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The Effect of Implementation of The Triple Elimination Program on Antenatal Care (ANC) in Pregnant Woman at Health Center in 2025

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Abstract

The Triple Elimination program aims to prevent vertical transmission of HIV, syphilis, and hepatitis B from mother to child through the integration of routine screening in antenatal care (ANC) services. This program is in line with WHO's global commitment to eliminate the transmission of infectious diseases from mother to child that has the potential to have a long-term impact on infant health. The implementation of this program in primary service facilities such as health centers has a strategic role in improving early detection and proper management. This study aims to analyze the effect of program implementation on the quality of ANC services in Puskesmas. Using a quantitative approach with a cross-sectional design, the study involved 88 pregnant women as respondents. Data was obtained through a structured questionnaire that measured maternal satisfaction with aspects of services, such as accessibility, communication, physical examination, and information provided by health workers. Data analysis was performed by Chi-Square test, and the results showed a significant relationship between the implementation of the Triple Elimination program and the perception of ANC service quality ($p = 0.013$; OR = 2.7; 95% CI: 1.3–5.5). These results show that pregnant women who receive complete screening tend to be more satisfied with ANC services, because they feel comprehensively served. The implementation of Triple Elimination has a positive impact not only in the medical aspect but also in the psychological and emotional aspect, as it provides a sense of security against the potential transmission of serious diseases to the fetus. Suggestions are needed to strengthen the implementation of the program through improving laboratory infrastructure, the availability of reagents and logistics, continuous coaching for health workers, and intensive counseling to the community, so that the scope of the program is wider and more even. Cross-sector synergy and strong policy support are also key to the success of the program's sustainability.

Keywords: Triple Elimination, Antenatal Care, HIV, Syphilis, Hepatitis B

Introduction

The health of pregnant women and fetuses is an important indicator in the health care system, which contributes directly to maternal mortality (AKI) and

infant mortality (AKB). Based on a report by *the World Health Organization* (WHO), around 287,000 maternal deaths occur annually worldwide [1]. The majority are caused by pregnancy and

childbirth complications that can be prevented through early detection and intervention. In Indonesia, although there has been a decline in AKI in the last decade, this figure is still relatively high compared to the Sustainable Development Goals (SDGs) targets. According to the 2022 Indonesian Nutrition Status Survey (SSGI), Indonesia's AKI was recorded at 189 per 100,000 live births, and AKI was 16 per 1,000 live births. One of the important causes is the lack of optimal implementation of comprehensive, quality, and responsive antenatal care (ANC) services to pregnancy risks, including infectious diseases that can be transmitted from mother to baby [2].

As a response to these challenges, the Ministry of Health of the Republic of Indonesia issued a national policy known as the Triple Elimination Program, which aims to eliminate the vertical transmission of three infectious diseases, namely HIV, syphilis, and hepatitis B [3]. These three diseases can be transmitted from mother to fetus during pregnancy, during childbirth, or through breast milk, and have a long-term impact on the health of the baby such as premature birth, low birth weight, chronic infections, disability, and even neonatal death. Therefore, the Triple Elimination Program is a very important preventive strategy and must be integrated in ANC services [4].

The implementation of Triple Elimination in Indonesia is regulated in the Minister of Health Regulation No. 52 of 2017 concerning the Elimination of HIV, Syphilis, and Hepatitis B Transmission from Mother to Child [5]. In practice, pregnant women who come to health care facilities (including health centers) are required to undergo HIV, syphilis, and hepatitis B screening at least once during pregnancy, accompanied by follow-up treatment or

referral if the test results are positive [6]. This examination is carried out free of charge through the National Health Insurance (JKN) program, and aims to detect and break the chain of transmission from mother to child [7].

However, in its implementation in the field, especially at the level of first-level health facilities (FKTP) such as Puskesmas, this program still faces major challenges. Data from the Indonesian Ministry of Health shows that the coverage of pregnant women for these three infections is still uneven. In 2023, HIV screening coverage in pregnant women will only reach 57%, syphilis 53%, and hepatitis B 54% of the national target of 95%. This gap is caused by various factors such as limited test kits (rapid tests), health workers who are not fully trained, limited understanding of pregnant women about infectious diseases, and the existence of social stigma against diseases such as HIV [8].

Aceh Province recorded an increase in HIV and syphilis cases. Data on the Prevention of Mother-to-Child HIV Transmission (PPIA) in 2020 found that 0.12% (6 people) were HIV positive, 0.14% (10 people) and 0.97% (50 people) were Hepatitis B [9]. The Working Area of the Ujung Padang Rasian Health Center, Pasie Raja District, South Aceh Regency, in 2022 there are 2 pregnant women with HIV and 1 pregnant woman with syphilis, while in 2023 there are 2 pregnant women with hepatitis. Although this number does not reach 50% of the total visits to the health center, this problem is very serious and very easy to transmit from mother to baby directly [10].

Therefore, with the holding of a program called Triple elimination in accordance with the WHO recommendations (2021), the transmission rate is expected to decrease with preventive activities. The activity is

in the form of the implementation of HIV, Hepatitis B and Syphilis tests during Antenatal Care (ANC) for pregnant women [11]. To determine the achievement of the transmission elimination indicator, it can be seen from the scope of activities mentioned in the Regulation of the Minister of Health (PMK) No.52 concerning the Elimination of HIV, Syphilis, and Hepatitis B transmission from Mother to Child containing antenatal services, complete early detection of quality [12]. The program contains the Triple elimination program has a target of reaching zero by 2030 with a target of 3 Zero, namely zero new infection (a decrease in the number of new cases), zero death (a decrease in the death rate), zero stigma and discrimination (a decrease in the level of discrimination) [13].

Method

This research method is a quantitative research with a cross-sectional design that aims to determine the effect of the implementation of the Triple Elimination Program on the quality of antenatal care

(ANC) services in Puskesmas. The research will be carried out in June 2025 at the Health Center. The population in this study is all pregnant women who made ANC visits at the Health Center during the research period. Samples were taken using purposive sampling techniques based on inclusion criteria: pregnant women in the first and third trimester who have undergone at least one ANC visit, are willing to be respondents, and are able to fill out questionnaires. The total sample was 88 pregnant women. Data collection was carried out using a structured questionnaire that has been tested for validity and reliability (Cronbach's Alpha value ≥ 0.7). The data were analyzed univariate to describe the characteristics of the respondents, and bivariate using the Chi-Square test [14].

Results and Discussion

1. Respondent Characteristics

The results of the study based on the characteristics of the respondents can be seen from the following table:

Table 1. Distribution of Respondent Frequency Based On Patient Characteristics In Pregnant Woman At Health Center In 2025 (n=88)

Characteristics	n	%
Age 20–35 years old	76	82,6
High School Education/Equivalent	55	59,8
Trimester pregnancy II	42	45,7
ANC visits ≥ 2 times	63	68,5

Source : Data for 2025

Based on the table above, as many as 88 pregnant women became respondents in this study. The majority of respondents were aged 20–35 years (82.6%), with a high

school education/equivalent level (59.8%). Most of the respondents were in the second trimester (45.7%) and had undergone ≥ 2 ANC visits (68.5%).

2. Implementation of the Triple Elimination Program

Table 2. Implementation of the Triple Elimination Program

Implementation Components	Yes (%)	No (%)
Screening for hepatitis B	84,8	15,2
Screening Syphilis	78,3	21,7
HIV Screening	73,9	26,1
Infectious Infection Education	62,0	38,0

Source : Data For 2025

The implementation of infectious infection screening in pregnant women showed that most of the respondents had been screened for hepatitis B (84.8%), syphilis (78.3%),

and HIV (73.9%). However, only 62.0% of pregnant women stated that they received comprehensive education about infectious infections from health workers.

3. ANC Service Quality

Table 3. Quality of ANC Servers

Service Aspect	Good (%)	Enough/Less (%)
Inspection completeness	76,1	23,9
Health information	70,7	29,3
ANC service satisfaction	73,9	26,1

Source : Date for 2025

The quality of ANC services is measured based on the mother's perception of the completeness of the service, the information received, and overall satisfaction. The results

showed that 70.7% of mothers rated the service as of good quality, while 29.3% felt that information about the risk of infectious diseases was still lacking.

4. The Effect of the Implementation of the Triple Elimination Program on Antenatal Care Services

Table 4. The Effect of the Implementation of the Triple Elimination Program on Antenatal Care Services

Implementation Triple Eliminated	ANC Quality Good	Moderate/Poor ANC Quality	Total	OR (95% CI)	p-value
Complete (HIV, Syphilis, Hepatitis B)	48 (82.8%)	10 (17.2%)	58	2,7 (1,3–5,5)	0,013*
Incomplete	17 (56.7%)	3 (43.3%)	30		
Total	65	23	88		

Source : Date for 2025

The results of bivariate analysis using the *Chi-Square* test showed a significant relationship between the implementation of the Triple Elimination program and the quality of ANC services

($p = 0.013$). Respondents who underwent all three types of screening were 2.7 times more likely to rate ANC services as "good" than those who did not undergo

complete screening (OR = 2.7; 95% CI: 1.3–5.5).

Discussion

The results of the study show that there is a significant relationship between the implementation of the Triple Elimination Program and the quality of antenatal care (ANC) services at the Health Center. Pregnant women who underwent a complete screening for HIV, syphilis, and hepatitis B were more likely to rate ANC services as "good" compared to pregnant women who did not undergo a complete screening ($p = 0.013$; OR = 2.7; 95% CI: 1.3–5.5). This indicates that the more complete the implementation of Triple Elimination, the more the perception of service quality felt by pregnant women will also increase.

These findings are in line with the results of research by the Indonesian Ministry of Health (2023) which states that the integration of infectious infection screening into ANC services can improve comprehensive service coverage and patient satisfaction. The Triple Elimination program not only focuses on early detection of infectious diseases, but also strengthens aspects of education, referral systems, and service recording which overall have a positive impact on the perception of service quality by users [15].

Theoretically, these results support the Donabedian model of health care quality, which states that service quality is influenced by inputs (resources and facilities), processes (service interactions), and outputs (satisfaction and service outcomes). In this context, the successful implementation of Triple Elimination reflects a good service process starting from screening, education, to referral which then increases the trust and satisfaction of pregnant women in ANC services [16].

However, these results also show that there are still 17.2% of pregnant women in the "complete implementation" group who consider ANC services to be unsatisfactory. This can be caused by several non-technical factors, such as less effective communication approaches by officers, limited consultation time, or the existence of social stigma towards HIV/syphilis screening. Therefore, it is important to strengthen the communication competence of health workers, including in conveying sensitive information with an empathetic and educational approach [17].

On the other hand, pregnant women who do not undergo a complete examination tend to be more likely to rate ANC services as less quality (43.3%). This condition can be related to the uneven availability of logistics (rapid test kits), lack of training for officers, or low knowledge of pregnant women on the importance of infectious infection checks. These findings are in line with research by Amiruddin (2022) who found that one of the main barriers to the implementation of Triple Elimination in primary services is the lack of public awareness and stigma towards infectious disease screening. Therefore, to increase the effectiveness of the Triple Elimination Program, a sustainable strategy is needed in the form of strengthening the capacity of health workers, the availability of testing facilities and logistics, an integrated reporting system, a participatory and stigma-free educational approach to pregnant women [17].

Conclusions

Based on the results of research that shows that there is a significant relationship between the implementation of the Triple Elimination Program and the quality of antenatal care (ANC) services, it is important for various

parties to take strategic steps to increase the effectiveness of this program at the primary service level. Puskesmas as the spearhead of health services for pregnant women is expected to ensure the continuous availability of HIV, syphilis, and hepatitis B screening kits. The availability of adequate logistics needs to be supported by regular training for health workers, in order to be able to carry out screening according to standards, provide appropriate education, and handle the results of examinations professionally.

Health workers also need to be equipped with effective interpersonal communication skills, especially in conveying information related to infectious diseases that are often sensitive and susceptible to stigma [18]. This capacity building aims to make pregnant women feel comfortable and safe when undergoing examinations, as well as understand the importance of screening for the health of themselves and their babies. Involving spouses or family members in education can be an additional strategy to strengthen social support for the Triple Elimination program [19].

Furthermore, the role of the Health Office is very crucial in monitoring the implementation of the program routinely in each Health Center, while ensuring that reporting and referrals run well. Strategies to increase screening coverage need to be designed based on local data, so that they are more contextual and on target [20]. In addition, public campaigns on preventing the transmission of HIV, syphilis, and hepatitis B to the community need to be expanded, by collaborating with community leaders and using local media to reach pregnant women in remote areas. To strengthen the understanding of various factors that affect the success of the program, further research is recommended to use a

qualitative approach that is able to delve deeper into the experiences of pregnant women and the challenges faced by health workers in the field. Comparative research between regions can also help identify best practices that can be replicated in other regions [21].

This study shows that there is a significant relationship between the implementation of the Triple Elimination Program (HIV, syphilis, and hepatitis B screening) and the quality of antenatal care (ANC) services for pregnant women at the Health Center. Pregnant women who get a complete examination have a greater chance of assessing ANC services as of good quality. This shows that the optimal implementation of Triple Elimination not only has an impact on the early detection of infectious diseases, but also increases satisfaction and positive perception of pregnant women's health services. Efforts are needed to strengthen the implementation of the program through improving facilities, training of health workers, and effective education for pregnant women.

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