

## SEX WORK

# Changes in regular condom use among immigrant transsexuals attending a counselling and testing reference site in central Rome: a 12 year study

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*Sex Transm Infect* 2004;**80**:541–545. doi: 10.1136/sti.2004.010769

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Accepted for publication  
30 August 2004

**Objective:** To analyse data from male to female transsexuals attending between 1992 and 2003 an outpatient clinic considered the main HIV counselling and testing site in Rome for foreign people.

**Methods:** Data collected between 1992 and 2003, from a routine anti-HIV testing and counselling activity, were analysed. A brief standard interview was performed at each test. A cross sectional analysis to assess the association of regular condom use with demographic and behavioural variables using multiple logistic regression was performed. A follow up analysis to define the effect of single factors on the occurrence of new anti-HIV seroconversions was also performed. The incidence of anti-HIV seroconversion was calculated in person years of observation.

**Results:** Overall, 473 transsexuals sex workers were tested. Most of them (99%) were from South America (mainly Columbia and Brazil). Anti-HIV prevalence was 32%, but a progressive decrease over time was observed (from 57% in 1993 to 12% in 2003). The proportion of patients reporting regular condom use at enrolment was 75%. A progressive increase in regular condom use was reported over time (from 43% in 1992–3 to 79% in 2002–3). 15 new HIV infections were observed during follow up (incidence 2.1 per 100 person years). Though the proportion of patients reporting regular condom use increased over time, 10 out of the 15 new infections occurred in patients reporting unprotected sex during follow up (rate 8.4 per 100 person years).

**Conclusions:** Our data suggest that counselling may lead to an increase in safe sex practices among immigrant transsexuals. However, the incidence of new HIV infections is still high and mainly related to non-regular condom use, which still remains the primary objective of prevention.

The number of immigrants in Italy, mostly coming from resource poor countries, doubled during the 1990s and dramatically increased in the 2000s. Data from the Italian National AIDS Registry showed a constant growth over time of reported cases among individuals of non-Italian origin, representing 1.4% of the overall reported AIDS cases before 1987, 6.0% in the period 1996–7, 12.2% in the year 2000, and 22.1% in 2003.<sup>1</sup> Immigrants frequently live at the margins of the host society and may not be exposed to the HIV/AIDS prevention interventions, usually targeted towards the general population.<sup>2</sup> Thus, they might be involved in activities at risk of acquiring HIV infection, such as prostitution and drug use.

Prostitution, since the beginning of the HIV/AIDS epidemic, has been indicated as a major source of diffusion of HIV infection and sexually transmitted diseases in the general population.<sup>3</sup> Most of the available epidemiological studies regarding prostitution and HIV infection are focused on female prostitution,<sup>4–5</sup> though the male to male sexual transmission of HIV was demonstrated to be more efficient.<sup>6</sup> Studies on male and female prostitutes also showed that they are a source of diffusion of HIV to their clients and that immigrants are at higher risk of HIV infection.<sup>7–9</sup>

A recently increasing phenomenon in Italy as well as in other developed countries, is the involvement of male to female transsexual individuals in prostitution. Data collected in our centre in Rome in the 1990s showed a high prevalence of anti-HIV among male to female transsexuals, most of whom come from Latin America, and involved in prostitution, and seek HIV tests.<sup>10–11</sup> The centre started its activity in

the late 1970s as a drug treatment centre. From 1985, HIV testing of all patients attending the facility was available and in 1990s the centre was recognised as the reference counselling and testing site in the city for foreign people, regardless of residence permit.<sup>12</sup>

Among over 2000 foreign individuals tested between 1992 and 2003, the transsexual sex workers, mainly coming from South America, appeared to be one of the most interesting groups. A linkage with the Italian AIDS Registry performed in 1999 demonstrated that about two thirds of new AIDS diagnoses in foreign transsexuals in Rome in the 1990s had been in touch with the centre (unpublished data).

Therefore, the aim of this study was to analyse data collected from transsexuals attending the AIDS unit, particularly concerning behavioural patterns related to transmission of HIV infection and other sexually transmitted diseases and to evaluate the use of condoms and changes over time.

## METHODS

### Patients included and routine programme

From the beginning of 1990s all foreign people contacted by the outreach programmes sponsored by the municipality of Rome and asking for HIV test were sent to the centre. The other main way of attending the centre is to pass information from person to person. All patients in touch with the AIDS unit are enrolled in a routine programme, free of charge, consisting in medical examination and blood tests, including an anti-HIV antibody (anti-HIV) test. Hepatitis B and C, as well as other STD serostatus, are also routinely checked.

### Counselling session

Pretest and post-test counselling is offered at each HIV test by trained psychologists.

The pretest counselling session includes collection of information about sexual history and drug use and assessment of likely risks for acquiring HIV infection; information on significance of the anti-HIV test and possible consequences of a positive result; information and advice regarding safer behaviour.

The post-test counselling includes discussion and advice regarding the anti-HIV test results; airing of problems and emotions; counselling on safer sex, infection control, and health improvement; lifeline and problem solving.<sup>13</sup>

The Spanish language is used during counselling session with patients from Latin America.

The sponsorship also provides leaflets in Italian and foreign languages—English, French, Spanish, German, Portuguese, Arab languages—which are used in the counselling sessions, and free condoms. Leaflets and condoms are also available at the outreach unit. Leaflets are provided by the AIDS prevention campaign of the Italian Ministry of Health and other organisations involved in HIV prevention abroad. Moreover, leaflets are also prepared by a working group including operators of the centre, organisations involved in the outreach programme, and HIV experts.

### Data collection

The routine data collection for all foreign patients seeking HIV test started in 1993.

Patients are interviewed using a standard questionnaire, administered by a psychologist. The interview aims to collect the following information:

- demographic data;
- anti-HIV serostatus, if known, and date of the last anti-HIV test, if already performed;
- data regarding sexual behaviour, number of partners in the previous 6 months, anti-HIV serostatus, and drug use of partners, if known, and information about prostitution and frequency of condom use;
- type of drug used and means of administration.

All transsexuals reported they practise both oral and anal sex. Although patients reported that some clients asked only for oral intercourse, which should be considered a lower risk—but definitely a risk—than anal intercourse, the number of partners reported was generally high and we found difficulty in defining the number and types of intercourse they had, especially among those involved in prostitution. Thus, in the data analysis, we considered the overall number of reported partners both for oral and anal intercourse.

Moreover, for the purpose of the data analysis, we considered the category “regular condom use” when a patient reported to always use a condom with a casual partner or clients, though one fifth of transsexuals reported having a steady partner and most of them reported often using condoms with them.

### Ethical approval

The whole programme, including HIV testing and data collection, starts after the individuals signed an informed consent. The study was approved by the ethics committee of the National Health Institute, which provided a grant for the first 3 years of activity. The data collection was also approved by the municipality of Rome, which included the centre in a network for HIV prevention among marginalised populations, together with outreach programmes performed by non-governmental organisations.

**Table 1** Main demographic and behavioural characteristics of immigrant transsexuals at the first contact with the centre

	No (%)
Median age (IQ range)	29 (25–33)
Geographic area of origin	
South America	468 (98.9)
Columbia	289 (61.1)
Brazil	142 (30.0)
Africa	3 (0.6)
Europe	2 (0.4)
Median months of residence in Italy (interquartile range)	25 (8–58.5)
Reported prostitution	
Overall	473 (100.0)
In the past 6 months	455 (96.2)
History of prison	71 (15.0)
Sex with HIV partner in the past 6 months	28 (5.9)
Condom use in the past 6 months	
Always	353 (74.6)
Sometimes	107 (22.6)
Never	13 (2.7)
Drug use reported	
Injected	36 (7.6)
Non-injected	40 (8.5)

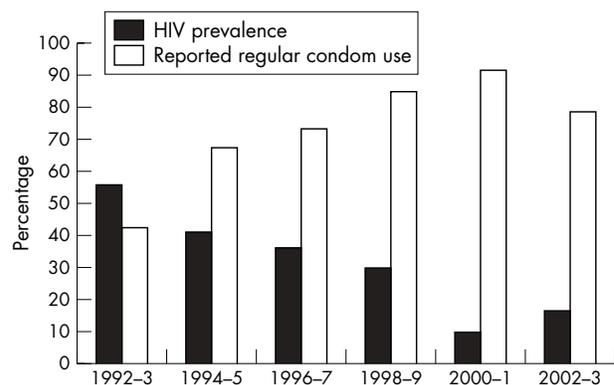
### Follow up

Anti-HIV negative patients are invited to return to the centre to recheck their anti-HIV status every 3–4 months. The interview is repeated at each follow up anti-HIV test, to evaluate possible behavioural changes. In the analysis the behavioural patterns reported at the last follow up were considered.

The patients who were found to be anti-HIV positive entered a clinical follow up including CD4+ lymphocyte count and HIV-RNA assessment, generally repeated every 2 or 3 months. According to the latest international HIV infection treatment guidelines, patients can start antiretroviral treatment if needed.

### Data analysis

The data collected from the questionnaires together with laboratory and clinical data are input in a database at the centre and analysed with SPSS software. The cross sectional analysis aimed at evaluating the association of regular condom use with demographic and behavioural variables: the statistical significance was assessed with multiple logistic regression analysis.



**Figure 1** Anti-HIV prevalence and proportion of transsexuals reporting regular condom use over time.

**Table 2** Anti-HIV seroconversion rates per 100 person years among 231 initially anti-HIV negative patients, returning for follow up testing, according to the main demographic and behavioural characteristics

	No of seroconversion/years	Rate per 100 person years (95% CI)
Transsexuals	15/724	2.1 (1.2 to 3.5)
Columbian transsexuals	10/632	1.6 (0.8 to 3.0)
Brazilian transsexuals	4/62	6.5 (2.1 to 16.5)
Other transsexuals	1/30	3.3 (0.2 to 19.1)
Current prostitution	15/673	2.1 (1.2 to 3.5)
>200 sexual partners reported	13/564	2.2 (1.2 to 3.8)
Anti-HIV positive partner reported	3/9	25.0 (6.7 to 57.2)
Non-regular condom use reported	10/76	8.4 (4.3 to 15.3)
Injecting drug use reported	2/27	7.4 (1.3 to 25.8)
Syringe sharing reported	1/9	11.1 (0.6 to 49.3)

A follow up analysis to define the independent effect of each variable on the occurrence of anti-HIV seroconversion was also performed. Transsexuals, who were anti-HIV negative at the enrolment and underwent at least one subsequent HIV test, were included in the follow up analysis. The variables considered for follow up analysis were collected at the interview performed at the last follow up visit. The incidence of anti-HIV seroconversion was calculated with person years of observation as a denominator.

## RESULTS

From an overall number of 2278 foreign patients, who underwent HIV testing at the centre between September 1992 and December 2003, 473 transsexuals were selected. Among them, 241 (51.0%) were initially contacted through outreach programs.

The general characteristics of the patients are given in table 1. Most of the patients were from South America: over 90% of transsexuals were from Columbia or Brazil, with Columbians being the majority. Almost all patients reported being previously engaged in prostitution and only 3.8% interrupted the prostitution within the last 6 months, reporting they had a steady partner.

An important proportion of patients reported that they have been in prison because of prostitution. Regular condom use was reported by three out of four transsexuals at the first contact with the centre. About 15% of the patients reported injecting (mainly heroin) or non-injecting drug use (almost all reported cocaine use).

The overall anti-HIV prevalence was 31.5% (149/473). The prevalence of hepatitis B, assessed using anti-core antibodies (HBcAb), hepatitis C and syphilis, with *Treponema pallidum* haemoagglutination test (TPHA), were evaluated in 461

patients; 12 of them had missing data. The prevalences were 53.5%, 13.3%, and 40.3% respectively.

The trends in anti-HIV prevalence and proportion of transsexuals reporting regular condom use are shown in figure 1. Prevalence decreased from 55.6% in 1992–3 to 9.9% in 2000–1, but increased to 16.7% in 2002–3. In contrast, the proportion of subjects reporting regular condom use in the last 6 months increased from 42.6% to 91.4% in 2000–1, but decreased in 2002–3 to 76.8%. The overall anti-HIV prevalence was higher among individuals from Brazil (56.1%) than among those from Columbia (20.0%), but among Brazilians it dramatically decreased from 74.2% to 11.8% in 2000–1, with an increase in 2002–3 to 27.3%. On the other hand, it remained quite steady overtime among Columbians (16.7% in 1992–3, 16.0% in 2002–3). Finally, a progressive increase in regular condom use was observed in both populations with peaks at 84.6% among Brazilian and at 93.1% among Columbian subjects in 2000–1, followed by a subsequent decrease in 2002–3 in both groups.  $\chi^2$  Tests for trends were significant at  $p < 0.01$  for all trends of HIV prevalence and condom use.

At multivariate analysis anti-HIV positivity (OR: 1.8; 95% CI: 1.1 to 3.0) and known HIV positive partner reported in the last 6 months (OR: 4.6; 95% CI: 1.9 to 11.5) were found to be significantly associated with non-regular condom use. In contrast, current prostitution was found to be associated with regular condom use (OR: 0.02; 95% CI: 0.005 to 0.1). Injecting drug use was not found to be associated with condom use, though in this group, among eight out of 39 drug injectors who reported syringe sharing in the last 6 months, four did not regularly used a condom ( $p = 0.04$  versus non-sharing ones).

After the first HIV test, 204 initially anti-HIV negative patients returned for at least one follow up test. During an

**Table 3** Changes in regular condom use reported among transsexuals (TS) who entered follow up, comparing the first contact with the centre and the last follow up

Regular condom use reported	Enrolment*	Follow up*
Overall	182/247 (73.7%)	220/247 (89.1%)
Columbian transsexuals	129/168 (76.8%)	150/168 (89.3%)
Brazilian transsexuals	37/57 (64.9%)	50/57 (87.7%)
Other transsexuals	16/22 (72.7%)	20/22 (90.9%)
Reported prostitution in the past 6 months	182/243 (74.9%)†	216/242 (89.3%)†
Reported anti-HIV positive partner	4/15 (26.7%)‡	8/12 (66.7%)‡
Anti-HIV positive	30/53 (56.6%)	54/68 (79.4%)

\*The denominators refer to the number of subjects reporting >1 sexual partner in the previous 6 months and returned to follow up.

†One subject did not report prostitution during follow up.

‡A different number of subjects reported anti-HIV positive partner at enrolment and follow up.

overall time of observation of 724 years, 15 new HIV infections were observed. Ten new infections occurred among transsexuals from Columbia, four among patients from Brazil, and the last one in a European subject. The rates of HIV seroconversion by the main demographic and behavioural characteristics are shown in table 2. Considering country of origin, higher incidence rates of HIV seroconversion were observed among Brazilian transsexuals. Moreover, the highest rates occurred in patients who reported sex with an HIV partner, but also high rates were related to unprotected sex and non-injecting drug use. One seroconversion was observed during follow up in one patient reporting syringe sharing.

However, comparing the first contact with the centre and the last follow up, an overall increase in regular condom use was reported during follow up (table 3). Transsexuals from Columbia and, in general, subjects engaged in prostitution showed the highest proportions of protected sex during follow up.

## DISCUSSION

The objective of the present analysis was to evaluate frequency and correlations of unprotected sex in a large group of immigrant transsexuals, most of them involved in street working and all attending a unique reference testing site in Rome.

Despite the obvious limitations of these data, because of possible selection bias related to the characteristics of the centre and of the patients themselves, the large number of subjects analysed can offer valid information about this marginalised population, which are difficult to study, mainly because the lack of a residence permit.

The anti-HIV prevalence found in our sample is very high, though it is similar to those found in other Italian cities,<sup>14–15</sup> but higher than in an other small study performed in Rome.<sup>16</sup> Nevertheless, the proportion of positive subjects seemed to decrease over time—apart from a prevalence plateau in the first half of the 1990s, that may be due to an accumulation of patients who, already known they were HIV positive, attended the AIDS unit asking for clinical follow up. Additionally, a strong difference in anti-HIV prevalence was observed by comparing subjects of Brazilian and Columbian origin. This could be explained by different prevalence in the countries of origin. Indeed, data available showed higher anti-HIV prevalence in men who have sex with men from Brazil than Columbia.<sup>17</sup> Moreover, few data about condom use among men who have sex with men from both countries are available but still inconclusive: low proportion of subjects reporting regular condom use was found in young homosexual men in Columbia<sup>18</sup> and different proportions were observed in Brazil, ranging from 35% to 86% with casual partners.<sup>19–21</sup>

However, diversity in prevalence can also be explained by lower sexual risk. Indeed, patients from Columbia frequently reported a regular condom use with clients compared with Brazilians.

According to the decrease in anti-HIV prevalence, we observed a progressive increase in regular condom use reported up to 2000–1, with a decrease in 2002–3. The increased use may be related to a better awareness of transmission of HIV, but the latest decrease found in all the subgroups analysed (although data are still preliminary) could indicate an initial reduction in prevention measures.

Transsexualism and sex working are a worldwide diffused phenomenon, particularly in developing countries. Male-male sex is culturally accepted in many Asian countries, where transsexual sex workers are commonly found. Anti-HIV prevalence among transsexuals from various Asian countries was found between 10% to 15% with higher rates

## Key messages

- There is a high prevalence of HIV infection and other STDs among men who have sex with men and transsexuals from poor resources countries
- There has been a decrease in condom use with casual partners or clients observed in recent years, with the continuing occurrence of new infections among men who have sex with men and transsexuals, particularly with high risk behaviour
- Promoting condom use and safe sex is still a priority among marginalised populations involved in high risk sexual activity
- Counselling and targeted interventions appear effective in increasing safe sex

in Cambodia and Thailand and lower rates in the Philippines.<sup>22</sup> Moreover, regarding the increasing risk of spreading HIV, low rates of regular condom use were found in Pakistan<sup>23</sup>; there were high prevalences of hepatitis B and syphilis<sup>24</sup> in India and Indonesia, where discrimination and low HIV awareness are also an obstacle to HIV testing and prevention.<sup>25–27</sup>

Several other recently published reports indicated that unprotected sex is still diffused particularly among young men who have sex with men<sup>28</sup> and that, owing to the still high report of unprotected sex among homosexual men, safer sex campaigns are still urgently needed.<sup>29</sup> The interventions must be targeted to specific subgroups because programmes for the general population do not reach populations with high risk behaviour.<sup>30</sup> Indeed, factors that are suggestive of irregular lifestyle such as use of cocaine<sup>31</sup> and, in our analysis, sex with an anti-HIV positive partner, that could also be considered as an indicator of worst sexual lifestyle, were found to be associated with non-regular condom use. In contrast, we must emphasise that, after adjusting for other factors, current prostitution is associated with safer sex practices.

Non-regular condom use is still related to high rates of incidence of new HIV infections as well as sex with anti-HIV positive partner and use of non-injecting drugs. Indeed, 10 out of 15 new HIV infections (two thirds) occurred among the 17% of subjects who did not report regular condom use during the follow up. Still, the same indicators of irregular lifestyle were found to be related to higher risk of acquiring HIV, showing clear targets for prevention.

Finally, the proportion of patients who reported regular condom use increased during the follow up in all subgroups. This last finding, together with the good proportion of individuals who returned to follow up after the first visit, may indicate a good response to counselling given at the centre. Counselling has been demonstrated to be effective in reducing risk practices for HIV,<sup>32</sup> and the operators of our AIDS unit have made efforts to offer more targeted counselling and easier access to follow up and care, without discrimination of any kind. The results of these efforts in terms of increasing the regular condom use seem to confirm their usefulness.

In summary, despite our data suggesting that the use of safer sex practices is increasing among foreign transsexuals in Rome, and counselling appears to be effective in reducing unprotected sexual practices, the incidence of new HIV infections remains high and is still mainly related to non-regular condom use, which remains the primary objective of prevention.

## CONTRIBUTORS

MZ, study design, follow up of patients, data analysis, writing the paper; LS, study design, patient counselling, review of paper; SV, patient counselling; AA, follow up of patients, review of paper; PG, study design, patient counselling and follow up, review of paper.

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