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Midwife's Behavior in The Implementation of "Prevention of Mother to Child Transmission" Program in Yogyakarta's Primary Health Care

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Perilaku Bidan dalam Pelaksanaan Program Pencegahan Penularan dari Ibu ke Anak di Puskesmas Yogyakarta

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ABSTRAK

Menekan kejadian HIV/AIDS sebagai komitmen global dalam Sustainable Development Goals (SDGs). Kejadian HIV di dunia masih terus meningkat. Penularan HIV secara vertikal dari ibu ke bayi dapat dicegah melalui *Prevention Mother to Child Transmission* (PMTCT). Bidan memiliki peran yang sangat penting. Penelitian ini bertujuan untuk mengetahui faktor-faktor yang memengaruhi perilaku bidan dalam pelaksanaan PMTCT. Jenis penelitian dengan pendekatan *cross sectional*. Subjek penelitian ini adalah bidan Puskesmas Kota Yogyakarta berjumlah 80 orang. Penelitian dilaksanakan Bulan April s.d. Agustus 2017. Analisis menggunakan univariat, *Chi square* dan *Fisher exact tes*, multivariat dengan regresi logistik. Pengukuran menggunakan kuesioner yang telah diuji validitas dan reliabilitas. Hasil penelitian menunjukkan bahwa sebesar 47.5% bidan memiliki kategori kurang baik dalam pelaksanaan PMTCT. Ada hubungan ketersediaan informasi melalui sosialisasi ($p=0.047$), tingkat pengetahuan ($p=0.016$) dengan perilaku bidan dalam pelaksanaan PMTCT. Tidak ada hubungan umur, lama bekerja, tingkat pendidikan, status perkawinan, ketersediaan informasi melalui perkuliahan, sikap bidan terhadap PMTCT, persepsi ketersediaan sarana dan prasana, dan persepsi dukungan institusi dengan perilaku bidan dalam pelaksanaan PMTCT. Analisis multivariat menunjukkan tingkat pengetahuan (OR: 6.272 CI=1.8-21.4) berpengaruh terhadap perilaku bidan dalam pelaksanaan PMTCT. Kesimpulan penelitian ini adalah tingkat pengetahuan merupakan factor yang paling berpengaruh dalam pelaksanaan PMTCT

Kata kunci: Bidan, Pencegahan, Human Immunodeficiency Virus, Hamil

ABSTRACT

HIV/AIDS is one of the global commitments in Sustainable Development Goals (SDGs). The incidence of HIV in the world is still high. Vertical transmission can be prevented by Prevention of Mother to Child Transmission (PMTCT) program. Midwives have a very important role. The aim of this study was to determine the factors associated with midwives' behavior in implementation of PMTCT. This research was cross sectional in design. The subjects of this research were 80 midwives in Puskesmas Kota Yogyakarta, Indonesia. The study was conducted from April to August 2017. Data was analyzed through univariate, bivariate with Chi square and Fisher exact test, multivariate with logistic regression. The results showed that 47.5% of midwives were in less category in the implementation of PMTCT. Information availability through socialization ($p=0.047$) and knowledge level ($p=0.016$) were found to be related to PMTCT implementation. There was no relationship between age, length of work, education level, marital status, availability of information, midwife attitudes, perception of the availability of facilities and institutional support with midwife behavior in PMTCT implementation. Multivariate analysis showed that level of knowledge was the most dominant factors affecting PMTCT Implementation (OR:6.2; CI=1.8-21.4).

Keywords: Midwives, Prevention, Human Immunodeficiency Virus, pregnant

INTRODUCTION

Sustainable Development Goals (SDGs) is a global commitment in a larger framework of continuous development. Regarding prevention of Human Immunodeficiency Virus /Acquired Immunodeficiency Syndrome (HIV/AIDS), SDGs have more universal goals aimed to achieve health and wellbeing for everyone. Holistic development is also expected, including problems on HIV/AIDS prevention and various progressive diseases. SDGs are also targeting to decrease infectious diseases¹.

In the year 2015, there were 0.3 new cases of HIV infection per 1,000 people recorded. Those numbers showed the increasing trend of HIV infection compared to the number of cases that happened in the year of 2000, from 45% to 71% in 2015. From this data, we know that HIV is a threat for the health that should persistently be addressed at least until 2030.¹

According to Indonesian AIDS Committee in 2015, in 1987, the number of people suffering from AIDS in Indonesia were just 5 cases. Ten (10) years later, there were only 44 additional new cases. But starting 2007, the cases of AIDS increased significantly up to eight fold up to 17,699 cases, of which 3,586 people died. Human Immunodeficiency Virus (HIV) causes Acquired Immunodeficiency Syndrome (AIDS). HIV attacks the immune system and damages the white blood cells called T lymphocyte or T cells, resulting in immunodeficiency, hence AIDS.^{2,3}

In 2014 there were 501,400 cases of HIV/AIDS in Indonesia. People suffering from HIV/AIDS were spread in 32 provinces and 300 sub-regions/cities. The majority of people suffering from HIV/AIDS were among the productive age 15-29 years old. Papua was not the province with the highest number of HIV/AIDS, however, by prevalence this is still the highest. The number of HIV/AIDS cases being reported in Indonesia is only a tip of the iceberg. The actual cases estimated were reaching 270,000 people and in Yogyakarta, the incidence of HIV continues to increase like in annually.^{2,4}

Vertical transmission was a major pathway for HIV infection in children through mother-to-child transmission. World Health Organization (WHO) declared that without prevention interventions, 40% of the babies born from mothers who are HIV positive, will be infected. The focus of prevention is divided into three phases; pregnancy, labour and breastfeeding process. These three phases underscores the important role midwives play in implementing of prevention

of mother to child transmission (PMTCT) of HIV/AIDS. Midwife's knowledge about HIV is important for it is the basic foundation that can influence someone's attitudes and behavior. However, there are still midwives who have negative attitude and perception towards HIV/AIDS, thus it is paramount that they make it become the part of their job to overcome HIV/AIDS with unique treatments. Knowledge, attitude, and perception among midwives towards HIV are important determinants in overcoming HIV.^{5,6}

High coverage of HIV testing appears to be achieved at the cost of pregnant women not understanding that testing is optional. Good quality HIV pre-test information is central to ensure that pregnant women understand and accept the reasons for testing and will thus come back to collect their test results, an important prerequisite for completing PMTCT for those who test HIV-positive.⁷

Midwife hold an important role in the implementation of PMTCT.⁸ This study aimed to describe how midwives in Mother and Children Health Clinic in the Primary Health Care/ Puskesmas implement PMTCT among pregnant women and determine factors that influence midwives' behavior in the implementation on PMTCT program.

METHODS

This quantitative survey used cross-sectional design, conducted in 14 Puskesmas/ primary health care in Yogyakarta City from April to August 2017. This study assessed all midwives who work on Mother and Children Clinic in primary health care. Only primary health care already implementing the PMTCT programme were involved. The primary health care chosen was based on random sampling toward all primary healthcare in Yogyakarta City. To determine the sample size, the formula for sample size with calculation of proportion with minimum sample size obtained was 72.43 respondent which was rounded off to 80 midwives. Using simple random sampling. Selected respondents used list the number and name the midwives of 14 primary health care and selected the midwives by manual lottery the number of midwife, and those who took part gave a written consent to participate.

This study used the theoretical framework approach of Precede-Procede model.⁸ Independent variables consist of socio-demographic characteristic of the midwives such as age, marriage status, education level, work experience, information availability about HIV through lectures and socialization in the workplace, midwives' knowledge about HIV and PMTCT and

midwives' attitude toward the implementation of PMTCT - as predisposing factors – whereas midwives' perception about institution support in PMTCT program - as reinforcing factors - and facilities availability in implementing PMTCT - as enabling factors. The dependent variable was midwives' behavior in implementing the PMTCT.

A self-administered questionnaire was used in this study. Midwives' knowledge was measured through multiple choice questions. True statements were scored as 1 and false statements were scored as 0. We then classified the scores into three categories to characterize the level of knowledge: higher >70%; satisfactory (56%- 69%) and unsatisfactory (<56%). On the other hand, we used Likert scale to measure attitudes and categorized as positive and negative (based on the mean). The scoring was done as follows: positive statement agrees =2, disagree =1 and hesitant =0, and for negative statement agree =1, disagree =2 and hesitant =0. Level of perception used a visual analog scale form scored from 0-10. Perception about institutional support categorized as supporting and less supporting. Perception about facility availability and PMTCT behavior categorized as good and poor.

Descriptive statistics using frequencies and percentage was used to describe findings. Further, ¹² *Chi square* test or Fisher exact test to determine the relationship between the dependent and independent variables was applied. Logistic regression was done for all variables with *p* less than 0.25 and to explain independent variables: socio-demographic characteristic of the midwives (age, marriage status, education, work experience, information availability about HIV through lectures and information availability about HIV through socialization in the workplace), midwives' knowledge about HIV and PMTCT, midwives' attitude toward the implementation of PMTCT, midwives' perception about institution support in PMTCT program, facilities availability in implementing PMTCT which were strongly associated with the dependent variable: midwives' behavior in implementing the PMTCT.

Ethical clearance was obtained from Ethical Committee Poltekkes Kemenkes Yogyakarta Number: LB.01.01/KE-01/XII/326/2017. A formal letter of permission for respondents used informed consent and they were informed that the data will be treated with utmost confidentiality.

RESULT

This study conducted on 80 randomly selected midwives in 14 primary health care in Yogyakarta City that were implementing PMTCT programme. The characteristic of the respondent showed in table 1.

Table 1. Respondent's Characteristic

Characteristic	Amount (n=80)	Percentage (%)
Age		
> 28 y.o	37	46.2
≤ 28 y.o	43	53.8
Marriage Status		
Married	44	55
Unmarried	32	40
Widow	4	5
Education		
Midwifery Subject D1	4	5
Midwifery Subject D3	66	82.5
Midwifery Subject D4/S1/S2	10	12.5
Work experience		
> 7 years	36	45
≤ 7 years	44	55
Information Availability about HIV through lectures	58	72.5
Information availability about HIV through socialization in the workplace	4	5

Table 1 shows that the majority of midwives were aged less than 28 years old (53.8%), had D III education in midwifery subject (82.5%), married (55%), and worked for less than 7 years (55%). The main source of information among respondents was via college lectures (72.5%).

Independent variable in line with Procede Precede theory were midwives' knowledge level, attitude, perception, experience and behavior in implementing PMTCT. These are described in table 2 below:

Table 2. Midwives' Knowledge Level, Attitude, Perception and Behavior in implementing PMTCT

Characteristic	Number of	Percentage (%)
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	midwives (n=80)	
Knowledge level		
Higher	8	10
Satisfactory	32	40
Unsatisfactory	40	50
Midwives' attitude toward PMTCT		
Positive	30	37.5
Negative	50	62.5
Perception about institutional support		
Supporting	36	45
Less supporting	44	55
Perception about facility availability		
Good	43	53.8
Poor	37	46.2
Midwives' behavior in implementing PMTCT		
Good	42	52.5
Poor	38	47.5

Note : PMTCT = Prevention Mother to Child Transmission

Table 2 showed that midwives knowledge majority were categorized as unsatisfactory (50%). Regarding attitudes, most respondents had negative attitudes towards PMTCT (62.5%) and majority perceived that their institutions where they work as being less supportive of their efforts in implementation of PMTCT (55%). Majority perceived that there were enough institutional facilities to implement PMTCT (53.8%) and majority (52.5%) had a positive attitude towards PMTCT implementation.

Bivariate analysis was used to analyze association between independent and dependent variables. The relationship between independent and dependent variables are showed in table 3.

Table 3. The relationship between midwives' characteristic, knowledge level, attitude, perception about HIV/AIDS with midwives' behavior in implementing PMTCT

Variable	Implementation of PMTCT						p-Value
	Good		Poor		Total		
	n=42	%	n=38	%	n=80	%	
Age							
>28 y.o	18	48.6	19	51.4	37	100	0.678*

≤ 28 y.o	24	55.8	19	44.2	43	100	
Work experience							
> 7 years	18	50	18	50	36	100	0.857*
≤ 7 years	24	54.5	20	45.5	44	100	
Education Level							
D1 Midwifery	2	50	2	50	4	100	0.156*
D3 Midwifery	32	48.5	34	51.5	66	100	
D4/S1/S2	8	80	2	4.8	10	100	
Marriage Status							
Married	18	40.9	26	59.1	44	100	0.064*
Unmarried	21	65.6	11	34.4	32	100	
Widow	3	75	1	25	4	100	
Information availability through socialization							
Yes	0	0	4	100	4	100	0.047*
No	42	55.5	34	44.7	76	100	
Information availability through lectures							
Yes	29	50	29	50	22	100	0.634
No.	13	59.1	9	40.9	58	100	
Knowledge level							
Higher	3	37.5	5	62.5	8	100	0.016*
Satisfactory	23	71.9	9	28.1	32	100	
Unsatisfactory	16	40	24	60	40	100	
Attitude toward HIV/AIDS							
Positive	16	53.3	14	46.7	30	100	1.000
Negative	26	52	24	48	50	100	
Perception about facility							
Good	26	60.5	17	39.4	43	100	0.189
Poor	16	43.2	21	56.8	37	100	
Perception about institutional support							
Good	19	52.8	17	47.2	36	100	1.000
Poor	23	52.3	21	47.7	44	100	

*used Fisher exact test

Note : PMTCT (Prevention Mother to Child Transmission)

Table 3 shows that midwives aged >28 years old were mostly implement PMTCT with Poor category (51.4%) meanwhile midwives aged ≤ 28 years old were mostly (55.8%) implement PMTCT in a good category. But statistically, this variable has No. significance with only p-value

0.678. Midwives who worked >7 years have same proportion in category of PMTCT implementation that is 50%. Meanwhile midwives who worked ≤ 7 years were mostly in unsatisfactory category. But this variable was also statistically insignificant with $p=0.857$.

Midwives who had one year midwifery education (Diploma 1) in midwifery subject have balanced proportion between those who implement PMTCT in good category and those who were not, that is 50%. Midwives who had three year midwifery education (Diploma 3) in midwifery subject some of them implement PMTCT in unsatisfactory category (51.5%). Meanwhile midwives who had undergraduate (Diploma 4) or more in midwifery subject were mostly implement PMTCT in a good category (80%). But statistically, this variable was not meaningful with $p=0.156$.

Married midwives were mostly implement PMTCT in unsatisfactory category (59.1%), while unmarried and widow midwives implement PMTCT in a good category (65.6% and 75%). But statistically this variable was not meaningful with $p=0.064$. Most respondent claim that they never got information about PMTCT related to HIV AIDS that provided by socialization in the workplace. This variable statistically meaningful due to $p=0.047$. For the variable knowledge level, most respondent (71.9%) who had satisfactory knowledge level implement PMTCT in a good category, while respondent with unsatisfactory level of knowledge tend to implement PMTCT in below average category or not good enough (60%). This variable was statistically meaningful with $p=0.016$.

The variable attitude, both who had positive attitude and negative attitude implement PMTCT in a good category, and this variable was statistically not meaningful due to $p=1.000$. For variable perception about facility most respondent who had good perception (60.5%) tend to implement PMTCT in a good category, while those who had poor perception (56.8%) implement PMTCT in a bad category. This variable was statistically not meaningful with $p=0.189$.

Variable perception about institutional support known that both respondent who have perception that the institution was good and poor were implement PMTCT in good category. This variable was statistically not meaningful with $p=1.000$. From bivariate analysis, to conclude that independent variables which statistically related to midwives' behavior on implementing PMTCT were knowledge level and information availability through socialization in the workplace.

2 Multivariate analysis were done to independent variables that have $p < 0.250$ altogether.

The result of multivariate analysis is shown in table 4

Table4. Multivariate Analysis Result ¹¹

	B	Sig.	Exp(B)	95.0% C.I. for Exp(B)	
				Lower	Upper
Knowledge	1.836	.003	6.272	1.836	21.431
Constant	-19.209	.999	.000		

(Confidence interval 95%)

Table 4 shows that the level of knowledge is the most significant factor influencing midwives' behavior on implementing PMTCT with $p=0.003$, $OR=6.2$ with $CI=1.8-21.4$.

DISCUSSION

HIV vertical transmission from mother to child could be prevented by PMTCT programme. Midwives were professional health provider who had important role in the implementation of preventing the transmission of HIV/AIDS vertically. Midwives' behavior on the implementation of HIV/AIDS prevention programme that show a good category in this study were just 52.5%. This number shows that implementation of PMTCT have not done very well. Thus, also in consonance with research done in Africa where the implementation of PMTCT were only 56.9% and declared as very low.⁵

In this study known that in the implementation of PMTCT, most midwives were given counseling to pregnant women to do HIV test as a part of PMTCT. They also did the informed consent and did the counselling after HIV test. Most of midwives on implementing PMTCT did not involve the husband. The midwives also not using proper protection tools as said in the standard of universal precaution. Thus, also in consonants with research conducted in Medan City where midwives' actions in dealing with PMTCT patients were not in accordance with existing PMTCT guidelines and midwives should be able to provide psychological and social support to HIV positive patients.⁹

There were several things that affect the low midwives' behavior on implementing PMTCT. One of them was the low level of knowledge about HIV and PMTCT. More than 50% respondent claimed that they did not know CD4 indicator for healthy people and infected people. Likewise, studied conducted in Nigeria and in Malawi revealed that pregnant women not given ARV drugs and their CD4 counts could not be ascertained.¹⁰ They also did not know about type of ARV that could be consumed by pregnant women, the transmission trajectory of HIV, and how was the labour assesment for pregnant women with HIV. Thus, also in consonants with

research conducted in Medan City where Midwife knowledge about PMTCT low as midwife poorly informed about PMTCT.⁹ Research conducted by EL-Yakub Fatima Mohammed (2016) showed that midwife's knowledge of HIV PMTCT was low (65.7%).⁶

The primary source of information about HIV/AIDS for midwives in this study were from college lectures. Thus, shows that midwives have not get the up to date information regarding to prevention of HIV. Only 5% midwives who claimed they had attend socialization about PMTCT. Thus, also in consonants with research conducted in Medan City where on observations found only 1 midwife who trained in PMTC programs.⁹ Research conducted by Setiyawati and Meilani initiation of service providers to conduct HIV testing is the most influential factor on the behavior of HIV testing in pregnant women, so midwives need to understand what to do.¹¹

Data analysis in this study show the same thing with demographic data that have been earned, where the major proportion about midwives' knowledge regarding to HIV and PMTCT were in low category with score value <56. In the bivariate analysis also show that proportion of midwives who implement PMTCT in good category were those who had enough or good knowledge. While those who implement PMTCT in unsatisfactoru category were those who had low level of knowledge.

Knowledge was one of predisposing factor for someone in behaving as stated in PRECEDE thoery by L. Green.Knowledge was so important as said "*better practice is predicated on adequate knowledge*".In line with those words, also in other research stated that health provider's knowledge were affecting the implementation of PMTCT. But in this study highlighted that midwives' knowledge were not affected by how much information they got but it affected by the experience of the midwives' in implementing PMTCT itself. Knowledge was evidently be the strong indikator toward behavior on implementing PMTCT. Based on multivariate analysis in this sudy, obviously midwives' who had good knowledge were having chace to implement PMTCT in a satisfactory way 4 times higher than those who had low knowledge.^{5,12,13}

This study also got the result that midwives' behavior on implementing PMTCT were affected by availability of information source through socialization in the workplace. Information source availability was one of the enabling factor in PRECEDE theory by L. Green.In line with those words, many of the midwife had multiple sources of information on PMTCT.^{8,12}

Socialization in workplace usually would contain work steps, facility availability for implementation of PMTCT. Some research declared that PMTCT implementation was closely related with the facility availability. On that study explained that in the implementation of PMTCT need sufficient supply of latex gloves and clean water because it would decrease the fear to implement PMTCT.^{5,12,13}

Coherence with the explanation above, in this study there were sufficient supply of latex gloves and clean water. But what cause the implementation of PMTCT was not optimum were insufficiency of work period and other work responsibility of the midwives, also lack of information source about HIV and PMTCT that provided by the intitution where the midwives work. Unfortunately, multiple sources of information did not translate significantly to improved knowledge. Future, standards of evaluation are required to standardise the measure of service provision. Indicators should include funding, service providers, drugs, utilities, PMTCT activities, physical location, supervision, management and training.^{6,14}

Pursuant to several research, known there were factors that affecting midwives' behavior on implementing PMTCT. Two of them were attitude toward PMTCT and perception about institutional support. But in this study, these variables were statistically not meaningful. Midwives' perception toward implementation of PMTCT were mostly supportive, even there were still some of them feel insecure to implement PMTCT. Major problem that encountered in implementing PMTCT was the limited time. While for intitutional support, most midwives' claimed that there were enough support. Integrating interventions for prevention of transmission of HIV from mothers to infants during pregnancy, delivery and breastfeeding with other healthcare services to increase the coverage. Also need to improvethe midwife knowledge about the male participating in PMTCT.¹⁵⁻¹⁷

In previous studies there were a negative attitude toward HIV AIDS disturbed patients.¹⁸ The negative attitude toward HIV AIDS of health workers made HIV sufferers especially women reluctant to do ANC.¹⁹ An overview of the effects of stigma on access and utilization of care, prevention or care services is also felt by PLHIV.²⁰ But in this study, these variables was statistically not meaningful.

CONCLUSION

Midwives' knowledge level about HIV AIDS and PMTCT were mostly below average. Knowledge needs to be improved was about PLWHA health indicator status, monitoring of PLWHA, antiretroviral used, ¹⁹ the risk of HIV transmission from mothers to children and childbirth process of HIV AIDS mother. Most respondent had negative attitude toward implementation of PMTCT. Most respondent have preception toward institutional support claimed that the institution were less supporting in PMTCT implementation. Most respondent declared about their perception about facility availability were include in good category. Most respondent implement PMTCT in a good category but the poor category was still high. Midwives who have higher level of knowledge about HIV AIDS will be to apply PMTCT better rather than midwives with lower knowledge.

REKOMENDATION

To optimized PMTCT program need improvement in midwives' ²⁴ knowledge about HIV/AIDS and PMTCT. There also need a workshop or socialization for midwives about PMTCT and better regulation about burden of work for midwives so that they get more time to implement the PMTCT in a good way.

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