregnant Women				Total		p Value
	Not Getting the Vaccine		Yes Get Vaccines				
	F	%	F	%	F	%	
Inadequate	12	15.8	1	1.3	13	17.1	0.000
Adequate	12	15.8	51	67.1	63	82.9	
Total	**24**	**31.6**	**52**	**68.4**	**76**	**100.0**	

From the table above regarding the behavior of the Covid-19 vaccine regarding information on pregnant women, it shows that of the 13 respondents who were inadequate, 15.8% of them did not get the vaccine, while of the 63 respondents who had adequate information, 15.8% did not get the vaccine. It can be seen that the ρ value of 0.000 <0.05 means that the hypothesis which states that information has a significant relationship with the behavior of the Covid-19 vaccine is accepted, meaning that information has a significant relationship with the behavior of the Covid-19 vaccine. The results of the odds ratio (OR) obtained a value of 51.000 which means that the respondent's information will relate 51.000 times to the behavior of the Covid 19 vaccine.

Table 4. Relationship Between Distance and Pregnant Women's Behavior About the Importance of the Covid-19 Vaccine at the Tirtajaya Health Center in 2022

Distance	Behavior of the Covid-19 Vaccine in Pregnant Women				Total		p Value
	Not Getting the Vaccine		Yes Get Vaccines				
	F	%	F	%	F	%	
Far	2	2.6	18	23.7	20	26.3	0.032
Close	22	28.9	34	44.7	56	73.7	
Total	**24**	**31.6**	**52**	**68.4**	**76**	**100.0**	

From the table above regarding the behavior of the covid-19 vaccine towards distance in pregnant women, it shows that of the 20 respondents who thought they were far away 2.6% of them did not get the vaccine, while of the 56 respondents who thought they were close there were 28.9% who did not get the vaccine. It can be seen that the ρ value of 0.032 < 0.05 means that the hypothesis stating that distance has a significant relationship with the behavior of the Covid-19 vaccine is accepted, meaning that distance has a significant relationship with the behavior of the Covid-19 vaccine. The results of the odds ratio (OR) obtained a value of 0.172, which means that the respondent's distance will be 0.172 times related to the behavior of the Covid-19 vaccine.

Table 5. The Relationship Between Education and the Behavior of Pregnant Women About the Importance of the Covid-19 Vaccine at the Tirtajaya Health Center in 2022

Education	Behavior of the Covid-19 Vaccine in Pregnant Women				Total		p Value
	Not Getting the Vaccine		Yes Get Vaccines				
	F	%	F	%	F	%	
Low	1	1.3	17	22.4	18	23.7	0.015
High	23	30.3	35	46.1	58	76.3	
Total	**24**	**31.6**	**52**	**68.4**	**76**	**100.0**	

From the table above regarding the behavior of the Covid-19 vaccine on education in pregnant women, it shows that of the 18 respondents with low education, 1.3% of them did not get the vaccine. Meanwhile, of the 58 highly educated respondents, 30.3% did not receive the vaccine. It can be seen that the result of the ρ value is 0.015 <0.05, meaning that the hypothesis stating that education has a significant relationship with the behavior of the Covid-19 vaccine is accepted, meaning that education has a significant relationship with the behavior of the Covid-19 vaccine. The results of the odds ratio (OR) obtained a value of 0.090, which means that the respondent's education will be 0.090 times related to the behavior of the Covid-19 vaccine.

Behavior of the Covid-19 Vaccine in Pregnant Women

From the results of the researcher's point of view, the number of respondents who administered the Covid-19 vaccine to pregnant women was 52 people (68.4%). When compared with the behavior of the covid-19 vaccine in pregnant women in the same place in 2021 (85.3%). So, the number of implementation of the Covid-19 vaccine in pregnant women by health workers in 2022 has decreased by around (17.1%).

From the results of the study it can be seen about the behavior of the Covid-19 vaccine in pregnant women showing that of the 15 respondents who did not work 1.3% of them did not work by not getting the vaccine. While of the 61 respondents who worked sex, there were 31.6% who did not get the vaccine. The results of the cross-tabulation between work and the behavior of the Covid-19 vaccine in pregnant women show the results of the Chi-Square statistical test. It can be seen that the results of the ρ value are 0.028 <0.05. This means that the hypothesis which states that work has a significant relationship with the behavior of the covid 19 vaccine is accepted, meaning that work has a significant relationship with the behavior of the covid 19 vaccine. The results of the odds ratio (OR) obtained a value of 0.188, which means that the respondent's work will be related 0.188 times to the behavior of the Covid-19 vaccine.

Based on the behavioral theory, namely Based on the book Psychology for Nursing (2002) by Sunaryo in Stoner et al. (2019), human behavior is essentially a process of individual interaction with their environment as a biological manifestation that he is a living being. Human behavior arises because of the stimulus and response and can be observed directly or indirectly. According to researchers, behavior based on knowledge will be more lasting than behavior that is not based on knowledge. Knowledge cannot be separated from one's actions. A well-informed person will apply his knowledge in everyday life.

Work Relationship with Covid-19 Vaccine Behavior in Pregnant Women

From the results of the researcher's point of view, research on the relationship between work and the behavior of the Covid-19 vaccine in pregnant women shows that of the 15 respondents who did not work, 1.3% of them did not work and did not receive the vaccine. Meanwhile, of the 61 respondents who worked, 31.6% did not get the vaccine. The results of the cross-tabulation between work and the behavior of the covid-19 vaccine in pregnant women show the results of the Chi-Square statistical test. It can be seen that the result of the ρ value is 0.045 <0.05, meaning that the hypothesis which states that work has a significant relationship with the behavior of the Covid-19 vaccine is accepted, meaning that work has a significant relationship to the behavior of the covid 19 vaccine. The results of the odds ratio (OR) obtained a value of 0.188, which means that the respondent's work will be 0.188 times related to the behavior of the Covid-19 vaccine. From the results of the study, respondents who worked carried out the Covid-19 vaccine more in pregnant women than those who did not work.

This is in line with Lin's (2019) which shows that there is no distribution between work status and the implementation of the Covid-19 vaccine in pregnant women. In the statistical test results obtained p = 0.10, it can be concluded that there is no significant distribution between the employment status of pregnant women and the implementation of the Covid-19 vaccine in pregnant women.

According to the researcher's point of view, pregnant women who work are more concerned with the Covid-19 vaccine. The use of this vaccination is done to reduce the rate at which people are infected and force the body to form antibodies so that if infected with COVID-19 the symptoms will be milder. Even so, scientific data is still needed to ensure there are no systematic side effects on the body. However, behind that the benefits of vaccines outweigh the risks. Vaccination against COVID-19 in pregnant women can protect against and its complications during the early stages of pregnancy and during pre-pregnancy.

Information Relationship with Covid-19 Vaccine Behavior in Pregnant Women

From the results of the researcher's point of view. Statistical test, the ρ value of 0.000 < 0.05 means that the hypothesis which states that information has a significant relationship with the behavior of the Covid-19 vaccine is accepted, meaning that information has a significant relationship with the behavior of the Covid-19 vaccine. The results of the odds ratio (OR) obtained a value of 51,000 which means that the respondent's information will relate 51,000 times to the behavior of the Covid 19 vaccine.

The results of this study are in line with research conducted by Ika Purnamasari in 2020 which said that most people in the Wonosobo district have information obtained by respondents about the importance of the Covid-19 vaccine in pregnant women. The more information a person receives, the more that person gains knowledge. So that respondents know how important the Covid-19 vaccine is. Research results from the journal Putu Monna Frisca Widiastini 2021 someone who has a lot of good information tends to act better in maintaining health. Pregnant women are urgently needed to be able to take precautions against the COVID-19 pandemic situation. Information can be obtained by someone from various sources. Information media related to COVID-19 is very diverse, both through television, printed media, social media and now it is very easy for the public to access this information. Since the establishment of COVID-19 as a pandemic, the Gerokgak I Health Center in collaboration with local government officials has carried out optimal socialization in the form of counseling about COVID-19 during the holding of classes for pregnant women and posyandu, as well as installing billboards so that information related to COVID-19 can be well known by the general public, especially pregnant women.

Information and education regarding the benefits of vaccination and prevention of COVID-19 still need to be encouraged by health workers and the local government. The researcher's assumption is that information is very important in addition to increasing knowledge and experience.

Relationship between Distance and Covid-19 Vaccine Behavior in Pregnant Women

From the statistical test results, the ρ value of 0.032 <0.05 means that the hypothesis stating that distance has a significant relationship with the behavior of the Covid-19 vaccine is accepted, meaning that distance has a significant relationship with the behavior of the Covid-19 vaccine. The results of the odds ratio (OR) obtained a value of 0.172, which means that the respondent's distance will be 0.172 times related to the behavior of the Covid-19 vaccine.

The results of this study are in line with the results of Halmilton et al. (2019) showing that there is no significant relationship between access to health facilities (p value = 0.627)

and completeness of basic immunization. Access to health services can be seen in terms of the availability of means of transportation, the travel time required to reach the health service, the cost of travel to the health service, the distance from the house to the health service, and so on. Ease of transportation to the place of vaccination services also has an effect. Even though the distance from the place of residence to the place of vaccination service is far, if it can be reached easily, vaccination can still be carried out. Efforts to improve people's access to quality health services include increasing access to basic health services.

Relationship between Education and Covid-19 Vaccine Behavior in Pregnant Women

From the researcher's point of view, the results of the statistical test show that the ρ value is 0.015 < 0.05, meaning that the hypothesis stating that education has a significant relationship with the behavior of the Covid-19 vaccine is accepted, meaning that education has a significant relationship with the behavior of the Covid-19 vaccine.

The results of the odds ratio (OR) obtained a value of 0.090, which means that the respondent's education will be 0.090 times related to the behavior of the Covid-19 vaccine. Education is the higher the education one takes, the better the knowledge and wider than the lower level of education. Mother's knowledge can be obtained from formal or informal education. Formal education is obtained from schools, while informal education can be obtained from health workers when given health education (Adeniyi et al., 2018; Lin et al., 2019; Berhanie et al., 2019).

According to research by the Journal of Chan & Chen (2019) and Trivedi et al. (2019), the characteristics of pregnant women based on education found in research show that the majority of respondents are highly educated. With the results of previous research conducted by the majority of pregnant women respondents who are highly educated, the level of education is very influential on how a person behaves and looks for causes and solutions in his life. Individuals who have higher education will usually act rationally and more easily accept new ideas.

According to Law no 2019, Respondents with higher education have good motivation because there is an element of the need for co-19 vaccination. With the rise of Covid-19 cases which will also have a negative impact on pregnant women if infected, pregnant women need a vaccine to provide immunity against the Covid-19 virus, with the hope that after receiving an injection of the Covid-19 vaccine, the body will have immunity against the Covid-19 virus.

In addition, through experiences and learning processes in formal and non-formal education (Fattah et al., 2019; Ahlers et al., 2020; Peaceman et al., 2018). Factors that influence the community about the covid 19 vaccination include the level of education. Based on research data that there were around 78.3% of respondents who had a higher education background regarding the covid 19 vaccination. One of the factors that can affect a person's knowledge is the level of education. Says that a person's formal education greatly influences knowledge. However, there are also respondents who have basic education but have a good level of knowledge about the importance of the Covid-19 vaccination.

D. CONCLUSION

Frequency distribution of the behavior of the covid-19 vaccine in pregnant women Out of a total of 76 respondents it was found that pregnant women who did not do the Covid-19 vaccine were 24 people (31.5%) and treated pregnant women by implementing the Covid-19 vaccine totaling 52 people (68.4%). There is an influence of work factors on the behavior of the Covid-19 vaccine in pregnant women (p value = 0.045). The influence of information factors on the behavior of the Covid-19 vaccine in pregnant women (p value = 0.000). The

effect of the distance factor on the behavior of the Covid-19 vaccine in pregnant women (p value = 0.032). The effect of educational factors on the behavior of the Covid-19 vaccine in pregnant women (p value = 0.015).

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