Factors Associated with the Low Coverage of Tetanus Toxoid Immunization in Pregnant Women in the Working Area of Puskesmas Pinembani

Mery[1(*)], Nur Afni[2], Finta Amalinda[3]
[1,2,3]Faculty of Public Health, Universitas Muhammadiyah Palu, Indonesia
*Corresponding Author, Email: chandramery76@gmail.com

ABSTRACT

Tetanus toxoid immunization is a process to build immunity to prevent tetanus infection. Tetanus toxoid immunization in pregnant women provides immunity to the fetus against tetanus infection (Tetanus neonaturum) during labor and postnatally. The purpose of this study was to determine the factors for the low coverage of tetanus toksoidimmunization consisting of knowledge, the role of health workers, and Distance. This type of research is analytical survey research with a cross-sectional approach. This research was conducted in the Pinembani Community Health Center's work area in June 2020, with a sample of 41 respondents. The results showed no relationship between knowledge and coverage of Tetanus toxoid immunization, as evidenced by statistical tests with a p-value of 0.178> 0.05. The results showed a connection between health workers' role and Tetanus toxoid immunization coverage, as evidenced by statistical tests with a p-value of 0.003 <0.05. The results showed no relationship between distance and tetanus toxoid immunization coverage, as evidenced by statistical tests with a p-value of 0.073> 0.05. This research is expected for health workers in the working area of Puskesmas Pinembani always to survey the Tetanus Toxic Immunization service and provide more counseling or information about health at the posyandu to increase the knowledge of pregnant women.

Keywords – Knowledge, Role of Health Workers, Distance, Coverage of Tetanus Toxoid Immunization

INTRODUCTION

The development of Indonesia's health sector experiences two problems, namely concerning infectious diseases and degenerative diseases (1). The issue of maternal and infant mortality currently still occurs, especially in underdeveloped or developing countries such as Indonesia; every year, maternal and infant mortality always happens, even though the government has carried out many prevention programs for these problems. Some methods include doing Tetanus toxoid immunization with high and even reach, carrying out a clean and safe delivery (2).

Immunization is an activity that has been carried out since 1956 as a preventive measure for diseases that can be prevented by vaccination (PD3I), namely Tuberculosis, Diphtheria, Pertussis, Measles, Polio, Tetanus, and Hepatitis B. Some conditions that are of global concern and must be followed by all countries are polio eradication (ERAPO), measles and rubella elimination, and maternal and neonatal Tetanus (ETMN) (3).

The elimination of tetanus neonatorum and maternal Tetanus has not achieved the target incidence rate of <1/1000 live births as the national EMNT target. There is always an evaluation every year to achieve the targets that have been used as program achievements (4).

One of the causes of maternal and infant mortality is tetanus infection caused by the Clostridium tetani bacteria due to unsafe/sterile labor or wounds obtained by pregnant women before childbirth (5). In 2015, 53 neonatal Tetanus cases were reported from 13 provinces, with 27 points of death or CFR of 50.9%. Compared to 2014, there was a decrease in both the number of cases and the CFR, namely 84 points from 15 provinces with a CFR of 64.3%. Case description according to risk factors for birth attendants, 33 patients (62%) was assisted by traditional birth attendants, such as traditional birth attendants. According to the umbilical cord care method, only 6 cases (11%) were treated using alcohol/iodine, while others used legal, miscellaneous, and strange ways. According to the tools used to cut the umbilical cord, 22 cases (42%) used scissors, 12 patients (59%) used bamboo, and the rest used other tools or unknown.

Aeni (2013) argues that pregnancy is a particular period that requires special needs to improve health. Mothers and future babies born, for mothers who are not yet complete with T status, are required to immunize Tetanus toxoid D to prevent Tetanus (6).

Pregnancy is fertilization or fusion of danovum spermatozoa and is followed by oxidation and implantation. When calculated from fertilization to the baby's birth, a normal pregnancy will last 280 days (40 weeks or nine months seven days) (7). Tetanus toxoid immunization is a process to build immunity to prevent tetanus infection. Tetanus toxoid immunization in pregnant women provides immunity to the fetus against tetanus infection (Tetanus neonaturum) during labor and postnatally (8).

Deliveries of mothers and babies are less likely to be infected with Tetanus than pregnant women who did not correctly immunize Tetanus toxoid (9). Tetanus Neonatorum is Tetanus that occurs in newborns aged 2-28 days, and Maternal Tetanus is Tetanus that occurs in later pregnancies within six weeks after the mother gives birth (10).

The achievement of tetanus toxoid immunization coverage can be influenced by several factors, including the perception of Distance to health services, occupation, and health workers' role in immunizing tetanus toxoids. It can also be influenced by education, awareness, experiences of mothers who have received tetanus toxoid immunization during pregnancy, and pregnant women's knowledge in immunizing tetanus toxoid. The lack of understanding of pregnant women in immunizing tetanus toxoid can result in less awareness of pregnant women about tetanus disease, which can harm both the mother and the fetus (11).

Giving the tetanus toxoid vaccine to pregnant women In the first pregnancy, the doctor will recommend that pregnant women undergo at least two injections of the tetanus vaccine, with a distance of 4 weeks. (Ministry of Health, 2015). Data on the coverage of Tetanus toxoid immunization in Central Sulawesi Province in 2019, namely TD1 of 10,137 (14.64%), TD2 of 10,142 (14.65%) (Central Sulawesi Provincial Health Office, 2019). Data on Tetanus toxoid immunization coverage in Donggala Regency in 2019, namely Tetanus toxoid1 as much as 2,242 (31.3%), tetanus toxoid2 as much as 2,151 (30%).

Data on Tetanus toxoid immunization coverage from 93 pregnant women who live in the Puskesmas Pinembani work area in 2019 only reached 75%. Data from the Pinembani Health Center, the number of pregnant women in 2019 was 72 people. In 2020 from January to May, there were 41 people. The purpose of this study was to determine the factors associated with the low coverage of Tetanus toxoid immunization in pregnant women in the working area of Puskesmas Pinembani.

METHODOLOGY

This research type is analytic with a Cross-Sectional Study approach (12). To determine the factors associated with the low coverage of Tetanus toxoid immunization in pregnant women in the working area of Puskesmas Pinembani. This research was conducted in June 2020 and was carried out in the work area of Puskesmas Pinembani. The population to be used in this study was 41 pregnant women.

RESULT

Table 1
Relationship between Knowledge and Coverage of Tetanus Toxoid Immunization in Pregnant Women in the Work Area of Puskesmas Pinembani

Knowledge	Tetanus Toxoid Immunization Coverage				Total		P-Value
	Complete		Incomplete				
	n	%	n	%	N	%	
High	21	87,5	3	12,5	24	100	0,178
Low	12	70,6	5	29,4	17	100	
Total	33	80,5	8	19,5	41	100	

Source: Primary Data 2020

The results showed that of the 24 respondents who had high knowledge, there was 21 complete coverage of Tetanus toxoid immunization (87.5%) and 3 Tetanus toxoid immunization coverage (12.5%) which were incomplete, while those who had insufficient knowledge were 17 of respondents there was 12 complete coverage of Tetanus toxoid immunization (70.6%) and 5 Tetanus toxoid immunization coverage (29.4%) which were incomplete. The statistical tests results show a p-value of 0.178> 0.05, so H0 is accepted,

which means that there is no relationship between knowledge and coverage of Tetanus toxoid immunization in pregnant women in the Pinembani Public Health Center.

Table 2
The Relationship between the Role of Health Workers and the Coverage of Tetanus Toxoid Immunization in Pregnant Women in the Work Area of Puskesmas Pinembani

The Role of Health Workers	Tetanus Toxoid Immunization Coverage				Total		P-Value
	Complete		Incomplete				
	n	%	n	%	N	%	
Have a role	32	86,5	5	13,5	37	100	0,003
No Role	1	25,0	3	75,0	4	100	
Total	33	80,5	8	19,5	41	100	

Source: Primary Data 2020

The results showed that of the 37 respondents who had the role of health workers who played a role, there was 32 complete coverage of Tetanus toxoid immunization (86.5%) and 5 Tetanus toxoid immunization coverage (13.5%) which were incomplete, while those who had the role of health workers who did not play a role, there were four respondents, there was one complete coverage of Tetanus toxoid immunization (25.0%) and 3 Tetanus toxoid immunization coverage (75.0%) which was incomplete. The statistical test results showed that the p-value was 0.003 <0.05, so H0 was rejected, which means a relationship between the role of health workers and the coverage of Tetanus toxoid immunization in pregnant women in the Pinembani Public Health Center.

Table 3
The Relationship between the Role of Health Workers and the Coverage of Tetanus Toxoid Immunization in Pregnant Women in the Working Area of the Pinembani Health Center

Distance	Tetanus Toxoid Immunization Coverage				Total		P-Value
	Complete		Incomplete				
	n	%	n	%	N	%	
Close	10	100	0	0	10	100	0,073
Far	23	74,2	8	25,8	31	100	
Total	33	80,5	8	19,5	41	100	

Source: Primary Data 2020

The results showed that of the ten respondents who had a close distance, there was ten complete Tetanus toxoid immunization coverage (100%), and 0 Tetanus toxoid

immunization coverage (41.2%) were incomplete. In comparison, those who had a long-distance were 31 respondents. 23 Complete Coverage of Tetanus Toxoid Immunization (74.2%) and 8 Incomplete (25.8%) Tetanus Toxoid Immunization Coverage. The statistical test results showed a p-value of 0.073> 0.05, so H0 was accepted, which means that there was no relationship between the Distance and coverage of Tetanus toxoid immunization in pregnant women Pinembani Health Center.

DISCUSSION

Relationship between Knowledge and coverage of Tetanus toxoid immunization in pregnant women in the Pinembani Community Health Center

The analysis results showed no significant relationship between Knowledge and Tetanus toxoid immunization coverage in pregnant women in the Pinembani Public Health Center, as evidenced by statistical tests with a p-value of 0.178.

According to the researchers' assumptions, this can occur because some respondents have less knowledge due to educational level problems, and lack of information about tetanus toxoid immunization and the location of respondents who are far from health facilities so that they do not get and know information about tetanus toxoid immunization. The insufficient level of respondents' knowledge due to lack of socialization or counseling about tetanus toxoid immunization.

According to Notoatmodjo (2012), the lack of knowledge of pregnant women about tetanus toxoid immunization indicates that the mother's understanding of the meaning of tetanus toxoid immunization, the benefits and drawbacks of tetanus toxoid immunization, is lacking. Several factors related to a person's knowledge include education, information or mass media, social, cultural, economic conditions, environment, experience, and age (13).

The laboratory results found no chlorine (Cl2) content in rice, indicating that rice traders scattered in the Manonda Palu Inpres Market know and are aware of rice quality, which must be avoided from chemical mixtures. Hence, it is possible that the rice is not harmful to health. Consumers.

The quality of rice is safe or not depends on the rice traders' honesty level. It is not uncommon to find some traders in big cities who cheat and still do not understand the dangers of chemical food additives that can cause health problems. Health problems due to eating foods containing chlorine (Cl2) make the stomach prone to ulcer disease. In the long run, it will cause kidney disease and cancer (14).

This is not in line with Yunica's (2014) research with a p-value of 0.001, which means a relationship between knowledge and participation in immunizing tetanus toxoid in pregnant women (15).

This is not in line with Suhartatik's research (2015) with a p-value of 0.002, which means a relationship between knowledge and tetanus toxoid immunization in women of childbearing age Mandai Community Health Center, Maros Regency (16).

The relationship between the role of health workers and the coverage of Tetanus toxoid immunization in pregnant women in the working area of the Pinembani Community Health Center

The analysis results showed a significant relationship between health workers' role and the coverage of Tetanus toxoid immunization in pregnant women in the Pinembani Health Center, as evidenced by statistical tests with a p-value of 0.003.

According to the researchers' assumptions, this can happen because health care workers play a vital role in immunization services. Because the part of health workers is essential in the program's success to achieve tetanus toxoid immunization in pregnant women. The quality of service and the officers' attitude reflect the win in the immunization implementation strategy.

A health worker is responsible for providing health services to individuals, families, and communities. Health workers based on their work are medical personnel, paramedics such as nursing personnel, midwifery personnel, medical support personnel, etc. The friendliness of officers in serving is an important thing to pay attention to, given the charity of the principal capital of approaching a person/community (17).

Based on the results of research and observation, and literature review, health workers, must continuously improve the role of Tetanus toxoid immunization services so that services can run well.

The relationship between Distance and the coverage of Tetanus toxoid immunization in pregnant women in the Pinembani Community Health Center

The analysis results showed no significant relationship between Distance and Tetanus toxoid immunization coverage in pregnant women in the Pinembani Public Health Center, as evidenced by statistical tests with a p-value of 0.073.

According to the researchers 'assumptions, this can occur because the range of the respondents' locations is partly located far away. They do not come to immunize against Tetanus toxoid because they have obstacles on their way, the roads are damaged, and they do not have vehicles.

According to Bredesen (2013), the determinants identified by pregnant women in using health services are due to the influence, among others, Distance, transportation, and costs (18).

This is in line with Mareta's (2016) research on the relationship between residence distance and health utilization in Central Timor Regency (19).

Based on the research and observations, literature review, community, government, and health workers must collaborate to provide health services, especially long-distance community coverage.

CONCLUSION

This study concludes that there is no relationship between knowledge and coverage of Tetanus toxoid immunization in pregnant women in the Pinembani Public Health Center,

where 0.178> 0.05 means that H0 is accepted, indicating that these two variables do not have a significant relationship. Then there is a relationship between the role of health workers and Tetanus toxoid immunization coverage in pregnant women in the Pinembani Public Health Center, where 0.003 <0.05 means that H0 is rejected, indicating that these two variables have a significant relationship. And there is no relationship between Distance and coverage of Tetanus toxoid immunization in pregnant women in the Pinembani Public Health Center, where 0.073> 0.05 means that H0 is accepted, indicating that these two variables do not have a significant relationship.

REFERENCE

1. Veriani R. Cluster analysis in the grouping of provinces in Indonesia based on infectious disease variables used the method Complete Linkage, Average Linkage dan Ward. UIN Sunan Ampel Surabaya; 2020.
2. Benjamin EJ, Blaha MJ, Chiuve SE, Cushman M, Das SR, Deo R, et al. Heart disease and stroke statistics—2017 update: a report from the American Heart Association. Circulation. 2017;135(10):e146–603.
3. Ministry of Health of the Republic of Indonesia. Analysis of the Elderly in Indonesia. 2017.
4. Minister of Health Republic of Indonesia. Regulation of the Minister of Health of the Republic of Indonesia Number 71 of 2013 concerning Health Services in the National Health Insurance. Jakarta Kemenkes RI. 2013;
5. Djamil A, Hermawan NSA, Setiarini N. The Relationship between the Implementation of Lactation Management by Health Workers on Exclusive Breastfeeding in Breastfeeding Mothers. J Kesehat. 2018;9(1):113–6.
6. Aeni N. Risk factors for maternal death. Kesmas J Kesehat Masy Nas (National Public Heal Journal). 2013;7(10):453–9.
7. Irianti B, Tajmiati A, Astiriyani E. Health status of premarital age adolescents in the Urug and Karanganyar Community Health Center, Tasikmalaya City (Studi Deskriptif). JoMI (Journal Midwifery Information). 2020;1(1):1–9.
8. Ummi H. dkk. 2010. AMidwifery Care in Pregnancy Physiol.
9. Ahmad Susanto MP. Pearly childhood development: introduction in its various aspects. Kencana; 2011.
10. RATNASARI TI. Determination of Sugar Levels and pH Value in Isotonic Beverages.
11. Prihastanti E, Hastuti P. Relationship of employment, economic status, education of pregnant women with knowledge of tetanus toxoid immunization at the Baturraden II Community Health Center, Baturraden District, Banyumas Regency. 2014. Bidan Prada J Publ Kebidanan Akbid YLPP Purwokerto. 2015;6(1).
12. Hawker DSJ, Boulton MJ. Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. J child Psychol psychiatry. 2000;41(4):441–55.
13. Notoatmodjo S. Health promotion and health behavior. Jakarta: rineka cipta.

2012;45–62.
14. Mohsen IH, Mohsen AH, Zaidan HK. Health effects of chlorinated water: A review article. Pakistan J Biotechnol. 2019;16(3):163–7.
15. Yunica JA. Relationship Between Knowledge and Age and Completeness of Tetanus Toxoid Immunization for Pregnant Women in Sungai Dua Village, Rambutan District, Banyuasin Regency, 2014. J Kedokt dan Kesehat. 2015;2(1):181664.
16. PRIHARTINI ES. ABSTRAK Prihartini, Endang, Suhartatik. 2015. Problem Based Learning Assisted with Link Map to Improve Learning Outcomes on Linear Program Material in Class XI Pharmacy at SMK BIM Jombang. Thesis, Mathematics Education, Mala State University Postgraduate. Dissertation and Thesis of UM Postgraduate Program. 2015;
17. MUTU PKUM. SERVICES TO PATIENTS IN HOSPITALS.
18. Theendakara V, Patent A, Libeu CAP, Philpot B, Flores S, Descamps O, et al. Neuroprotective Sirtuin ratio reversed by ApoE4. Proc Natl Acad Sci. 2013;110(45):18303–8.
19. Mareta J. Law Enforcement Mechanisms in Efforts to Protect the Rights of Vulnerable Groups (Children and Women) (Mechanism of Law Enforcement in Protecting the Rights of Vulnerable Group)(Child and Woman). J HAM. 2016;7(2):141–55.