

Telles-Dias PR^I

Westman S^{II}

Fernandez AE^{III}

Sanchez M^{IV}

Rapid Test Working Group

Perceptions of HIV rapid testing among injecting drug users in Brazil

ABSTRACT

OBJECTIVE: To describe perceptions, experiences, knowledge, beliefs and the willingness of injecting drug users to be HIV tested by using rapid tests.

METHODS: A qualitative exploratory study was carried out among injecting drug users from December 2003 to February 2004 in five Brazilian cities, located in four regions of Brazil. A semi-structured interview guide containing both closed and open-ended questions was used to address perceptions about non-conventional testing procedures, and non-traditional ways to provide testing access to injecting drug users. A total of 106 interviews, about 26 per region, were conducted.

RESULTS: Characteristics of the population studied, common thoughts about HIV rapid testing, preference for using blood or saliva specimens, and other testing preferences, were presented together with reported advantages and disadvantages of each option. The study findings showed that the use of rapid tests among these users is feasible and that they are willing to be tested using rapid HIV tests, especially if some issues related to privacy and reliability of the test could be addressed.

CONCLUSIONS: The study findings showed that rapid tests may be well accepted for this population. These tests can be considered a valuable tool, allowing a more injecting drug users to learn their HIV status and possibly be referred to treatment and should support more effective testing strategies for them.

KEY WORDS: Substance abuse, intravenous. AIDS serodiagnosis. Diagnostic techniques and procedures. Acquired immunodeficiency syndrome, diagnosis. Health vulnerability. Diagnostic services. Qualitative research. Brazil.

^I Núcleo de Estudos e Pesquisas em Atenção ao Uso de Drogas (NEPAD) - Universidade do Estado do Rio de Janeiro. Rio de Janeiro, RJ, Brasil

^{II} Centers for Disease Control and Prevention. Atlanta, GA, USA

^{III} Kreativeminds. New México, USA

^{IV} Programa Nacional de DST e AIDS. Ministério da Saúde. Brasília, DF, Brasil

Correspondence:

Paulo Roberto Telles-Dias
Núcleo de Estudos e Pesquisas em Atenção ao Uso de Drogas
Universidade do Estado do Rio de Janeiro
R Fonseca Teles 121, 4º. andar
20940-200 Rio de Janeiro, RJ, Brasil
E-mail: ptelles@psg.ucsf.edu

Received: 8/8/2007
Reviewed: 2/5/2007
Approved: 6/20/2007

INTRODUCTION

Injecting drug users (IDUs) are a population especially vulnerable to HIV infection, with high prevalence rates of infection in Brazil,^{4,*} marginalized, and "hard to reach". As such, they are less likely to benefit from public health facilities or to get HIV testing. In contrast to other countries, IDUs epidemic in Brazil is mostly concerned with the cocaine users.⁶ Consistent with the experience of other settings,^{1,20} Brazilian cocaine users are characterized by high frequency of injection, rapid sexual partner turnover, frequent participation in high risk sex and participation in sex work or sex drug exchange.** As such,

* Caiaffa WT, organizador. Avaliação epidemiológica dos usuários de drogas injetáveis dos projetos de redução de danos (PRD) apoiados pela CN-DST/AIDS. Brasília: Ministério da Saúde; 2001.

** Ministério da Saúde. Secretaria de Políticas de Saúde. Coordenação Nacional de DST e Aids. A contribuição dos estudos multicêntricos frente a epidemia de HIV- Aids entre UDI no Brasil: 10 anos de pesquisa e redução de danos. Brasília; 2001.

this population is of strategic importance in understanding and influencing AIDS epidemic in Brazil, due to IDUs' potential of HIV diffusion related to injection risk practices, besides the potential of HIV diffusion associated with sexual risk practices to their non-injection sexual partners ("bridging effect").¹⁹

Rapid HIV testing does not require venous blood draw, yields results in 20 minutes, is portable and easy to perform, making it possible to be carried out in testing and counseling at alternative settings. Rapid testing algorithms have showed sensitivity and specificity similar to the standard testing in whole blood.⁹ In Brazil, a significant proportion of IDUs is unaware of their HIV status.⁸ For these reasons, rapid testing might be a valuable tool for allowing more IDUs to learn their HIV status and possibly access to treatment.

Studies have shown the willingness of different populations – clients at a sexually transmitted disease clinic, gay men, and injecting drug users – to participate on rapid HIV testing strategies.^{17,18} Other studies suggest that rapid HIV testing is feasible and acceptable to different vulnerable populations under field conditions in developing countries, and showed an increase in the proportion of subjects who learned their serostatus and received counseling in health services or alternative testing settings.^{11,16}

Rapid testing eliminates the waiting time and thus there is no need for tested people to come back for test results. Additionally, it may increase the effectiveness of testing strategies and reduce its related costs,⁷ although these assertions have not been exhaustively studied among IDUs.

The objectives of the present study were to describe perceptions, thoughts, knowledge and beliefs regarding HIV rapid testing among IDUs and to determine the willingness of IDUs to be tested by utilizing these tests.

METHODOLOGICAL PROCEDURES

A qualitative study was carried out among IDUs, from December 2003 to February 2004, in five cities: Rio de Janeiro, Salvador, Campo Grande, Ponta Porã and Porto Alegre, located in four regions of Brazil.

A qualitative design was consistent with the nature of the subject matter studied. A semi-structured interview guide containing both closed and open-ended questions was used to elicit perceptions about non-conventional testing procedures, and non traditional ways to provide testing access to IDUs. The interviews shed light on perceptions, thoughts and feelings of the study population about rapid testing. The inclusion criteria were: ≥ 18 year-old individuals who reported injection drug use in the last 12 months. At each site, IDUs were invited to

participate in the study by local outreach workers. A total of 106 interviews (about 26 interviews per region) were conducted in private rooms. The interviews were recorded and transcribed, and took an average of 40 minutes.

Participants were reimbursed for travel expenses and given lunch. The interview guide was pre-tested and adapted to meet the study objectives and interview's estimated time.

The main themes probed were: knowledge of sexually transmitted infections (STI)/HIV/AIDS, STI prevention, sexual and injecting drug use risk behavior, history of STI/AIDS testing and treatment, thoughts on rapid HIV testing/counseling, suggestions for new HIV testing strategies and thoughts on non-conventional settings for rapid testing.

Although the IDUs were not tested, detailed information on rapid testing procedures, including rapid tests using saliva or finger prick blood samples, was presented to the participants via a story book with pictures, during the interviews. The central team of the study was responsible for training, supervising and revising the transcription work. All transcriptions were coded for content analysis.^{3,14} Transcription coding was performed by two coders simultaneously, using AnSWR (Analysis Software for Word-based Records) analysis software.¹³ Three researchers, one from the central team (PI) and two external to the project (CDC – Centers for Disease Control and Prevention Brazil), examined, interpreted and performed content analysis on the data.

Participants signed an informed consent using their initials and were not identified by names during interviews. The study was approved by the Ethics Committee on Medical Research of the State University of Rio de Janeiro and Centers for Disease Control and Prevention (CDC – Atlanta, USA) Institutional Review Board.

ANALYSIS OF RESULTS

Table 1 shows the characteristics of the study population. Participants aged between 18 and 63 years old. The average monthly income was about US\$85.00. Source of income is noteworthy, 42% of the sample reported exchanging bus transportation passes for drugs and other goods, and 24% reported the same using food coupons (obtained from government assistance programs). About a third of the subjects were living with a partner at the time of the interview and nearly four out of five had less than seven years of education. Over half of the subjects mentioned injecting drugs in the month prior to the interview.

After being provided with information on rapid testing and non-rapid testing procedures (via a detailed story

book) participants welcomed the possibility to perform rapid HIV testing. They considered it a better option than the currently available standard tests and also expressed the belief that other IDUs would welcome the rapid testing initiative. The IDUs mentioned several advantages that rapid tests could offer over non-rapid tests: the results could be obtained in as fast as 20 minutes; more people would know their HIV status without waiting for test results, in general spent with fear and anxiety.

Additionally, a collecting method that does not require venous blood draw was regarded as an advantage, especially for those who had damaged veins due to drug injection or who were afraid of needles or venous blood draw (a condition not rarely mentioned in the interviews).

Contrary to the findings above, a small number of participants voiced their concerns regarding rapid HIV test reliability: *“How can it be reliable if the results are delivered that fast?”* Others said that, even if it was easy-to-perform and rapid, they would not be prepared to learn results: *“People fear and get panicked of being infected and of getting to know it that fast.”*

When asked about their willingness to be tested based on saliva or fingerstick blood, two thirds of the participants stated they would prefer the fingerstick. Most interviewees said they believe the results would be more accurate if using blood. Some argued that HIV virus *“runs in the blood not in the saliva”* (e.g., *“A blood testing would be more reliable; we don't get AIDS through kissing! How come that our saliva would be tested?”*).

Some participants voiced concerns about their saliva being *“contaminated,”* for instance, after kissing someone, or after eating or drinking, right before being tested which they said could interfere with the test results. Finally, some participants expressed that they were more confident and felt safer with blood tests, simply because they were more like the standard testing used for detecting other diseases. Those who would prefer the oral test stressed that it would be *“less painful”*.

Great variability and even some conflict were seen among the participants, regarding preference for day and time for testing. Some suggestions were:

- during weekends and night hours (best option for those having regular work shifts);
- during weekdays and regular hours (best option for those who usually consume drugs and alcohol during weekends and have no jobs);
- at night (best option for those who have privacy concerns - *“Less people would notice you doing the test?”*).

Table 1. Selected characteristics of IDUs interviewed in four Brazilian regions, 2003-2004. (N=106)

Characteristic	%
Age	
Mean 32 years (SD=10.3)	
Median 30 years	
Average monthly income R\$ 242.00 (US\$ 85)	
Gender	
Male	86
Female	14
Age groups (years)	
<20	6
21–25	24
26–30	20
31–49	45
>50	6
Ethnic group	
White	39
Black	30
Mixed (<i>parda</i>)	30
Marital status	
Living alone	46
Living with a partner	37
Separated	15
Widow	2
Education	
No formal schooling	4
1 to 7 years of schooling	74
8 to 11 years of schooling	15
>11 years of schooling	7.5
Occupation	
Work in the public sector	7
Self-employed	28
Freelancer (informal jobs)	31
Unemployed	30
Retired or home maker	5
Attended a health care unit or hospital in the last year	66
Attended a health care unit or hospital in the last three months	45
Previous contact with injury prevention projects	83
Intravenous injecting drug use	
In the last month	52
In the last 6 months	87
Shared in the last time	10
Previously tested by standard HIV test	62

Table 2. Scenarios presented to participants to be chosen as the best sites for rapid HIV testing.

Scenario 1	A health team visits your neighborhood and word is spread that rapid HIV testing is available in a van that will be parked all week long at the same site. A visit would include talking with a team member, drawing a small amount of blood (finger sticking) or collecting saliva and then you would get your test results and attend a counseling session.
Scenario 2	The new rapid HIV testing is available in a community center or health care facility in your neighborhood, close to where you live. Testing is offered during working days and, from now on, this service will be offered at this site for a few months. A visit would include drawing a small amount of blood (finger sticking) or collecting saliva and then you would get your test results and attend a counseling session.
Scenario 3	The new rapid HIV testing is available in a health center or hospital that is a few miles from where you live. To get there, you have to get a bus (you will have to pay for the bus fair). This service is open five days a week, from 8 am to 8 pm. A visit would include drawing some blood (finger sticking) or collecting saliva and then you would get your test results and attend a counseling session.

Two strategies were used to assess preferred setting for rapid testing: direct questions and presentation of three vignettes (Table 2).

Interviewees were directly asked to indicate the preferred setting for HIV testing: a health care facility or community center in their neighborhood. Regarding a local health care facility, they mentioned as advantages: easy access, the availability of qualified health providers, adequate medical equipment/material, availability of individual consultation rooms and no or low transportation costs.

On the other hand, the main negative aspect identified regarding testing in their neighborhood was the lack of privacy: *“My neighbors may know I’m getting tested”*.

Preferences were somewhat dissimilar, when interviewees were presented three vignettes. The vignettes were hypothetically shaped by the research team to reproduce different testing situations (Table 2). Most participants chose the options where testing was offered closer to their homes (mobile units, community centers or local health care facilities).

As the advantages of easy access and no transportation costs were frequently contrasted with concerns regarding lack of privacy, insufficient infrastructure, and adequacy of required health providers and equipment, clearly indicating that these negative aspects would need to be addressed if this option was offered.

The option “community center, basic care unit or health care facility” was also associated with easy access, and adequate privacy (e.g., *“Differently from vans, health centers would have individual rooms for consultations/sessions”*; *“Going to a health center is not necessarily associated with getting tested or having a shameful lifestyle”*). For the same reasons, some participants said they would prefer to get a test result in these facilities. Conversely, some interviewees were not satisfied with care delivered in these units (long waiting time, staff not paying due attention to patients, among others).

Preference for the third option, i.e., testing facilities located in health centers or hospitals, were mainly due to greater privacy (e.g., *“Neighbors and friends don’t see you there,” “far from family and your neighborhood”*), greater confidence in the infrastructure of the facility and the idea that those institutions could provide better medical/psychological support services (*“Health centers have medical teams available,” “Health centers have good equipment,” “Sick people seek health centers”*).

The most frequent drawbacks of being tested in hospitals included transportation costs and time, especially waiting time associated with the bureaucracy, common to larger health units. However, privacy concerns were not an issue associated with this option, i.e., people would not be “labeled” at these settings and they believe they would have a better chance to be seen at private rooms for consultations/sessions. Participants mentioned that the health care providers at those settings would be better prepared to address emotional issues and could refer them to other specialty services. For these reasons, some participants said they would prefer to get their test results in hospitals.

FINAL CONSIDERATIONS

The study findings show that the use of rapid tests among IDUs is feasible and that IDUs are willing to be tested using rapid HIV tests, especially if some issues related to the procedure and the test settings could be addressed. Results from this study in general agree with other studies on willingness carried out in other countries with syringe exchange program clients, STD clinic patients, men who have sex with men^{17,18} and adolescents.¹⁵ Feasibility and acceptability studies with the rapid test showed an increase in the proportion of clients who learned their serostatus and received counseling.^{2,11,12,16} Potential advantages of rapid tests included their rapidness, practicability, portability, and ease of administration without the need of collecting blood with a syringe.

Studies in Brazil among IDUs showed that over 30% of them are unaware of their HIV status and approximately 20% of the IDUs who had been tested for HIV failed to return for the result.⁸ The rapid test avoid this problem, increasing the value of this testing strategy, which may improve access to a larger number of IDUs knowing their HIV status and possibly access treatment.

No waiting time for getting test results eliminates a period of time regarded by most participants as “emotionally stressful”. The majority of participants indicated they preferred learning their results quickly to waiting anxiously. Conversely, a few participants reported that the waiting time for the results is psychologically important. Therefore, all preparation for getting test results must be done at the time of testing. Additionally, some IDU preferred to receive test results in health facilities. So, counseling is crucial for a good implementation of rapid testing strategy. This situation was mentioned in other study,¹⁰ which emphasized the importance of highly skilled counselors at testing sites. Counselors must prepare testees to get tested, provide prevention information, and ensure they are ready to know their test results in a very short time period. They must also be prepared to offer emotional support in case of possible untoward reactions. Additionally, if a counselor believes a testee is not fit to get his/her results, testing should be stopped. Based on concerns raised regarding confidentiality, counselors should have special training to address these issues if testing is being done in the testee community.

In addition to insights on the feasibility and willingness to perform the rapid HIV testing, the present study provides recommendations on how rapid testing programs could be more effectively developed and more attractive to target populations. Despite saliva and blood were

acceptable, blood was regarded as the most reliable method for rapid testing according to two thirds of the IDUs interviewed, as they believed the results would be “more accurate” if using blood.

As in other study,⁵ there were concerns about taking saliva samples among participants. Some argued that HIV virus “runs in the blood not in the saliva” or raised beliefs that if saliva can be tested it may transmit HIV; or even that their saliva might be “contaminated,” after kissing someone, allowing false results. These beliefs suggest the importance of enhanced HIV counseling in case of using oral HIV testing.

Concerns with the reliability of rapid HIV tests should be addressed in media campaigns (e.g. posters, brochures) and counseling, with thorough explanations, targeting to eliminate the common myths associated with rapid testing.

Implementing HIV testing strategies that are well-accepted by IDUs is crucial to increasing access to testing. Tests could be offered in a variety of settings as long as related concerns are addressed.

A greater than expected proportion of previously tested IDUs were selected to participate in this study. Despite this fact, the number of interviewees who had not participated in prevention programs was considered adequate to investigate the cultural context of this subgroup.

The results from the present study allowed us to identify aspects related to potential barriers to initiating rapid HIV testing among IDUs, and combined with suggestions posed by this population, will allow the National AIDS Program to develop more effective testing strategies for IDUs.

REFERENCES

1. Anthony JC, Vlahov D, Nelson KE, Cohn SJ, Astemborski J, Solomon L. New evidence on intravenous cocaine use and the risk of infection with human immunodeficiency virus type 1. *Am J Epidemiol.* 1991;134(10):1175-89.
2. Bakari JP, McKenna S, Myrick A, Mwinga K, Bhat GJ, Allen S. Rapid voluntary testing and counseling for HIV. Acceptability and feasibility in Zambian antenatal care clinics. *Ann N Y Acad Sci.* 2000;918:64-76.
3. Bardin L. *Análise de Conteúdo.* Lisboa: Edições 70; 2004.
4. Caiaffa WT, Bastos FI, Freitas LL, Mingoti SA, Proietti FA, Carneiro-Proietti AB, et al. The contribution of two Brazilian multi-center studies to the assessment of HIV and HCV infection and prevention strategies among injecting drug users: the AjUDE-Brasil I and II Projects. *Cad Saude Publica.* 2006;22(4):771-82.
5. Clair S, Singer M, Huertas E, Weeks M. Unintended consequences of using an oral HIV test on HIV knowledge. *AIDS Care.* 2003;15(4):575-80.
6. Dunn J, Laranjeira R. Cocaine profiles, drug histories, and patterns of use of patients from Brazil. *Subst Use Misuse.* 1999;34(11):1527-48.
7. Ekwueme DU, Pinkerton SD, Holtgrave DR, Branson BM. Cost comparison of three HIV counseling and testing technologies. *Am J Prev Med.* 2003;25(2):112-21.
8. Ferreira AD, Caiaffa WT, Bastos FI, Mingoti AS, Projeto AjUDE-Brasil II. Profile of male Brazilian injecting drug users who have sex with men. *Cad Saude Publica.* 2006;22(4):849-60.
9. Ferreira Junior OC, Ferreira C, Riedel M, Widolin MR, Barbosa-Júnior A. HIV Rapid Test Study Group. Evaluation of rapid tests for anti-HIV detection in Brazil. *AIDS.* 2005;19(Supl 4):S70-5.
10. Galvan FH, Brooks RA, Leibowitz AA. Rapid HIV testing: issues in implementation. *AIDS Patient Care STDS.* 2004;18(1):15-8.
11. Kassler WJ, Dillon BA, Haley C, Jones WK, Goldman A. On-site, rapid HIV testing with same-day results and counseling. *AIDS.* 1997;11(8):1045-51.
12. Keenan PA, Keenan JM. Rapid HIV testing in urban outreach: a strategy for improving post-test counseling rates. *AIDS Educ Prev.* 2001;13(6):541-50.
13. MacQueen KM, McLellan E, Kay K, Milstein B. Codebook Development for Team-Based Qualitative Analysis. *Cult anthrop Meth.* 1998;10(2):31-6.
14. Minayo MCS. *O Desafio do Conhecimento: Pesquisa Qualitativa em Saúde.* São Paulo: Hucitec; 1998.
15. Peralta L, Constantine N, Griffin Deeds B, Martin L, Ghalib K, et al. Evaluation of youth preferences for rapid and innovative human immunodeficiency virus antibody tests. *Arch Pediatr Adolesc Med.* 2001;155(7):838-43.
16. Pronyk PM, Kim JC, Makhubele MB, Hargreaves JR, Mohlala R, Hausler HP, et al. Introduction of voluntary counseling and rapid testing for HIV in rural South Africa: from theory to practice. *AIDS Care.* 2002;14(6):859-65.
17. Spielberg F, Branson BM, Goldbaum GM, Lockhart D, Kurth A, Celum CL, et al. Overcoming barriers to HIV testing for new strategies among clients of a needle exchange, a sexually transmitted disease clinic, and sex venues for men who have sex with men. *J Acquir Immune Defic Syndr.* 2003;32(3):318-27.
18. Spielberg F, Kurth A, Gorbach PM, Goldbaum G. Moving from apprehension to action: HIV counseling and testing preferences in three at-risk populations. *AIDS Educ Prev.* 2001;13(6):524-40.
19. Strathdee SA, Sherman SG. The role of sexual transmission of HIV infection among injection and non-injection drug users. *J Urban Health.* 2003;80(4 Supl 3):7-14.
20. Tyndall MW, Currie S, Spittal P, Li K, Wood E, O'Shaughnessy MV, et al. Intensive injection cocaine use as the primary risk factor in the Vancouver HIV-1 epidemic. *AIDS.* 2003;17(6):887-93.

Rapid Test Working Group - Site coordinators: Tarcisio Andrade (Universidade Federal da Bahia, Brasil), Paulo Paes (Projeto de Redução de Danos Mescla Latina, Campo Grande MS, Brasil), Mirtha Sudbrack (Projeto de Redução de Danos de Porto Alegre, Brasil), Paulo Telles (Universidade do Estado do Rio de Janeiro, Brasil).

Supported by the Centers for Disease Control and Prevention (CDC) – USA; Programa Nacional de DST/Aids (PN-DST/AIDS-Brazilian Ministry of Health), and United Nations Educational, Scientific and Cultural Organization (UNESCO)