

HIV LITERACY AND PREGNANT WOMEN'S WILLINGNESS FOR TESTING AT PADANG BULAN COMMUNITY HEALTH CENTER IN 2025

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ABSTRACT

Background. HIV remains a significant global public health issue, particularly among pregnant women. Understanding HIV is crucial for enhancing their willingness to get tested, which impacts prevention of mother-to-child transmission (PMTCT). This study aims to examine the relationship between HIV literacy and the willingness of pregnant women to undergo screening at the Padang Bulan Health Center in 2025. *Subjects and Method.* This quantitative study uses a cross-sectional design. The population consists of all pregnant women visiting the Health Center in 2025, with a sample of 51 selected through total sampling. Primary data were gathered via a structured questionnaire assessing HIV literacy and willingness for screening. Data analysis employed the Chi-square test. *Results.* There was no significant relationship between HIV literacy and the willingness to undergo screening ($p\text{-value} = 0.054 > 0.05$). *Conclusions.* Other factors may influence the willingness to test for HIV beyond those examined in this study. Further research is necessary, incorporating WHO-recommended testing procedures.

Keywords: Literacy; HIV Screening; ANC

INTRODUCTION

Human Immunodeficiency Virus (HIV) is an HIV infection that attacks white blood cells, resulting in a decrease in immunity in the human body, making patients very susceptible to various diseases (Ministry of Health, 2022). In addition to health impacts, HIV-AIDS has significant psychosocial effects on women's welfare. Women with HIV-AIDS will face many psychological problems, such as lack of confidence, hopelessness, anxiety, doubt, stress, depression, and discrimination (Syafrie *et al.*, 2022).

WHO (2023) reports that in the Southeast Asian region there are about 4 million people living with HIV, with about 19.3 million women worldwide living with HIV. In Indonesia, of the 3,231,203 pregnant women who were tested for HIV in 2022, 2,490 HIV-positive cases were found (Ministry of Health of the Republic of Indonesia, 2023). This shows the importance of early detection of HIV in pregnant women as an effort to prevent transmission from mother to child.

HIV-AIDS can threaten everyone, both men and women. The number of HIV/AIDS cases by age group according to the Ministry of Health in 2021–2023, there is an increase in the number of HIV tests conducted in Indonesia. The number of people who tested positive increased along with the number of tests performed. Most ODHIV is found at the age of 25-49 years (69.5 percent), but the positivity rate is relatively stable at 0.9 - 1.1 (Ministry of Health, 2023a).

Over the past ten years, HIV cases and AIDS in North Sumatra Province is increasing rapidly. From 1678 cases in 2010 to 24,044 in March 2020, it consisted of 19,979 cases of HIV and 4,065 cases of AIDS. This number places North Sumatra (North Sumatra) in seventh place in the number of HIV cases in Indonesia (Ministry of Health, 2020). In 2021, the total number of cases increased to 26,524, consisting of 22025 HIV cases and 4499 AIDS cases (Ministry of Health, 2021a).

North Sumatra is the sixth province with the highest number of HIV cases in Indonesia, after West Java, Central Java, East Java, DKI Jakarta, and Banten (Indonesian Ministry of Health, 2023). HIV cases in North Sumatra vary between districts and cities. The city of Medan has the highest number of cases at 15,331, followed by Deli Serdang with 2,607 as of October 2023. The city of Medan currently has 9,878 HIV/AIDS cases, 55 of which are children (Tanjung *et al.*, 2024). Padang Bulan Community Health Centre, as one of the community health centres providing voluntary testing counselling and testing counselling on the initiative

of officers in the city of Medan, as the research locus, showed that in the last three months, 105 pregnant women underwent ANC examinations. In 2023, there were three pregnant women who tested positive for HIV.

The government has formulated rules regarding the handling of HIV-AIDS, especially for women, especially pregnant women. One of the steps taken is to require pregnant women to undergo an HIV-AIDS test combined with an ANC examination. Through this program, it is hoped that pregnant women can do HIV-AIDS screening at least once during their pregnancy (Ministry of Health of the Republic of Indonesia, 2019).

Health literacy, particularly about HIV, plays an important role in increasing awareness and preventive behaviors, including willingness to undergo HIV screening (Safrina et al., 2024).

Low health literacy is often the main obstacle in health-related decision-making (Kesumawati et al., 2019). Several previous studies have shown mixed results regarding the relationship between HIV literacy and HIV screening behavior.

This study was conducted to determine the relationship between HIV literacy and the willingness of pregnant women to conduct HIV tests at the Padang Bulan Health Center in 2025.

METHODS

This study is a quantitative research with a cross-sectional design. This study was conducted at the Padang Bulan Health Center, Medan Baru District. This research was conducted from March to April 2025.

A sample of 51 respondents was obtained through total sampling technique. Data were collected using a questionnaire on HIV literacy and willingness to undergo HIV testing, which had been tested for validity and reliability. Data analysis was performed using the chi-square test.

RESULT AND DISCUSSION

Respondent characteristics

The majority of respondents were aged between 20 and 35 (84%) and had a high school or bachelor's degree (74.6%), with most being unemployed or housewives (58.8%). This shows that the majority of respondents are of healthy reproductive age and have a medium level of

education which should make it easier to receive information related to HIV (Kesumawati et al., 2019).

Literacy about HIV

Table 1.1 HIV Literacy Rate

Literacy Level	Frequency	Percentage
Low	18	35,3%
Keep	20	39,2%
Tall	13	25,5%
Total	51	100%

Discussion: The majority of pregnant women have moderate HIV literacy (39.2%). This result is in accordance with the research of Safrina et al. (2024) which states that the HIV literacy level of pregnant women in Indonesia is generally at moderate to low levels.

Willingness of pregnant women to undergo HIV testing

Table 1.2 Willingness to Undergo HIV Testing

Examination Readiness	Frequency	Percentage
Willing	30	58,8%
Unprepared	21	41,2%
Total	51	100%

Discussion: More than half of respondents (58.8%) are willing to get tested for HIV. These results are in accordance with Putri et al. (2024) who show that the willingness of pregnant women is influenced by factors other than literacy, such as social support and service quality.

The Relationship of HIV Literacy with the Willingness to Conduct HIV Testing

Table 1.3 The Relationship of HIV Literacy with HIV Testing Readiness

HIV Literacy	Willing	Unprepared	Total	<i>P-Value</i>
Low	8	10	18	0,054
Keep	12	8	20	
Tall	10	3	13	
Total	30	21	51	

The chi-square test showed a *value of* $p = 0.054$ (>0.05), so there was no significant relationship between HIV literacy and HIV test readiness.

DISCUSSION

HIV Literacy Rate in Pregnant Women

Research shows that the majority (51%) of pregnant women have adequate HIV literacy, meaning they have a good understanding of HIV-related information. The level of education, access to information, and education of health workers are factors that affect this literacy. This is in line with Nutbeam's (2000) theory in (Vechiu and Mosqueda, 2021) which defines health literacy as the ability to obtain, understand, and use health information for decision-making. In the context of HIV, health literacy includes an understanding of HIV transmission, prevention, and the importance of HIV testing. A high level of literacy helps individuals understand the risks and take preventive measures.

Another study by Anindhita et al. (2025) found that good health literacy is highly associated with high adherence to taking antiretroviral drugs (ARVs) in individuals with HIV, with 96.5% of respondents demonstrating adherence. Good knowledge of HIV and ARV treatment positively influences adherence, as well as helping patients understand the importance of ARVs. Research by Ratnawati et al. (2022) also supports this finding.

However, in contrast to the findings above, research by Kesumawati et al. (2019) showed a low literacy level in 56.7% of respondents. Respondents had difficulty evaluating (63.3%) and using health information (61.7%). This emphasizes the need for health workers to provide clear and easy-to-understand information, as well as support for ODHA.

Better knowledge of mothers can help them avoid the various risks associated with pregnancy. Increasing health literacy is one way that can be done. An individual's ability to obtain, process, understand, and use data to help improve his health and acting according to this information is called health literacy. Health literacy will allow a person to actively participate in health decision-making. (Aditya, Joyce and Hakim Stanley, 2023)

Overall, improving health literacy, especially in pregnant women, is essential to help them avoid risks related to pregnancy and HIV. Health literacy empowers individuals to actively participate in their health decision-making. The authors assume that literacy levels have a significant influence on HIV screening rates.

Willingness to Undergo HIV Testing

The majority of pregnant women (98%) are willing to undergo HIV screening, demonstrating an understanding of the importance of early detection for maternal and fetal health. However, there are still 2% who refuse, likely due to stigma, fear, or lack of information. This is in line with the research of Tran et al. (2019) who mentioned stigma as a barrier to HIV testing. The study of Sumarno et al. (2020) also showed that most respondents (66.9%) were willing to take the test, but 33.1% refused it.

This study is in accordance with (Putera, Abdullah and Imran, 2017) indicates that there are results that show interest in carrying out VCT. The results of the Chi Square test showed that there was no association between attitude and desire to do VCT (p -value=1.00). So, the conclusion is that the Theory of Planned Behavior can Determine the factors that influence the desire to conduct independent consultations and tests, with subjective norms as the main factor.

Based on these findings, it can be assumed that although a large portion of the population may have a willingness and positive attitude towards HIV testing, there are still significant barriers that influence the decision to test. Stigma, geographical differences, and factors outside of an individual's attitude are the main determinants. Therefore, efforts to increase HIV screening rates must comprehensively consider and address these barriers to achieving broader coverage.

The Relationship of HIV Literacy with the Willingness to Conduct HIV Testing

The analysis showed that literacy was not related to the willingness of pregnant women to be tested for HIV ($p > 0.05$). Although pregnant women with adequate literacy tend to be more willing to understand the benefits of early detection, low literacy often correlates with unwillingness due to ignorance, fear, or misperception. These findings are supported by Niu et al. (2019) and Alexander (2016), who also found no significant correlation between pregnant women's understanding and adherence in undergoing VCT. Some respondents did VCT not because of understanding, but followed the procedures of the Puskesmas or independent initiatives.

The study of Arniti et al. (2014) showed that the majority of tests were carried out on the recommendation of health workers (65.8%) or wanted to know their HIV status (61.7%), while some refused for fear of having blood drawn or knowing the results. However, these findings

are different from Harahap & Elfiqoh (2021) which shows the relationship between the bride-to-be's understanding of HIV/AIDS and the implementation of HIV testing.

The authors assume that despite inadequate literacy, pregnant women still undergo HIV testing because of standard pregnancy screening procedures at health centers, often without realizing that it is an HIV test.

When conducting the examination, the midwife who provides the service does not explain in detail about HIV testing to pregnant women which makes pregnant women not know that they have been tested for HIV. This lack of understanding makes literacy figures inadequate but pregnant women are eager to get tested, and not many people know about their condition according to HIV screening guidelines. Pregnant women must be made aware of the importance of HIV testing so that mothers are willing and willing to do HIV testing to keep them from contracting with the fetus they are carrying. Counseling before conducting HIV checks on pregnant women must be carried out and carried out by midwives in health services, in this case at the Padang Bulan Health Center.

According to WHO, HIV test counseling for pregnant women is very crucial because it can increase pregnant women's understanding and perspective about HIV testing and encourage behavioral changes that are can reduce the risk of transmission of HIV from mother to child. Therefore, consultation before HIV testing can be challenging for pregnant women who do not have information about HIV testing. The one of the principles of HIV testing is according to (Ministry of Health, 2021b) : *Counseling*; Before HIV testing, pregnant women need to get counseling to understand the importance of screening, the risk of HIV infection, and how to prevent transmission to the baby. After the test, pregnant women will also receive counseling regarding test results and next actions.

There is no significant relationship between HIV literacy and the willingness of pregnant women to undergo HIV testing at the Padang Bulan Health Center in 2025. However, there is a tendency that the higher the literacy, the greater the willingness of pregnant women to undergo HIV testing.

Although most pregnant women are quite knowledgeable about HIV, and have a good attitude, it turns out that a good understanding does not necessarily make everyone want to be tested. Stigma (shyness/fear of being judged), location, and pressure from the surrounding environment also greatly affect a person's willingness to be tested. So, to make all pregnant women want to be tested for HIV, it is not enough to just provide information. We also need to fight stigma, eliminate fear, and ensure everyone has easy access to testing sites.

CONCLUSION

It is thought that there are other factors that are likely to be more related to the willingness to test for HIV in the variables studied in this study. Therefore, further research needs to be carried out, including examination procedures according to WHO recommendations.

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REFERENCE

- Aditya, R., Joyce and Hakim Stanley, K. (2023) 'Counseling as an effort to improve knowledge and health literacy skills of pregnant women', *Journal of Progressive Community Service*, 7(4), pp. 2338–2342.
- Alexander, D.P. (2016) 'The relationship between knowledge and attitudes of pregnant women and HIV and AIDS readiness', 6, pp. 142–151.
- Anindhita, R.A. *et al.* (2025) 'The relationship between health literacy and adherence to taking antiretroviral drugs in people with HIV (ODHIV)', 3 (April).
- Arniti, N.K., Wulandari, L.P.L. and Wirawan, D.N. (2014) 'Factors related to the acceptance of HIV tests by pregnant women at the Denpasar City Health Center', *Public Health and Preventive Medicine Archive*, 2(1), pp. 63–69. Available at: <https://doi.org/10.15562/phpma.v2i1.125>.
- Ministry of Health (2020) 'National action plan for the prevention and control of HIV AIDS and PIMS in Indonesia in 2020-2024', *Ministry of Health of the Republic of Indonesia*, pp. 1–188.
- Ministry of Health (2021a) 'Report on the development of HIV AIDS and sexually transmitted

diseases (PIMS) in the first quarter of 2021', p. 6.

Ministry of Health (2021b) 'HIV Test Services', pp. 1–35.

Ministry of Health (2022) *Health Profile of Indonesia. Ministry of Health of the Republic of Indonesia, Jakarta.*

Ministry of Health (2023a) 'MPOX rapid risk assessment report in Indonesia'.

Ministry of Health (2023b) 'Health profile of North Sumatra province', pp. 1–23.

Ministry of Health of the Republic of Indonesia (2019) *Guidelines for the prevention of HIV, Syphilis, and Hepatitis B transmission from mother to child.*

Ministry of Health of the Republic of Indonesia (2023) 'Development of HIV AIDS and Sexually Transmitted Infectious Diseases (PIMS) in 2023', *Ministry of Health of the Republic of Indonesia*, 7, pp. 1–15.

Kesumawati, R., Ibrahim, K. and Witdiawati, W. (2019) 'Health literacy of people with HIV/AIDS', *Indonesian Journal of Nursing Education*, 5(1), pp. 77–88. Available at: <https://doi.org/10.17509/jpki.v5i1.15533>.

Niu et al., 2019 (2019) 'Journal of Tropical Nursing', *Journal of Tropical Nursing*, 02(2654–5756), pp. 110–114.

Putera, F., Abdullah, A. and Imran (2017) 'Willingness to Conduct Voluntary Counseling and Testing in HIV/AIDS Risk Groups', *Journal of Nursing Sciences*, 5(1), pp. 12–22.

Putri, A.P. *et al.* (2024) 'Maternal health literacy and adherence to iron tablet consumption among pregnant women', *Lighthouse Health Journal*, 7(1), pp. 077–083. Available at: <https://doi.org/10.36984/jkm.v7i1.452>.

Safrina, S. *et al.* (2024) 'The effect of HIV/AIDS literacy on pregnant women on the

willingness to undergo PMTCT examinations in the City', 1(1), pp. 265–272.

Sumarno, E.E., Sudiman, H. and Widodo, S. (2020) 'Analysis of Factors Related to the Willingness of Pregnant Women to Conduct HIV Tests in the Working Area of the Cimanggis Health Center in Depok in 2019', *Journal for Healthy Communities (JUKMAS)*, 4(1), pp. 1–14. Available at: <https://doi.org/10.52643/jukmas.v4i1.634>.

Syafrie, I.R. *et al.* (2022) 'Early detection of danger signs with HIV/AIDS testing', *Besemah Journal*, 1(2), pp. 63–68. Available at: <https://doi.org/10.58222/jurnalbesemah.v1i2.105>.

Tran, B.X. *et al.* (2019) 'Understanding global HIV stigma and discrimination: Are contextual factors sufficiently studied? (Gapresearch)', *International Journal of Environmental Research and Public Health*, 16(11). Available at: <https://doi.org/10.3390/ijerph16111899>.

Vechiu, C. and Mosqueda, A.I. (2021) 'Health literacy', *Handbook of Evidence-Based Prevention of Behavioural Disorders in Integrated Care: A Step-Up Care Approach*, 15(3), pp. 439–458. Available at: https://doi.org/10.1007/978-3-030-83469-2_19.

WHO (2023) *HIV and AIDS*. Available at: <https://www.who.int/news-room/fact-sheets/detail/hiv-aids>.

Yanna Wari Harahap, Mhd. Arsyad Elfiqoh, & R.N.K. (2021) 'The Relationship of Knowledge and Attitudes of Brides-to-be about HIV/AIDS and the Implementation of HIV Testing', *Indonesian Health Scientific Journal*, 6(2), p. 122. Available at: <https://doi.org/10.51933/health.v6i2.531>.