

SEXUAL BEHAVIOUR AND HIV PREVALENCE IN PATIENTS WITH SEXUALLY TRANSMITTED DISEASE ATTENDING AN STD CLINIC IN NORTH EASTERN STATE OF INDIA

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The study was done to determine the sexual risk behaviour and to monitor HIV seroprevalence among STD patients attending a STD clinic as a part of sentinel surveillance programme in North Eastern State of India. Face to face interviews, clinical and epidemiological investigations were carried out in all new patients. The frequency of condom use, and the number of sexual partners during the preceding 6 months were recorded.

Out of 680 males, majority (66.4%) were aged 20-29 years. 89.2% men reported to have had sexual contacts with prostitutes. Being younger, single and staying away from home were independent risk factors for having sexual contact. 34.7% men used condom at all times, 27.2% reported inconsistent use and 38.1% did not use condoms. Eleven (1.6%) of the 680 STD patients tested were found to be HIV positive, did not use condom and had genitoulcerative disease.

Key Words : Sexual behaviour, Sexually transmitted diseases, HIV

Introduction

The most common mode of transmission of the human immunodeficiency virus (HIV) is through sexual contact.¹ Infection with HIV in adults in India is predominantly due to heterosexual transmission. The first studies of acquired immunodeficiency syndrome (AIDS) in India identified prostitutes and heterosexually promiscuous men as high risk group.² There is mounting evidence, however, that sexually transmitted diseases (STDs) may be important cofactors for enhancing HIV transmission.^{1,2} Therefore patients attending STD clinics should be considered a high risk group for HIV infection. To obtain more recent information on trends in transmission patterns, sentinel surveys among populations at increased risk for HIV infection are important supplements to AIDS cases surveillance.³ Patients attending STD clinics can serve as such a population.

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In order to determine the HIV prevalence among STD clinic visitors, we conducted a voluntary, anonymous cross sectional study in which information of risk behaviour for HIV infection was linked to HIV test results and STD diagnosis. The aim of the present study was to evaluate simply the risk factors for HIV testing which aims at monitoring HIV infection rates over time in sentinel populations of STD patients in an STD treatment centre in North Eastern state of India.

Materials and Methods

The present epidemiological data were collected between 1st August 1994 and 31st July 1997. When attending the STD clinic, patients were interviewed by the author or special treatment assistants (STAs) before the blood was obtained. Standardised questions were asked to each patient and an STD card containing questionnaires was filled by the physician. Demographic data were limited to the age, class, sex and state of origin. Women who were

suspected to be pregnant were referred to the antenatal rather than the STD clinic, and so were excluded.

Patients were questioned about their sexual orientation (homosexual, heterosexual or bisexual). The number of sexual partners during the previous 6 months was recorded into five classes : 0, 1, 2, 3 to 5 and more than 5 sexual partners. The frequency of condom use or failure during the previous 6 months was asked to the patients and graded never, sometimes, most often or all the time.

Sexual contact was defined as insertive genital contact with prostitutes or local population. Condom failure was defined as condoms tearing or sliding off during sexual contact. In combining frequency of condom use and failure we constructed a new variable, protected sexual contact, defined as consistent condom use without failure. All other combinations were considered unprotected.

Risk factors for HIV transmission were also searched for intravenous drug use, prostitution and sexual contacts with an STD or HIV positive partner. The patients were asked if they had a past history of sexually transmitted diseases (STDs).

Participants were also asked about a history of injecting drugs since 1980 and whether they ever received any transfusion with blood or blood products.

Routine physical examination for STD was performed after completion of the questionnaire and drawing of a blood sample. A diagnosis of syphilis was based on clinical symptoms and a reactive blood VDRL serology test or when T pallidum was demonstrated from the genital ulcer by dark ground illumination test (DGI).

Blood was collected by venepuncture and tested for antibodies to HIV 1,2 by commercial enzyme linked immunosorbent assays (ELISA). When there was a positive result of one or both assays a new blood sample was collected and tested by western blotting. The HIV seropositivity was established on the basis of positive western blot result.

Results

A total of 680 men were enrolled in the study. Majority (66.4%) were aged 20-29 years and 535 (78.6%) were unmarried.

There was a previous history of STD in 197 (29%) men. Only two of the men had been circumcised. All men reported that they were not intravenous drug users (IVDU).

Sexual behaviour

All but one (99.8%) men had heterosexual orientation (table 3). One person had homosexual contact. 385 (58%) men reported sexual contact during deployment, 184 (27%) reported during leave while 101 (14.8%) reported sexual contact during journey. Two hundred and fifty two (37%) persons had one to three contacts and 428 (63%) men had four or more contacts. Analysis showed that being younger, staying away from home and not having a steady "scx" partner at home were significantly and positively associated with having had sexual contacts.

We found that 236 (34.7%) men reported consistent use of condoms during all contacts, 185 (27.5%) persons reported inconsistent use while 259 (38.1%) men reported to have never used condoms. There was association between use of condom with a steady partner back home and the fear of pregnancy, but not the fear of getting STD or HIV infection. Significant risk factors for inconsistent use of condom were complaint of lack of sexual pleasure during intercourse and higher number of sexual contacts. Concerning condom failure we found that 118 (28%) persons out of 421 men who used condoms experienced failure. In this group unprotected contact is due to failure despite consistent condom use (26%) and inconsistent use (16%).

STD

The sources of infection in men having STDs are given in table I.

Table II shows the number and types of diagnosed STDs.

HIV Prevalence

HIV prevalence by risk groups is given in table II

Table I. Source of Infection in men having STDs

Source	No of cases	percentage
Prostitute	607	89.2
Homosexual	01	0.1
Amateur	60	8.8
Marital	12	1.7
Blood transfusion	0	0
Intravenous Drug User	0	0
Total	680	0

Overall prevalence was 1.6%. All HIV seropositive men had heterosexual unprotected contact with prostitutes and

Table II. Types of STDs in males and their HIV serological status

Types of STD	No of cases	%	No of HIV +ve cases
Syphilis	55	8.5	01
Chancroid	257	37.7	07
LGV	79	11.6	02
Gonorrhoea	32	4.7	-
NSU	101	14.8	01
Genital warts	58	8.5	-
Genital herpes	26	3.8	-
Balanoposthitis	52	7.6	-
Others	17	2.5	-
Total	680		11

had genital ulcerative disease. None of the men who were assumed to be HIV infected reported sexual contact with a known HIV infected sexual partner or was a transfusion recipient. None of these seroconverters were intravenous drug users (IVDU) and were not homosexuals

Discussion

Over the years studies report high incidence of STD among military personnel, in particular when serving away from home and family under stressful circumstances. During the Boer war the STD incidence among British troops was more than 50%, while after leave in Paris during the first world war a 20% STD incidence was reported.⁴ An American study among naval personnel and marines during trips to South America, West Africa and the Mediterranean during 1989-1991 found that 10% acquired

a new STD.⁵ In a British Military Hospital in the tropics investigators found an STD incidence rate of 56,558 per 100,000 over one calendar year.⁶

This study deserves one methodological consideration. The patients attending the HIV testing centre are obviously not representative of the general population. On the other hand, it cannot be excluded that trends may be due to changes in the population of patients attending the centre, that is, the increases in heterosexual patients with less risky behaviour. These data cannot therefore be extrapolated but they suggest interesting trends in sexual risk in the understudied population.

We have observed a striking increase in the attendance at our centre from 1991 to 1994 as was the case in all other centres in India.⁷ This is due in great part to local information campaigns directed mainly towards students and young people.

The relatively low rates of HIV positive individuals in our centre are correlated with the low prevalence of AIDS in the area.

In many epidemiological reports sexual behaviour changes were noted after the recognition of the AIDS pandemic. Despite the fact that there is an undoubted rise in the frequency of condom use, there remain many people at high risk for HIV infection who never use condoms as shown in multiple recent studies in US homosexual men,⁸ in US drug users⁹ and in the general French population.¹⁰ A higher proportion of people who never used condoms was also found in the heterosexual group in the general French population.¹⁰

We ascribe our low STD incidence to the high consistent and overall condom use (34.7%) among the study population. It is possible that risk behaviour was under reported but the low STD incidence in our troops supports the reported use of condoms. We think that free distribution of condoms and education attributed to the high overall condom use. Both our education before deployment and the sexual health promotion, given to risk

group and most secondary schools over the last few years in India will have contributed to the high condom use. It fits our findings of inconsistent condom use in the age group over 40 years. Finally we realise that our study was conducted at a time of increased awareness in regard to the HIV threat in South East Asia.

Although the use of condoms was high we found the failure rate (30%) was considerable. One American study showed a failure rate of 27%,¹¹ and a British study showed an even higher percentage of condoms splitting or slipping off (40%).¹² One explanation for failure in our population could be the lack of demonstrations on correct condom use during education on prevention of STD. Especially in the younger age groups condom use was supposed to be known because of the sexual health education programmes in our country. In future we will have to pay more attention to the prevention of failure, since consistent condom use alone is not enough to minimise STD.

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