



Literature Review

LITERATURE REVIEW: KNOWLEDGE AND ATTITUDE OF PREGNANT WOMEN TOWARDS VOLUNTARY COUNSELING AND HIV/AIDS EXAMINATION

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ABSTRACT

Background: AIDS, or Acquired Immunodeficiency Syndrome, is the final stage of HIV (Human Immunodeficiency Virus) infection. HIV is a virus that attacks the immune system, particularly CD4 cells (a type of T cell), which are crucial in fighting infections. Over time, HIV can damage the immune system so that the body becomes very susceptible to disease. One of the transmissions of HIV/AIDS is from pregnant women to their children, which can be prevented by screening pregnant women, known as Voluntary Counseling and Testing (VCT) for HIV/AIDS. VCT HIV/AIDS is a service that offers voluntary HIV counseling and testing. This service is designed to find out HIV status safely, confidentially, and with support from appropriate counseling. The primary purpose of VCT is prevention, early detection, and management of HIV/AIDS.

Objective: This literature review aims to determine the influence of the knowledge and attitudes of pregnant women on VCT HIV/AIDS.

Method: using a literature review method based on data from Google Scholar, PubMed, and Proquest. The criteria for selecting articles for review are those that meet the inclusion criteria. The search yielded 513 articles, which were then filtered, and ten articles were selected for review.

Results: The 10 articles reviewed had the same goal, namely to determine the relationship between the knowledge and attitudes of pregnant women towards VCT HIV/AIDS

Conclusion: Knowledge and attitudes of pregnant women influence the implementation of VCT for HIV/AIDS during pregnancy.

Keywords: HIV prevention, early detection of HIV, AIDS treatment

INTRODUCTION

HIV cases in children aged 1-14 years in Indonesia reached 14,150 cases. This number increases by around 700-1000 children each year. The Indonesian Ministry of Health noted that out of 55% of pregnant women tested for HIV, 7,153 were found to be HIV positive, and 76% had not received antiviral treatment (ARV). HIV transmission will continue to occur because out of 526,841 people with HIV, only around 429,215 people know their HIV status. This means that there are still 100,000 people with HIV who have not been detected and have the potential to transmit HIV to others (1)(2).

The Government of the Republic of Indonesia requires all pregnant women to undergo HIV screening. This regulation is to accelerate the elimination of HIV, Syphilis, and Hepatitis B transmission. This regulation stipulates that HIV screening is part of antenatal services that must be provided to all pregnant women as an effort to prevent HIV transmission from mother to child (3).

Voluntary Counseling and Testing (VCT) for HIV/AIDS is a voluntary service that offers HIV counseling and testing to

individuals. This service aims to help individuals find out their HIV status in a safe, confidential environment, and is supported by appropriate counseling. VCT is one of the essential strategies in the prevention and control of HIV/AIDS. The main components of VCT include pre-test counseling, HIV Testing, Post-test Counseling, Referral, and Follow-up. VCT services also contribute to global efforts to achieve the elimination of HIV/AIDS as a public health threat (4).

Several countries, including Indonesia, provide free VCT HIV/AIDS services at health facilities that collaborate with the government or are paid at a very affordable cost. This is part of the

government's efforts to improve early detection, prevention, and treatment of HIV/AIDS. Although it is provided free of charge, not all pregnant women are willing to undergo HIV screening. Some reasons why pregnant women are reluctant to undergo VCT HIV/AIDS screening include: lack of knowledge, some pregnant women do not understand about HIV/AIDS and the importance of VCT screening. Lack of knowledge that HIV testing is an essential part of prenatal care, which can provide benefits for the mother and baby. Other causes are due to the mother's wrong attitude, such as stigma and fear of test results, and lack of access to health services (5)

SUBJECT AND METHOD

This literature review aims to determine the influence of knowledge and attitudes of pregnant women towards Voluntary Counselling and Testing (VCT) for HIV/AIDS from several previous articles. The data used are secondary, drawn from various research results published by earlier researchers. The sources of the articles used were obtained from Google Scholar, ProQuest, Science Direct, and PubMed.

The criteria for selecting articles for review are those that meet the inclusion

criteria. The inclusion criteria are shown in Table 1, namely articles that use pregnant women as research subjects, cross-sectional research methods, the theme of the article content looks at the relationship between knowledge and attitudes of pregnant women towards VCT HIV/AIDS, the publication period of the article is 10 years (2011-2020), articles in English or Indonesian, article type: original research, not a literature review, and available in full text version.

Table 1. Inclusion criteria for selected articles for review

Component	Inclusion Criteria
-Subject	Pregnant women
-Method	Cross sectional
-Article theme	The relationship between knowledge and attitudes of pregnant women towards VCT HIV/AIDS
-Time Frame	Period of publication of articles: 10 years (2011-2020)
-Language	Indonesia and English
-Type of Article	Original article (Not a literature review)

RESULT

An article search was conducted using the keywords knowledge, attitude, and VCT. The search results obtained 478,449 articles. The articles were screened based

on suitability with the study objectives. The screening yielded 515 articles; 505 were excluded for not meeting the inclusion criteria. Thirty articles were

taken according to the inclusion criteria. Of the 30 articles, ten were selected to be reviewed. The ten chosen articles reviewed are shown in Table 2. Several similarities in variables (compare) were found in the ten selected articles: attitudes of pregnant women, knowledge of pregnant women, and VCT HIV/AIDS. There are also similarities in the research design used, namely, a cross-sectional design, and research respondents (pregnant women).

Several research results show that there is a relationship between knowledge and attitudes towards VCT HIV/AIDS in pregnant women. Knowledge and attitudes of pregnant women, such as fear of stigma, discrimination, and the possibility of being ostracized by society if someone takes an HIV/AIDS infection test. Pregnant women who have a low level of knowledge about HIV/AIDS have a lower attitude to choose to do VCT for HIV/AIDS (6). The difference between the ten articles above is in the year of publication of the article, namely 1 article in 2020, 1 article in 2019, 2 articles in 2018, 1 article in 2016, 1 article in 2015, 1 article in 2014, 1 article in 2013, 1 article in 2012 and 1 article in 2011. The number of populations and research samples used from each article varies. Article 1 uses a population of 118 people and a sample of 91 people, article 2 uses a population of 38 people and a sample of 25 people, article 3 uses a sample of 50 people, article 4 uses a population of 30 people, article 5 uses a population of 270 people and a sample of

73 people, article 6 uses a sample of 60 people, article 7 uses a sample of 53 people, article 8 uses a sample of 54 people, article 9 uses a sample of 500 people, and article 10 uses a population of 410 people and a sample of 400 people. The sampling techniques in the 10 articles also differ: 5 use total random sampling, 2 use simple random sampling, 2 use accidental sampling, and 1 uses stratified sampling.

Table 2. Characteristics of Selected Articles Analyzed

No	Authors, Title, years of publication	The purpose of research	Formulation of the problem	Variable	Design	Population, sample & sampling techniques	Result	Conclusion
1	M. Ibnu Sina, Title: Hubungan sikap dan perilaku ibu hamil terhadap tes HIV di Puskesmas Cikampek Kabupaten Karawang Jawa Barat, 2016	Knowing the relationship between attitudes and the behavior of pregnant women towards HIV testing	Is there What is the relationship between attitudes and the behavior of pregnant women towards HIV testing?	Independent variables: attitudes and knowledge Dependent variable: HIV testing	Cross Sectional	Population : 118 pregnant women Sample: 91 pregnant women Sampling techniques: <i>simple random sampling</i>	48 of 91 respondents (52.7%) took an HIV test. 54 pregnant women (59.3%) had a positive attitude toward HIV testing, and 62 (68.1%) had a positive attitude toward HIV testing. Chi-square test p-value = 0.035	There is a relationship between the attitudes and behavior of pregnant women towards HIV testing at the Cikampek Community Health Center, Karawang Regency, West Java, in 2016.
2	S. Tjan, R.A. Sitorus, S. Armanita, A. Wijayaningrum, F. Feby, A. Puspoegoro. Title: Hubungan Penyuluhan dengan Pengetahuan, Sikap, dan Perilaku Ibu Hamil tentang HIV dan Program VCT tahun 2013	To determine the effectiveness of counseling on the level of knowledge, attitudes and behavior of pregnant women regarding HIV and VCTs.	Is there relationship of counseling to the level of knowledge, attitudes, and behavior of pregnant women regarding HIV and VCTs?	Independent variable: counseling Dependent variable: level of knowledge, attitudes, and behavior regarding HIV and VCT	Cross Sectional	Population: 38 pregnant women at the Pulo gadung District Community Health Center Sample: 25 pregnant women	There is a significant relationship between counseling and the level of knowledge and attitudes regarding HIV, as well as the level of knowledge, attitudes, and behavior regarding VCT.	Counseling is related to the level of knowledge and attitudes regarding HIV, as well as the level of knowledge, attitudes, and behavior regarding VCT.

						Sampling technique: Total sampling	attitudes, behavior regarding VCT, and not	
3	Lidya Natalia Br Sinuhaji, Edy Marjuang Purba, Bungana Surbakti Title: Hubungan Tingkat Pengetahuan dan Sikap Ibu dengan Keikutsertaan Ibu Hamil dalam Program Monitoring Konseling VCT HIV AIDS di Puskesmas Sialang Buah tahun 2018	Understanding the Relationship between Mothers' Knowledge and Attitudes and Pregnant Women's Participation in the VCT Counseling Monitoring Program	Is there a relationship between maternal knowledge and attitudes and pregnant women's participation in the VCT counseling monitoring program?	Independent variables: level of knowledge and attitudes of pregnant women Dependent variable: participation of pregnant women in the VCT counseling monitoring program	Cross Sectional	Sample: 50 respondents Sampling method: Total sampling	Of the 50 respondents with a positive attitude, 60.8% intended to use VCT services. 67.1% of pregnant women had a positive attitude toward VCT services. P-value = 0.015	There is a relationship between pregnant women's participation in VCT services and their knowledge, attitudes, age, and education.
4	Charunia Anggraini, Dhesi Ari Astuti. Title: Hubungan Antara Pengetahuan Tentang HIV/AIDS dengan Niat Melakukan Voluntary Counseling and Testing (VCT) Pada Ibu Hamil Di Puskesmas Gedong Tengen Wilayah Kota Yogyakarta	To determine the relationship between knowledge about HIV/AIDS and the intention to undergo voluntary counseling and testing (VCT) in	Is there The Relationship Between Knowledge About HIV/AIDS and Intention to Do Voluntary Counseling and Testing (VCT) in	Independent variable: knowledge about HIV/AIDS Dependent variable: intention to undergo VCT	Cross Sectional	Population: Pregnant women at Gedong tengen Community Health Center. Sample: 30 pregnant women. Sampling technique:	Of the 30 respondents, 8 (26.7%) had good knowledge, 17 (56.7%) had moderate knowledge, and 15 (16.7%) had poor knowledge. 11 (36.7%) pregnant women intended to undergo VCT, and 19 (63.3%)	There is The relationship between knowledge about HIV/AIDS and the intention to perform VCT in pregnant women

		(VCT) among pregnant women.	Pregnant Women?			accidental sampling.	had no intention of undergoing VCT. P-value = 0.015.	
5	I.A.Antika. Hubungan Pengetahuan Ibu Hamil Tentang HIV/AIDS Serta Dukungan Suami Dengan Kesediaan Ibu Dalam Melakukan VCT di Puskesmas Baloi Permai Kota Batam	Title: To determine the relationship between pregnant women's knowledge of HIV/AIDS, their husbands' support, and their willingness to undergo VCT.	Is there a relationship between pregnant women's knowledge of HIV/AIDS, their husbands' support, and their desire to undergo VCT?	Independent variable: understanding of pregnant women. Dependent variable: willingness of mothers to undergo VCT.	Cross Sectional	Population: 270 pregnant women Sample: 73 pregnant women Sampling technique: accidental sampling	Of the 73 respondents, 66 (90.4%) had sufficient knowledge, and 7 (9.6%) had insufficient knowledge. The results of the Chi-Square statistical test with $\alpha = 0.05$ yielded a p-value of 0.007 and a p-value of 0.000.	There is a significant relationship between pregnant women's knowledge of HIV/AIDS and their husbands' support and their willingness to undergo VCT.
6	Fifi Alviana, Romdiyah. Title: Hubungan Tingkat Pengetahuan Ibu Hamil Terhadap Perilaku Pencegahan Penularan HIV/AIDS Tahun 2020	To determine the relationship between pregnant women's knowledge levels and HIV/AIDS prevention behaviors.	Is there a relationship between pregnant women's knowledge levels and HIV/AIDS prevention behaviors?	Independent variable: level of knowledge Dependent variable: HIV/AIDS prevention behavior	Cross Sectional	Population: Pregnant women at the Kalikajar I Community Health Center Sample: 60 respondents Sampling technique: Total sampling	Respondents with poor behavior regarding HIV/AIDS prevention in pregnant women were more likely to have inadequate knowledge (58.6%) than to have a good understanding (29.0%). The chi-square test	There is a relationship between the level of knowledge of pregnant women and their behavior in preventing HIV/AIDS transmission.

							statistic showed a p-value of 0.021.	
7	Hermi Cahyoningsih, Herlin Fitriana K. Title: Hubungan Antara Pengetahuan Ibu Hamil Tentang HIV, AIDS dan Tes HIV/AIDS Secara Sukarela Dengan Sikap Tes HIV/AIDS Secara Sukarela Di Puskesmas Gedong Tengen Yogyakarta Tahun 2014	To determine the relationship between pregnant women's knowledge about HIV, AIDS, and voluntary HIV/AIDS testing and their attitudes toward voluntary HIV/AIDS testing.	Is there The Relationship Between Pregnant Women's Knowledge About HIV, AIDS, and Voluntary HIV/AIDS Testing: With the Attitude of Voluntary HIV/AIDS Testing?	Independent variables: maternal knowledge about HIV, AIDS, and voluntary HIV/AIDS testing. Dependent variable: attitude toward voluntary HIV/AIDS testing.	Cross sectional	Sample: 53 respondents Sampling technique: Total sampling	Of the 53 respondents, the majority (31 respondents (58.5%) had good knowledge about HIV/AIDS and HIV/AIDS testing, and the majority (43 respondents (81.1%) had good attitudes toward HIV/AIDS testing. The test analysis results were 0.002 or 0.2% <5%.	There is a relationship between pregnant women's voluntary knowledge about HIV/AIDS and their attitude towards voluntary HIV/AIDS testing.
8	Rahmayani Lubis. Title: Hubungan Pengetahuan Dengan Sikap Ibu Hamil	To determine the relationship between knowledge	Is there The Relationship between Knowledge	Independent variable: knowledge	Cross sectional	Population: Pregnant women at the Sri Padang Community	Of the 54 respondents, the majority (30 respondents (55.6%) had	There is a relationship between pregnant women's

	Tentang <i>Voluntary Counseling and Testing</i> (VCT) HIV/AIDS Di Puskesmas Sri Padang Kota Tebing Tinggi Tahun 2018	and attitudes of pregnant women regarding Voluntary Counseling and Testing (VCT) for HIV/AIDS.	and Pregnant Women's Attitudes About Voluntary HIV/AIDS Counseling and Testing (VCT)?	Dependent variable: attitudes about HIV/AIDS VCT		Health Center in Tebing Tinggi City Sample: 54 respondents Sampling technique: Total sampling	sufficient knowledge, and 28 (51.9%) had a positive attitude. The results of the chi-square test showed a P-value of $<\alpha$ (0.000 <0.05).	knowledge and attitudes about Voluntary HIV/AIDS Counseling and Testing (VCT).
9	Boshishi K.F. Mohlala, Marie-Claude Boily, Simon Gregson. Title: The forgotten half of the equation: randomized controlled trial of a male invitation to attend a couple of voluntary counseling and testing pada tahun 2018	To increase men's participation in ANC care and the use of voluntary counseling and testing (VCT)?	Is there male participation in ANC care and the use of voluntary counseling and testing (VCT)?	Independent variable: Male participation Dependent variable: ANC care, counseling, and VCT testing	Cross Sectional	Sample: 500 respondents Sampling technique: randomized sampling	Of the 500 respondents, 161 pregnant women (35%) who received a VCT invitation for their partner brought their partner to the ANC visit, compared with 129 pregnant women (26%) who received an ICH invitation. 161 (32%) of the partner's partner in the VCT group underwent HIV testing, compared with 57 (11%) in the ICH group.	Inviting male partners to attend ANC and HIV VCT through letters sent by pregnant couples can increase the number of male partners who attend.

10	Marelyn Tilahun Malaju, Getu Degu Alene. Title: Assessment of utilization of provider-initiated HIV testing and counseling as an intervention for prevention of mother-to-child transmission of HIV and associated factors among pregnant women in Gondar town, North West Ethiopia pada tahun 2019	To determine the use of HIV testing and counseling as an intervention to prevent mother-to-child transmission of HIV.	Is there any use of HIV testing and counseling as an intervention to prevent mother-to-child transmission of HIV?	Variabel independen: tes dan konseling HIV Variabel dependen : pencegahan dan penularan HIV dari ibu ke anak	Cross sectional	Population: 410 pregnant women Sample: 400 respondents Sampling technique: stratified sampling	Of the 400 respondents, 330 (82.5%) accepted HIV testing and counseling, while 70 (17.5%) declined.	The study results showed that most pregnant women in Northern Ethiopia benefited from HIV counseling and testing during ANC visit and were willing to attend ANC.
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DISCUSSION

Research results suggest that knowledge is one factor influencing VCT screening (7). Knowledge is the most crucial domain in individual behavior. Individuals with substantial knowledge about HIV/AIDS are more likely to undergo HIV screening, including through VCT programs. Consequently, pregnant women will put aside stigma and negative societal perceptions and believe that VCT is beneficial for health and that maintaining confidentiality is a key element in VCT services (8). The more pregnant women who visit VCT for HIV testing, the greater the likelihood of early detection, treatment, support, and care for people living with HIV/AIDS, thereby preventing HIV/AIDS transmission and improving their quality of life.

Pregnant women's knowledge is also related to attitudes about voluntary counseling and testing (VCT) for HIV/AIDS. Several studies have found a correlation between pregnant women's knowledge and attitudes about voluntary counseling and testing (VCT) for HIV/AIDS (9). Research on the influence of knowledge about HIV/AIDS and attitudes of pregnant women on their willingness to undergo HIV/AIDS testing during pregnancy also indicates a positive relationship. A mother's higher level of knowledge suggests a positive attitude toward participating in the HIV/AIDS VCT program during

pregnancy. Most respondents in the study had received information about HIV/AIDS screening from a personal counselor at the community health center (10).

The results of a 2016 study on the relationship between pregnant women's attitudes and behavior toward HIV testing revealed a correlation between their behavior and HIV testing. Of the 91 respondents, 48 had taken the HIV test, 54 had a positive attitude, and 62 had a positive behavior (11). The article further explains that attitude is the potential within an individual to respond to the socialization process carried out or offered. That human behavior is essentially an activity of amnesia itself. One essential human behavior is health (12).

Meanwhile, research conducted in North Sumatra found that 60.8% of respondents with a positive attitude intended to utilize VCT services, while only 28% of respondents with a negative attitude designed to do so (13). Meanwhile, the publication of research results conducted in 2019 showed that there was a relationship between counseling and the level of knowledge and attitudes of subjects regarding HIV, as well as the level of knowledge, attitudes, and behavior of subjects regarding VCT. However, there was no relationship between counseling and the behavior of subjects towards HIV. (14).

The studies above show a relationship between pregnant women's knowledge and attitudes toward HIV/AIDS VCT. Knowledge significantly influences activities that determine one's standard of living, but this cannot continue without a positive attitude that leads to improvements in one's quality of life.

Meanwhile, research conducted in Pekanbaru found a relationship between knowledge about HIV/AIDS and intention to undergo VCT (15). Similar results are found in research conducted by Fifi Alvina and Romdiyah, which saw a relationship between pregnant women's knowledge and behaviors to prevent HIV/AIDS transmission (14).

Another study conducted in 2019 found a relationship between pregnant women's knowledge about HIV/AIDS and their husbands' support, with their willingness to undergo VCT. The better a pregnant woman's knowledge, the more likely she is to take action to prevent HIV/AIDS. Good knowledge will influence pregnant women's behavior in undergoing VCT. This is for the health of both the mother and the fetus she is carrying (16).

Another research conducted in the city of Gondar, West Ethiopia, by Marelign Tilahun Malaju and Getu Degu Alene also obtained similar results. The study involved 400 pregnant women aged 25-34. The results showed that utilization of HIV counseling and testing provided during ANC was relatively high.

Most pregnant women in Gondar visited HIV/AIDS VCT facilities during antenatal care. However, in a study conducted in a high-HIV-prevalence area in South Africa, researchers used a unique method to bring pregnant women to VCT facilities. They got pregnant women to the facilities by providing written invitations to their partners. This was done to increase male participation in antenatal care and utilization of VCT facilities (17).

A literature review of these 10 articles, which criticize, obtained information on variations in VCT treatment based on pregnant women's knowledge and attitudes. The results showed that pregnant women with lower (negative) knowledge and attitudes about HIV/AIDS were less willing to participate in VCT programs. Pregnant women who have a positive level of knowledge and attitudes about HIV/AIDS are more likely to seek VCT.

A supportive (positive) attitude among pregnant women is influenced by good knowledge about HIV/AIDS and VCT. Providing knowledge or information related to HIV/AIDS is an effective way to explain HIV/AIDS prevention and transmission. Individuals with good and correct knowledge about HIV are expected to reduce and even eliminate stigma against people living with HIV/AIDS. Public perceptions of people living with HIV/AIDS influence attitudes and behaviors that promote stigma. The

results of this study recommend providing education to pregnant women receiving antenatal care about the importance of HIV/AIDS VCT.

CONCLUSION

Based on 10 articles reviewed with the same purpose of study, namely, to determine the relationship between the knowledge and attitudes of pregnant women towards VCT HIV/AIDS, it can be concluded that the knowledge and attitudes of pregnant women influence the implementation of VCT for HIV/AIDS during pregnancy.

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CONFLICT OF INTEREST

There is no conflict of interest in this research.

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