

## Factor Analysis Of The Use Of Vct Services In Pregnant Women At Puskesmas Rukun Lima, Ende District

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### ARTICLE INFO

**Keywords:**  
VCT,  
HIV-AIDS,  
Pregnant Women

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### ABSTRACT

Background Human Immunodeficiency Virus (HIV) is a contagious infectious disease which is grouped as a factor that can affect maternal and child mortality (Ministry of Health, 2014). In 2015-2017 several cases of HIV were found in pregnant women and were transmitted to infants which resulted in infant death due to HIV infection in the working area of the Rukun Lima Health Center. The VCT program has been implemented since 2017 but of the total pregnant women who perform ANC only 50% accept to carry out examinations through VCT services. The aim of the study was to analyze the factors that influence the use of Voluntary Counseling and Testing (VCT) in pregnant women at the Rukun Health Center Five. Observational Analytical Design Method. The approach is carried out by cross sectional. Research data was collected from June to August 2020 using a questionnaire. There are 2 data analyzes carried out in this study, namely descriptive analysis used to determine the frequency distribution of each respondent. Meanwhile, to find out the relationship between the independent variable and the dependent variable, bivariate and multivariate analysis is used. The results of the univariate analysis revealed that pregnant women with less knowledge of HIV were 53.48%, supported by facilities, 58.14%, supported by service providers 65.12% and pregnant women who did not have VCT examinations were 62.79%. The results of the bivariate analysis found that there was a relationship between the knowledge and support of service providers and the participation of pregnant women in VCT examinations. Knowledge (Asymp.sig.(2-sided)= 0.000) and OR= 4.2), support for health service providers (Asymp.sig.(2-sided)= 0.000) and OR= 5.2) while facility support VCT services have a relationship with the use of VCT services in pregnant women with (Asymp.sig.(2-sided) = 0.000) and OR = 0.2), The conclusion is that the factors of mother's knowledge about HIV, staff support and support for service facilities influence the use of VCT services in pregnant women at the Rukun Lima Health Center.

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### 1. INTRODUCTION

Human Immunodeficiency Virus (HIV) infection is a big problem in Indonesia. Indonesia has become the 5th country in Asia most at risk of HIV/Acquired Immunodeficiency Syndrome (AIDS). HIV infection is an infectious disease that is classified as a factor that can affect maternal and child mortality (Ministry of Health, 2014).

The World Health Organization (WHO) reports that in 2012 there were 3.5 million people in Southeast Asia living with HIV-AIDS. Some countries such as Myanmar, Nepal and Thailand are showing a decreasing trend for new HIV infections. Trends in deaths caused by AIDS between 2001 and 2010 differed in each part of the country. In Eastern Europe and Central Asia the number of people dying of AIDS increased from 7,800 to 90,000, in the Middle East and North Africa it increased from 22,000 to 35,000, in East Asia it also increased from 24,000 to 56,000. Globally, new HIV infections decreased by 24% between 2001 and 2011. The spread of HIV and AIDS in Indonesia

*Factor Analysis Of The Use Of VCT Services In Pregnant Women At Puskesmas Rukun Lima, Ende District. Khrispina Owa, et al*

from year to year shows a rapid increase. Cumulatively the number of HIV cases up to March 2013 was 103,759 and AIDS was 43,347, with 8,340 deaths. and if you look at the data from 5 years ago, namely in 2007 the number of HIV cases was 5,904 and AIDS was 16,288, with 2,287 deaths. Seeing the huge increase in cases, WHO reminded Indonesia as one of the fastest growing Asian countries in terms of increasing the HIV and AIDS population (KPAN, 2012).

The highest cumulative percentage of AIDS cases by age group was the productive age group of 30-39 years, which reached 37.1%. This large enough number will automatically increase the possibility of HIV-AIDS transmission from pregnant women to their babies. The data above confirms the fact that HIV-AIDS does show an increasing trend (Ministry of Health, 2014).

The growth of the HIV-AIDS epidemic in Indonesia is mostly male, reaching 66.8%, followed by 32.9% for women. The biggest contribution is through two modes of transmission: (1) the use of unsterile needles, (2) unsafe sexual relations, especially among sex workers, customers, transgender people and groups of men who have sex with men (MSM). However, if intensive intervention is not carried out, it is not impossible that other modes of transmission will continue to increase, such as prenatal transmission (KPAN, 2012).

NTT Province Health Profile Data from 2003 to 2018 the number of AIDS cases reached 3,771 cases with a total death rate of 20.66%. This condition tends to increase from the previous year. The number of sufferers by gender, 2678 women, 3274 men. Professions that suffered more from HIV AIDS were housewives (IRT) with 1188 cases, self-employed/private entrepreneurs with 1118 cases, "other" professions ranked third with 1103 cases, followed by farmers with 607 cases. 391 cases of labor, 382 prostitutes, 247 civil servants/army/police, 210 drivers, 203 migrant workers, 171 motorcycle taxi drivers, 137 fishermen, 134 students, 9 security guards, and 2 tailors. (NTT Health Office, 2017).

Data from the NTT Provincial KPA found that the number of PLHIV from 1997 to April 2020 reached 7,032 people, this number spread across 22 urban districts in NTT. Deaths due to HIV / AIDS as many as 1,392 people. The professions that occupy the highest number of PLHIV are housewives with 1524 people, private workers 1301 people, others 1257 people, farmers 762 people and laborers with 416 people (KPA., NTT, 2020)

Pregnant women in developing countries who are HIV positive can transmit 25-35% of all babies born and it is known that 90% of babies get HIV from their mothers (Hasdiana, 2014). The results of Isni's research, 2016 said that pregnant women are a group at risk of contracting HIV and HIV-infected pregnant women have an impact on the baby in the womb because it is the end of the chain of HIV transmission.

Enforcement of HIV status in pregnant women as early as possible is very important to prevent HIV transmission to their babies, because mothers can immediately receive antiretroviral treatment (ARV), psychological support, and information about HIV/AIDS. One of the principles to find out whether someone is infected with HIV is through a blood test called an HIV test through VCT use services (Ministry of Health, RI, 2012).

According to Green in Notoatmojo's book (2012), human behavior from a health level is influenced by 2 main factors, namely behavioral factors (behavior causes) and factors from outside behavior (non-behavior causes). Furthermore, the behavior itself is determined or formed from 3 factors, namely: 1). Predisposing factors (predisposing factors), which are manifested in knowledge, attitudes, beliefs, values, and so on. 2). Supporting factors (enabling factors), which are manifested in the physical environment, the availability and non-availability of health facilities or facilities such as health centers, medicines, contraceptives, latrines and so on. 3). Driving factors (reinforcing factors), which are manifested in the attitudes and behavior of health workers or other officers who are a reference group for community behavior. It is concluded that the behavior of a person or community regarding health is determined by the knowledge, attitudes, beliefs, traditions and so on of the person or community concerned. Availability of facilities, attitudes and behavior of health workers towards health will also support and strengthen the formation of behavior.

## 2. METHOD

This study uses an observational analytical research design. The approach was carried out in a cross-sectional manner by directly meeting pregnant women who made ANC visits at the Rukun Lima Health Center from June to September 2020. The reachable population was pregnant women in the I – III trimesters who were in the 2020 Rukun Lima Health Center area. Determining the number of samples in this study using the Slovin formula. (Ryan.T, 2013). The inclusion criteria for pregnant women who are in the working area of the Rukun Lima Health Center and carry out ANC from June to August 2021 and are willing to become respondents. The sampling technique uses simple random sampling. The number of samples in this study were 43 samples. Data were analyzed univariately, bivariately, and multivariately using Stata 12.0. This research has received ethical approval from the Kupang Poltekkes Ethics Committee.

## 3. RESULTS AND DISCUSSION

In Table 1, the characteristics of mothers based on age, occupation, and education level are presented. The characteristics of the respondents based on the age of the majority of respondents aged 20-35 years were 29 (0.67%), the characteristics of respondents based on educational level were mostly high school education with 22 (0, 51%), while the characteristics of respondents based on the type of work most of the respondents with jobs as housewives were 36 (0.84%).

Table 1 Characteristics of Respondents

Characteristics	Amount	
	(n)	(%)
<b>Age (years)</b>		
<20	2	0,05
20-35	29	0,67
>35	12	0,28
<b>Level of education</b>		
SD	9	0,21
SMP	6	0,14
SMA	22	0,51
PT	6	0,14
<b>Type of work</b>		
Mrs. RT	36	0,84
Farmer	1	0,02
Employee	6	0,14

Table 2. Frequency Distribution of Pregnant Women's Knowledge of HIV

No	Knowledge	f	N	%
1	Well	20	43	46,52
2	Not enough	23	43	53,48

Based on the data in the table above, it shows that of the 43 respondents, most of them had less knowledge, 23 respondents (53.48%) and good knowledge, 20 respondents (46.52%).

Table 3. Frequency Distribution of Support Availability of VCT Service Facilities

No	Sar Pras	f	N	%
1	Complete	25	43	58,14
2	Incomplete	18	43	41,86

Based on the data in the table above, it shows that out of the 43 respondents, the majority said that 25 (58.14%) had complete facility support and 18 (41.86%) incomplete facility support.

Table 4 Frequency Distribution of Health Officer Support

No	Support	f	N	%
1	Support	15	43	34,88
2	Does not support	28	43	65,12

Based on the data in the table above, it shows that 28 (65.12%) health workers did not support the support, and 15 respondents (34.88%) supported the service provider.

Table 5. Distribution of the Frequency of Use of VCT Service Facilities

No	VCT use	f	N	%
1	Yes	16	43	37,21
2	Not	27	43	62,79

Based on the data in the table above, it shows that out of 43 pregnant women who did not use VCT services, there were 27 respondents (62.79%) and who used VCT services, there were 16 respondents (37.2%).

### Bivariate Results

Table.6. The relationship between knowledge and the use of VCT services for pregnant women at the Rukun Lima Health Center, Ende Regency

		VCT use				Total		Or 95%	Asymp.sig
		Not		Yes		N	%		
		n	%	n	%				
<b>Knowledge</b>	Well	21	91.30	2	8.70	23	100	4,2	0.000
	Not enough	4	20	16	80	20	100		
	<b>Total</b>	25	58.14	18	41.86	43	100		

Based on the data in the table above, it is known that of the 23 (53.48%) respondents who had less knowledge, 21 respondents (91.30%) did not use VCT services with (Asymp.sig.(2-sided) = 0.000) and OR = 4, 2) this shows that there is a relationship between knowledge about HIV and the use of VCT services for pregnant women at the Rukun Lima Health Center, Ende Regency. Pregnant women with less knowledge about HIV are 4.2 times at risk of not using VCT services compared to pregnant women who have good knowledge.

Table 7. The relationship between the support of VCT service facilities and the use of VCT services for pregnant women at the Rukun Lima Health Center, Ende Regency

		VCT use				Total		OR 95%	Asymp.sig
		Not		Yes		N	%		
		n	%	n	%				
<b>Infrastructure</b>	<b>Incomplete</b>	14	77.78	4	22.22	18	100	2,2	0.000
	<b>Complete</b>	13	52	12	48	25	100		
	<b>Total</b>	27	62.18	16	37.2	43	100		

Based on the data in the table above, 18 respondents (41.86%) said that the support for VCT service facilities was incomplete and there were 4 respondents (22.22%) who used VCT services, while 25 (58.14%) said the service facilities Complete VCT, 12 (48%) respondents used VCT services and 13 (52%) respondents did not use VCT services.

The results of bivariate analysis with (Asymp.sig.(2-sided) = 0.084) and OR = 0.1, this shows that there is a relationship between the completeness of VCT service facilities and the use of VCT services at the Rukun Lima Health Center.

Table 8. The relationship between the behavioral support of service providers and the use of VCT services for pregnant women at the Rukun Lima Health Center

		VCT use				Total		OR 95%	Asymp.sig
		Not		Yes		N	%		
		n	%	n	%				
<b>Health workers</b>	<b>Does not support</b>	27	96.43	1	3.57	28	100	5,2	0,000
	<b>Support</b>	3	13.33	12	80.00	15	100		
	<b>Total</b>	30	69.77	13	30.23	43	100		

Based on the data in the table above, out of 28 (65.12%) respondents who said the behavior of service providers was not supportive, only 1 (3.57%) respondents used VCT services and out of 15 (34.88%) respondents who said service providers supported there were 12 (80.00%) using VCT services with (Asymp.sig.(2-sided) = 0.000 and OR = 5.2) this shows that there is a relationship between the behavioral support of service providers and the use of VCT services in pregnant women in Five Pillar Health Center. Pregnant women who do not get support from health service providers have a 5.2 times risk of not using VCT services.

## Discussion

### Knowledge about HIV/AIDS

Based on the results of the study showed that most of the respondents 23 (53.48%) had less knowledge, and 20 (46.52%) had good knowledge. Lack of knowledge, namely mothers who do not know how to transmit through blood transfusions (82.26%), how to prevent using condoms (80.20%), how to transmit through breast milk (92.00%), do not know the benefits of HIV testing and information regarding HIV (88%), did not know if doing an HIV test was given written consent (89.01%). Lack of knowledge can be caused by the lack of socialization, especially about HIV testing. Cognitive knowledge is a very important domain in shaping a person's actions. Behavior based on knowledge, awareness, and positive attitudes is more lasting than behavior that is not based on knowledge (Notoatmodjo, 2012). The results of the bivariate analysis revealed that 23 (53.48%) respondents with less knowledge of HIV did not use VCT services with (Asymp.sig.(2-sided) = 0.000) and OR = 0.1) this shows that there is a relationship between knowledge about HIV with the use of VCT services for pregnant women at the Rukun Lima Health Center. The results of this study are in line with research conducted by Ayu Wulan Sari (2014) entitled Factors Associated with the Intention of Pregnant Women to Utilize VCT (Voluntary Counseling And Testing) Services in the Work Area of the Ciputat Health Center, South Tangerang City where there were 70 respondents (92, 1%) had low knowledge and all of them did not take advantage of VCT services. Pregnant women who have good knowledge about HIV/AIDS will change their behavior to take an HIV test. With this knowledge, it is hoped that pregnant women will want or at least have the desire to take an HIV test in terms of preventing the transmission of HIV/AIDS. This is consistent with the results of the study (Yunida Halim., 2016), stating that there is a relationship between the level of knowledge and the participation of pregnant women in VCT examinations at the Halmahera Health Center in Semarang City, with the results of bivariate analysis that out of 27 respondents, 16 respondents had low knowledge (59.3%) did not do a VCT examination. P value was 0.023.

### Health worker support

Based on the results of the study, most of the 28 (65.12%) respondents said the officers did not support, and 15 respondents (34.88%) said the officers supported and of the 28 (65.12%) who did not support only 1 (3.57%) respondents used VCT services, out of 15 (34.88%) who received support there were 12 (80.00%) respondents who used VCT services. The proportion who did not carry out HIV testing was greater (96.43%) than those who received support (13.33%). The results of bivariate analysis with (Asymp.sig.(2-sided) = 0.000 and OR = 5.2) where the meaning of these values is that there is a relationship between health worker support and HIV testing behavior. The support of health workers referred to in this study was in providing information about HIV, advice for examinations, and providing post-examination referrals. The reason for respondents wanting to do an HIV test was because of the facilities or recommendations from the midwife. This was reinforced by the admission of one pregnant woman who did not really understand HIV testing, because there is still a stigma in the community related to HIV that makes a person afraid to take an HIV test so that it requires the role of health workers. This is in accordance with research (Isni, 2016) which says that there is a relationship between health worker support and HIV testing behavior. The support of service providers in order to encourage pregnant women to take HIV tests can be categorized as Provider-Initiated Testing and Counseling (PITC). PITC itself is a government policy to be implemented in health services, which means that all health workers must recommend HIV testing, especially for pregnant women. The activity of providing HIV testing advice and examinations needs to be adapted to the principle that the patient has received sufficient information and agrees to be tested for HIV and that all parties maintain confidentiality. The role of service providers in providing counseling is one of the reinforcing factors for HIV testing in pregnant women. This is consistent with the results of a study (Armiti, 2014) which said that respondents with good midwife support had a greater proportion of taking HIV tests than respondents who received less midwife support. This is because a person's actions are strongly influenced by the participation of health workers in motivating the community to take actions related to health. Support and encouragement from health workers will increase the intention of pregnant women to take an HIV test. With the above results, it can be concluded that pregnant women with good knowledge about HIV and good behavior of officers in providing counseling and counseling (PITC) have an 83% chance of having an HIV test.

VCT (Voluntary Counseling and Testing) aims to provide information about HIV/AIDS, prevent HIV transmission, provide moral support, information, and other support to PLWHA, their families and their environment (Nursalam, 2014, p. 76). According to the researchers, there were still many pregnant women who had not done VCT examinations due to the respondents' lack of knowledge about the benefits of VCT examinations, the lack of complete facilities, and the lack of support from health workers in providing IEC to the public, especially pregnant women, regarding the prevention of HIV/AIDS and the importance conduct VCT examinations in the community.

### VCT Service Facility Support

Based on the results of the study showed that the majority (62.79%) of respondents received support and (37.2%) of respondents did not receive support. Respondents with inadequate facility support had a greater proportion (77.78%) than respondents with good facility support (52%). The results of the bivariate analysis showed that the statistical test (Asymp.sig.(2-sided) = 0.000 and OR = 2.2) which means that statistically there is a relationship between support for the availability of VCT service facilities and HIV testing. HIV testing services at the Rukun Lima Health Center are integrated into the antenatal care service where every pregnant woman is given the opportunity to have simple laboratory tests at the initial contact with a health worker. Facilities and infrastructure services are needed starting from socialization activities, screening and case referrals. Facilities for information through the media so that the delivery of messages is easy for mothers to understand in the form of leaflets, flipcharts, posters, banners and so on. Screening activities require registers and mother cards and HIV test reagents, while referral activities require communication with the VCT clinic at the hospital. This is consistent with the results of research (Suryani, 2013) which showed that respondents who used VCT services in the good category had a greater percentage than those in the poor category

in terms of the availability of VCT services. 89.6% of respondents were in the good category, and 53.2% were in the bad category. The statistical test results also proved that there was a significant relationship ( $p < 0.05$ ,  $P = 0.000$ ) between availability and utilization of HIV VCT services.

#### 4. CONCLUSION

Based on the results of the study it was known that there were (91.30%) not using VCT services with Asymp.zig. (2-sided = 0.000) and OR = 0.1, with a p value  $< 0.005$ , 95% confidence level, this shows there is relationship between knowledge about HIV and the use of VCT services for pregnant women at the Rukun Lima Health Center. Knowledge of pregnant women is less at risk of not using VCT services 4.2 times compared to mothers who have good knowledge of HIV. Behavioral support for health workers showed a pvalue of 0.000 with a confidence level of 95%, OR = 5.2 where the meaning of this value was that there was a relationship between health worker support and the use of VCT. Respondents who received support from health workers were 5.2 times more likely to carry out HIV tests than pregnant women who received less support from health workers. Factors of mother's knowledge and support from health workers influence the use of VCT services in pregnant women. Support for the availability of VCT services shows results with a p value of 0.000 with a 95% confidence level OR = 2.2. This shows that there is a relationship between the availability of services and the utilization of VCT services. Respondents who received good facilities were 2.2 times more likely to carry out VCT examinations compared to respondents who did not receive VCT service facilities for pregnant women at the Rukun Lima Health Center.

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