

# Prevalence of Sexually Transmitted Diseases among Female Drug Abusers in Malaysia

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## Summary

The prevalence of sexually transmitted diseases (STD) among female drug abusers was determined by screening 130 new inmates of a rehabilitation centre.

The majority of the subjects (77.7%) were self-confessed sex workers. A high prevalence of syphilis (50.8%), hepatitis B (52.2%), moniliasis (23.8%) and trichomoniasis (19.2%) were noted. Gonorrhoea vaginitis was seen in 8.5%, which was low compared to previous studies. Six subjects were seropositive for human immunodeficiency virus (HIV), with 5 of them admitting to needle sharing and working as prostitutes. More than half of them harboured 2 or more STD. A rich reservoir of STD was seen among the drug abusers. With more evidence now available concerning the ease of HIV transmission associated with ulcerative STD, a stage could be set for greater heterosexual HIV transmission. As part of the rehabilitation process, female drug abusers need a thorough screening for STD followed by aggressive treatment regimens.

**Key words:** Sexually transmitted disease, female drug abusers.

## Introduction

Drug abusers could be regarded as belonging to a high risk group for contracting sexually transmitted diseases (STD) by virtue of their life-styles and inclination toward sexual promiscuity. Furthermore, drug dealing and the sex industry are known as part and parcel of the underworld subculture. One of the strategies adopted by the government to reduce the demand for illicit drugs is the establishment of centres to rehabilitate and reform drug abusers with the hope that the rate of recidivism will be low after discharge from these centres<sup>1</sup>. The state is, therefore, empowered to take drug dependents into custody and confine them in these rehabilitation centres.

To incarcerate a drug dependent in a rehabilitation centre is a legally tedious process. One-stop rehabilitation centres have been established to overcome this difficulty, by placing legal, medical, counselling and rehabilitative requirements under one roof. By the end of 1991, 5,472 drug abusers were admitted into the 14 one-stop rehabilitation centres located throughout the country<sup>2</sup>. Drug abusers in Malaysia are predominantly males (97.8%), as reported by Khairuddin I., 1986<sup>1</sup>. Hence, the rehabilitation facilities available were mainly for males until October 1988, when a female rehabilitation centre was established to cater for the increasing numbers of female addicts. Currently, one centre admits female drug abusers from all over the country and has

a capacity of housing 150 inmates. Prior to this, all female drug offenders were sent to prisons which had special drug units to deal with the problems of withdrawal and rehabilitation.

This study describes the results of an STD screening exercise among female drug abusers admitted to this rehabilitation centre.

### Subjects and Methods

All the 130 female subjects screened in this study were newly admitted inmates from May 1989 to July 1991. They comprised of 104 intravenous drug users. The physical examination and specimen collection for laboratory investigations was done at the outpatient clinic of the Hospital Universiti Sains Malaysia. The data were compiled using a standardised collection form. Confidentiality was maintained throughout the study. Blood was taken for serological tests for syphilis, human immunodeficiency virus and hepatitis B virus. Swabs for culture to isolate *Neisseria gonorrhoeae* were taken from high vaginal vault, cervical os, rectum and oropharynx. Swabs were also taken for wet smear identification of *Candida albicans*, *Trichomonas vaginalis* and gonococci. Screening for *Chlamydia trachomatis* and anti-HBc (IgG and IgM) were not performed.

High vaginal, rectal and oropharynx swabs were plated on chocolate agar and Thayer-Martin selective GC agar (Oxoid) and incubated in a CO<sub>2</sub> incubator at 37°C for 4 days before discarding the plates. Colonies typical of *Neisseria gonorrhoeae* were gram stained and identified according to standard procedures<sup>3</sup>. For serology, commercial kits were utilised for the detection of hepatitis B surface antigen (HBsAg—Auszyme Monoclonal, Abbott), hepatitis B "e" antigen (HBeAg—HBe(rDNA) EIA, Abbott), hepatitis surface antibody (anti-HBs—Hepanostika antiHBs Microelisa system, Organon Teknika). Human immunodeficiency virus (HIV) was screened by Wellcozyme HIV Recombinant kit (Wellcome Diagnostics) and confirmed by western blot (Diagnostic Pasteur). Screening for syphilis was done by VDRL-Cardiolipin antigen (Behring) and confirmation with TPHA (Cellgnost syphilis—Behring). All VDRL positive sera were titred.

Table I  
Distribution of female drug abusers by age and ethnic groups

Age groups (years)	Ethnic groups			Total	Percentage
	Malay	Chinese	Indian		
10 - 19	10	1	0	11	8.5
20 - 29	42	15	5	62	47.7
30 - 39	29	15	8	52	40.0
40 - 49	3	1	1	5	3.8
Total	84 (64.6%)	32 (24.6%)	14 (10.8%)	130	100

**Table II**  
**Distribution of female drug abusers by occupation**

Occupations	No of cases	% of total
Sex workers	101	77.7
Salaried workers	17	13.1
Housewives	4	3.1
Students	2	1.5
Jobless & dependents	6	4.6
Total	130	100

**Table III**  
**Prevalence of STD among female drug abusers**

Types of STD	No of cases	% of total	Comment
Syphilis:			
TPHA +ve	63	48.5	Active cases
TPHA +ve	3	2.3	Treated cases
Hepatitis B:			
HBsAg +ve	5	3.8	Carriers
HBeAg +ve	2	1.5	Infectious
Anti-HBs	61	46.9	Infected but immune
Moniliasis	31	23.8	
Trichomoniasis	25	19.2	
Gonorrhoea vaginitis	11	8.5	
HIV antibody +ve	6	4.6	Carriers

*n=130. A subject may have more than one disease.*

## Results

The ethnic and age distribution of the 130 subjects screened is presented in Table I. The majority of the subjects (87.7%) belonged to the 20-40 age group, with teenagers comprising 8.5%. The age range of the subjects was 18 to 44 years old.

The occupational distribution of the subjects is summarised in Table II. Self-confessed sex workers made up 77.7% of the subjects. This occupational classification included those who worked in brothels, escort agencies, bar lounges, dance and cabaret establishments and massage parlours.

The prevalence of STD among the screened subjects is presented in Table III. Weak reactive VDRL followed by TPHA negativity was detected in 9 (6.9%) of the subjects, and they were considered as biological false positive.

Six of the subjects (4.6%) showed evidence of having acquired HIV infection. Five of them admitted to needle sharing and acknowledged working as prostitutes. All the HIV seropositive subjects had one or more concurrent STD infections such as syphilis, hepatitis B, trichomoniasis and moniliasis.

Moniliasis and trichomoniasis were also commonly detected among 23.8% and 19.2% of the subjects respectively. Gonorrhoea vaginitis was discovered in 8.5% of the subjects but only 3 of them presented with vaginal discharge. Extragenital gonorrhoea in the rectum and oropharynx was not detected.

The majority (57.7%) revealed 2 or more concurrent STD infections. However, STD was not detected in 19 (14.6%) of the subjects, although 10 of them were acknowledged sex workers.

### Comments

The fact that the majority of them were self-confessed sex workers either full-time or part-time is not surprising. Drug abusers need money to sustain their habit and sexual favours are a ready commodity for trade. Exchanging sex for drugs or money is expected to be widely practised among these subjects.

A high prevalence of reactive syphilis serology with no apparent clinical signs of syphilis indicated that the subjects were in the latent phase of the infection. In a prospective survey by Wong of patients seeking STD treatment in West Malaysia during 1976, syphilis accounted for 11.9% of all STD, after gonorrhoea and non-specific urethritis<sup>4</sup>. In 1990, Ramachandran and Ngeow reported seropositivity to syphilis as 13.6% among prostitutes in Kuala Lumpur<sup>5</sup>. Despite the fact that not all subjects in this study were prostitutes, the prevalence of syphilis was in excess of the above 2 studies. A possible explanation is that the high prevalence of syphilis could be a peculiar finding among drug abusers. Hutchinson *et al* reported that patients with syphilis were more likely to acknowledge intravenous drug use and they were more likely to test positive for HIV infection<sup>6</sup>.

The prevalence of hepatitis B serological markers among these subjects was also high. Among the female prostitutes of Singapore, Goh *et al* discovered a prevalence of about 70% in 1985<sup>7</sup>. The prostitutes of Peninsular Malaysia were discovered to have a prevalence of 66.3% in 1990<sup>5</sup>. Gan *et al* concluded that multiple sexual partners as a factor increased the chances of acquiring hepatitis B infection<sup>8</sup>. Intravenous drug abuse is an established fact in the transmission of hepatitis B virus. Since a high proportion of the subjects were intravenous drug users (80.0%) and sex workers (77.7%), both factors could be operational among these subjects to produce a high prevalence of hepatitis B.

Of current interest is the relationship between syphilis and HIV infection with regard to ease of transmission. Five of the 6 seropositive subjects in this study admitted working as prostitutes, 2 of whom were syphilis seropositives. All of them acknowledged needle sharing practice. Although Padian *et al* found evidence that the odds of female-to-male HIV transmission is significantly lower than the male-to-male transmission<sup>9</sup>, the role of these subjects in heterosexual HIV transmission should still be viewed as a public health threat. Recent epidemiological studies have raised concern about ulcerative STD acting as an important co-factor for the acquisition and transmission of HIV. Kreiss *et al* isolated by culture HIV from genital ulcers<sup>10</sup>. Hook also concluded that syphilis is a risk factor for HIV acquisition<sup>11</sup>. The fact that there were HIV positive drug abusers suffering concurrent syphilis as noted in this study could set the stage for an increasing heterosexual transmission of HIV.

## PREVALENCE OF SEXUALLY TRANSMITTED DISEASES

The high prevalence of candidiasis and trichomoniasis among the study subjects was expected. *Candida* organisms are found as part of the vagina flora and can be cultured from anywhere from 22% to 39% of asymptomatic and symptomatic women<sup>12</sup>. Trichomoniasis was cited as the most common of STD in women who sought treatment at the STD clinics in Madurai, India<sup>13</sup>, and it was well known among sexually active women of low socioeconomic status.

At the beginning of the study, gonorrhoea was expected to show a high prevalence rate based on previous studies conducted among high risk subjects in Malaysia<sup>4,5</sup>. The low prevalence of gonorrhoea seen and the absence of extragenital infection may be due to widespread usage of antibiotics among high risk individuals.

More than half of the subjects harboured 2 or more concurrent STD infections. Female drug abusers were shown to be a rich reservoir of STD. Routine screening must be carried out and they should be treated aggressively as part of the rehabilitation process.

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