



THE RELATIONSHIP BETWEEN MATERNAL MOTIVATION AND THE ROLE OF HEALTH WORKERS IN THE COMPLETION OF TETANUS TOXOID IMMUNIZATION FOR PREGNANT WOMEN

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ABSTRACT

Tetanus Toxoid (TT) immunization is a vital intervention for preventing maternal and neonatal tetanus. However, achieving complete TT immunization among pregnant women presents an ongoing challenge in various settings, notably within the Pangenan Health Center area of Cirebon Regency. Compliance with this preventive measure is hypothesized to be influenced by factors such as the performance of healthcare workers, maternal motivation, and the frequency of antenatal care (ANC) visits. This quantitative, cross-sectional study investigated the relationship between these three factors and the completeness of TT immunization in the Pangenan Health Center's service area. Data were collected from 36 pregnant women selected via accidental sampling and analyzed using the Chi-square test (with a significance level of $\alpha = 0.05$). The findings indicated that 55.6% of the participants had received complete TT immunization. Bivariate analysis demonstrated statistically significant associations between complete TT immunization and: healthcare workers' roles ($p = 0.022$), maternal motivation ($p = 0.040$), and ANC visit frequency ($p = 0.009$). In conclusion, the study established a significant relationship between the roles of healthcare workers, maternal motivation, and the frequency of ANC visits and the completeness of TT immunization among pregnant women. To improve immunization coverage, the study recommends enhancing behavioral education, strengthening the capacity of healthcare providers, and ensuring optimal utilization of ANC services.

Keywords: ANC visits; healthcare workers' role; motivation; pregnant women; tetanus toxoid immunization

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INTRODUCTION

Tetanus toxoid (TT) immunization is the process of building immunity of prevent tetanus infection (Sinaga, Yolandia, and Sugesti 2021). The weakened and purified tetanus bacteria toxin is the tetanus vaccine. The administration of tetanus toxoid (TT) immunization is the provision of immunity against tetanus to expectant mothers and their unborn babies (Richa 2023). Proteins transferred from mother to baby can provide protection against stressors such as childbirth in unsterile conditions or improper umbilical cord care, which may trigger Tennessee Neonatal (TN) (Mithal et al. 2025).

At the national and district levels, maternal programs have received attention due to their significant impact on morbidity and mortality among newborns. The Cirebon District Health Profile shows that monitoring immunization coverage is part of efforts to improve the quality of antenatal services and reduce cases of vaccine-preventable diseases (Cirebon 2016). Cirebon District's open data also records coverage rates and tetanus-related cases, noting variations between health centers and subdistricts. This situation confirms that program integrity is not only determined by vaccine availability but also by local factors ('Arub, Seto, and Sitinjak 2023).

At the community health center level, institutional reports and presentations describe the characteristics of the working area, including the population, health workers, and antenatal service

coverage that affect access to and quality of immunization delivery (Hardiyanti, Asfriyati, and Sanusi 2023). Variations in TT coverage between villages/posyandu in the Pangenan area indicate operational and behavioral barriers that need to be identified to improve the completeness of immunization for pregnant women. Administrative information and subdistrict coverage data published periodically are important sources for understanding the local context (Kementrian Kesehatan 2016).

Empirical evidence from other studies shows that psychosocial factors such as maternal motivation (belief in the benefits of immunization, risk perception, family support) and the role of health workers (communication, education, reminders, and service delivery skills) contribute significantly to immunization schedule adherence. Therefore, it is important to examine more comprehensive picture of the determinants of TT completeness rather than focusing on a single factor (Mustofa 2024).

The purpose of this study was to determine the relationship between maternal motivation and the role of health workers in the completeness of Tt immunization among pregnant women at the Pangenan Community Health center. There was a significant positive relationship between the level of motivation of mothers and health workers and the level completeness of TT immunization among pregnant women. The hypothesis was developed based on findings from the literature on determinants of immunization behavior and observations of variations in immunization coverage in local dat.

If maternal motivation and health role are proven to play a significant role, program interventions targeting behavioral education, communication training for nurses, and remindere/outreach mechanisms can be designed to be more targeted at the Pangenan Community Health Center. The expected impact is to increase TT coverge, thereby reducing the risk of maternal and neonatal tetanus in the working area, which contributes directly to the district’s public health objective. In addition, the results of this study can be used as a reference for developing health center policies and the distribution of health resources at the sub-district level.

METHOD

This study used quantitative method with an analytical survey design and a cross-section approach. The subjects in this study included all pregnant women who visited the Pangenan Community Health Center, totaling 36 people. The sampling method used in this study was accidental sampling. The sample size in this study was 36 respondents. The data in this study were analyzed in stages, starting with univariate analysis, followed by bivariate analysis using the Chi-square test.

RESULT

Univariate Analysis

Completeness of TT Immunization

The total number of respondents in the study was 36. TT immunization completeness was grouped into two categories: *complete* if the mother received 2 doses of TT, and *incomplete* if the number of doses received was less than 2.

Detailed explanations are shown in the table below:

Tabel 1

Frequency presentation based on TT immunization completeness status in pregnant women

TT Immunization Completeness	f	%
Complete	20	55,6
incomplete	16	44,4

The results in Table 5.1 show that 20 pregnant respondents (55.6%) had complete TT immunization status, while 16 respondents (44.4%) were categorized as incomplete.

Role of Health Workers

In this study, the variable for health workers as classified into two categories: good if the value was \geq Men, and poor if the value was \leq Mean. A more detailed explanation is provided in table 5.2 below.

Tabel 2

Presentation of frequency and percentage of respondents based on the role of helth workers

Health Woker Role	f	%
Good	20	55,6
poor	16	44,4

Table 2, the number of respondents who rated the role of health workers as good was 20 people (55.6%), while those who rated it as not good numbered 16 people (44.4%) out of a total of 36 respondents.

Motivation

In this study, respondents' motivation was classified into two group: good if the score was \geq mean and poor if the score was \leq mean. The detailed results are shown in Table 5.4 below.

Tabel 3

Frequency and percentage of respondents based on motivation in pregnant women

Motivation	f	%
Good	17	47,2
Not good	19	52,8

Of the 36 respondents, 17 had good motivation (47.2%) and 19 had poor motivation (52,8%), according to Table 5.4 above.

ANC Visits

In this study, ANC visits were divided into two categories: standard (if the mother made as lest four ANC visits according to the standard) and non-standard (if the mother made fewer than four ANC visits). These categories are described below:

Tabel 4

Frequency of respondents based on ANC visits among pregnant women

ANC visits	f	%
Standard	21	58,3
Non-Standard	15	41,7

Of the 36 respondents, 21 (58.3%) had standard ANC visits, and 15 (42.7%) had non-standard visits, according to Table 5.4 above. Chi-square statistics were used with a significance level α 0,05.

Bivariate Analysis

This research process aims to identify how independent variables (the role of health workers, motivation, and ANC visits) are associated with dependent variable (TT immunization coverage).

The relationship between the role of health workers and the availability of TT immunization for pregnant women

The following table shows the statistical testing between the variables of health workers and the completeness of Tetanus Toxoid (TT) immunization in pregnant women:

Tabel 5

The Role of Health Workers in Providing Tetanus Toxoid (TT) Immunization to Pregnant Women

Role of Health Workers	TT Immunization Completeness				f	%	P value
	Complete		Incomplete				
	f	%	f	%			
Good	15	75,0	5	25,0	20	100	0,022
Not good	5	31,2	11	68,8	16	100	Significant

Of the 20 respondents who had a good role as health workers, 15 (75.0%) had complete TT immunization, and of the 16 respondents who had a poor role as health workers, 5 (31.2%) had complete TT immunization. P value $0.022 \leq 0.05$, according to bivariate analysis with the Chi-

square test. This indicates that there is a relationship between healthcare worker duties and the ability of pregnant women to receive TT immunization.

Relationship between motivation and TT immunization completeness in pregnant women

This study examines the relationship between breast cancer and older women in two categories: yes (if they have used hormonal contraception for more than ten years) and no (if they have not used it for more than ten years). Tabel 6 provides further explanation of this relationship:

Tabel 6

Distribution of respondents based on the relationship between motivation and TT immunization coverage in pregnant women

Motivation	TT Immunization Completion				f	%	P value
	Complete		Incomplete				
	f	%	f	%			
Good	13	76,5	4	23,0	17	100	0,040
Poor	7	36,8	12	63,2	19	100	Significant

Of the 17 respondents who had good motivation, 13 (76.5%) received the TT immunization in full, and of the 19 respondents who had poor motivation, 7 (36.8%) received the TT immunization in full. Based on the Chi-Square test, there is a significant relationship between the desire to complete TT immunization in pregnant women and the value of $p = 0.040 \leq 0.05$.

Relationship Between ANC Visits and Availability of TT Immunization in Pregnant Women

Table 5.6 shows the statistical analysis conducted between the variables of ANC visits and the completeness of Tetanus Toxoid (TT) immunization in pregnant women:

Tabel 7.

Table Displaying the Relationship Between ANC Visits and Tetanus Toxoid (TT) Immunization Completion Among Pregnant Women

Motivation	TT Immunization Completion				f	%	P value
	Complete		Incomplete				
	f	%	f	%			
Standard	16	76,2	5	23,8	21	100	0,009
Not Standard	4	26,7	11	73,3	15	100	Significant

Of the 21 respondents who underwent standard ANC visits, 16 (76.2%) had completed TT immunization, and of the 15 respondents who underwent non-standard ANC visits, 4 (26.7%) had completed TT immunization. Based on the Chi-Square test, the p-value was $0.009 \leq 0.05$, indicating a significant correlation between ANC visits and the completeness of TT immunization among pregnant women.

DISCUSSION

The relationship between the role of health workers and the availability of TT immunization in pregnant women

The Chi-Square test results show that the value of $p = 0.022$ is less than 0.05. This indicates that there is a relationship between the duties of health workers and the ability of pregnant women to receive TT immunization. The results of a recent study (Ferreira D et al. 2023) show that satisfaction with staff services (communication, attitude, competence) and the completeness of facilities/infrastructure are important determinants that increase the intention and frequency of health service utilization by the community. These conditions can influence the reluctance of pregnant women to complete TT immunization. More recent field studies reinforce previous findings that, in addition to individual factors (knowledge, education, and attitudes), the role of health workers including frequency of visits, quality of counseling, and active initiatives by staff to motivate immunization-contributes significantly to TT immunization coverage (Tamiru, Sendo, and Deressa 2024). Several regional studies in Indonesia and cross-country studies have found a statistically significant relationship between health worker support/activities and TT acceptance/dose completion rates (Chi-square and multivariate regression tests show $p < 0.05$ in several studies), so interventions targeting capacity building and the proactive role of health workers are proposed to improve immunization coverage (Mahduroh, Fatima, and Jayatmi 2023).

Health workers play a very important role in ensuring complete TT immunization. When pregnant women receive friendly, informative, and high-quality services from healthcare workers, this can foster trust and encourage behavioral changes in mothers to be willing to receive complete TT immunization (Dol et al. 2023) (Rawas, M., District, N., & Husada 2025).

CONCLUSION

There is a significant association between the role of healthcare workers, motivation levels, and the frequency of antenatal care visits with the completeness of tetanus toxoid immunization administration among pregnant women. Partially, the role of health workers shows a significant relationship with the level of tetanus toxoid immunization completion in pregnant women. The results of the analysis show a meaningful correlation between the motivation of pregnant women and their compliance in completing tetanus toxoid immunization when viewed partially.

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