

Sexually Transmitted Diseases in Homosexual and Bisexual Males from a Cohort of Human Immunodeficiency Virus Negative Volunteers (Project Horizonte), Belo Horizonte, Brazil

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Sexually transmitted diseases (STD) are very frequent in the whole world. Males who do not use a condom during their sexual relations are at great risk. We report cases of STD during six months of observation, among homosexual/bisexual males who participate in the Project Horizonte. There were 16 cases of genital warts, 6 cases of human immunodeficiency virus infection, 24 cases of unspecific urethritis, 28 cases of herpes simplex virus infection, 30 cases of syphilis, 58 cases of gonorrhoea and 84 cases of pediculosis. We concluded that a condom must be used in all sexual relations and new counseling techniques are needed, to avoid this situation.

Key words: sexually transmitted diseases - homosexual - bisexual - condom - counseling - human immunodeficiency virus - Brazil

Sexually transmitted diseases (STD) are highly prevalent throughout the world, especially among males between 15 and 29 years old, who do not use condom during their sexual relations. It is well known that the higher the number of sexual partners the greater the risk to acquire a STD, independent of sexual option (Rocha et al. 1998). In Minas Gerais, Brazil, there are more than one million new cases of STD per year.

The STD, especially syphilis, chancroid and genital herpes, facilitate human immunodeficiency virus (HIV) infection, increasing this risk by at least a ten fold factor (Schechter & Marangoni 1998). This fact has been clearly demonstrated in studies that took place in Africa (Landesman 1991) and in the United States (Diaz et al. 1994). Gonorrhoea and chlamydia infections also increase this risk (Ward et al. 1988). In Canada, researchers from Vancouver have shown that, in a cohort of homosexual males, rectal gonorrhoea was an independent risk factor for the acquisition of HIV infection (Blattner 1991, Craib et al. 1995).

In this paper we report the frequency of STD cases among homosexual/bisexual men, not infected with HIV, that participate in Project Horizonte. This project recruited sexually active homosexual/bisexual males, in an open cohort, in order to (a) evaluate the actual possibility of maintaining such a cohort for long periods of time; (b) determine the incidence of HIV infection; (c) evaluate the impact of prevention programs in the incidence of HIV infection; (d) carry on behavior research related to future vaccine trials to understand the social representation of the HIV infection, aiming to answer questions as: how to evaluate the motivation for participation in such trials; how to guarantee and check the behavior trends that are important to lower the incidence of HIV infection; how to acquire skills to enable the offer of a proper informed consent; how to inform about the rationale of management of double-masked placebo-controlled vaccine clinical trials.

PATIENTS AND METHODS

This is a prospective study, in which the data was obtained from the records of the volunteers of Project Horizonte, from February 1998 to March 1999.

The volunteers recruited in Project Horizonte were homosexual/bisexual men, between 18 and 59 years old. The mean age was 26.9 years (± 6.8). Fifty two percent were mulatto, 40.8% white and 7.2% black. The education level of the volunteers

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was: 26.4% completed elementary school, 42.1% high school and 31.5% college. Seventy seven percent were employed. The mean monthly income was R\$ 272.00 (2.2 Brazilian minimum wages). They were initially attended by a psychosocial team and then by a physician. All of them signed an informed consent form, in agreement with the resolution 196/96 of the Brazilian Conselho Nacional de Saúde. They received information about Project Horizonte, and the HIV serology was performed. Those who were HIV positive at entry were referred to the Universidade Federal de Minas Gerais Infectious and Parasitic Diseases Service. The HIV negative were admitted to the Project and followed up every six months by the Project's psychosocial and clinical teams.

Standardized questionnaires were used. In the work up, the investigators searched for specific information about STD (in the last six months or anytime previously). A complete physical examination was performed looking for signs of STD. At each visit the results of the serologic tests (HIV, syphilis, and hepatitis B) were checked. The volunteers also received counseling about prevention of STD.

The last questionnaire of each volunteer was analyzed, looking for data about STD, such as pediculosis, gonorrhea and other causes of urethritis, hepatitis B, syphilis, genital and oral warts, herpes simplex virus (HSV) infection and HIV infection. Only in the cases of HSV infection the possibility of recurrence was considered. Two hundred and seventy nine questionnaires were consulted.

The monthly incidence of the STD was calculated for the last six months among the volunteers who answered the questionnaire, according to the following formula:

$$I = n/N \times 6$$

where n represents the number of cases of STD in the period and N the number of volunteers.

For hepatitis B only the prevalence was calculated.

RESULTS

In the previous six months there were 298 cases of STD: 84 cases of pediculosis; 58 cases of gonorrhea; 40 cases of hepatitis; 30 cases of syphilis; 28 cases of HSV infection; 24 cases of unspecific urethritis; 6 cases of HIV infection and 16 cases of genital and anal warts (Table).

During the follow-up a change in the volunteer's behavior was observed, with an increase in condom use, decrease in unsafe anal sex. However, there was a reported increase in unprotected oral sex.

DISCUSSION

The incidence of STD was higher than expected among the volunteers of Project Horizonte and this finding is worrisome because the volunteers always receive condoms and counseling. Undoubtedly, these measures are important and, albeit they are not enough to significantly decrease the incidence of STD, it is safe to hypothesize that these numbers would be higher without these interventions.

The relatively high numbers of HIV infections in this cohort (six or 0.358/100 persons-months) follow, as expected, a similar pattern of other STD: there was a significant decrease in the number of partners, but this decrease was not sufficient and the use of condoms was not regular, especially during oral sex.

In this study there was a smaller number of cases of genital or anal warts and HSV infection

TABLE

Number of episodes, incidence and prevalence of sexually transmitted diseases among volunteers of Project Horizonte (February 1998-March 1999)

Disease	No.	Person-Month	Prevalence (%)
HIV infection	6	0.358/100	2.1
Genital warts	16	0.956/100	5.7
Unspecific urethritis	24	1.434/100	8.6
HSV infection	28	1.673/100	10
Syphilis	30	1.792/100	10.6
Hepatitis B	40	0.119/100 ^a	14.3
Gonorrhea	58	3.464/100	20.7
Pediculosis	84	5.018/100	30

a: there were 40 cases of hepatitis B diagnosed in the 6 months period (anti-IgG positive), but actually only two were characterized as new cases (anti-IgM positive); HIV: human immunodeficiency virus; HSV: herpes simplex virus

when compared to the data from the Ministry of Health (Boletim Epidemiológico 1998). These smaller numbers occurred even with the reported irregular use of condoms among the volunteers.

Syphilis was also a common STD among the volunteers, especially at the cohort formation.

Unspecific urethritis was a common finding, especially at the beginning of cohort recruitment, when the tools for serological diagnosis were not available. As these became available, more episodes of *Chlamidia* spp., *Mycoplasma* spp., *Ureaplasma urealyticum* and *Trichomonas* spp. cases were diagnosed.

The high prevalence of hepatitis B cases was another worrisome finding. This prevalence was almost three times higher than that reported in the general population of São Paulo, in which the estimated value was 4.9%, according to Focaccia et al. (1998). This emphasizes the previous high-risk behavior of this population. Diagnosis was made through serology, as there were no symptomatic cases; the majority had only the anti-HBcAg IgG, suggesting previous contact with the hepatitis B virus. This contact was probably sexual, as there was no blood recipient and no reported drug addiction among the volunteers. There was no reliable information related to the possibility of vertical transmission. This fact highlights the need for condoms in all sexual relations, especially when the partner is unknown, and the need to increase the availability of hepatitis B vaccine in public health services.

In conclusion, even with all the counseling and the discussions about safe sex practice, the incidence of STD in this cohort shows that the risk to acquire HIV infection is still present. New counseling techniques are needed in order to change this picture.

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