

MATERNAL KNOWLEDGE AND TRIPLE ELIMINATION SCREENING ADHERENCE: A CASE STUDY AT DR. DJASMEN SARAGIH HOSPITAL

Sondang Uliarta Saragih¹, Alvin Adelia Cahyaningtyas², Retno Wahyuni³, Marliani⁴,
Kismiasih Adethia⁵

^{1,2,3,4,5}Sekolah Tinggi Ilmu Kesehatan Mitrahusada Medan

Email: 2219201740@mitrahusada.ac.id, 2319201002@mitrahusada.ac.id,
retnowahyuni@mitrahusada.ac.id, marliani@mitrahusada.ac.id,
kismiasihadethia@mitrahusada.ac.id

ABSTRACT

Background: The Triple Elimination program was initiated to reduce the transmission rates of HIV, syphilis, and hepatitis B from mother to infant. The program's success relies heavily on the compliance of pregnant women, which is driven in part by their understanding of the importance of such screening. **Objective:** To analyze the correlation between the level of knowledge among pregnant women and their compliance with Triple Elimination screening at Dr. Djasamen Saragih Regional General Hospital (RSUD), Pematang Siantar, in 2023. **Methods:** This observational analytic study employed a cross-sectional design involving 40 pregnant women selected via probability sampling. Data were collected using a knowledge questionnaire and a compliance observation sheet, then analyzed using the Chi-Square test. **Results:** The majority of respondents (72.5%) possessed poor knowledge, while 27.5% had good knowledge. Regarding compliance, 80% of respondents were classified as compliant with the screening. Statistical analysis yielded a p-value of 0.013 ($p < 0.05$), indicating a significant relationship between maternal knowledge and screening compliance. **Conclusion:** here is a significant association between the knowledge of pregnant women and compliance with Triple Elimination screening. Therefore, more intensive health education strategies are needed to improve maternal literacy and participation in the program. **Keywords:** Compliance, Knowledge, Pregnant Women, Triple Elimination

INTRODUCTION

Pregnancy is a condition requiring special attention, as the health of both the mother and the fetus can be affected by various factors, including infections transmissible from mother to child. One government initiative to prevent such transmission is the "Triple Elimination" program, which involves screening pregnant women for HIV (Human Immunodeficiency Virus), syphilis, and hepatitis B. This screening aims to break the chain of transmission from mother to infant during pregnancy, childbirth, and breastfeeding (Armini et al. 2024).

Infections such as HIV, syphilis, and hepatitis B in pregnant women can lead to various complications, including miscarriage, premature birth, low birth weight, and an increased risk of infant morbidity and mortality (Tang et al. 2026). Early detection through Triple Elimination screening is crucial within antenatal care (ANC) services, enabling mothers who test positive to promptly receive treatment and measures to prevent transmission to their infants (Armini, Setiawati, and Arisanti 2023).

The successful implementation of the Triple Elimination program depends not only on the availability of healthcare services but also on the knowledge and compliance of pregnant women regarding the screening. A good understanding of the benefits of Triple Elimination screening can raise awareness among mothers, encouraging them to undergo the screening as recommended by healthcare professionals (Candra and Suryati 2023).

A preliminary survey conducted in 2023 at Dr. Djasamen Saragih Regional General Hospital (RSUD) in Pematang Siantar City revealed that some pregnant women had not undergone Triple Elimination screening due to a lack of understanding regarding its importance (Indriani et al. 2024). Therefore, this study aims to determine the relationship between the level of knowledge among pregnant women and their compliance with Triple Elimination screening at Dr. Djasamen Saragih Regional General Hospital, Pematang Siantar City, in 2023.

RESEARCH METHOD

This study employed a quantitative analytical observational design using a cross-sectional approach to determine the relationship between maternal knowledge and compliance with Triple Elimination screening for HIV, Syphilis, and Hepatitis B. The research was conducted at the Maternal and Child Health (MCH) Clinic of RSUD Dr. Djasamen Saragih, Pematang Siantar, Indonesia, in 2023. The study population consisted of all pregnant women who received antenatal care services at the study site. A total of 40 pregnant women were selected as research respondents using a probability sampling technique based on the established inclusion and exclusion criteria.

Data collection was carried out using a structured questionnaire to assess the level of maternal knowledge regarding the importance of Triple Elimination screening, while compliance with screening was measured using an observation sheet based on the completion of HIV, Syphilis, and Hepatitis B examinations during pregnancy (Id et al. 2024). The collected data were analyzed through univariate analysis to describe the distribution of each research variable and bivariate analysis to examine the relationship between maternal knowledge and compliance with Triple Elimination screening (Azhali, Setiabudi, and Alam 2023). The statistical analysis was performed using the Chi-Square test with a significance level of $p < 0.05$.

The research process followed ethical principles, including obtaining informed consent from respondents, maintaining confidentiality of personal information, and ensuring that all collected data were used solely for scientific research purposes.

RESULTS AND DISCUSSION

RESULTS

The study involved 40 pregnant women who received antenatal care services. The findings indicated that the majority of respondents had a low level of knowledge regarding Triple Elimination screening, with 29 respondents (72.5%), while 11 respondents (27.5%) demonstrated a good level of knowledge. In terms of screening compliance, 32 respondents (80%) were categorized as compliant, whereas 8 respondents (20%) were categorized as non-compliant.

Table 1. Association Between Maternal Knowledge and Compliance with Triple Elimination Screening

Maternal Knowledge	Non-compliant n (%)	Compliant n (%)	Total n (%)	p-value
Poor Knowledge	3 (10.3)	26 (89.7)	29 (100)	0.013
Good Knowledge	5 (45.5)	6 (54.5)	11 (100)	
Total	8 (20)	32 (80)	40 (100)	

The statistical analysis using the Chi-Square test demonstrated a significant association between maternal knowledge and compliance with Triple Elimination screening ($p = 0.013$; $p < 0.05$). This indicates that maternal knowledge is an important factor influencing adherence to HIV, Syphilis, and Hepatitis B screening during pregnancy.

DISCUSSION

The findings of this study demonstrated that maternal knowledge was significantly associated with compliance with Triple Elimination screening among pregnant women. The statistical analysis using the Chi-Square test showed a significant relationship between knowledge level and compliance with Triple Elimination screening ($p\text{-value} = 0.013$; $p < 0.05$). This result indicates that knowledge is an important factor influencing maternal behavior in utilizing antenatal health services, particularly HIV, Syphilis, and Hepatitis B screening (Pasaribu et al. 2025).

In this study, most respondents had a low level of knowledge regarding Triple Elimination screening. Limited knowledge may affect maternal understanding of the purpose, benefits, and importance of early detection of infectious diseases during pregnancy (Basaria et al. 2023). Pregnant women who do not receive adequate information may have less awareness regarding the risk of mother-to-child transmission and the importance of completing recommended examinations. Maternal knowledge plays an essential role in forming preventive health behaviors (Sinuhaji et al. 2025). According to health behavior theory, individuals with sufficient knowledge tend to have better perceptions and attitudes toward health interventions. Knowledge obtained through counseling, health education, and interaction with healthcare providers can increase maternal motivation to participate in antenatal care programs.

The results also showed that the majority of respondents were compliant with Triple Elimination screening. This compliance may be influenced by the availability of antenatal care services, recommendations from healthcare workers, and the implementation of routine screening programs at health facilities (Luo et al. 2024). However, improving maternal knowledge remains necessary because adequate understanding can strengthen long-term compliance and encourage active participation in pregnancy care. Therefore, healthcare providers need to continuously improve health promotion strategies through structured counseling and education about Triple Elimination screening during antenatal visits. Increasing maternal knowledge is expected to improve screening coverage and

support the prevention of HIV, Syphilis, and Hepatitis B transmission from mother to child (Nurhidayati, Marbun, and Setyorini 2025).

CONCLUSION

This study concludes that there is a significant relationship between maternal knowledge and compliance with Triple Elimination screening among pregnant women at RSUD Dr. Djasamen Saragih, Pematang Siantar. The majority of respondents had a low level of knowledge regarding Triple Elimination screening, while most pregnant women were compliant in completing HIV, Syphilis, and Hepatitis B examinations. The Chi-Square test showed a significant association between knowledge level and screening compliance (p-value = 0.013; $p < 0.05$).

Improving maternal knowledge through continuous health education and counseling during antenatal care visits is important to increase awareness and compliance with Triple Elimination screening. Strengthening the role of healthcare providers is expected to support early detection and prevention of mother-to-child transmission of HIV, Syphilis, and Hepatitis B.

ACKNOWLEDGEMENT

The authors would like to express gratitude to the management and healthcare staff of RSUD Dr. Djasamen Saragih, Pematang Siantar, and all pregnant women who participated in this study. The authors also thank the supervisors and all parties who provided support and assistance during the research process.

CONFLICT OF INTEREST AND FUNDING DISCLOSURE

The authors declare that there is no conflict of interest related to this study. This research was conducted independently without any personal, financial, or institutional influences that could affect the results and interpretation of the findings. This study received no specific funding from any public, commercial, or non-profit organization and was independently supported by the authors.

AUTHOR CONTRIBUTION

The authors contributed to all stages of this study, including the study design, data collection, data analysis, interpretation of findings, and preparation of the manuscript. The authors were involved in reviewing the research results, developing the discussion, and approving the final version of the manuscript for publication.

STIKes MITRA HUSADA MEDAN

REFERENCES

- Armini, Luh Nik, Elsa Pudji Setiawati, And Nita Arisanti. 2023. "Evaluation Of Process Indicators And Challenges Of The Elimination Of Mother-To-Child Transmission Of Hiv , Syphilis , And Hepatitis B In Bali Province , Indonesia (2019 – 2022): A Mixed Methods Study." : 1–15.
- Armini, Luh Nik, Elsa Pudji Setiawati, Nita Arisanti, And Dany Hilmanto. 2024. "Patient Perspective On The Elimination Mother - To - Child Transmission Of Hiv , Syphilis , And Hepatitis B In Bali , Indonesia : A Qualitative Study." *Bmc Public Health*: 1–13. Doi:10.1186/S12889-024-19692-3.
- Azhali, Buti A, Djatnika Setiabudi, And Anggraini Alam. 2023. "Evaluating The Impact Of Triple Elimination Program For Mother-To-Child Transmission Of Hiv, Syphilis, And Hepatitis B In Indonesia." : 1–9.
- Basaria, Manurung Et Al. 2023. "Peningkatan Kompetensi Bidan Desa Dalam Pemeriksaan Triple Eliminasi Pada Ibu Hamil Diwilayah Kerja Puskesmas Pegajahan Kab. Serdang Bedagai Tahun 2023."
- Candra, Wahyuni, And Suryati. 2023. "Health Education Analysis Of Triple Elimination Of Hiv , Syphilis , And Hepatitis B Towards Interest In Screening Of Pregnant." : 169–75.
- Id, Lucie Sabin, Hassan Haghparast-Bidgoli, Faith Miller Id, And Naomi Saville Id. 2024. "A Systematic Review Of Barriers And Facilitators To Antenatal Screening For Hiv , Syphilis Or Hepatitis B In Asia : Perspectives Of Pregnant Women , Their Relatives And Health Care Providers." (1): 1–18. Doi:10.1371/Journal.Pone.0300581.
- Indriani, Ratna Fitri, Atikah Adyas, William Arisandi, And Aila Karyus. 2024. "Analisis Faktor Yang Berhubungan Dengan Pemeriksaan Triple Eliminasi Pada Ibu Hamil." 13(April): 95–104.
- Kementerian Kesehatan Ri 2015. Pedoman Pelaksanaan Pencegahan Penularan Hiv Dan Sifilis Dari Ibu Ke Anak Bagi Tenaga Kesehatan. Jakarta: Kementerian Kesehatan Ri
- Luo, Ya Li Et Al. 2024. "Eliminating Mother - To - Child Transmission Of Hepatitis B Virus : Practice And Progress In Baoan , A National Pilot District Of China." *Bmc Public Health*: 1–13. Doi:10.1186/S12889-023-17500-Y.
- Nurhidayati, Novita, Lamsel Marbun, And Catur Setyorini. 2025. "Pendidikan Kesehatan Berbasis Keluarga Berpengaruh Terhadap Pelaksanaan Pemeriksaan Triple Eliminasi Pada Ibu Hamil Trimester 1 Family-Based Health Education Influences The Implementation Of Triple Elimination Examination In Pregnant Women In The 1st Trim." Xvii(01): 23–30.
- Pasaribu, Riska Susanti, Lasria Simamora, Juliana Munthe, And Marlina Simbolon. 2025. "Pemeriksaan Pms Ibu Hamil : Upaya Pencegahan Komplikasi Kehamilan Di Desa Bandar Setia Kabupaten Deli Serdang." (1): 30–38.
- Sinaga, S. N. (2023). *Konteks Sosial Kesehatan Ibu Dan Anak*. Jawa Tengah: Wawasan Ilmu
- Tang, Jinni Et Al. 2026. "Characteristics And Effectiveness Of Maternal Health Interventions To Prevent Mother- To-Child Transmission (Pmtct) Of Syphilis In A Global Setting : A Scoping Review Using Intervention Mapping As A Framework."