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Relationship Between Knowledge and Attitude of Pregnant Women on Tetanus Toxoid Immunization

Hubungan Pengetahuan Dengan Sikap Ibu Hamil Terhadap Imunisasi Tetanus Toksoid

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Abstract

Objective: This study aims to determine the relationship between knowledge and attitude of pregnant women regarding Tetanus Toxoid (TT) immunization in the work area of Astapada Community Health Center, Tengah Tani Sub-District, Cirebon District.

Methods: This research is a non-experimental descriptive study with cross-sectional retrospective data collection. This study involved 55 pregnant women who visited the Astapada Health Center for pregnancy checks as respondents.

Results: Of the 55 pregnant women respondents under study, most of the respondents had a moderate level of knowledge on TT immunization or a many as 42 respondents (76.4%). Of the 42 respondents, 35 respondents (83.3%) had a positive attitude and 7 respondents (16.7%) had a negative attitude. The results of this study proved that there was a significant relationship between knowledge and attitude of pregnant women on Tetanus Toxoid Immunization in the Work Area of Astapada CHC, Tengah Tani Sub-District, Cirebon District with a p-value of 0.001 ($p < 0.05$).

Conclusion: There is a significant relationship between knowledge and attitude of pregnant women on Tetanus Toxoid Immunization in the Work Area of the Astapada CHC, Tengah Tani Sub-District, Cirebon District with a p-value of 0.001 ($p < 0.05$).

Keywords: Knowledge, attitude, pregnant women, tetanus toxoid immunization

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Introduction

Immunization is an effort to actively generate/increase a person's immunity to a certain disease, so that if one day they are exposed to such disease, they will not get sick or only experience a mild symptoms. Immunization is a public health effort that has been implemented in Indonesia since 1956. This program has also proven to be the most effective and efficient in providing health services. Through this program, Indonesia was declared free from smallpox since 1974. Starting in 1977, immunization activities were then expanded into the Immunization Development Program (PPI) in the framework of preventing the transmission of several Immunization Preventable Diseases (PD3I), namely iphtheria, tetanus, pertussis, poliomyelitis, measles, mumps, rubella, pneumococcal pneumonia, smallpox, sepsis, meningitis, hepatitis B, varicella-zoster, tuberculosis, cholera, diarrhea caused by rotavirus, salmonellosis, and dengue[1]**.** Immunization has been proven as one of the most successful, safe, and cost-effective[2] in the history of medicine and public health, which is very important as a tool in disease prevention [3–5]. Therefore, immunization becomes the main program of a country and is one of the main disease prevention effort in the world. Implementation of immunization internationally is regulated universally through various agreements facilitated by the World Health Organization (WHO)[6].

Tetanus, is a severe and potentially life-threatening infection, caused by the bacterium Clostridium Tetani[7] that enters through an open wound and produce a toxin which further attacks the central nervous system. Patients with Tetanus usually experience muscle spasms followed by difficulty in swallowing food and even breathing. Infants born with the help of traditional birth attendants at home with non-sterile equipment are at risk for experiencing such disease. They are also at risk when unclean tools are used to cut the umbilical cord and traditional ointments or ashes are used to cover the cut wound. One of the efforts to prevent tetanus neonatorum is through TT (Tetanus Toxoid) immunization to pregnant women[8]. Tetanus is an acute infectious disease caused by the bacterium of Clostridium tetani (C. tetani), as defined by the WHO which generates a neurologic toxin[6]. Because of the high mortality rate, tetanus is still a significant issue worldwide, especially in developing counties[9].

Tetanus infection occurs when Clostridium tetani spores enter a wound or umbilical cord (in newborns). In pregnant women, tetanus infection has a faster

incubation period of 4-12 days. The faster the incubation period, the more fatal the consequences for the fetus. Although it is very dangerous, but actually tetanus is not difficult to prevent. If someone gets injured and the wound is dirty, the wound must be thoroughly cleaned with an antiseptic, then he will be given an injection of anti-tetanus serum and a TT (Tetanus Toxoid) vaccin[10] Tetanus is a critical disease and often has a high mortality rate. When injury occurs, it is important to acquire immunity.

In a retrospective single-center study, most patients were cured by stopping further toxin release, neutralizing toxins, and reducing toxicity. The mortality of patients infected by tetanus was low. Vaccination policy and program should be implemented by our government[9]. In the health profile published by the Indonesian Ministry of Health in 2021, it was explained that tetanus infection is one of the causes of maternal and infant mortality. This death due to tetanus infection is the result of an unsafe/unaterile delivery process or comes from wounds exeprienced by pregnant women before delivery.

As an effort to control tetanus infection which is a risk factor for maternal and infant mortality and to provide additional protection against diphtheria, the Tetanus Diphtheria (Td) immunization program for Women of Reproductive Age (WUS) was implemented. Regulation of the Minister of Health No. 12 of 2017 concerning Implementation of Immunizations mandates that women of childbearing age (especially pregnant women) are one of the tergeted population groups for further immunization. Folow-up immunization is a repeat of basic immunization to maintain the level of immunity and to extend the life of protection. The coverage of Td1 to Td5 immunization for pregnant women in 2021 was still very low by less than 20%. Td5 coverage by 12.5%, decreased compared to 2020 by 15.8%. Based on data obtained from the Cirebon District Health Office in 2021 regarding the coverage of TT Immunization (Tetanus Toxoid) in Cirebon Regency, 48,938 pregnant women participated in the TT1 Immunization program, while for TT2, there were 45,776 pregnant women. One of the risk groups is pregnant women who are one of the government's priorities including regulating the issue of immunization during pregnancy.

Immunization is a way to actively create/increase one's just immunity to a disease so that a person will not get sick or mildly ill[11]. TT immunization aims to prevent tetanus neonatorum in infants. Immunization is part of the Maternal and Neonatal Tetanus Elimination (MNTE) program, which is an additional immunization activity that aims to

reduce the number of cases of neonatal tetanus in each district to < 1 case per 1000 live births per year[12]. A study conducted by Indriaswuri, showed that immunization coverage for pregnant women had not reached the government's target. Such finding illustrates that pregnant women's compliance with TT immunization is still very low. Low coverage of TT immunization in pregnant women is closely related to adherence of pregnant women to TT immunization during pregnancy[13].

However, compliance with pregnant women can be influenced by several factors. According to several studies after performing tatistical tests, it was found that compliance with TT immunization for pregnant women was influenced by knowledge, education, information media, husband support, and availability of tetanus toxoid for two times of immunization in the third trimester of pregnancy[11]**.** According to data derived from the Astapada CHC in 2011, the coverage of TT (Tetanus Toxoid) immunization program at the Astapada CHC involved a total of 1630 pregnant women, 145 pregnant women participated in the TT1 program, while 152 pregnant women participated in the TT2 program. However, there were 1,485 and 1,478 pregnant women who did not get TT1 and TT2 immunization, respectively. Based on interview data in a preliminary study with 8 pregnant women on January 20, 2012 at Astapada CHC, 4 out of 8 respondents were able to answer questions about the definition of TT immunization correctly. Furthermore, 2 out of 8 respondents were able to answer the benefits of TT immunization correctly. 3 out of 8 respondents were able to answer the spacing period between TT1 and TT2 immunizations correctly. 2 out of 8 respondents were able to answer the side effects of Tetanus Toxoid Immunization correctly. In addition, 7 out of 8 pregnant women said that they did not know about the Tetanus Toxoid Immunization but just followed the midwife's orders to get such immunization without knowing the purpose and they were not given information about tetanus toxoid immunization.

Based on the preliminary data above, the authors are interested in conducting a study on "**Relationship between Knowledge and Attitude of Pregnant Women on Tetanus Toxoid Immunization in the Work Area of Astapada CHC, Tengah Tani Sub-District, Cirebon District**"

Method

This is a non-experimental descriptive study with cross sectional retrospective data collection. 55 respondents were involved in this study, namely pregnant women who

visited the Astapada CHC for pregnancy check-up. In terms of age, there are 36 respondents (65%) aged 20-35 years, 12 respondents (22%) aged <20 years, 7 respondents (13%) aged >35 years. From the employment side, the majority of respondents were unemployed (housewives) as many as 50 respondents (91%). Furthermore, 5 respondents (9%) are entrepreneurs. Meanwhile, from an educational side, the majority had elementary school education, namely 28 respondents (51%). On the other hand, 13 respondents (24%) had junior high school education, 12 respondents (22%) had high school education, and 2 respondents (3%) had higher education.

The study instrument used to assess the knowledge and attitude of respondents was a questionnaire. The independent variable was the level of knowledge of pregnant women about Tetanus Toxoid immunization. After getting the percentage value then it is categorized as good, enough and less. Analysis of the dependent variable, namely the attitude of pregnant women about Tetanus Toxoid immunization. Study findings in the percentage values were then categorized as a positive attitude and a negative attitude.

This study aims to determine the relationshipn between knowledge and attitude of pregnant women on tetanus toxoid immunization in the work area of t Astapada CHC, Tengah Tani Sub-District, Cirebon District. To test the relationship between Knowledge and Attitude of Pregnant Women on Tetanus Toxoid Immunization in the Work Area of the Astapada CHC, Tengah Tani Sub-District, Cirebon District, the Chi-Square statistical test was applied. The study samples were collected using a total sampling technique.

Results

Knowledge of Pregnant Women

Knowledge of pregnant women about Tetanus Toxoid Immunization in the Work Area of Astapada CHC, Tengah Tani Sub-District, Cirebon District is presented in Diagram (Figure) 1.

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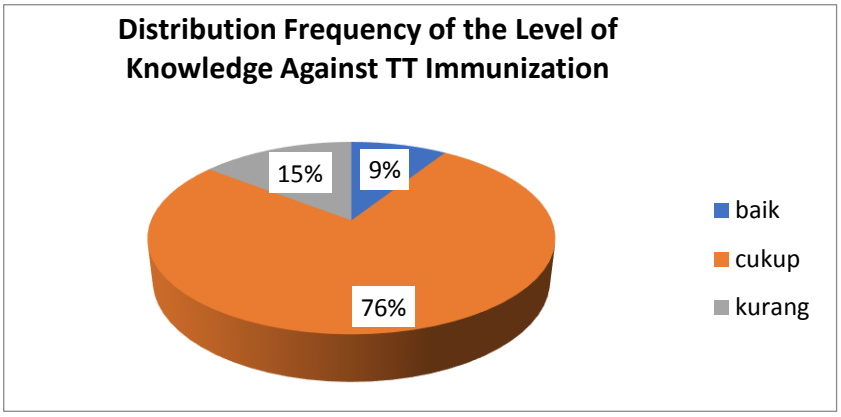

Figure 1. Distribution Frequency of the Level of Knowledge

Based on study among 55 respondents, it was found that 5 respondents (9%) had a good level of knowledge, 42 respondents (76%) had a moderate level of knowledge, and 8 respondents (15%) had a low level of knowledge.

Attitude of Pregnant Women

Attitude of pregnant women regarding Tetanus Toxoid Immunization in the Work Area of Astapada CHC, Tengah Tani Sub-District, Cirebon District is presented in diagram 5.

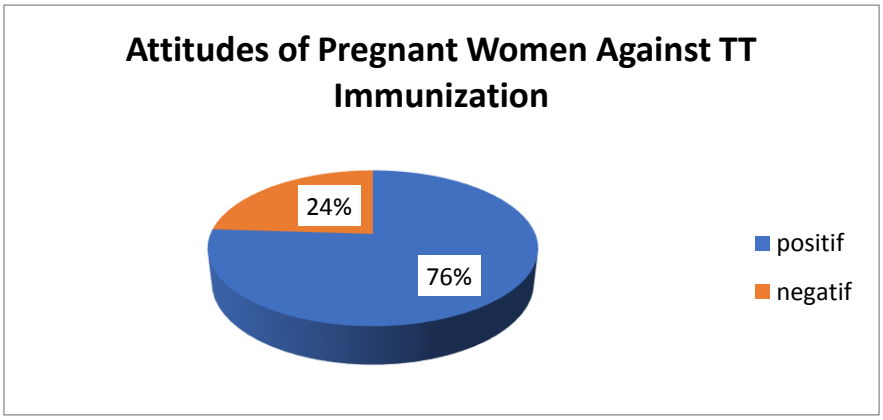

Figure 2. Distribution Frequency of Attitude

Based on study among 55 respondents, it was found that 42 respondents (76%) had a positive attitude and 13 respondents (24%) had a negative attitude.

Table 1. Relationship between Knowledge and Attitudes of Pregnant Women About Tetanus Toxoid Immunization in the Work Area of Astapada CHC, Tengah Tani Sub-District, Cirebon District

Variable	Attitude		Total	P- value
	Negative	Positive		

Knowledge	Good	0	5	5	0.001
		0%	11.9%	9.1%	
	Moderate	7	35	42	
		53.8%	83.3%	76.4%	
	Poor	6	2	8	
		46.2%	4.8%	14.5%	
Total		13	42	55	
		100.0%	100.0%	100.0%	

Based on the table above which presented the results of the chi square test especially regarding a sig value of (0.001) <0.05, it can be concluded that there was a relationship between knowledge and attitude of pregnant women about tetanus toxoid immunization in the work area of Astapada CHC, Tengah Tani Sub-District, Cirebon District.

Discussion

Based on the results of analysis, moderate level of knowledge of pregnant women was due to poor understanding of the community regarding the material of Tetanus Toxoid immunization. A person's level of knowledge is significantly influenced by his or her ability to know, understand, and to explain correctly about the material[14]. Based on the results of interviews with 55 respondents, most of the respondents had poor level of knowledge about the meaning of polio immunization, as many as 33 respondents (60%), while 22 respondents (40%) had good level of knowledge. Such poor level of knowledge was due to a lack of sources of information and delivery of material regarding the meaning of Tetanus Toxoid immunization.

Based on the facts found by researchers in the field, it was revealed that pregnant women had received knowledge about the signs and symptoms of tetanus disease but only in the level of 'know' without application. According to Notoatmodjo in application is defined as the ability to use material that has been studied in actual situations or conditions[14]. Furthermore, 27 respondents (49%) had poor level of knowledge on the benefits of polio immunization, 18 respondents (33%) had moderate level of knowledge, and 10 respondents (18%) had good level of knowledge. Poor level of knowledge in most of respondents can be influenced by several factors, including age, education, employment, experience, understanding, sources of information obtained and knowledge about the benefits of the Tetanus Toxoid immunization. Most of respondents had poor level of knowledge regarding the spacing period of Tetanus Toxoid immunization, as many as 21

respondents (38%), while 20 respondents (36%) had moderate level of knowledge and 14 respondents (26%) had good level of knowledge.

Based on the results obtained, the majority of respondents had poor level of knowledge, namely as many as 21 respondents (38%). Such finding was due to a lack of sources of material information about the meaning of Tetanus Toxoid immunization. Poor level of knowledge of pregnant women about TT immunization during antenatal care visits can have an impact on the completeness of tetanus toxoid immunization obtained during pregnancy. The low coverage of complete Tetanus Toxoid immunization among pregnant women indicates that it may reduce the effectiveness of this immunization in generating immunity and protecting infants and pregnant women from tetanus. Such situation will further reduce the success of the immunization program as a whole[15]. According to Makhmudah, knowledge is the result of the process of seeing, hearing, feeling and thinking which forms the basis of humans in behaving or acting. One's knowledge is not obtained instantly[16]. Several factors that affect knowledge iclude age, level of education, employment, experience and exposure to information[16].

According to Purwanto, attitude is a psychological condition within an individual that plays a role in taking action which is influenced by 3 aspects, namely presenting knowledge and understanding (cognitive aspect), causing feelings of pleasure and displeasure (affective aspect), instilling habits to act as expected or behavioral tendencies (conative aspect). Attitude is a view or feeling that is accompanied by a tendency to act. Attitudes can be positive as well as negative. It is said to be positive if the attitude directs the soul to approach and like an object, while it is said to be negative when it tends to stay away from the object[17].

According to Heri Purwanto in his introduction to human behavior, education cana influence a person to behavior including a pattern of life, especially in motivational attitude to participate in development. Motives, interests, talents and attitudes cause a person to act/do something, and this becomes part of the factors that influence the learning process. In this case, there is a relationship between knowledge and attitude, where knowledge influences one's attitude motivation[17]. Positive attitude is due to pregnant women concern about the safety of babies born from tetanus toxoid.

According to Damiati, 2017 in Asaretkha Adjane Annisawat, attitude is an expression of one's feelings that reflects the likes or dislikes of an object. Since a person's attitude is the result of a psychological process, it cannot be observed directly but must be inferred from what is said or done[17]. And there are several factors related to the timeliness of immunization, including the level of maternal knowledge, maternal attitude towards immunization and perceptions of family support for immunization.

Table 1 explained that most of respondents had a moderate level of knowledge om Tetanus Toxoid immunization, as many as 42 respondents (76.4%). Of the 42 respondents, 35 respondents (83.3%) were included in the positive attitude category and 7 respondents (16.7%) were included in the negative attitude category. 8 respondents (14.5%) had a poor level of knowledge on Tetanus Toxoid immunization. Of the 8 respondents, 2 respondents (4.8%) were included in the positive attitude category and 6 respondents (46.2%) were included in the negative attitude category. 5 respondents (9.1%) had a good level of knowledge on Tetanus Toxoid immunization. Of the 5 respondents, all were included in the positive attitude category (11.9%). The study findings showed that the level of knowledge affected a person's attitude. These results are in line with a study conducted by Flora Naibaho, 2019[2)] entitled relationship between knowledge and attitude of pregnant women with tetanus toxoid immunization at Nunpene CHC. It can be concluded that most of pregnant women had a good level of knowledge.

In addition, most of pregnant women had a positive attitude regarding ANC visits, especially related to Tetanus Toxoid immunization. There was a positive and significant relationship between knowledge and attitude of pregnant women regarding tetanus toxoid immunization at the Nunpene CHC, North Central Timor District in 2019. Similar study revealed that there were relationships between knowledge and the administration of Tetanus Toxoid immunization (p=0.020), between attitude and the administration of Tetanus Toxoid immunization (p=0.029) and between the support of healthcare workers and the administration of Tetanus Toxoid immunization (p=0.029). According to previous study (Syamson & Fadriyanto 2018), it was shown that there were relationships between knowledge, attitudes, family support with TT immunization among pregnant women. In 2018, out of 505 pregnant women, 75 received TT.1 immunization and 60 received TT.2 immunization at Galesong CHC.

According to Notoatmodjo, knowledge is one of the factors that can influence behavioral change. Person with good knowledge will have self-motivation to apply it in daily life[18]. Knowledge about pregnancy can be obtained through counseling about pregnancy, fetal growth and development, self-care during pregnancy, and pregnancy danger signs[18]. Based on the results of the study, it can be seen that there were respondents who had good knowledge but were not compliant with ANC schedule[18].

Conclusion

Most of the respondents as many as 42 respondents (76.4%) had a moderate level of knowledge on TT immunization. Of the 42 respondents, 35 respondents (83.3%) were included in the positive attitude category and 7 respondents (16.7%) were included in the negative attitude category. Meanwhile, 8 respondents (14.5%) had a poor knowledge on Tetanus Toxoid

immunization. Of the 8 respondents, 2 respondents (4.8%) were included in the positive attitude category and 6 respondents (46.2%) were included in the negative attitude category. 5 respondents (9.1%) had a good level of knowledge on TT immunization. Of the 5 respondents, all were in the positive attitude category (11.9%). It can be concluded that there was a significant relationship between knowledge and attitude of pregnant women on Tetanus Toxoid Immunization in the Work Area of the Astapada CHC, Tengah Tani Sub-District, Cirebon District with a p-value of 0.001 ($p < 0.05$).

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