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HIV-risk behaviour and knowledge about HIV/AIDS among patients with schizophrenia

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ABSTRACT

Background. Recent literature has demonstrated that psychiatric patients, particularly those with a diagnosis of schizophrenia, may be at high risk for HIV infection. In fact, HIV-risk behaviour, such as intravenous drug with sharing needles, promiscuity associated with unprotected sex and high-risk sexual activity after using drugs has been reported by a substantial proportion of mentally ill patients.

Methods. In order to examine this problem in Italy, HIV-risk taking behaviour and knowledge about HIV/AIDS was investigated among 91 schizophrenic patients by using two self-report questionnaires (HIV-Risk Behaviour Questionnaire; AIDS-Risk Behaviour Knowledge Test).

Results. One-third of the patients reported having been tested for HIV infection and one tested seropositive (prevalence 3·4%). A high proportion of patients reported HIV-risk behaviour, such as injected drugs use (22·4%) and engaging in high risk sexual activity (e.g. multiple partners, 58%; prostitutes, 45%; occasional partners, 37%). Condoms were 'never used' by 41% of the patients and 'almost never used' by another 25%. In spite of these behaviours, 65% reported no concern of HIV infection. Knowledge about AIDS was lower among psychiatric patients than a healthy control group. Patients with long-lasting illness and numerous psychiatric admissions were less acknowledgeable about HIV infection. Certain misconceptions on HIV transmission were related to HIV risk behaviour.

Conclusions. These results indicate the urgent need for HIV educational programmes within mental health community-care settings.

INTRODUCTION

The HIV infection epidemic represents one of the most serious health problems of this century. Most recent data indicate that, since the onset of the pandemic, 11·7 million people have died of AIDS and more than 30 million people are living with HIV infection/AIDS worldwide, with almost 6 million newly infected subjects in 1997 (16000 new infections a day) (World Health Organization, 1997*a*).

In Europe, a total number of 200000 cases of AIDS have been notified in 1997 and about 70000 new individuals have been infected (World Health Organization, 1997*a*). The highest prevalence rate of AIDS is currently reported by Southern European countries, namely Spain (13·36 cases per 100000 inhabitants), Italy (8·37 per 100000), Portugal (7 per 100000) and France (6·25 per 100000) (World Health Organization, 1997*b*).

Although, historically, epidemiological studies have shown that intravenous drug users (IVDUs) and homosexuals were the groups with the highest risk of HIV infection, the distribution of patients among various categories of HIV-exposure has shifted in the last few years. Heterosexual contact is growing as an important transmission pathway worldwide. For this reason, assessment of high risk sexual behaviour and implementation of preventive educational campaigns in the general population, particu-

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larly in young age groups, has become an integral part of health care systems in most countries (Di Clemente & Peterson, 1994). In spite of these figures and the efforts in increasing public awareness of the HIV problem, scarce attention has been paid to an important vulnerable segment of the community, namely, individuals with psychiatric disorders, who should be considered a new population at high risk of HIV infection (see Stefan & Catalán, 1995; Grassi, 1996; Gottesman & Groome, 1997 for reviews). A number of authors have, in fact, demonstrated that a substantial proportion of psychiatric patients, particularly those with a diagnosis of schizophrenia, show HIV-risk behaviour, such as intravenous drug use with shared needles, promiscuity associated with unprotected sex and high-risk sexual activity after using drugs (Cournos *et al*. 1994; Kalichman *et al*. 1994; Knox *et al*. 1994; Horwath *et al*. 1996; Susser *et al*. 1996; Carey *et al*. 1997). Results of recent research have shown an alarmingly high prevalence of HIV seropositivity, ranging from 9% to 19%, among chronic mentally ill patients in the United States (Cournos *et al*. 1991; Volavka *et al*. 1991; Sacks *et al*. 1992; Empfield *et al*. 1993; Susser *et al*. 1993; Silberstein *et al*. 1994). A roughly 5% prevalence has been reported among psychiatric in-patients in a few investigations conducted in Europe (Naber *et al*. 1994; Ayuso-Mateos *et al*. 1997).

Despite the obvious need for education, inaccurate information and knowledge about the severity and characteristics of HIV pandemic and prevention strategies are reported by 20–40% of mentally ill patients. In a study of 80 psychiatric out-patients, Aruffo *et al*. (1990) found that a high percentage of subjects, especially those with a diagnosis of schizophrenia, had significant misconceptions about transmission of HIV infection and had less information than a matched control group. Similarly, deficits in information about the risk of HIV infection was shown in acute psychiatric in-patients (Baer *et al*. 1988) and chronically ill patients (Kelly *et al*. 1992). Recently, Chuang & Atkinson (1996), in Canada, reported that despite the high frequency of sexual activity among the sample, a high proportion of psychiatric patients lacked knowledge about specific modality of transmission and prevention of HIV infection. Practical implications of these results are that misinformation about HIV infection has been significantly associated with frequency of high risk behaviour in patients with psychiatric disturbances (Zafrani & MacLaughlin, 1990; Katz *et al*. 1994). Accordingly, psychiatric patients who were reported to engage in HIV high-risk behaviour did not believe they were exposed to HIV infection (Kalichman *et al*. 1994). Contrasting findings were obtained in other studies, which showed that adequate knowledge of AIDS was partially independent of HIV-related behaviour and that knowledge is one factor, but not sufficient by itself, to explain risk behaviour (McDermott *et al*. 1994; McKinnon *et al*. 1996). From a public health point of view, these data should alert psychiatric-care delivery services to take responsibility of the risk of HIV infection. The need for research that guides HIV prevention and treatment decisions for psychiatric patients, particularly those with more severe illness, has been strongly recommended (McKinnon *et al*. 1997). This problem should be a priority in those countries where the movement towards deinstitutionalization and development of community mental health services make mentally ill patients easily exposed to sources of contagion. As far as Italy is concerned, although 20 years have passed since the Psychiatric Reform Act (Law 180) transformed a psychiatry custodialistic approach to mental illness into a well-defined community-care system (Perris & Kemali, 1985; Tansella & Williams, 1987), the problems of knowledge about HIV transmission and prevention and HIV-risk behaviour have not been extensively addressed.

The aims of the present study were twofold: (*a*) to explore HIV-risk-taking behaviour among patients with schizophrenia in an Italian mental health setting; (*b*) to understand the current level of information about HIV infection and its association with risk-behaviour in this population.

METHOD

Subjects

Data were collected as part of a more general study of psychiatric patients' attitudes towards HIV infection in Ferrara (Emilia-Romagna Region, North-East Italy), where community

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psychiatric models have been established since the late 1960s (Tansella & Williams, 1987; Fioritti *et al*. 1997). Subjects were recruited from two sites, a 15-bed acute psychiatric facility in the general and university hospital (S. Anna Hospital) and a public community-based out-patient clinic in the same province during a 1-year period. Criteria for recruitment required that the patients were 18–55-years-old, had a diagnosis of schizophrenia according to the ICD-10 (as evaluated through the CIDI 1.1) (World Health Organization, 1993) and were not severely ill (i.e. absence of severe psychotic disorganization). Each patient was approached by one research psychiatrist and informed about the aims of the study. After obtaining consent to participate, an individual and confidential meeting was arranged with the patient in a private office within the psychiatric unit or the clinic.

Measures

The patients were asked to complete self-report questionnaires to assess HIV-risk behaviour and knowledge about HIV infection. Subjects with low comprehension levels were assisted by the research psychiatrist who explained the meaning of the questions.

A first questionnaire, derived from a specific semi-structured interview aimed at assessing HIV-risk behaviour among psychiatric patients (HIV-Risk Behaviour Questionnaire) (HIV-RBQ) (Carmen & Brady, 1990) was administered. This is a 21-item instrument that investigates several areas of HIV-risk behaviour, such as use of intravenous drugs, sexual promiscuity, intercourse with at-risk partners (IVDUs, bisexuals, prostitutes, partners suspected or known to be HIV+) and frequency of condom use (Appendix 1). According to Knox *et al*. (1994), the following criteria were used to classify participants in four categories of HIV-risk: (*a*) no risk – no sexual partners and no IV drug use; (*b*) low risk – only one sexual partner (who either uses condoms every-time or was neither HIV-infected nor an IV drug user) and no IV drug use; (*c*) high risk – unprotected sex with multiple or occasional partners or a partner believed to be at risk of HIV infection or IV drug use with sharing needles). Medium risk category made up the remainder of the cases.

The AIDS Risk Behavior Knowledge Test (AIDS-KT) was also given to the patients. The AIDS-KT is an 11-item questionnaire (range score 0–11) specifically developed to assess accuracy of information about HIV infection, disease transmission, risk behaviour and prevention measures among psychiatrically ill patients (Kelly *et al*. 1992) (see Table 3 for details).

In order to assess knowledge about HIV infection among the non-psychiatric population, a control group matched for sex, age and socio-education level was recruited in the waiting rooms of medical clinics in the local hospital. Subjects were informed of the aim of the study, were briefly interviewed in order to exclude psychiatric problems and were given the AIDS-KT.

Statistical analysis

Statistical procedures included descriptive statistics, assessment of response distribution (frequency counts) and cross-tabulation. Chi-square test was used to examine differences in risk-behaviour within the psychiatric population. Differences between patients and controls were tested by means of Student's *t* test. Multiple regression analysis was used to evaluate predictors of HIV-risk behaviour among psychiatric patients. Statistical significance was set at the 5% level. Analyses were conducted using the SPSS package (Norušis, 1994).

RESULTS

Sample characteristics

Of 105 patients meeting the selection criteria, nine patients were discharged/transferred before completing the questionnaire, two did not speak fluent Italian and three refused to participate (response rate 96·8%). Table 1 shows socio-demographic characteristics of the 91 patients who took part in the study. Sixty were in-patients and 31 out-patients. Time since diagnosis ranged from 1 to 25 years (mean $7{\cdot}33 \pm 6$ years, median = 6 years). Of the patients for whom the number of past psychiatric hospitalizations could be ascertained ($N = 81$), almost half of the sample had 1 to 3 admissions ($N = 39$, 48·2%) and the remaining 42 patients (51·8%) more than four admissions (global mean $9{\cdot}32 \pm 16{\cdot}27$, range 1–82, median = 4). Among the non-schizophrenic control subjects, 90 of 102 individuals eligible for the study

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Table 1. *Sociodemographic characteristics of the patients*

Sex	
Men	59 (64·8%)
Women	32 (35·2%)
Age mean	35·3 (S.D. 8·1 years)
Education mean	8·2 (S.D. 6·1 years)
Civil status	
Married	14 (15·4%)
Separated/divorced	19 (20·9%)
Never married	57 (62·6%)
Widowed	1 (0·2%)
Occupational status	
Employed	23 (25·3%)
Disability pension	40 (43·9%)
Unemployed	23 (25·3%)
Housewives	5 (5·5%)
Living situation	
With the parents	50 (54·9%)
Own family	21 (23·1%)
Alone	15 (16·5%)
Institutions	5 (5·5%)

Table 2. *HIV risk behaviour patients with schizophrenia*

	Proportion (%)
Sexual abuse in the last 15 years	14/82 (17·1)
Partners	
Multiple	47/81 (58·6)
Occasional (known for < 1 day)	32/86 (37·2)
Same sex	21/84 (25)
Prostitute	34/75 (45·3)
IV drug user	14/86 (16·3)
Bisexual	16/81 (19·8)
Suspected HIV+	12/85 (14·1)
HIV+ or AIDS	1/85 (1·2)
Sex	
Anal sex	35/86 (40·7)
Receptive anal sex	16/35 (45·7)
Insertive anal sex	19/35 (54·3)
Condom use during sex	
Always	17/81 (21·2)
Mostly	10/81 (12·5)
Almost never	20/81 (25)
Never	33/81 (41·3)
History of sexual transmitted disease	10/88 (11·3)
Drugs	
Use of drugs	38/89 (42·7)
Use of IV drugs	20/38 (52·6)
Needle sharing when using iv. drugs	3/20 (15)
Sex after using alcohol or drugs	20/82 (24·4)
Sex in exchange for money/drugs	6/85 (7·1)
Worried about your personal risk of being HIV-infected	
Not at all	56/84 (65)
Mildly	13/84 (15)
Moderately	5/84 (5·8)
Extremely	12/84 (13·9)

agreed to take part in the study (response rate 88·23%). No difference was found as far as age and socio-economic status between participants and those who refused.

HIV-risk behaviour

Thirty-three patients (36·7%) reported to have been tested for HIV in the past; of these 29 reported to be tested seronegative (87·8%), three did not know their test-response (9%) and one reported to be tested seropositive (prevalence of HIV infection = 3·4%). Table 2 shows HIV-risk behaviour among schizophrenic patients. Eighty-eight patients out of 91 (96·7%) reported to have engaged in sexual activity during their life; 51 of these (57·9%) in the last year. Only three patients (3·29%) reported to have never had any sexual intercourse during their life. Forty-seven of 81 (58·6%) had sex with multiple partners; 32 of 86 (37·2%) with occasional partners (persons known for less than 1 day); 34 of 75 (45·3%) with prostitutes; 14 of 86 (16·3%) with partners known to be IVDUs, 16 of 81 (19·8%) with partners known to be bisexual, 12 of 85 (14·1%) with partners suspected to be HIV-positive and one (1·2%) with a patient with AIDS. Sixteen of 35 patients (45·7%; 17·8% of the whole sample) engaged in receptive anal sex. Safe sex was not frequent among the sample: seventeen of 81 patients (21·3%) reported 'always' using a condom, 10 (12·5%) 'mostly', whereas the majority indicated 'almost never' ($N = 20$; 25%) or 'never' using it ($N = 33$; 41·3%). A life-time history of sexually transmitted diseases was reported by 10 of 88 patients (11·36%).

As far as drug use was concerned, 38 of 89 patients (42·7%) reported using substances and 20 of these (52·6%, 21·9% of the whole sample) injected drugs, three with sharing needles (15%). Twenty out of 82 (24·4%) indicated having had sex after or while using drugs and six of 85 (7·1%) engaged in sex exchange behaviour (i.e. sex sold for money or drugs). Regarding personal concern for HIV-infection, most patients indicated 'no concern at all' ($N = 56$ of 84, 65%), 13 of 84 (15%) were mildly concerned, 5 (5·8%) moderately concerned and 12 (13·9%) extremely concerned. Overall, according to the 'risk-classification' (Knox *et al.* 1994), 27 of 83 patients were found to be in the no-risk category

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Table 3. *Distribution of the responses to the AIDS Knowledge Test among patients and controls*

	Number (%) of wrong answers	
	Psychiatric patients *N* (%)	Control group *N* (%)
1 Most people become sick quickly after getting the AIDS virus	34 (37·4)	23 (25·5)
2 Condoms make intercourse completely safe	49 (54·4)	15 (16·6)
3 A person can be exposed to the AIDS virus in one sexual contact	8 (8·9)	2 (2·2)
4 Washing after sex greatly reduces the transmission of the AIDS virus	25 (27·8)	0 (0)
5 A person must have many different sexual partners to be at risk from AIDS	42 (46·1)	11 (12·2)
6 Sex with someone who has used injected drugs creates risk for AIDS	7 (7·7)	3 (3·3)
7 Only gay (homosexual) men get AIDS	9 (9·8)	0 (0)
8 People carrying the AIDS virus always look sick	55 (60·4)	10 (11·1)
9 Women cannot get AIDS if they only have sex with men	12 (13·1)	6 (6·6)
10 Unborn babies can get AIDS from their infected mothers	6 (6·5)	4 (4·4)
11 Men cannot get AIDS if they only have sex with women	13 (14·3)	2 (2·2)

(32·5%), 11 in the low-risk category (13·3%), 23 in the medium category (27·7%) and 22 in the high risk category (26·5%).

According to the patients' gender, females reported a lower rate of i.v. drug use (20% *v.* 54·2%, $\chi^2 = 8{\cdot}12$, $P = 0{\cdot}04$) and of having sex after using drugs (6·9% *v.* 34%, $\chi^2 = 6{\cdot}05$, $P = 0{\cdot}01$). Patients with > 6 years of illness reported a higher rate of homosexual intercourse ($\chi^2 = 5{\cdot}07$, $P = 0{\cdot}02$). No differences in at-risk behaviours were found according to number of admissions to the in-patient unit and between in-patients and out-patients.

AIDS knowledge

Table 3 shows the distribution of answers on the AIDS-KT among patients and controls. Significant differences were found indicating poorer knowledge among psychiatric patients compared with controls. For example, 42 psychiatric patients (48·3%) incorrectly believed that a person must have many different sexual partners to be at risk for AIDS. Fifty-five patients (61·1%) incorrectly believed that HIV-infected people always look sick. The percentage of subjects who had a score 9–11 (good knowledge) on the AIDS-KT was 19·8% among patients and 80·5% controls ($\chi^2 = 71.82$, $P < 0{\cdot}001$). The median number of correct answers was 8 (72·7% correct) among psychiatric patients in comparison with 10 among controls (90·9% correct) ($\chi^2 = 9{\cdot}93$, $P < 0{\cdot}01$). Globally, psychiatric patients had a lower score on the AIDS-KT than healthy subjects ($8{\cdot}12 \pm 1{\cdot}67$ *v.* $9{\cdot}56 \pm 1{\cdot}3$, $t = 6{\cdot}46$, $P = 0{\cdot}01$).

AIDS knowledge was not associated with sex, education level or age. Patients with more than four psychiatric admissions ($N = 42$) had lower score on the AIDS-KT than those with 1–3 admissions ($N = 39$) ($7{\cdot}60 \pm 1{\cdot}77$ *v.* $8{\cdot}57 \pm 1{\cdot}53$, $t = 2{\cdot}64$, $P = 0{\cdot}01$). Likewise, patients with > 6 years of illness ($N = 60$) had a lower score on the AIDS-KT than patients with more recent diagnosis ($N = 31$) ($7{\cdot}32 \pm 2{\cdot}12$ *v.* $8{\cdot}59 \pm 1{\cdot}24$, $t = 3{\cdot}07$, $P = 0{\cdot}002$).

Predictors of HIV-risk behaviour

Multiple regression analysis was conducted with HIV-risk behaviour as the dependent variable and age, time since diagnosis, number of admissions and total score on the AIDS-KT as the independent variables. No factor entered the equation. However, when the single AIDS-KT items were added, three of them accounted for 22% of the variance ($F = 5{\cdot}92$, $P < 0{\cdot}001$), specifically item 10 ('Unborn babies can get AIDS from their infected mothers') (adjusted $R^2 = 0{\cdot}06$, $\beta = -0{\cdot}28$, $t = 2{\cdot}29$), item 4 ('Washing after sex greatly reduces the transmission of the AIDS virus') (adjusted $R^2 = 0{\cdot}07$, $\beta = -0{\cdot}28$, $t = 2{\cdot}4$) and item 9 ('Women can't get AIDS if they only have sex with men') (adjusted $R^2 = 0{\cdot}06$, $\beta = -0{\cdot}28$, $t = 2{\cdot}34$).

DISCUSSION

This study investigated HIV risk-taking behaviour and knowledge about HIV infection among patients with schizophrenia in an Italian mental-health setting. With regard to the first aspect, a high proportion of patients reported

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HIV-related risk behaviours. About one-half of the patients had sex with multiple partners, including prostitutes, and one-fifth reported to have had intercourse with partners who were IVDUs, bisexuals, or likely HIV-infected individuals. In spite of this sexual activity, the majority of patients (66%) had almost never, or never, used condoms and 11% reported a history of sexually transmitted diseases. A further source of concern is the fact that 24% of the patients indicated having had sex after, or while, using drugs. This has been reported as a significant risk factor for HIV exposure among the general population (Sumartojo *et al.* 1997), including patients with mental illness (Menon & Pomerantz, 1997). As regards drug use, almost half of the patients (42·7%) reported using substances, including intravenous drugs (22% of the whole sample and 52% of drug users). Although sharing needles was not frequently reported by IVDUs (15%), these data are concordant with several studies that have underscored the important problem of drug abuse (dual diagnosis) among psychiatric patients (Galanter *et al.* 1988; Horwath *et al.* 1996; Regier *et al.* 1997).

Overall, by classifying the patients according to their reported behaviour, about half of the sample were in the HIV medium (27%) or high risk (26%) class. In contrast with this, most patients reported no concern at all about possible HIV infection (65%), while only a minority (20%) were moderately to extremely concerned. Furthermore, only one-third reported to have been tested for HIV and, among this subsample, one patient (prevalence = 3·4%) tested seropositive, while three did not know their serostatus. These findings confirm previous data obtained in several American studies, which indicated that 20% to 50% of psychiatric patients, particularly those with chronic mental illness and/or schizophrenia report high rate of HIV-risk behaviour (Cournos *et al.* 1994; Menon *et al.* 1994; Horwath *et al.* 1996; Susser *et al.* 1996). With regard to the prevalence of HIV infection (3·4% in our sample), this is close to that reported in other European studies (Naber *et al.* 1994; Ayuso-Mateos *et al.* 1997). Nevertheless, the low percentage of patients who reported to have been tested confirms data presented by other authors who showed that most psychiatric patients do not know their HIV status, do not receive HIV counselling, are not tested during their stay in the hospital and, consequently, are discharged with their HIV status undetected, even when seropositive (Sacks *et al.* 1992; Mahler *et al.* 1994; Silberstein *et al.* 1994).

A second result of the study was that patients had significantly less knowledge about HIV transmission and prevention than a non-schizophrenic control group. A high percentage of patients still believe that 'a person must have many different sexual partners to be at risk for AIDS', that 'HIV-infected people always look sick' or that 'washing after sex greatly reduces the transmission of the virus'. Misconceptions were especially present in patients with long-lasting illness and repeated admissions to the in-patient unit. Although certain misconceptions were significantly associated with high risk behaviour (e.g. 'Washing after sex is a preventive measure against contagion', 'Women are not at risk if they have sex only with men'), global AIDS knowledge *per se* did not seem to differentiate patients in the low-risk category from those in the medium or high risk category. This supports the hypothesis that a number of variables intervene in favouring HIV-infection risk among psychiatric patients. In fact, not only knowledge about HIV transmission and prevention, but also clinical factors, such as high levels of denial, low impulse control, impaired reality testing, presence of positive and excited symptoms and poor assertiveness in sexual situations have been significantly associated with higher risk-taking behaviour among patients with mental illness (Kalichman *et al.* 1994; McDermott *et al.* 1994; McKinnon *et al.* 1996).

Taken together, these findings confirm the urgent need for educational programmes in order both to improve knowledge about HIV transmission and to address the psychological reasons underlying engaging in and/or maintaining risk behaviour among patients with schizophrenia (Seeman *et al.* 1997). With regard to this, results of recent studies have strengthened the role of educational and cognitive–behavioural models in reducing HIV-risk behaviour, such as unprotected sexual intercourse, in mentally ill individuals (Lauer-Listhaus & Watterson, 1988; Meyer *et al.* 1992; Schindler & Ferguson, 1994; Kalichman *et al.* 1995; Kelly *et al.* 1997).

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Certain limitations of the study should be considered. First, because of lack of reliable assessment of psychopathological status (e.g. severity of illness, interference with social functioning) no generalization of the data presented here is possible. Hence, evaluation of HIV risk-taking behaviour among patients with chronic and more severe mental illness, as well as different psychiatric diagnoses should be included in future studies (Gottersman & Groome, 1997). Secondly, since blood collection and HIV test was not routinely performed, no conclusion can be drawn as regards the prevalence of HIV infection among patients with schizophrenia. Thirdly, evaluation of sex behaviour among psychiatric patients is complex and may produce non-reliable data, even when using 'neutral' self-report questionnaires (Copas *et al*. 1997). Finally, differences between schizophrenic and non-schizophrenic subjects should be interpreted with caution because of possible bias in the recruitment of controls (e.g. lack of structured psychiatric interview, researcher's awareness of the group to which the subjects belonged).

Despite these caveats, community-based psychiatry should urgently address the problem of HIV-risk behaviour among patients with mental illness. In fact, although new drug therapy seems to increase disease-free survival and, possibly, to improve the patients' quality of life (Hammer, 1996; Gulick, 1997), prevention still represents the major tool to reduce the likelihood of contagion and the spread of infection in the general population and at-risk population (Di Clemente & Peterson, 1994; Hart, 1996), including psychiatric patients (Cournos & Bakalar, 1996). Larger-scale investigation, routine assessment of HIV-risk behaviour and implementation of educational and rehabilitation interventions should become a priority of Italian community mental health settings.

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APPENDIX 1

The HIV-Risk Behaviour Questionnaire

1 Have you ever used drugs in the last 10 years?				
If yes, what type of drugs (please specify)			Yes	No
.....				
2 Have you ever used intravenous drugs in the last 10 years?			Yes	No
If yes, what type of drugs (please specify)				
.....				
3 Have you ever shared a needle with other when using iv drugs?			Yes	No
4 Have you ever been sexually abused in the past?			Yes	No
5 Have you been sexually active in the last ten years?			Yes	No
6 When did you have your last sexual contact?		Last year	Last month	Last week
7 Have you ever had sex with a person known for less than 1 day?			Yes	No
8 Have you had sex with multiple partners?			Yes	No
9 Have you had sex with a prostitute?			Yes	No
10 Have you had sex with a partner of your same sex?			Yes	No
11 Have you had sex with a bisexual partner?			Yes	No
12 Have you had sex with an I.V. drug user?			Yes	No
13 Have you had sex with a partner suspected to be HIV+?			Yes	No
14 Have you had sex with a partner known to be HIV+?			Yes	No
15 Have you ever had anal sex?			Yes	No
If yes, please specify			receptive	insertive
16 Have you had sex after using alcohol or drugs?			Yes	No
17 Have you had sex in exchange for money/drugs?			Yes	No
18 Do you use condoms when having sex?	Always	Mostly	Almost never	Never
19 Have you ever suffered from sexually transmitted diseases (e.g. syphilis, herpes genitalis)?			Yes	No
20 Have you ever been tested for HIV infection (AIDS test)?			Yes	No
If yes, what has been the result	seropositive		seronegative	
21 How worried are you about possible HIV infection?	Not at all	Mildly	Moderately	Extremely

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