



# Health Belief Model Approach to Understand Pregnant Women's Perceptions of HIV/AIDS Prevention in the Jekan Raya Community Health Center Working Area, Palangkaraya City

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## Abstract

*Background: HBM is a theory used to understand health attitudes and behavior towards a disease. It consists of several influencing factors such as perceived vulnerability, perceived severity, perceived benefits, perceived barriers and self-efficacy. The level of HIV/AIDS transmission is still very high, especially in the city of Palangka Raya. In 2022 there will be 116 cases and will increase in 2023 to 147 cases. Of the 147 cases, people at high risk of transmitting HIV/AIDS were pregnant women. Objective: To determine the factors of perceived vulnerability, perceived severity, perceived benefits, perceived barriers and self-efficacy in influencing pregnant women's perceptions of HIV/AIDS prevention in the Jekan Raya Community Health Center working area. Method: This research is descriptive quantitative using 30 samples of pregnant women from trimesters 1-3. Using minimal sampling technique. Perceptions were measured using a Likert scale and a questionnaire regarding the perceptions of pregnant women in preventing HIV/AIDS. Results: Research shows that of the 30 pregnant women respondents in the Jekan Raya health center working area, in preventing HIV/AIDS the categories of perceived vulnerability were positive (63.3%), negative (36.7%), positive perception of severity (76.7%) negative (23.3%), perceived benefits positive (73.3%) negative (26.7%), perceived barriers positive (30%) negative (70%), and perceived self-efficacy positive (76.7%) negative (23.3%). Conclusion: All pregnant women's perceptions of HIV/AIDS prevention are in the positive category. This shows that pregnant women already know about the dangers of the HIV/AIDS virus and will try to prevent it. It is hoped that health workers, especially midwives, can provide education and support in this matter so as to help pregnant women in preventing HIV/AIDS.*

## Keywords

*Health Belief Model, Pregnant Women, Perception, HIV/AIDS, Prevention*

## Introduction

Acquired Immunodeficiency Syndrome (AIDS) is the final stage of Human Immunodeficiency Virus (HIV) infection. Once HIV infection progresses to AIDS, there can be a greater risk of infection. Without treatment, HIV infection is likely to progress to AIDS because the immune system is compromised (Chow, Grulich and Fairley, 2019). HIV/AIDS has become a pandemic that worries the world community, because in addition to not finding a cure and preventive vaccine, this disease also has a relatively long "window period" and asymptomatic phase in the course of the disease. This causes the pattern of development to be like an iceberg phenomenon with the number of HIV/AIDS cases increasing from year to year in all parts of the world (Viridula, 2021).

HIV/AIDS can be transmitted through the exchange of body fluids from infected people such as blood, breast milk, sperm, and ovum. HIV transmission can also be transmitted from mother to child during pregnancy and childbirth (WHO, 2021). Groups of pregnant women and newborns are prone to contracting HIV/AIDS. Cases in housewives are the third largest number of people with HIV/AIDS. Transmission to mothers and toddlers is generally through sexual intercourse with husbands who have high-risk sexual behavior. In addition, promiscuity among young people also contributes to the cause of HIV/AIDS cases at a young age (Central Kalimantan Health Office, 2020).

Indonesia is targeting 3 zeros by 2030, namely zero new infections, zero death related aids and zero discrimination. This is in line with the targets that UNAIDS wants to achieve by 2020, namely 90% of people who know their HIV status, 90% of people affected by HIV get ART and 90% of people getting ARVs experience a decrease in viral load (Kemenkes RI, 2020). Globally, 39 million people are living with HIV by the end of 2022. Based on data from WHO in 2023 there were 1.7 million people newly infected with HIV / AIDS (WHO, 2023). In Indonesia in 2022 there were 9,341 cases of HIV/AIDS (Ministry of Health, 2022) and increased in 2023 by 16,410 cases (Ministry of Health, 2023).

In Central Kalimantan in 2022 there were 215 HIV/AIDS cases (Central Kalimantan BPS, 2022) and then an increase in 2023 of 431 cases (Central Kalimantan BPS, 2023). In Palangkaraya City in 2022 there were 116 cases of HIV/AIDS (Health Office, 2022). In Jekan Raya Health Center in 2022 there were 74 cases of HIV/AIDS (Palangkaraya City Statistics Center 2022) and increased in 2023 to 90 cases (Palangkaraya City Statistics Center 2023).

Therefore, the role of midwives is needed because midwives have a role in reproductive health and prevention of sexually transmitted infections (STIs) including HIV/AIDS, namely as: service providers; antenatal, childbirth, and postpartum period; family planning; adolescent reproductive health services include: early detection, namely referral and HIV/AIDS counselors. Transmission of HIV/AIDS from mother to baby during pregnancy can occur through transplacental intercourse with a risk of 5 to 10%. Therefore, comprehensive midwifery care during ANC is important. Based on the above background, the authors were interested in conducting a study entitled Perceptions of pregnant women in preventing HIV/AIDS through VCT examination in the working area of Jekan Raya Health Center, Palangkaraya City.

## Methods

The researcher used descriptive quantitative research method. That is research by describing, examining, and explaining something that is studied as it is, and drawing conclusions from the observed phenomena using numbers. (Listiani, N.M. 2017). This study is to describe the

perceptions of pregnant women in HIV/AIDS prevention. The tool used to measure perceptions uses a questionnaire distributed to 30 pregnant women respondents who are in the Jekan Raya health center area.

## Results and Discussions

### Location description

Puskesmas Jekan Raya is one of the health centers located in the Jekan Raya District of Palangka Raya City. Puskesmas Jekan Raya began operating on January 20, 2003 with an area of 1,172 km<sup>2</sup>, consisting of Petuk Katimpun Village and part of Bukit Tunggal Village, located on Jalan Tjilik Riwut km 10.5 Palangka Raya with boundaries.

### Perception of Vulnerability

**Table 1.** Frequency Distribution of Pregnant Women's Perception of Vulnerability in HIV/AIDS Prevention Behavior

Perception Category	Number (n)	Percentage (%)
Positive	19	63,3
Negative	11	36,7
Total	30	100

Source: Data Processed, 2024

Based on Table 1, it can be seen that the perception of pregnant women about vulnerability in HIV/AIDS prevention behavior in the working area of Puskesmas Jekan Raya Palangkaraya City mostly has a positive category, as many as 19 people (63.3%), while the perception of pregnant women with a negative category is as many as 11 people (36.7%).

### Perception of Severity

**Table 2.** Frequency Distribution of Pregnant Women's Perception of Severity on HIV/AIDS Prevention Behavior

Perception Category	Number (n)	Percentage (%)
Positive	23	76,7
Negative	7	23,3
Total	30	100

Source: Data Processed, 2024.

Based on Table 2, it can be seen that the perceptions of pregnant women about the severity of HIV/AIDS prevention behavior in the working area of Puskesmas Jekan Raya Palangkaraya City mostly have a positive category, as many as 23 people (76.7%), while the perceptions of pregnant women with negative categories are as many as 7 people. (23,3%).

### Perception of Benefits

**Table 3.** Frequency Distribution of Perception of Pregnant Women

Pregnant Women's Perception of Benefits on HIV/AIDS Prevention Behavior HIV/AIDS Prevention Behavior.

Perception Category	Number (n)	Percentage (%)
Positive	22	73,3
Negative	8	26,7
Total	30	100

Source: Data Processed, 2024.

Based on Table 3, it can be seen that the perceptions of pregnant women about the benefits of HIV/AIDS prevention behavior in the working area of Puskesmas Jekan Raya Palangkaraya City mostly had a positive category, namely 22 people (73.3%), while the perceptions of pregnant women with negative categories were 8 people (26.7%).

### Perception of barriers

**Table 4.** Frequency Distribution of Perception Pregnant Women's Perception of Barriers to HIV/AIDS Prevention Behavior.

Perception Category	Number (n)	Percentage (%)
Positive	9	30
Negative	21	70
Total	30	100

Source: Data Processed, 2024.

Based on Table 4, it can be seen that the perceptions of pregnant women about barriers to HIV/AIDS prevention behavior in the working area of Puskesmas Jekan Raya Palangkaraya City mostly have a positive category, as many as 9 people (30%), while the perceptions of pregnant women with negative categories are 21 people (70%).

### Self Efficacy

**Table 5.** Frequency Distribution of Perception of Pregnant Women *Self Efficacy* on HIV/AIDS Prevention Behavior

HIV/AIDS Prevention Behavior		
Perception Category	Number (n)	Percentage (%)
Positive	23	76,7
Negative	7	23,3
Total	30	100

Source: Data Processed, 2024.

Based on Table 5, it can be seen that the perception of pregnant women about *self-efficacy* in HIV/AIDS prevention behavior in the working area of Puskesmas Jekan Raya Palangkaraya City mostly has a positive category, as many as 23 people (76.7%), while the perception of pregnant women with a negative category is as many as 7 people (23.3%).

## Discussion

### Pregnant women's perception of vulnerability in HIV/AIDS prevention behavior

Based on table 4.1, it can be seen that respondents with positive perceptions of vulnerability were more, namely 19 people (63.3%) compared to respondents with negative perceptions of vulnerability, namely 11 people (36.7%). From the research that has been conducted on pregnant women in the working area of the Jekan Raya health center, the results show that most pregnant women answered agree (positive) on the vulnerability questionnaire, namely as many as (63.3%). And those who answered disagree (negative) were as many as (36.7%). This proves that pregnant women have a perception of vulnerability to the risk of contracting HIV/AIDS. This perception of vulnerability arises because of the condition when the mother is pregnant so that she thinks it is easy to contract the disease. Pregnant women infected with HIV/AIDS can automatically transmit it to the baby they are carrying. Transmission can occur in the womb, during the birth process, or during breastfeeding (Kemenkes RI, 2023).

In addition, they are also aware that they are at high risk of HIV/AIDS transmission because of their environment near localization places and do not know the status of the people around them and even the status of their partner / husband. Some of them know that HIV/AIDS is transmitted through blood, needles and unprotected sexual intercourse but they still feel afraid of the transmission of the very dangerous HIV/AIDS virus. An individual's perceived susceptibility to disease plays a key role in whether or not to take protective measures. Respondents who feel they have immunity to disease can reduce the level of vulnerability they have (Venema & Pfattheicher, 2021).

### Perceptions of Pregnant Women About Severity of HIV/AIDS Prevention Behavior

Based on table 4.2, it can be seen that respondents with positive perceptions of severity have more good preventive behavior in HIV / AIDS transmission, namely 23 people (76.6%) compared to respondents with negative perceptions of seriousness, namely 7 people (23.3%). The perception of pregnant women about the severity of HIV/AIDS prevention behavior in the working area of Puskesmas Jekan Raya Palangkaraya City mostly has a positive category. This illustrates that a pregnant woman tends to have a perception of *perceived severity*. The distribution of respondents' answers states that most pregnant women answered strongly agree with the statement that mothers feel that if they contract HIV/AIDS, they will experience problems in pregnancy, and if infected with HIV/AIDS, it can cause death according to statement number (1 and 4), question number 1 states that HIV/AIDS causes a person to experience death, question number 4 states that HIV/AIDS is the worst disease experienced by a person. This means that pregnant women feel that HIV/AIDS is dangerous both for themselves and the fetus they are carrying.

According to Suryani and Purwodiharjo (2020), which suggests that the pattern of perceived severity determines whether a disease can be prevented. Perceptions of severity are often based on media information, knowledge or a person's belief that he will get difficulties due to a disease that will complicate his life. Perceived severity determines whether or not preventive measures are taken.

### Pregnant women's perception of benefits On HIV/AIDS Prevention Behavior

Based on table 3, it can be seen that respondents with positive perceptions of benefits have more good preventive behavior in HIV / AIDS transmission, namely 20 people (66.7%) compared

to respondents with negative perceptions of seriousness, namely 10 people (33.3%). The perception of pregnant women about the benefits of HIV/AIDS prevention behavior in the working area of Puskesmas Jekan Raya Palangkaraya City mostly has a positive category. This illustrates that pregnant women will try to understand the benefits of a behavior for themselves and their environment will trigger individuals to determine whether or not to perform the behavior. Pregnant women will assess that a health behavior that is continued will have benefits for themselves, so that the better a person prepares for the benefits of a disease prevention behavior, the greater the opportunity to take action.

According to Yehualashet et al. (2021), suggest that if a new behavior such as prevention or examination is believed to have benefits (perceived benefits) that are greater than the barriers a person feels (perceived barriers), he is more likely to implement the new behavior. The results of this study show that it is in line with this statement.

### **Pregnant Women's Perception of Benefits**

#### **a. On HIV/AIDS Prevention Behavior**

Based on table 3, it can be seen that respondents with positive perceptions of benefits had more good preventive behavior in HIV/AIDS transmission, namely 20 people (66.7%) compared to respondents with negative perceptions of seriousness, namely 10 people (33.3%). The perception of pregnant women about the benefits of HIV/AIDS prevention behavior in the working area of Puskesmas Jekan Raya Palangkaraya City mostly has a positive category. This illustrates that pregnant women will try to understand the benefits of a behavior for themselves and their environment will trigger individuals to determine whether or not to perform the behavior. Pregnant women will assess that a health behavior that is continued will have benefits for themselves, so the better a person prepares for the benefits of a disease prevention behavior, the greater the chance of taking that action.

According to Berhimpong et al (2020), suggesting that perceived benefits indicate the extent to which a person perceives the benefits of a proposed or recommended prevention method or method to prevent or reduce the severity of a disease suffered due to unhealthy behavior.

### **Perceptions of Pregnant Women About *Self Efficacy* in HIV / AIDS Prevention Behavior**

Based on table 5, it can be seen that respondents with positive perceptions of benefits have more good prevention behavior in HIV / AIDS transmission, namely 23 people (76.7%) compared to respondents with negative perceptions of seriousness, namely 7 people (23.3%). Pregnant women's perception of *self-efficacy* in HIV/AIDS prevention behavior in the working area of Puskesmas Jekan Raya Palangkaraya City mostly has a positive category. This illustrates that pregnant women generally have confidence or self-belief in their ability to perform the behavior. High confidence in one's ability is an important aspect for pregnant women, because confidence in one's ability can be a motivation in changing behavior in each individual. From the results of the questionnaires that have been distributed, 23 (76.7%) pregnant women answered strongly agreeing to questions number 2 and 3 which stated that pregnant women have the strength and ability to face problems that may arise in the future. This proves that pregnant women have a positive perception of *self-efficacy*.

According to Shahnazi et al. (2020) as a person's level of confidence in taking control of the

obstacles he faces in implementing healthy behavior. According to the *Health Belief Model*, individuals must have an appropriate level of *self-efficacy* to overcome behavioral barriers.

## Conclusion

1. The perception of pregnant women about vulnerability in HIV/AIDS prevention behavior mostly has a positive category, as many as 19 people (63.3%),
2. The perception of pregnant women about the severity of HIV/AIDS prevention behavior mostly has a positive category, as many as 23 people (76.7%).
3. The perception of pregnant women about the benefits of HIV/AIDS prevention behavior mostly had a positive category, as many as 20 people (66.7%),
4. Pregnant women's perceptions of barriers to HIV/AIDS prevention behavior mostly have a negative category, as many as 21 people (70%),
5. The perception of pregnant women about self-efficacy in HIV/AIDS prevention behavior mostly has a positive category, as many as 23 people (76.7%).

## References

- Adejumo, O. A., Oladele, E. A., & Adebisi, A. O. (2021). Maternal knowledge and attitudes toward HIV prevention of mother-to-child transmission in sub-Saharan Africa. *BMC Pregnancy and Childbirth*, 21(1), 245. <https://doi.org/10.1186/s12884-021-03721-5>
- Akinyemi, O., & Oyediran, K. A. (2020). Application of the Health Belief Model to HIV prevention among women of reproductive age. *African Journal of Reproductive Health*, 24(4), 113–122.
- Alarcón-Braga, E. A., Rojas, K., & Soto, A. (2023). Predictors of HIV testing among pregnant women: A cross-sectional study in Latin America. *International Journal of Women's Health*, 15, 789–799. <https://doi.org/10.2147/IJWH.S412589>
- Amare, H., Taye, B., & Tessema, Z. (2022). Barriers to HIV testing and counseling among pregnant women: A qualitative study. *Reproductive Health*, 19(1), 150. <https://doi.org/10.1186/s12978-022-01468-1>
- Asiedu, G. B., & Siedlikowski, S. (2019). HIV stigma and its impact on pregnant women: Implications for prevention programs. *Journal of the International Association of Providers of AIDS Care*, 18, 1–8. <https://doi.org/10.1177/2325958219852014>
- Bekele, H., & Gebremedhin, S. (2021). Health Belief Model-based educational intervention on HIV prevention among Ethiopian women: A cluster randomized trial. *BMC Public Health*, 21(1), 1572.
- Berhimpong, M. J. A., Rattu, A. J. M., & Pertiwi, J. M. (2020). Analisis implementasi aktivitas fisik berdasarkan Health belief model oleh tenaga Kesehatan di puskesmas. *Indonesia jurnal of public health and community medicine*.
- Chow EPF, Grulich AE, Fairley CK. Epidemiology and prevention of sexually transmitted infections in men who have sex with men at risk of HIV. *Lancet HIV*. 2019 Jun;6(6):e396-e405. doi: 10.1016/S2352-3018(19)30043-8. Epub 2019 Apr 18. PMID: 31006612.
- Dinas Kesehatan. (2022). Jumlah Kasus HIV/AIDS, IMS, DBD, Diare, TB, dan Malaria Menurut Kecamatan di Kota Palangka Raya. <https://pasada.palangkaraya.go.id/user/tabeluser/detail/599>.
- Dinkes Kalteng. (2020). Profil Kesehatan Provinsi Kalimantan Tengah. Dinkes Kalteng.

- Ezeonwu, M. (2020). Community-based strategies to improve HIV prevention for pregnant women in rural settings. *Public Health Nursing*, 37(2), 224–232. <https://doi.org/10.1111/phn.12698>
- Fauk, N. K., Mwanri, L., Hawke, K., & Ward, P. R. (2021). Socio-cultural determinants of HIV transmission and prevention among women in Indonesia. *International Journal of Environmental Research and Public Health*, 18(10), 5213. <https://doi.org/10.3390/ijerph18105213>
- Gultie, T., & Demissie, M. (2020). Perceptions of HIV risk and prevention strategies among pregnant women: An Ethiopian perspective. *Journal of Midwifery and Reproductive Health*, 8(3), 2274–2283.
- Iliyasu, Z., Adebayo, S. B., & Galadanci, H. S. (2022). Knowledge and utilization of HIV prevention services among pregnant women in Northern Nigeria. *African Health Sciences*, 22(1), 94–103.
- Kassa, G. M., Arowojolu, A., & Odukogbe, A. (2019). Antenatal HIV testing uptake and factors influencing its acceptance among pregnant women. *Reproductive Health*, 16(1), 36. <https://doi.org/10.1186/s12978-019-0709-2>
- Kebede, M. A., & Mekonnen, A. G. (2023). Self-efficacy and HIV prevention behaviors among pregnant women: An application of the Health Belief Model. *PLoS ONE*, 18(4), e0283412.
- Nyblade, L., Stockton, M. A., Giger, K., et al. (2021). Stigma reduction interventions to improve HIV prevention and treatment among women: A systematic review. *AIDS and Behavior*, 25(9), 2815–2833. <https://doi.org/10.1007/s10461-020-03197-9>
- Shahnazi, H., Ahmadi-Livani, M., Pahlavanzadeh, B. et al. Assessing preventive health behaviors from COVID-19: a cross sectional study with health belief model in Golestan Province, Northern of Iran. *Infect Dis Poverty* 9, 157(2020).<https://doi.org/10.1186/s40249-020-00776-2>
- Shewasinad Yehualashet S, Asefa KK, Mekonnen AG, Gemeda BN, Shiferaw WS, Aynalem YA, et al. Predictors of adherence to HIV/AIDS prevention measure among communities in North Shoa Zone, Ethiopia based on health belief model: A cross-sectional study. *PLoS One*. 2021;16(1):e0246006.
- Suryani, & Purwodiharjo. (2020). Aplikasi Health Belief Model dalam Penanganan Pandemi Covid-19 di Provinsi DKI Jakarta. *The International Encyclopedia of Communication*.
- Taye, B., & Yalew, A. (2020). Perceived barriers and facilitators to HIV prevention among pregnant women attending ANC clinics. *Journal of Reproductive Health*, 17(1), 115.
- UNAIDS. (2023). Global AIDS Update 2023: The path that ends AIDS. Joint United Nations Programme on HIV/AIDS. <https://www.unaids.org>
- Viridula, E. Y. (2021). Upaya Pencegahan HIV/AIDS pada Wanita Pekerja Seksual (WPS) di Klinik Infeksi Menular Seksual (IMS). *Jurnal Bidan Pintar*.
- WHO.(2021).HIV/AIDS.[https://www.who.int/healthtopics/hiv-aids#tab=tab\\_1](https://www.who.int/healthtopics/hiv-aids#tab=tab_1).
- WHO.(2023).HIV&AIDS.<https://www.who.int/news-room/fact-sheets/detail/hiv-aids>.