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Pregnant Women's Factor toward Motherto-Child Transmission of HIV practice

Gita Sekar Prihanti[1]*, Irma Nur Sukma[2], Firman Arief, Qonita Prasta A, Enggar Ayu S, Jeanny Dwi Adriyanti, Iqbal Margi S.

[1 2]Faculty of Medicine UMM Jl. Bendungan Sutami 188a Malang

***Email : gitasekarprihanti@gmail.com**

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ABSTRACT

In 2005 , there are 700.000 people infected with HIV each day around the world. Among those 200.000 are children under 15 with the highest mortality rate within those under 1 year old. According to the official guideline of released by Indonesian Ministry of Health 2011, strategies to prevent vertical infection of HIV has to be done comprehensively in order to reduce the risk to a minimum. This study aim to identify the factors of pregnant women toward mother-to-child transmission (MTCT) of HIV practice. A Cross-Sectional study design with observational analytic was conducted in this study and involving 138 pregnant woman. Data analysis used *Chi-Square*, Kruskal Wallis, Mann Whitney andLogistic Regression Analysis. Multivariate analysis showed age variable, education, and attitude affect the MTCT of HIV practice significantly(age p: 0.012, OR: 0.057, CI: 0.006-0.533; education p: 0.027, OR: 0.137, CI: 0.023-0.802; attitude p: 0.012, OR: 0.224, CI: 0.069-0.725). The data showed R^2 31.6% that means the MTCT of HIV practice affected by age, education and attitude, meanwhile the rest (68.4%) is affected by another factors that did't identified yet in this study.

Keywords: Attitude,Knowledge,Pregnant Woman, Sociodemography Factor, MTCT of HIV practice

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INTRODUCTION

HIV infection in neonates acquired by vertical transmission from the mother to the fetus within the womb, during birth delivery process, and during post partum which transmitted via breastmilk. Over 90% HIV infection in babies transmitted from the infected mothers (Rimawi BH et al., 2016).

In 2005, there are 700.000 people infected with HIV each day around the world. Among those 200.000 are children under 15 with the highest mortality rate within those under 1 year old. Without intervention, the average of HIV transmission during regnancy and post partum reach the number 35-40% , and 40-45% in breast feeding process (Rimawi BH. et al., 2016).

According to the official guideline of HIV prevention from mother to children released by Indonesian Ministry of Health 2011, strategies to prevent vertical infection of HIV has to be done comprehensively in order to reduce the risk to a minimum. Those srategies are covered in Integrated Antenatal Care such as HIV test offer in order to find out the HIV status, ARV treatment for the infected mothers, safe labor, management in feeding the babies, ARV profilactic treatment for children, and HIV diagnostic test for children.

HIV test in antenatal care is essential for detecting HIV infection in pregnant women who need to receive ARV treatment in reducing vertica transmission from mother to child to improve mother's health during pregnancy. In 2012 *World Health Organisation*(WHO) established the program of MTCT of HIV in order to reduce the transmission ratefrom mother to child and improving the ARV treatment among infected pregnant women and newborn babies.However the result might not be optimal if the knowledge of the pregnant women and breast-feeding women about HIV/AIDS and it'sprevention is still low (Drake AL et al., 2014).

Within the region of Public Health Center C there are 211 pregnant women spread in five disctricts. Among the population there have been socialization about MTCT during anrenatal care. In health care provider. However, only 67 prgenant women who were willing to undergo the test. From the all pregnant women who undergone the test, majority were from district of Bandar Kidul with 35 pregnant women in which 25 of them (71,43%) have done the MTCT test.

METHODS

A cross-sectional study design was conducted in Public Health Center. Public Health Center of C is located in the city of Kediri. The region has a population size of 211 pregnant women and wasconstitued our study population.Samples areobtained by using*Proportionate Stratified Random Sampling Technique*. Data were collected usinginterviewer administeredquestionnaire. The questionnaires was prepared after reviewing relevant literatures and has been validated.

Bivariateanalysis is done using *Chi-Square*, with the alternative Kruskal Wallis and Mann Whitneywhile multivariate analysis using Logistic Regression Analyses were carried outto see the effect of sociodemographic factors (age, marital status, education, religion), knowledge, attitude, toward the mother's MTCT Practice Of HIV. The data is processed with SPSS 22 program *for Windows.*

RESULTS AND DISCUSSION

In this study, the primary data is obtained through questionnaire.

Table 5.1 Distribution of Respondents based on Age, Religion, Marital Status, Education Level, Occupation

AGE	N	%
15-19	8	5,7
20-24	42	30,4
25-30	44	31,8
31-35	29	21,0
36-40	6	4,3
41-45	9	6,5
Total	138	100
RELIGION	N	%
Muslim	137	99,3
Christian	1	0,7
Catholic	0	0
Hindu	0	0
Buddhist	0	0
Total	138	100,0
Marriage status	N	%
Single	0	0
Married	138	100,0
Separated	0	0
Widow	0	0
Total	138	100,0
FORMAL EDUCATION LEVEL	N	%
None	1	0,7
Junior high	21	15,2
Senior high	95	68,4
University	21	15,2
Total	138	100,0
OCUPATION	N	%
Housewife	90	65,2
State Employee	7	5,07
Private Employee	28	20,3

Entrepreneur	13	9,4
Other	0	0
Total	138	100,0

Tabel 5.2 Respondendts Distribution Based on Knowledge of Transmission and Prevention, Attitude Towards MTCT of HIV practice

Total	138	100,0
Level of Knowledgeabout transmission from the mother to child	N	%
Adequate Knowledge	85	61,6
Limited knowledge	19	13,8
None	34	27,5
Total	138	100,0
Knowledge level about HIV transmission from mother to child	N	%
Adequate	88	63,7
Inadequate	50	36,2
Total	138	100,0
Attitude toward MTCT	N	%
Positive	105	76,1
Negative	33	23,9
Total	138	100,0

Tabel 5.3 Respondents Distribution Based on Source of Support, Source of Obstacles, and Source of Information.

SOURCE OF SUPPORT	N	%
Boyfriend	0	0
Husband	18	13,0
Healthcare Provider	73	52,9
Counselor	1	0,7
Co-worker	1	0,7
Mass media	2	1,4
Curiosity of HIV status in oneself	27	19,6
Better understanding in HIV Curiosity in treatment	15	10,9

	1	0,7
Total	138	100,0
Source of Obstacle	N	%
Boyfriend	0	0
Husband	28	20,1
Health Worker Counselor	7	5,1
Colleagues	3	2,1
Unwillingness to know HIV status on oneself	22	16,0
	24	17,4
	54	39,1
Total	138	100,0
Source of of Information	N	%
Clinic	46	33,3
Radio	13	9,4
Television	47	34,0
Newsaper	8	5,7
Friend	10	7,2
Partner	14	10,1
Total	138	100,0
Prevention Practice	N	%
Done	53	38,4
Have not done	85	61,6
Total	138	100,0

Tabel 5.4 Bivariate Analysis for Sociodemographic Factor

Variable	P Value	Information
Age	0,006	Significant(p<0,05)
Marital status	Unable to analyze	Unable to analyze
Religion	0,430	Not Significant (P> 0.05)
Education level	0,049	Significant (p<0,05)
Occupation	0,144	Not Significant (P> 0.05)

Based on the tabel above, Chi Square test in bivariate analysis concludes there are two variables that affects the MTCT of HIV practice significantly, which are age variable with p value

= 0,006 and education level variable with p value = 0,049because p< 0,05. Meanwhile bacause 100% of respondent are married so that the variable of marital status can not be analyzed because the data is constant. Variable of religion has a p valueP = 0,144 which is p> 0,05 means it's not significant.

Tabel 5.5 Bivariate Analysis Resume of Knowledge about transmission and prevention and Attitude toward prevention

Variabel	P Value	Information
Knowledge about Transmission	0,040	Significant(p<0,05)
Knowledge about Prevention	0,325	Not Significant (P> 0.05)
Attitude toward Prevention	0,87	Not Significant (P> 0.05)

Based on table 5.5 above, it is known that chi-square test in bivariate analysis showed how variable of education affect the MTCT of HIV practice significantly.

Tabel 5.6 Result of Multivariate Analysis

Category		Comparison	B	Wald	P-Value	OR	Signifcant
Usia	15-19 years old	40-44	-23,685	12850,189	0,999	0,000	Not significant
	20-24 years old		-3,396	1,154	0,003	0,034	Significant
	25-29 years old		3,338	1,156	0,004	0,036	Significant
	30-35years old		-2,860	1,138	0,012	0,057	Significant
	36-40 years old		-0,955	1,614	0,554	0,385	Not Significant
Education	Junior high school	University	-1,991	0,903	0,027	0,137	Significant
	Senior high school		-0,155	0,567	0,784	1,168	Not Significant
Practice	Negatif	Positif	-1,495	0,598	0,012	0,224	Significant

Tabel 5.7 Result of Probability

VARIABLE	y	Probability
20-24 years old	-0,396	0,40
25-29 years old	-0,038	0,51
30-35 years old	0,14	0,534
Education	1,009	0,73
Practice	1,505	0,819

Based on the data found that the most significant variable toward MTCT of HIV practice is attitude with p value (0,012) and OR (4,460) followed by education variable with p value sebesar (0,027) and OR value (0,137). While other variables do not affect significantly toward MTCT of HIV practice.

The equation in this study found that age 30-34, junior highand having positive attitudethen the probability value in practicing MTCT of HIVwill be y=3,00+(0)(-3,396)+ (0)(-3,338) + (1)(-2,860) + (1)(-1,991) + (0)(-1,495)= -1,851 maka didapat nilai

$$P= \frac{1}{1+2,7^{-1,851}} = 0,14 \rightarrow$$

the probabiliy of pregnant woman practicing MTCT of HIVwill be 14%.

In this study, there are four independent variables that can be analyzed, those are age, religion, education level, and occupation.Marital status can not be analyzed due to it's constant data. Dan variabel yang memiliki hubungan bermakna adalah variabel usia dan tingkat pendidikan. It is proven by Kruskal Willis test in variabke of age with p value<0,05, which meansthere is a significant correlation between age group and MTCT of HIV practice. Variable of education level with Mann Whitney test resulting in p value<0,05 which also mean there is a significant correlation between education level toward MTCT of HIV practice

Based on the data, majority of the respondents are at the age group 25-30 (31,8%) with the least of age group 36-40 which is 6 respondent (4,3%). Kruskal Willis was carried out with the result p value <0,05 showed significant correlation between age group and MTCT of HIV practice.

The preceding study conducted byAsmauryanah, 2014 showed that young respondents in their first pregnancy was not ready at all. Young pregnant mother who did the antenatal care were mostly encouraged by their mother. Their awareness toward the importance of ANC and PMTCT were insufficient. Most of the respondents in age group 20-35 and >35 have heard about HIV and discussed it withhealth care provider during antenatal care (Bissek, et al 2011) in his research showed the mean age of sample population was comparable to the findings of Third National Demographic and Health survey in 2004 which revealed a high prevalence of early pregnancies as

from the 15-19 years age range and reaching a peak in the 20-29 years age range (23,1-23,6%)(5). These findings emphasize the importance of PMTCT interventions as the HIV prevalence in the age group of maximum fertility ranges from 7.9% to 10.2%.

Meanwhile, Mann Whitney test resulting with p value<0,05 shows significant correlation between education level with MTCT of HIV practice. Penelitian yang dilakukanBhise, 2015 stated that majority of education level among repondents withjunior high and higher were 82,5%, then primary school were 1,88% and the rest were unducated (6,87%). Bhalge, 2012 as well conducted the study with majority are well educated and the rest were unducated4,66%. Respondents who are well-educated have a significant correlation between MTCT of HIV practice. (Dattaramji Bhise J, Deo D., 2015)

This study showed the data of mother's knowledge toward HIV transmission, found 85 respondents (61,6%) well-acknowledged, 19 respondents (13,8%) were less-acknowledged and 34 respondents (27,5%) were unacknowledged.From the Chi Square test resulting P value <0,05 shows significant correlation betweenknowledge of HIV transmissiontoward MTC of HIV practice.The study conducted by Addo, 2005 summarizes the knowledge of the women about MTCT. About 50% of respondents said an HIV positive woman could transmit HIVto her baby before birth but had no idea of any means to prevent this. They also knew of the use of drugs in pregnancy and the avoidance of breat-feeding as ways to prevent transmission.

The study conducted by Asmauryanah, 2014, conclude that mother's knowledge about HIV will affect the effort of MTCT of HIV. It is due to less knowledge about HIV toward MTCT of HIV practice(6). This outcome is relevant with the theory stated by Notoadmodjo (2010) proclaiming that practice with a good knowledge will be more perpetua. According to Notoadmodjo (2010), There are several factors affecting one's knowledge, those are education and information.

In general, respondents have a positive attitude toward MTCT of HIV practice. 105 respondent (75,6%) have positive attitude toward MTCT of HIV practice, with the rest 33 respondents (29,6%) still possessed with negative attitude. Chi Square test was carried out with P >0,05 shows there is no significant correlation between positive attitude with MTCT of HIV practice. Similar outcome was found in the study conducted by Siregar, 2016, showed there is no correlation between attitude and MTCT of HIV practice.

Multivariate analysis was carried out to analyze several variables toward other variables in the same time. It is due to the problems that can not be solved by correlating the only two variables or finding out one to another variable.

All variables have been investigated, and the most significant variable toward MTCT of HIV practice is attitude with p value (0,012) and OR (0,224) followed by education variable with p

value (0,027) and OR value (0,137) followed by variable of age which age 30-34 has the most significant value with p value (0,012) and OR (0,057).

And the variable of attitude has no significant correlation toward MTCT of HIV practice in bivariate analysis. However, carried out by multivariate analysis, attitude affect MTCT of HIV practice significantly with p value (0,012) and OR (0,224). This could happen due to other factors such as source of support and source of obstacle that affect MTCT of HIV practice.

In this study, health care provider as important role as the source of support.. 73 respondents (52,9%) assumed health care provider. The data is relevant with the outcome of this study showing health care provider as the second largest source of information. While the main source of obstacle for not undergoing the MTCT of HIV practice is unwillingness to know HIV status on oneself withtotal54 respondents (39,1%).

In this study, 47 respondents (34,3%) got the informationfrom the television and 46 respondentsgot the informations from health care provider.Based on tha study conducted by Lamina, 2012 stated thatall the respondents interviewed were aware of HIV/AIDS and more than half, 93 (57,8%) had been aware of the disease for ≥5 years. The main sources of information were television 93 (57.8%), radio 77 (47.8%), health workers 53 (32.%), friends, relatives and neighbour 41 (25.5%) and posters 34 (21.1%). The religious homes, churches and mosques had the least number of respondents 33 (20.5%).Bhise, 2015 stated that advertisement spread by mass media appeared to improve with increasing level of knowledge and be the source of information about HIV/AIDS. Mazloomy et al, 2006 stated the most effective source of information in the study was radio and television (70%)(8), but the majority of subjects (48.6%) had preference to get information on AIDS from doctors. (Dattaramji Bhise J, Deo D., 2015)

Health care provider is proved has an important role as the source of information.This outcome confirmedby Manongi, 2014 showedoverall the introduction of PITC services initiated by health care providers is very promising, particularly among female respondents. This observation can be associated with the PMTCT services, which provides oportunity for pregnant woman to have access to HIV-related information and HCT services and has also associated with higher uptake of HIV-counseling and testing among women. In addition, woman are the primary care-taker of sick children in the community, so much so that the health care centre literally becomes a second home. In this way, have full trust on any advice given by health provider. This observation therefore calls for health care providers to maintain high level of confidentiality and patient care and explore the oportunity for couple counseling and promote disclosure among couples. (Manongi R., 2014)

There exist a need to improve health promotion and education related with HIV testing. Video-based HIV intervention programs have value in increasing knowledge and reducing the risk of HIV transmission (Cabezas MDC. et al., 2015). In the study of Shao et al, Video seems to be

beneficial for those who have low literacy skills. This video might be very helpful for those who are interested in internet-based independent learning, self-based HIV testing, and broader educational efforts (Shao W. et al., 2016).

A study report a significant increase in participant awareness about ways to reduce risk behaviors associated with AIDS and STIs after an intervention by giving a video presentation(12). The respondents who were given education about HIV by using video media can increase awareness and education with lay communities and service providers about HIV (Ebor M.et al., 2015).

Giving an intervention in the form of video can increase the open attitude of patients to take HIV tests. This research has helped in predicting behavioral changes, they were previously only applied to individuals who experience health problems (Arya M. et al. 2019). A younger respondents have improved attitudes about HIV after learning about it from HIV prevention video message (Mathur S. et al., 2016).

The provision of video interventions in which there is information about HIV can contribute in conducting HIV testing of respondents (Aronson ID. et al., 2015). Another study with a result of $p < 0.001$ which means that there are significant results between the provision of video interventions on the willingness of participants to take an HIV test (Mathur S. et al., 2016).

Educational interventions such as online video can be associated with a significant increase in the level of knowledge about HIV infection, prevention of transmission so that it can increase the willingness of respondents from HIV testing (Khawcharoenporn T. et al., 2020). The lack of desire to undergo an HIV test is associated with fear, stigma, and discrimination. Stigma and discrimination are usually shown from positive HIV test results. Secrecy and reducing stigma are very important in developing HIV prevention strategies, related to the willingness in HIV testing (Sasaki Y. et al., 2011).

The more influential factor on the availability of HIV testing before the intervention (sig. <0.05) is a positive attitude before the intervention (sig = 0.003). The majority of respondents did not realize the importance of HIV testing even though many respondents had a positive attitude towards VCT(19). Respondents who have a positive attitude will increase their willingness to carry out HIV testing (Teklehaimanot HD. et al., 2016).

According to research conducted by Sasaki et al., 2016, the lack of desire to undergo an HIV test is associated with fear, stigma, and discrimination. Stigma and discrimination are usually shown from positive HIV test results. Secrecy and reducing stigma are very important in developing HIV prevention strategies, related to the willingness in HIV testing. An information and education about HIV / AIDS can encourage someone to do an HIV test without fear of negative reactions from the public (Sasaki Y. et al., 2011). The pull factors that influence access to health services among key populations at high risk are individuals who have low economic status and

sociodemographic characteristics according to local culture (eg education, marital status, age) (Mmbaga EJ. et al., 2019)

CONCLUSION

All variables have been investigated, and the most significant variable toward MTCT of HIV practice is attitude with p value (0,012) and OR (0,224) followed by education variable with p value (0,027) and OR value (0,137) followed by variable of age which age 30-34 has the most significant value with p value (0,012) and OR (0,057). Health provider has important role in MTCT program , from the result showing that majority of respondent choosing health care provider as the source of information in MTCT practice among respondents.The result shows that highest source of obstacle upon MTCT practice is self unwanted in knowing HIV. The result of this study shows more than 50% of pregnant women have not undergone PPIA test. Education through online video media could used as an alternative intervention strategy to the community to develop knowledge, improve attitudes so as to increase willingness to carry out HIV testing in order to realize early detection of HIV so that therapy can be carried out earlier and reduce HIV mortality in Indonesia.

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