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## A Survey Contraceptive Practice in Thai Female HIV-1 Positive Prostitutes

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### ABSTRACT

**Objective** To survey the contraceptive use and characteristics of HIV-1 infected prostitute.

**Design** Cross-sectional descriptive study.

**Subjects and methods** A cross-sectional survey of contraceptive practice in Thai female HIV-1 prostitutes was done, 158 HIV-1 infected prostitutes from Bangkok, Khon Kaen and Lampang were recruited to study. The study was conducted from 1st October 1993 to 30th September 1994.

**Results** From the study, it was found that average age of prostitutes with HIV-1 +ve was  $23.7 \pm 5.5$  years old and mostly had primary school education. Most of them had duration of work more than 1 year. The contraceptive prevalence rate was 72.7%. The most contraceptive method use was oral pill and the least was subdermal implant. Only 3.8% of prostitutes' regular partners or husbands used condom regularly for contraception.

**Conclusion** Most of HIV-1 infected prostitutes had contraception. However, a few prostitutes used condom regularly with their partners or husbands. To educate and encourage use of condom should be an effective method to prevent and control HIV infection.

**Key words :** contraceptive, HIV-1, prostitutes

HIV infection among Thai female prostitutes has been increased since 1985.<sup>(1)</sup> National median provincial rates for brothel-based prosti-

tutes increased steadily from 3.5% in June 1989 to 15% in June 1991.<sup>(1)</sup> To date, contraceptive practice in this group had few reports. Because

specific contraceptive methods may increase or decrease prostitutes' susceptibility to HIV infection, given exposure, or her infectivity to her partner if she is already infected with HIV, family planning and HIV control are interrelated.<sup>(2)</sup> Knowing the contraceptive method use among these prostitutes are benefit for AIDS control and family planning programme. The objectives of this study were to survey the contraceptive use and characteristics of HIV-1 infected prostitutes.

## Materials and Methods

### 1. Study design

This study was descriptive study, through the interview of 158 HIV-1 infected prostitutes, receiving the health check up at Bangrak Venereal Disease Hospital, Bangkok, Venereal Disease Control Centre in Khon Kaen province and Venereal Disease Clinic of Lampang Provincial Health Office, Lampang province, by using the questionnaires which were tested already.

2. The interviews were conducted by the authors and nurses at clinic who had previously attended the workshop in which the author explained the purposes of the study and the meaning of questionnaires.

### 3. Population

The population of this study were the HIV-1 infected prostitutes who had already confirmed with Western Blot. All of them still conducted the job and willing to participate in the study as well as to answer the questionnaires according to the fact after informing by interviewers. Of 158 prostitutes, 40 were from Bangkok, 42 were from Khon Kaen province and 76 were from Lampang province.

### 4. The period of study

This study was started from 1st October 1993 to 30th September 1994, total period of one

year.

### 5. Data analysis

All data were collected, coded and analysed by the authors. SPSS/PC+ and CIA statistical package programme were used to analyse the data. Statistical values were percent, mean, standard deviation and 95% confidence interval.

### 6. Variables

Variables in this study were composed of age, educational level, starting age of entering prostitutes, duration of being prostitutes, number of children, workplace, rate of service charge, history of induced abortion, number of clients, sexual intercourse during menstruation, contraceptive prevalence rate and contraceptive methods.

## Results

The majority of prostitutes in this study were aged between 20 and 29 years (Table 1). The mean age was 23.7 years with standard deviation 5.5 years, range 16 to 47 years. Most of them had low educational level, 91.8% reached primary school level or lower. Only 0.6% completed vocational school (Table 1). The minimum starting age of entering prostitutes was 12 years old while the maximum starting age was 40 years old. The average age of starting was  $19.4 \pm 5.0$  years old. The duration of being prostitutes varied from 1 month to 15 years. Most of prostitutes had no children. Only 3.8% had 3 children, 83.5% of prostitutes had no history of induced abortion. However, the remaining had frequency of induced abortion ranged from 1 to 5 occasions (Table 1). Considering the workplace, the prostitutes in this study came from a wide variety of workplace. Most worked in brothels. Only 7% worked in massage parlour while the remaining worked in coffee shop, bar, pub and others (Table 2). Rate of

**Table 1.** Characteristics of HIV-1 positive prostitutes

| Characteristics                            | Number | Percent | 95% CI      |
|--|--------|---------|-------------|
| - Age (year)                               |        |         |             |
| 15 - 19                                    | 40     | 25.4    | 18.5 - 32.1 |
| 20 - 24                                    | 61     | 38.6    | 31.0 - 46.2 |
| 25 - 29                                    | 36     | 22.8    | 16.2 - 29.3 |
| 30 - 34                                    | 16     | 10.1    | 5.4 - 14.8  |
| 35 - 39                                    | 1      | 0.6     | 0.02 - 3.5  |
| above 40                                   | 4      | 2.5     | 0.7 - 6.4   |
| - Education                                |        |         |             |
| Illiteracy                                 | 17     | 10.8    | 5.9 - 15.6  |
| Primary school                             | 128    | 81.0    | 74.9 - 87.1 |
| Secondary school                           | 12     | 7.6     | 4.0 - 12.9  |
| Vocational school                          | 1      | 0.6     | 0.02 - 3.5  |
| - Starting age of being prostitute (years) |        |         |             |
| Below 14                                   | 13     | 8.2     | 4.5 - 13.7  |
| 15 - 19                                    | 88     | 55.7    | 48.0 - 63.4 |
| 20 - 24                                    | 35     | 22.2    | 15.7 - 28.6 |
| 25 - 29                                    | 12     | 7.6     | 64.0 - 12.9 |
| above 30                                   | 10     | 6.3     | 3.1 - 11.3  |
| - Duration of being prostitute (year)      |        |         |             |
| Less than 1                                | 9      | 5.7     | 2.6 - 10.5  |
| 1 - 2                                      | 52     | 32.9    | 25.6 - 40.2 |
| 3 - 4                                      | 38     | 24.1    | 17.4 - 30.7 |
| More than 4                                | 59     | 37.3    | 29.8 - 44.9 |
| - Number of children                       |        |         |             |
| None                                       | 98     | 62.0    | 54.5 - 69.6 |
| 1  | 43     | 27.2    | 20.3 - 34.2 |
| 2  | 11     | 7.0     | 3.5 - 12.1  |
| 3  | 6      | 3.8     | 1.4 - 8.1   |
| - Number of induced abortion               |        |         |             |
| None                                       | 132    | 83.5    | 77.8 - 89.3 |
| 1  | 17     | 10.8    | 5.9 - 16    |
| 2  | 5      | 3.2     | 1.0 - 7.2   |
| 3  | 3      | 1.9     | 0.4 - 5.5   |
| 4  | 1      | 0.6     | 0.02 - 3.5  |



**Table 2.** Workplace

| Workplace             | Number     | Percent      | 95% CI      |
|-----------------------|------------|--------------|-------------|
| Brothel               | 71         | 44.9         | 37.2 - 52.7 |
| Coffee shop, bar, pub | 45         | 28.5         | 21.4 - 35.5 |
| Massage parlour       | 11         | 7.0          | 3.5 - 12.1  |
| Others                | 31         | 19.6         | 13.4 - 25.8 |
| <b>Total</b>          | <b>158</b> | <b>100.0</b> |             |

**Table 3.** Rate of service charge

| Rate of service charge/Time<br>(Baht) | Number     | Percent      | 95% CI      |
|---------------------------------------|------------|--------------|-------------|
| Below 100                             | 67         | 42.4         | 34.7 - 50.1 |
| 101 - 200                             | 30         | 19.0         | 12.9 - 25.1 |
| 201 - 300                             | 9          | 5.7          | 2.6 - 10.5  |
| 301 - 400                             | 1          | 0.6          | 0.02 - 3.5  |
| 401 - 500                             | 22         | 13.9         | 8.5 - 19.3  |
| 501 - 600                             | 5          | 3.2          | 1.0 - 7.2   |
| 601 - 700                             | 10         | 6.4          | 3.1 - 11.3  |
| 701 - 800                             | 1          | 0.6          | 0.02 - 3.5  |
| 801 - 900                             | 1          | 0.6          | 0.02 - 3.5  |
| 901 - 1,000                           | 9          | 5.7          | 2.6 - 10.5  |
| Above 1,000                           | 3          | 1.9          | 0.4 - 5.5   |
| <b>Total</b>                          | <b>158</b> | <b>100.0</b> |             |

**Table 4.** Number of clients per week

| Number of clients/week | Number     | Percent      | 95% CI      |
|------------------------|------------|--------------|-------------|
| 1 - 20                 | 92         | 58.2         | 50.5 - 65.9 |
| 21 - 40                | 51         | 32.3         | 25.0 - 39.6 |
| 41 - 60                | 11         | 7.0          | 3.5 - 12.1  |
| 61 - 80                | 3          | 1.9          | 0.4 - 5.5   |
| above 80               | 1          | 0.6          | 0.02 - 3.5  |
| <b>Total</b>           | <b>158</b> | <b>100.0</b> |             |

**Table 5.** Sexual intercourse during menstruation

| Frequency of sexual intercourse | Number     | Percent      | 95% CI      |
|---------------------------------|------------|--------------|-------------|
| None                            | 122        | 77.2         | 70.7 - 83.8 |
| Decrease                        | 22         | 13.9         | 8.5 - 19.3  |
| Regular                         | 14         | 8.9          | 4.9 - 14.4  |
| <b>Total</b>                    | <b>158</b> | <b>100.0</b> |             |

**Table 6.** Contraceptive method of prostitutes

| Contraceptive method | Number     | Percent      | 95% CI      |
|----------------------|------------|--------------|-------------|
| Oral pill            | 73         | 46.2         | 38.4 - 54.0 |
| Injection            | 26         | 16.5         | 10.7 - 22.2 |
| Intrauterine device  | 2          | 1.3          | 0.2 - 4.5   |
| Condom               | 6          | 3.8          | 1.4 - 8.1   |
| Tubal ligation       | 7          | 4.4          | 1.8 - 8.9   |
| Subdermal implant    | 1          | 0.6          | 0.02 - 3.5  |
| None                 | 43         | 27.2         | 20.3 - 34.2 |
| <b>Total</b>         | <b>158</b> | <b>100.0</b> |             |

service charge of prostitutes in this study varied from 50 Baht to 1,500 Baht (25 Baht approximately = 1 US\$). Most of them received service charge less than 100 Baht or about 4 US\$ (Table 3). The reported number of clients in the week prior to interview ranged from 1 to 84 (Table 4), 77.2% of these prostitutes denied to have sexual intercourse during menstruation. Only 8.9% had regular sexual activity (Table 5). The contraceptive prevalence rate among these group of prostitutes were 72.8%. The oral contraceptive pill was the most favoured form of contraception for 46.2% of them. Only 3.8% of prostitutes relied on condom without spermicide or other contraceptive method

with their regular partners or husbands (Table 6).

## Discussion

In Thailand, prostitutes are now a major conduit for transmission of HIV infection. HIV prevalence rates in Thai prostitutes are high and they are the source of spreading HIV infection. This study revealed that HIV-1 infected prostitutes were young with low socioeconomic status. These were the common characteristics of prostitutes.<sup>(1,3)</sup> However the starting age of being prostitutes at age was below 20 years old. The previous studies also showed the same result.<sup>(1,3,4)</sup> Most of the prostitutes in this study

had duration of work more than 2 years. So, during the period of working, they could spread HIV through their clients. It would be very difficult to control HIV infection among these prostitutes if they still worked and did not practice safe sex. Encouraging the use of condom was a measure to control HIV infection.<sup>(1)</sup> Most of HIV infected prostitutes in this study worked in brothels and low service charge that cater for urban and rural low income male labourers and agriculture workers who paid low price for sex services.<sup>(1)</sup> These clients belonged to low socioeconomic and poor hygiene group. Most of them had little knowledge about AIDS and did not prefer to use condom. So, HIV infection could spread to these clients easily. Approximately 58% of the prostitutes serviced between 1-20 clients per week which was similar to previous study.<sup>(3,5,6)</sup> There were some prostitutes who still practiced sexual intercourse during menstruation which could put them at risk of genital tract infection and AIDS.<sup>(7)</sup>

Focusing on contraception, it revealed that most of HIV infected prostitutes practiced contraception. The contraceptive prevalence rate was 72.8% which was higher than that of the rest of the country during the same period which was only 61.7%.<sup>(8)</sup> This showed that the HIV infected prostitutes in the study had an interest in birth control. However, specific contraceptive methods may increase or decrease HIV susceptibility and infectivity.<sup>(2)</sup> So, the usage of appropriate contraceptive methods could prevent HIV infection.

In this study, there were 46.2% of prostitutes used oral hormonal contraceptive pill. The use of oral hormonal contraceptive is associated with an increased risk for HIV acquisition remains controversial.<sup>(2)</sup> Some studies reported increased risk for HIV infection among oral

contraceptive pill users because of cervical ectopion<sup>(9)</sup> and irregular bleeding.<sup>(2)</sup> But other studies didn't find this association.<sup>(10,11)</sup> So, there is no conclusion about association between oral contraceptive pill and HIV infection. Considering the injectable hormone, there were 16.5% of prostitutes in this study who used this method. Menstrual irregularities were common symptom among injectable users which could theoretically increased risk of HIV transmission.<sup>(2)</sup> Medroxy-progesterone could also cause enhanced vulnerability of the vaginal epithelium through thinning of this tissue and thus facilitate transmission of HIV through superficial lesions.<sup>(2)</sup> Using non-sterile needle and syringe were also the risk factors of HIV infection. So, injectable hormone should not be recommended for these prostitutes. Intrauterine devices also increase risk of HIV infection and pelvic inflammatory disease.<sup>(11)</sup> The prostitutes who used intrauterine device should change the contraceptive methods to reduce risk of HIV and pelvic inflammatory disease. The use of condom can prevent AIDS and sexual transmitted diseases as well as contraception.<sup>(12,13)</sup> Nevertheless, there were only 3.8% of the prostitutes' regular partners or husbands who used condom regularly for contraception. This was different from the developed country where the prostitutes used condom regularly up to 69%.<sup>(3)</sup> The use of condom is a result of the outbreak of AIDS.<sup>(14)</sup> Unfortunately, the questionnaires of this study asked only the condom use of their regular partners as contraception. So, there might be some prostitutes who use other contraception with condom to prevent sexually transmitted disease. Further study should be done to explore the condom use for this purpose.

In summary, most of HIV infected prostitutes used contraceptive methods. However, some



contraceptive practice may increase or decrease risk of HIV infection. Encouraging the use of appropriate contraception such as condom should be benefit for these prostitutes in prevention of AIDS and birth control.

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