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## OBSTETRICS

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# A Survey of Acceptability of Zidovudine Treatment in Pregnancy Among Thai HIV-1 Positive Parturients

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## ABSTRACT

**Objective** To study the acceptability of zidovudine treatment in pregnancy among HIV-1 positive parturient to reduce vertical transmission.

**Design** Descriptive study.

**Setting** Department of Obstetrics and Gynaecology, Faculty of Medicine, Ramathibodi Hospital, Mahidol University.

**Subjects** Sixty - five cases of HIV-1 positive parturients between November 1994 and December 1995.

**Results** Forty - eight cases decided to participate in the zidovudine treatment (73.8%, 95% CI 61.5 - 84.0). Factors which associated with acceptability were gravida and knowledge about vertical transmission.

**Conclusion** Most of Thai HIV-1 positive parturients accepted to have zidovudine treatment in pregnancy in order to reduce vertical transmission. However, cost-benefit analysis, modified regimens and long term adverse effects should be further studied.

**Key words :** zidovudine, HIV-1, pregnancy

In Thailand the number of HIV infected mothers have been increased rapidly. The prevalence rate of Thai HIV-1 positive mothers

was recently reported as 2%.<sup>(1)</sup> Strategies to reduce vertical HIV transmission are urgently needed to reduce the number of HIV infected

infants. According to AIDS Clinical Trial Group (ACTG) protocol 076, zidovudine use in pregnancy can reduce vertical transmission rate from 25.5% to 8.3%.<sup>(2)</sup> United States Public Health Service Task Force has recommended the use of zidovudine to reduce perinatal transmission of HIV.<sup>(3)</sup> However, zidovudine was rarely used in Thai HIV-1 infected parturients for this purpose. The objective of this study was to survey the acceptability of zidovudine treatment in pregnancy among Thai HIV-1 positive parturients. The result of study could provide information for introducing zidovudine treatment during pregnancy in Thai mothers.

## Materials and Methods

Between November 1994 and December 1995, 65 cases of HIV-1 infected pregnant women who attended antenatal care at Ramathibodi Hospital, were interviewed regarding their willingness to participate in the trial of zidovudine use in pregnancy to reduce vertical transmission. All cases were diagnosed during a voluntary screening test for HIV and confirmed with Western blot technique. The zidovudine acceptability questionnaire was administered to HIV-1 infected parturients during post-test counselling session by the authors. The pros and cons of zidovudine use in pregnancy were

**Table 1.** Some characteristics of HIV-1 infected parturients

Variable	Number	Percent	95% CI
<b>Education</b>			
Illiteracy or primary	50	76.9	64.8 - 85.6
Secondary	8	12.3	5.4 - 12.2
Above secondary	7	10.8	4.4 - 12.0
<b>Occupation</b>			
Housewife	27	41.5	29.4 - 54.4
Business	9	13.8	6.4 - 12.4
Employee	21	32.3	21.2 - 45.1
Farmer	8	12.3	5.4 - 12.2
<b>Family income (per month)</b>			
less than 5,000 Baht	45	69.2	56.5 - 80.1
5,000 and above	20	30.8	19.9 - 43.5
<b>Gravida</b>			
1	29	44.6	32.3 - 57.5
2	19	29.2	18.6 - 41.8
above 2	17	26.2	16.0 - 38.6

**Table 2.** Age and duration of acceptances and non-acceptances of zidovudine use in pregnancy

Age*		
mean age of acceptance	23.56 ± 3.4 years	
mean age of non-acceptance	25.59 ± 5.01 years	
Duration of education*		
mean duration of acceptance	6.79 ± 2.32 years	
mean duration non-acceptance	6.82 ± 2.33 years	

\*no statistical difference in both groups

**Table 3.** Factors associated with acceptability of zidovudine use in pregnancy

Factors	Accepted (n = 48)	Not accepted (n = 17)	P-value
Gravida			
1	25	4	
2	16	3	P < 0.01
> 2	7	10	
Income			
less than 5,000 Baht	32	13	P > 0.5
5,000 Baht and above	16	4	
Occupation			
Housewife	19	8	
Business	9	0	P > 0.05
Employee	14	7	
Farmer	6	2	
Knowledge of vertical transmission			
Yes	42	11	P < 0.05
No	6	6	

informed. The variables of this study composed of age, educational level, occupation, family income, gravidity and knowledge regarding vertical transmission. The descriptive statistics were percentage, mean, standard deviation and 95%

confidence interval. Statistical analysis were performed using the  $\chi^2$  test for proportions and the Student t - test for comparison of means. All data were recorded on to PC microcomputer 486/DX and analysed with statistic package

programme SPSS/PC for Window. Significance is expressed at the 0.05 level.

## Results

Between 1st November 1994 and 31st December 1995, sixty-five cases of HIV-1 infected parturients were recruited in this study. The mean age was 24.09 years with standard deviation 3.95 years. Table 1 shows some characteristics of these parturients. Most of them were housewives with family income per month of less than 5,000 Baht and in their first pregnancy. 76.9% had educational level of primary school or lower. 53 cases had knowledge of vertical transmission (81.5%, 95% CI 70.0 - 90.1). Only 2 cases were aware the use of zidovudine in pregnancy to reduce vertical transmission (3.1%, 95% CI 0.37 - 10.7). Responding to questions regarding acceptance of zidovudine use in pregnancy, 48 cases wished to participate in having zidovudine treatment (73.8%, 95% CI 61.5 - 84.0). Considering the factors which might be associated with acceptability of zidovudine use in pregnancy, it was found that age and duration of education made no difference between both groups (Table 2). Table 3 showed some factors which had influenced acceptability. The lower gravidity the more acceptability than higher gravidity ( $P < 0.01$ ). The parturients who had knowledge of vertical transmission were more likely to accept zidovudine use in pregnancy ( $P < 0.05$ ). Income and occupation had no association with zidovudine acceptance.

## Discussion

Mother to infant transmission accounts for most of the human immunodeficiency virus infection among children.<sup>(3)</sup> The ideal approach to reducing perinatal transmission is to prevent

HIV infection among women.<sup>(3)</sup> However, despite on going effort to provide education about HIV prevention, the incidence of infection among pregnant women in Thailand has increased gradually.<sup>(4,5)</sup> The recently reported results of Acquired Immunodeficiency Syndrome (AIDS) Clinical Trial Group (ACTG) protocol 076 indicated that zidovudine can reduce the risk for HIV vertical transmission by approximately two-thirds<sup>(2)</sup> and later studies also confirmed these results.<sup>(6-10)</sup> However, few hospitals in Bangkok have introduced zidovudine treatment in pregnancy. Termination of pregnancy with contraception was the main choice for infected pregnant women.<sup>(5)</sup> The long term effect of zidovudine on the newborns are not conclusively safe.<sup>(11,12)</sup> Many women were reluctant to use zidovudine during pregnancy and preferred to have abortion instead. However, very few HIV positive parturients in this study knew about zidovudine use in pregnancy. This study showed some factors which are associated with acceptability of zidovudine among Thai mothers. Age, education, income and occupation had no association with acceptance. However, gravidity and knowledge of vertical transmission were significant factors of acceptance. The lower gravida parturients were more likely to continue pregnancy and accepted zidovudine treatment than higher gravidity because they wished to have children. Knowledge of vertical transmission was also an important factor. The acceptors of zidovudine knew about mother to infant transmission of HIV infection much more than non acceptors. Knowledge of HIV infection is a crucial factor for HIV infected mothers to participate in trials or treatments.<sup>(13)</sup> Education about HIV infection could encourage the HIV infected mothers to co-operate with doctors and health care providers.

In summary, most of Thai HIV-1 positive parturients accepted zidovudine treatment in pregnancy in order to reduce vertical transmission. The factors associated with acceptance were gravidity and knowledge about vertical transmission. To introduce and encourage the use of zidovudine in pregnancy can reduce number of HIV infected newborns. However, cost-benefit analysis, modified regimens and long term adverse effects are required in further studies.

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