

## Original Research Article

# The implementation of prevention of mother-to-children HIV transmission program by private midwife practice at Denpasar city

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### ABSTRACT

**Background:** HIV infection is one of the top health concerns and contagious diseases which could lead to the death of mother and child. Based on the Health Department of Bali Province data (2014), the number of pregnant women who willingly did PMTCT test is 5,029 (42.91%) out of 11,719 pregnant women. This shows that the achievement is still below the national target which is 78% of HIV-tested pregnant women. This research sought to find out the factor which affects the implementation of PMTCT care by BPM at Denpasar city in 2018.

**Methods:** This research was an analytical research using cross-sectional approach. The selection of sample used total sampling technique in which 73 BPM fulfilled the inclusion criteria. Data analysis utilized univariate analysis, bivariate analysis with chi-square test correlation test which was followed by multivariate analysis with logistic regression.

**Results:** This study showed there was a significant relation (with p value <0.05) between the variable of working period, training and motivation with midwife compliance in PMTCT care. The most dominant variable which affected midwife compliance was working period variable (>5 years).

**Conclusions:** Supervision from policy makers from Health Department and Public Health Center (Puskesmas) was essential in conducting a review regarding on PMTCT regularly to increase the scope of PMTCT at BPM.

**Keywords:** Compliance, Denpasar, Pregnancy, PMTCT

### INTRODUCTION

World Health Organization (WHO) and UNAIDS calls out 3 (three) countries in Asia namely China, India and Indonesia, which currently hit the point of highest HIV transmission.<sup>1</sup> At national level, it is reported that more than 24,000 women in fertile age in Indonesia have been infected by HIV and more than 9,000 women with positive HIV are pregnant every year.

Meanwhile, if it is viewed from the HIV/AIDS surveillance report, the highest number of HIV/AIDS sufferers is evident in the reproduction age which shows

39.9% in the age of 20-29 and 34.5% in the age of 30-39.<sup>2</sup>

Based on the cumulative amount of HIV/AIDS cases in 2014 which were reported to the Health Department of Republic of Indonesia, it is shown that Bali Province ranks third after Papua and West Papua. One of the risk factors of HIV transmission is the transmission from HIV-infected mother to her child, during the pregnancy, labor or breastfeeding. Today the occurrence of mother-to-child transmission places on the third position (3.3%), after transmission through heterosexual (74.9%) and IDU (18.5) from all HIV-AIDS cases in Indonesia.<sup>3</sup>

The survey result on the proportion of pregnant women with positive HIV in Bali in 2009 is 1%. According to the Health Department of Bali Province in 2014, from the number of pregnant women which is 11,719, there 5,029 pregnant women (42.91%) who have been offered HIV test. Looking from the defined indicator which is 78% HIV-tested pregnant women, it is shown the low coverage of pregnant women which is offered by health staff.<sup>3</sup>

The preventive effort of mother-to-child HIV transmission is performed by conducting activity which refers to WHO recommendation in 2010, where basically all pregnant women are required to do HIV examination on their early visit (VI).<sup>4</sup>

The preventive effort of mother-to-child HIV transmission has been performed in Indonesia since 2004, particularly in the region with high HIV epidemic level.<sup>5</sup> In order to contain mother-to-child HIV transmission, easing the access to the PMTCT care and program that are integrated into maternal and child health (MCH) service. PMTCT service package such as HIV test offer to all pregnant women on their antenatal care (ANC) visit which is performed by Public Health Center (hereafter Puskesmas), hospital and Private Midwife Practice (hereafter BPM). The implementation of PMTCT program at MCH service still finds some obstacles, one of them is in term of human resources, since the integration of PMTCT program requires health staff who is skilful in training and continuous coaching.<sup>6</sup> Noting the high rate of HIV/AIDS transmission from mother to child, midwife as the spearhead of maternal and child health service has a strategic role in the effort of restraining the growth rate of HIV/AIDS disease. Therefore, midwife compliance particularly of BPM in accomplishing this PMTCT program. The aim of this research was to find out the determinant which influences the BPM compliance in performing PMTCT care.

## METHODS

This research was an analytical research with cross-sectional approach. This research was held in three months to know the midwives obedience on giving PMTCT care, which the each month observation was helped by research assistant. The research took place at Private Practice Midwife (herein after BPM) that was located in Denpasar City. Denpasar city was chosen because it near the tourism places and it is a crowded area with high population mobility which could increase the risk of HIV/AIDS transmitted especially from mother to child. The target population in this research was all BPM that located in Denpasar City which are 81 total BPM.

The variables in this research consisted of independent variables which was working period in BPM, PMTCT training that was participated, motivation on PMTCT care. While the dependent variables in this research was BPM obedience in providing PMTCT care. The sample

selection was performed through total sampling on all private midwives (BPM) in Denpasar city, which 73 BPM fulfilled the inclusion criteria that were midwives practice license that was valid and willing to be a respondent.

The instrument that was used in this research was structured questionnaire: the open questions for respondents' characteristic which was education, training that have joined and the work period. The closed questions for measuring motivation variables in PMTCT. Before the questionnaire was used in the research, validity and reliability test was done.

Data analysis were univariate analysis that was done to describe the characteristic and the variable that was analysed by put all the variables. Presentation of univariate analysis result for nominal variables was by frequency distribution table that consist of frequency and proportion. On bivariate analysis, cross tabulation was done between independent variable and dependent variable. Bivariate analysis with Chi Square correlation test that was the non-parametric statistic test. Multivariate analysis was by double logistic regression to know which independent variable was the most dominant on affecting the dependent variable.

## RESULTS

The research result showed that educational characteristic of the majority (60.3%) was educated  $\leq$ D3 midwifery. Based on the age, the majority (60.3%) was in between the age of 40-60. In term of working period, almost all (91.8%) had  $>$ 5 years of working experience. Based on the training status, the majority (76.7%) had joined PMTCT training. In term of motivation, almost all (90.4%) had strong motivation to work.

**Table 1: Frequency distribution of bpm characteristic at Denpasar City in 2018.**

Characteristic	Frequency	Percentage
<b>Education</b>		
$\geq$ D3	44	60.3%
$<$ D3	29	39.7%
<b>Age</b>		
18-40 years old	12	16.4%
$>$ 40-60 years old	44	60.3%
$>$ 60 years old	17	23.3%
<b>Working period</b>		
$\leq$ 5 years	6	8.2%
$>$ 5 years	67	91.8%
<b>Training</b>		
Never	17	23.3%
Ever	56	76.7%
<b>Motivation</b>		
Low	7	9.6%
High	66	90.4%

Dependent variable in this research was the compliance of BPM. The comparison between the proportion of the compliant and uncompliant midwives in carrying out PMTCT service could be seen in Table 2 below.

**Table 2: Frequency distribution of BPM compliance in conducting PMTCT service.**

Compliance	Frequency	Percentage
Uncompliant	19	26%
Compliant	54	74%
Total	73	100%

From the collected data, it was known the proportion of BPM compliance in which the majority (74%) of midwives were still compliant in performing PMTCT service. The relations of independent variables namely working period, training, motivation, with the compliance of midwife in carrying out PMTCT, whose results was presented in the Table 3 below.

**Table 3: Frequency distribution of the relations between independent variables with BPM compliance in performing PMTCT.**

Independent variable	BPM Compliance		p value
	Uncompliant (%)	Compliance (%)	
<b>Working period</b>			
≤5 years	4 (66.7%)	2 (33.3%)	0.02
>5 years	15 (22.4%)	52 (77.6%)	
<b>Training</b>			
Never	9 (52.9%)	8 (47.1%)	0.00
Ever	10 (17.9%)	46 (82.1%)	
<b>Motivation</b>			
Low	5 (71.4%)	2 (28.6%)	0.00
High	14 (21.2%)	52 (78.8%)	

**Table 4: Dominant factors which influence midwife compliance in performing PMTCT.**

Variable	95% CI	Adjusted OR	p value
Training	1.01-14.93	4.02	0.04
Working period >5years	1.45-65.12	9.72	0.01
High motivation	1.37-57.31	8.88	0.02

The result of bivariate analysis showed that the three independent variables namely working period, training, and midwife's motivation were related to the midwife compliance in carrying out PMTCT care. Multivariate analysis was conducted to find out the variable which had the biggest influence on midwife compliance in performing PMTCT care at BPM. The outcome of multivariate test with logistics regression was presented in Table 4.

Based on the multivariate analysis which had been conducted, the factor which was proven to be the most influential toward midwife compliance in performing PMTCT was working period variable (>5years).

## DISCUSSION

The relations between training and midwife compliance in carrying out PMTCT service in this research showed that midwives who had joined PMTCT training 82.1% were compliant in performing PMTCT care. Meanwhile those who never joined such training exhibited uncompliant behavior in giving PMTCT care.

This research also proved that training was related to the compliance of health staff in using the prevention guidance of infection prevention implementation<sup>7</sup>since training affected midwife's behavior in performing infection prevention.<sup>8</sup> Training should increase the knowledge and skill of midwives, nurturing positive attitude and increasing the motivation to behave properly, particularly midwife's behavior in the implementation of HIV/AIDS transmission risk prevention. Training would repair the staff performance and sought to ease the execution of their duties.

The relations of motivation and midwife behavior in this research indicated that midwives who had high motivation were more compliance in performing PMTCT, meanwhile those with low motivation expressed uncompliant attitude in PMTCT implementation. This research outcomes were in line with the similar research in Maluku which got substantial relationship ( $p=0.000$ ) between motivation and the performance of midwives at village by Nurhayani et al. The research in Medan proved the significant relations ( $p<0.05$ ) between intrinsic motivation with the performance of executive nurse at inpatient installation of Dr. Pirngadi Local General Hospital in Medan.<sup>9</sup>

In principal, motivation was indivisible from needs and the product of one's interaction with certain situation that he/she faced. The way one related her/his needs with the ongoing situation would be the reason for one to act in fulfilling the life necessities. The needs to be safe from HIV/AIDS transmission risk raised and consequently increased the motivation to behave well in preventing the transmission risk of HIV/AIDS.

Based on the theory of Frederick Herzberg in 1950, motivation could emerge from within (intrinsic) and outside (extrinsic) of oneself. Motivation which emerged from within was stronger than the one that emerged from outside oneself. In this research, intrinsic motivation included the working achievement, work responsibility and satisfaction, meanwhile extrinsic motivation covered working condition, compensation and appreciation as well as technical supervision quality.

If factors which cause those two motivations are fulfilled and satisfaction is reached, then strong motivation to act or work and produce high performance particularly in term of preventing HIV/AIDS transmission risk. The meaningful relation between motivation variable with midwife compliance in the implementation of PMTCT care might occur because midwives realized that their selves were exposed to the high risk of HIV infection especially in the region of Denpasar city whose majority is immigrants with high mobility. Under such circumstance, there was tendency in women of reproduction age who had high possibility of being pregnant and giving birth at midwifery practice.

In relation to the working period, there was a relationship between midwife's working period (>5years) with midwife's compliance in performing PMTCT care. Midwives who had longer working period as BPM was related to the more experience in the practice, especially in PMTCT implementation. Linking to the characteristic of respondent's age, it was obtained 60.3% were in the age of >40-60, while the average of BPM on the age had relatively long working period and a lot of experiences in dealing with pregnancy particularly in term of PMTCT service. Regarding on experience, one stated that experience is a process which brings someone to the higher behavioral pattern, relating to the age of midwife and working experience which mostly >5years, midwives must have dominant variable which was related to the PMTCT compliance, where midwife's working period of >5years had an opportunity which was 9.72 times bigger to be compliant in carrying out PMTCT care.<sup>10</sup>

## CONCLUSION

The result of this research showed that most of the midwives with education criteria >DIII of Midwifery, with working period as midwife >5years and had participated in training about PMTCT. Dominant variable which influenced the compliance of private midwives in carrying out PMTCT service at Denpasar city was the working period of >5years.

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