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Postpartum Contraceptive Use Among HIV Positive Women in Cipto Mangunkusumo Hospital Jakarta, Indonesia: A Cross Sectional Study

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Abstract

Background. Prevention of unintended pregnancy among HIV positive women is the second element of prevention of mother to child transmission of HIV. Contraceptive use in Indonesia remains low, despite the potential contribution of family planning (FP) to the prevention of HIV infection and unintended pregnancy. It is anticipated that this research will update existing knowledge, inform policy makers and programmers to support safer and healthier reproductive options among HIV positive women in the study area. **Methods.** The study was conducted in Cipto Mangunkusumo Hospital Jakarta, Indonesia, since January 1st 2013 until December 31st 2014. Of the original cohort of 5499 women delivered in 2013-2014, 65 were HIV positive. The 58 subjects in this study were selected from each group of HIV positive women and HIV negative who had delivery in this hospital either by emergency admission or elective caesarean section. **Results.** There were a total of 5449 deliveries, during the study period, out of which 65 were HIV positive women (1,2%). From 58 randomly selected patients, the mean age of HIV positive mothers was 27,74 ± 4,73 years. Their parity ranged from zero to five. With significantly uses of long acting contraception as IUD and sterilization on HIV-positive women as well as booked cased patients. **Conclusions.** The high rates of unintended pregnancies in the sample of HIV positive women suggest that the WHO's strategy of preventing unintended pregnancies amongst HIV positive women to minimise vertical transmission of HIV must be reinforced. Long acting and permanent methods could fill an important gap in family planning services in Indonesia given women's stated fertility preferences indicating a strong desire to either not have a future pregnancy or to wait several years before the birth of their next child.

Keywords: Contraception, unintended pregnancies, HIV, IUD

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1. Introduction

Indonesia is the second country account for majority (99%) of HIV infection after India in the South-East Asia Region [1]. In general, the epidemic in Indonesia is a concentrated epidemic. Intensely urban Jakarta, the national capital, and Papua, the

country's largest and most sparsely settled province are the two provinces most seriously affected by the epidemic [2]. Women still continue to be more vulnerable to HIV. An estimated 1.3 million [1.2-1.6 million] women aged 15 years and above are currently living with HIV in South-East Asia Region [1]. Most of them are on productive age (20-39 year-old) in Indonesia, where the female-to-male ratio for AIDS was 29% vs 54% [2]. The majority of women living with HIV were infected by their husbands or intimate partners. Gender inequality, male dominance, stigma, low literacy levels, migration and barriers to accessing health-care services are some of the key issues that account for the higher vulnerability of women to HIV in Indonesia [1].

Prevention of unintended pregnancy among HIV positive women is the second element of prevention of mother to child transmission of HIV (PMTCT) which is an important means to address the associated problems of HIV positive women and children [3]. HIV infection has been found more frequently among monogamous housewives, and a number of babies have been born HIV positive as well [4]. It is reported to be cost effective, improves quality of life, reduces maternal and child mortality and reduces number of positive infants by keeping their mother alive [5,6].

Contraceptive use in Indonesia remains low, despite the potential contribution of family planning (FP) to the prevention of HIV infection and unintended pregnancy. The contraceptive prevalence rate (CPR) of married women aged 15–49 using modern contraceptive methods was 57.4% in 2007 and one in six married women has unmet need for family planning [6].

Even in the context of expanded access to ART for HIV-infected pregnant women, family planning still needs to be strengthened to avoid unintended pregnancies [5]. Existing evidence revealed that women living with HIV including those taking ARVs can use almost all contraceptive methods safely and effectively with variation in method preference [7]. However, information on informed choice of contraceptive methods, reasons for selection of methods and the influence of HAART on the contraceptive use of women entering HIV care is scarce.

Thus, given the importance of contraceptive use in preventing unintended pregnancy, perinatal transmission of HIV [3] and ART scale up in Indonesia; it is worth to assess contraceptive use and method preference of HIV positive women. It is anticipated that this research will update existing knowledge, inform policy makers and programmers to support safer and healthier reproductive options among HIV positive women in the study area.

2. Material and Methods

The Cipto mangunkusumo Hospital, Jakarta, Indonesia, is a tertiary referral hospital with approximately 5500 deliveries per year. The 58 subjects in this study were selected from a group of HIV positive women who had delivery in this hospital either by emergency admission or elective caesarean section. Of the original cohort of 5499 women delivered in 2013-2014, 65 were HIV positive. These women, together with a matched control group of 58 negative HIV women with delivery by emergency admission or elective caesarean section. The subject was matched with those in the

HIV positive women group. The study was conducted in Cipto Mangunkusumo Hospital Jakarta, Indonesia, since January 1st 2013 until December 31st 2014.

Study participants were selected using multistage sampling technique for both groups from medical records of all deliveries since 2013 until 2014. Finally individual study subjects were selected using a systematic random sampling technique from the records.

Data management was done using a preprepared Excel data spreadsheet. Descriptive data are presented as n (%), except for ages, which described as mean ± standard deviation from the mean (SD). Statistical significance for continuous variables was calculated using Chi square test and Fisher's exact test. $P < 0.05$ was considered statistically significant. Statistical analysis was performed with SPSS ver 21.

3. Results

There were a total of 5449 deliveries, during the study period, out of which 65 were HIV positive women (1,2%). From 58 randomly selected patients, the mean age of HIV positive mothers was 27,74 ± 4,73 years. Their parity ranged from zero to five, with sociodemographic characteristics in two randomly selected groups of the patient are shown in Table 1. A total 116 patients in this study, 58 patients each group.

4. Discussion

This study documented high use of the IUD and female sterilization among postpartum women in Cipto Mangunkusumo Jakarta. This finding is unexpected, in that data collection was conducted prior to an intervention to strengthen promotion and provision of an expanded range of contraceptive options, including long acting and permanent methods. The study results suggest high potential demand for highly effective, long acting and permanent methods of family planning that enable women to space their children or to avoid pregnancy entirely, according to their desires. For some women who have achieved their desired family size or who are highly motivated to avoid pregnancy, injectable contraceptives may not be the ideal method choice. Women's success with the method also depends on facilities maintaining consistent supplies.

The issue of contraceptive use and method preference among women enrolled in HIV care and treatment programs in the study area has important implications for the health of women and their infants. This study documented high use of the IUD and among postpartum women with HIV-positive and -negative status. Significantly more HIV positive women were in favour of the IUD. Of importance, particularly in high HIV prevalence settings, is that the IUD can be used on clinically well HIV positive women. The IUD is a method that is more than 98% effective in preventing pregnancy and allows a quick return to fertility after removal thus allowing women to plan and space their children effectively. A woman using the IUD is not required to attend repeat follow up visits at the clinic and thus this method can be seen as convenient. It can be seen that the IUD provides a highly effective and convenient method to HIV-positive and

Characteristics	HIV mothers (n = 58)	Control mothers (n = 58)	p
	n (%)	n (%)	
Age (years)			
Mean ± (SD)	27,74 ± (4,73)	28 ± (5,03)	
Educational status			
Primary	2 (3,44)	3 (5,17)	0.029[a]
Secondary	12 (20,69)	2 (3,44)	
Tertiary	42 (72,41)	48 (82,75)	
Academy/University	2 (3,44)	5 (8,62)	
Mother occupation			
Unemployed	0	3 (5,17)	0.000[a]
Housewife	54 (93,1)	9 (15,15)	
Labour	0	4 (6,89)	
Employee	4 (6,89)	42 (72,41)	
Marital Status			
Not Married	2 (3,4)	0	0.500[b]
Married	56 (96,6)	58 (100)	
Marital age			
< 6 months	0	0	0.299[a]
6 – 12 months	9 (15,15)	7 (12,07)	
> 12 months	47 (81,03)	51 (87,93)	
Parity			
1	18 (31,03)	20 (34,48)	0.542[a]
2	20 (34,48)	24 (41,38)	
≥ 3	20 (34,48)	14 (24,14)	
Therapy/ on therapy			
Therapy	39 (67,2)	0	
On therapy	18 (31)	0	
Discontinuity	1 (1,7)	0	
Booking status			
Booked case	33 (56,9)	6 (10,3)	0.000[b]
Non-booked case	25 (43,1)	52 (89,7)	

[a] Fisher's exact test, [b] Chi-Square test

Table 1: Characteristics comparisons between HIV mothers and control.

–negative women wanting to plan their families and space their children. To maximize service effectiveness, family planning services must capitalize more on the safe, effective technologies that already exist but which are not easily accessible to participants. Women in all communities should have access to the full range of methods available in the public health care setting to enable them to choose and correct use. If women do not have access to the full range of available contraceptive methods this may result

	HIV mothers (n = 58)	Control mothers (n = 58)	p
	n (%)	n (%)	
Route of delivery			
Vaginal Delivery	8 (13,7)	19 (32,77)	0.015[a]
Instrumental Delivery	0	2 (3,44)	
Cesarean Section	50 (86,3)	37 (63,79)	
Time of termination			
Elective	17 (29,31)	2 (3,44)	0.000[b]
Emergency	41 (70,69)	56 (96,56)	
[a] Fisher's exact test, [b] Chi-Square test			

Table 2: Route of delivery and time of termination in HIV mothers and control.

Perinatal outcome	HIV mothers (n = 58)	Control mothers (n = 58)	p*
	n(%)	n(%)	
Gesational age (wga)			
< 32 wga	2 (3,45)	6 (10,34)	0.002
32-36 wga	10 (17,24)	24 (41,38)	
≥ 37 wga	46 (79,31)	28 (48,28)	
Birth weight (g)			
< 2500 g	7 (12,07)	27 (46,55)	0.000
2500 – 3500 g	47 (81,03)	27 (46,55)	
> 3500 g	4 (6,90)	4 (6,90)	
* Fisher's exact test			

Table 3: Perinatal outcome in HIV mothers and control mothers.

in woman using methods that are known to have relatively high failure rates amongst typical users.

Overall the proportion of contraceptive use was 71% irrespective of their HAART use. On the other hand, our finding showed higher proportion than previous findings from other developing countries, which reported between 28 and 53% and than earlier reports within the country reported 43 to 54%. The difference is associated with study time and study subject differences.

	HIV mothers (n = 58)	Control mothers (n = 58)	p*
	n (%)	n (%)	
No contraception	1 (1,72)	1 (1,72)	0,161
Contraception			
DMPA injection	0	3 (5,17)	
Intrauterine Device	41 (70,69)	45 (77,59)	
Sterilized	16 (27,59)	9 (15,52)	
* Fisher's exact test			

Table 4: Postpartum contraception preferences in HIV mothers and control.

Complications	HIV mothers n(%)				Control mothers n(%)				p*
	No Contr	DMPA	Sterilized	IUD	No Contr	DMPA	Sterilized	IUD	
Age (years)									0.306
15-20	-	-	-	6 (10,34)	-	1 (1,72)		5 (8,62)	
21-25	-	-	1 (1,72)	8 (13,80)	1 (1,72)	2 (3,45)	1 (1,72)	13 (22,41)	
26-30	1 (1,72)	-	8 (13,80)	17 (29,31)	-	-	3 (5,17)	13 (22,41)	
31-35	-	-	7 (12,07)	10 (17,24)	-	-	5 (8,62)	14 (24,14)	
Educational status									0.029
Primary	-	-	-	2 (3,45)	-	-	1 (1,72)	2 (3,45)	
Secondary	-	-	4 (6,90)	8 (13,80)	-		-	2 (3,45)	
Senior	1 (1,72)	-	12 (20,70)	29 (50)	1 (1,72)	3 (5,17)	6 (10,34)	38 (65,52)	
University	-	-	-	2 (3,45)	-	-	2 (3,45)	3 (5,17)	
Mother occupation									0.000
Unemployed	-	-	-	-	-	-	1 (1,72)	2 (3,45)	
Housewife	1 (1,72)	-	16 (27,59)	37 (63,8)	-	1 (1,72)	1 (1,72)	7 (12,07)	
Labour	-	-	-	-	-	-	2 (3,45)	2 (3,45)	
Employee	-	-	-	4 (6,90)	1 (1,72)	2 (3,45)	5 (8,62)	34 (58,62)	
Marital status									0.315
Not married	1 (1,72)	-	-	-	-	-	-	-	
Married	-	-	16 (27,59)	41 (70,69)	1 (1,72)	3 (5,17)	9 (15,52)	45 (77,59)	
Marital age									0.299
< 6 months	-	-			-	-	-	-	
6 – 12 months	-	-		9 (15,52)	-	1 (1,72)	-	6 (10,34)	
> 12 months	-	-	16 (27,59)	31 (53,45)	1 (1,72)	2 (3,45)	9 (15,52)	39 (67,24)	
Not married	1 (1,72)								
Parity									0.542
1	1 (1,72)	-	1 (1,72)	16 (27,59)	1 (1,72)	2 (3,45)	-	17 (29,31)	
2	-	-	3 (5,17)	17 (29,31)	-	-	4 (6,90)	18 (31,03)	
≥ 3	-	-	12 (20,70)	8 (13,80)	-	1 (1,72)	5 (8,62)	8 (13,80)	

* Fisher's exact test

Table 5: Postpartum contraception characteristics in HIV mothers and control mothers.

	HIV mothers n(%)				Control mothers n(%)				p*
	No Contr	DMPA	Sterilized	IUD	No Contr	DMPA	Sterilized	IUD	
Route of Delivery									0.01
Vaginal delivery	-	-	2 (3,45)	6(10,34)	-	-	-	19 (32,76)	
Instrumental delivery	-	-	-	-	-	-	-	2 (3,45)	
Cesarean section	1 (1,72)	-	14 (24,14)	35(60,34)	1 (1,72)	3 (5,17)	9 (15,52)	24 (41,38)	
STD Complications									0
Without STD					1 (1,72)	3 (5,17)	9 (15,52)	45(77,59)	
HIV	1 (1,72)	-	14 (24,14)	38(65,52)	-	-	-	-	
HIV + Condyloma	-	-	2 (3,45)	3 (5,17)	-	-			

* Fisher's exact test

Table 6: Postpartum contraception preferences with route of delivery and STD complications in HIV mothers and control mothers.

Perinatal outcome	HIV mothers n(%)				Control mothers n(%)				p*
	No Contr	DMPA	Sterilized	IUD	No Contr	DMPA	Sterilized	IUD	
Gestational age									0.002
< 32 wga	-	-	-	2 (3,45)	-	2 (3,45)	1 (1,72)	3 (5,17)	
32-36 wga	-	-	1 (1,72)	9 (15,52)	-	-	4 (6,90)	20(34,48)	
≥ 37 wga	1 (1,72)	-	15 (25,86)	30 (51,72)	1 (1,72)	1 (1,72)	4 (6,90)	22(37,93)	
Birth Weight									0.000
< 2500 g	-	-	2 (3,45)	5 (8,62)	1 (1,72)	2 (3,45)	6 (10,34)	18 (31,03)	
2500 – 3500 g	1 (1,72)	-	11 (18,97)	35(60,34)	-	-	3 (5,17)	24(41,38)	
> 3500 g	-	-	3 (5,17)	1 (1,72)	-	1 (1,72)	-	3 (5,17)	
* Fisher's exact test									

Table 7: Postpartum contraception preferences and perinatal outcome in HIV mothers and control mothers.

The result is different from contraceptive use of the general female population in Indonesia reported 63%. The most probable reason might be that HIV positive women have frequent contact with health care providers and demand for contraceptives might be higher than the general population.

Furthermore, women who have open discussion with partner or health care providers have better contraceptive profile than their counterparts. This suggests that disclosure of HIV status to a partner may be important to get support from family and discussion can clarify uncertainties about contraceptives and possibly to strengthen confidence of women. Besides women who knew the HIV status of their children reported contraceptive use than their counter parts, this could be related to women who tested their children have better exposure and more concerned on the prevention of unintended pregnancies.

Our study has several limitations; due to hystorical cohort nature we are unable to make definitive conclusions on cause and effect relation. The association could only be discussed in terms of plausibility. Furthermore, social desirability and stigma may have biased respondents' willing and may not be generalizable to HIV-positive female population in the care.

As to the strengths of this study, the respondents have been selected by random sampling technique with relatively large sample size.

Of importance, particularly in high HIV prevalence settings, is that the IUD can be used on clinically well HIV positive women [8]. This message needs to be communicated to all participants during contraceptive counselling. In addition, many women did not want to use LAPM in the future due to concerns about the procedures involved and the fear associated with these procedures. Women's fear of invasive procedures poses a challenge in encouraging the uptake of the IUD and sterilization.

5. Conclusion

The high rates of unintended pregnancies in the sample of HIV positive women suggest that the WHO's strategy of preventing unintended pregnancies amongst HIV positive women to minimise vertical transmission of HIV must be reinforced. Long acting and permanent methods could fill an important gap in family planning services in Indonesia given women's stated fertility preferences indicating a strong desire to either not have a future pregnancy or to wait several years before the birth of their next child. Given the high contraceptive prevalence recorded in the target population, half of whom were PMTCT participants, the challenge in providing services lies not in encouraging timely postpartum family planning uptake; rather, it lies in encouraging consideration of an expanded range of contraceptive options, including long-acting and permanent methods of contraception.

Lastly extensive and longitudinal study is needed to validate current findings so as to inform for policy makers to establish better sexual and reproductive health services for positive women to have planed and safe fertility goal.

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