Ending AIDS as a Public Health Threat: Treatment-as-Usual Risk Reduction Services for Persons With Mental Illness in Brazil

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Objective: Persons with mental illness have higher HIV infection rates than the general population. Little is known about whether care systems for this population are effectively participating in global efforts to end AIDS as a public health threat. This study examined treatment-as-usual HIV risk reduction services within public mental health settings.

Methods: The authors interviewed 641 sexually active adults attending eight public psychiatric clinics in Rio de Janeiro about participation in a sexual risk reduction program, HIV testing, HIV knowledge, and sexual behaviors.

Results: Nine percent reported participation in a risk reduction program in the past year, and 75% reported having unprotected sex in the past three months. Program participants had greater HIV knowledge ($p=.04$) and were more likely to have had HIV testing in the past three months ($p=.02$), compared with nonparticipants. Participation was not associated with sexual behaviors.

Conclusions: Including persons with mental illness in efforts to end AIDS requires a greater commitment to implementing effective interventions in public mental health systems.

Psychiatric Services 2018; 69:483–486; doi: 10.1176/appi.ps.201700125

Global efforts to end AIDS as a public health threat are under way (1). However, the extent to which public psychiatric care systems are participating is unknown. Individuals with mental illness have higher rates of HIV infection and sexual risk behaviors than the general population, even among those with good HIV knowledge (2).

Steps for ending AIDS include routine testing for HIV infection, prevention of infection among those who test HIV negative, and treatment to the point of viral suppression to prevent forward transmission for those who test HIV positive (1). Psychiatric clinics are opportune settings for services tailored to persons with mental illness; clinicians and program staff can provide support, encourage participation in HIV services, establish linkages between systems of care, address barriers, and allay concerns. A strong therapeutic alliance is associated with greater acceptance of HIV testing and may have similar effects on prevention and treatment uptake (3). Barriers to providing these services include limited staff training and lack of funds for condoms. Patients report that clinicians neglect discussing their sexual needs, desires for developing romantic partnerships, and complaints about the sexual side effects of medications—all of which may affect HIV risk (2). Providers of general medical care are more likely than mental health care providers to report delivering HIV-related services (4).

The Brazilian government, a leader in responding to the AIDS epidemic, funded HIV educational training in the public psychiatric care system (5). This is the first report of outcomes of HIV risk reduction services provided in real-world public mental health programs. We examined client-level characteristics associated with having received treatment-as-usual HIV risk reduction programming among people attending public psychiatric clinics in Rio de Janeiro and the effects of program participation on HIV-related behaviors.

METHODS

Adults self-referred or were referred by clinic providers at eight public mental health outpatient psychiatric clinics between June 2007 and November 2009 as part of a study funded by the National Institute of Mental Health and approved by U.S. and Brazilian institutional review boards. A research team psychiatrist and a clinic provider evaluated patients' capacity to consent to study participation.

Formative work preceded tailoring instruments to enhance cultural specificity (6,7). Psychiatric diagnoses were

determined by using the Mini International Neuropsychiatric Interview–PLUS, developed and validated for *DSM-IV* and *ICD-10* diagnoses with both U.S. and Brazilian patients (8). Sexual risk behaviors in the past three months were assessed with the Brazil Sexual Risk Behavior Assessment Schedule, a semistructured interview adapted to the local population with reasonable to excellent test-retest reliability (9) that assesses sexual practices, number and type of partners, condom use, whether sex was exchanged for something (for example, money, drugs, or shelter), and alcohol and other drug use during sex. Sexual risk protective behaviors assessed for the past three months included reducing the number of sex occasions, decreasing the number of sex partners, changing risky sexual practices, and using condoms more frequently. HIV transmission and prevention knowledge was assessed with the Brazilian adaptation of the Brief HIV Knowledge Questionnaire (9). Participants were asked whether they had undergone HIV testing in the past three months and whether within the past year they had participated in any type of program specifically intended to help them decrease sexual risks or increase safer sex.

Descriptive statistics included range, mean, and SD for continuous variables and count and percentage for nominal variables. Student's t test was used for continuous dependent variables, and cross-tabulation and chi-square statistics were used for nominal variables to compare participants with and without prior exposure to risk reduction programs. Adjusted standardized residuals were computed to identify cells of the cross-tabulation in which there were significantly more participants than expected (positive adjusted standardized residual of ≥ 2) or fewer participants than expected (negative adjusted standardized residual of ≤ 2). For the 2×2 cross-tabulation, the chi-square statistic with continuity correction was used. Comparisons with p values $\leq .05$ were considered statistically significant.

RESULTS

We recruited 641 outpatients who met eligibility criteria (that is, having vaginal or anal sex in the past three months, ages 18–80, not acutely suicidal or psychotic, and primary diagnosis other than an alcohol or other drug use disorder or developmental disability). Among the 641 outpatients, 211 (33%) had schizophrenia, 139 (22%) had bipolar disorder, 130 (20%) had nonpsychotic depression, 66 (10%) had depression with psychosis, 40 (6%) had anxiety disorders, 31 (5%) had psychosis not otherwise specified, 20 (3%) had schizoaffective disorder, four (1%) had other diagnoses, and nine (1%) had a secondary substance use disorder. Table 1 presents data on demographic characteristics and associations with past-year participation in a sexual risk reduction program.

Race (self-identified as black or multiracial), HIV knowledge (higher scores), and HIV testing in the past three months were significantly associated with participation in a risk reduction program. No significant associations were found for sexual risk or protective behaviors or other variables.

DISCUSSION

In this first study of the effects of participation in treatment-as-usual sexual risk reduction programs by sexually active persons attending public outpatient psychiatric clinics, only 9% reported participating in a sexual risk reduction program. This rate is dismaying given the considerable progress in understanding prevention, care, and treatment of HIV for this population. With Brazil's comprehensive commitment to HIV prevention, including for those with mental illness, we expected much higher participation rates. Sexuality is considered a human right in Brazil, and mental health providers view helping patients to develop healthy intimate relationships as a desirable goal (7). However, psychiatric settings in Brazil appear to have been as slow as settings elsewhere to address the HIV prevention needs of their sexually active patients (7). This study demonstrates that treatment as usual is not sufficient, and mental health care systems need to scale up evidence-based programs and contribute to global efforts to stem new HIV infections.

Consistent with well-established theories (10), participation in a risk reduction program was associated with greater HIV knowledge but not with safer behavior. One-quarter of patients reported consistent condom use in the prior three months, similar to patients in U.S. studies (11), but this behavior was not linked to participation in risk reduction programs. Promoting condom use requires more rigorous dissemination of evidence-based interventions within the psychiatric care system.

Participating in sexual risk reduction programs was associated with recent HIV testing. Even so, in our study only 14% of participants in risk reduction programs reported HIV testing in the past three months. A Brazilian national multicenter study found that 27% of psychiatric patients reported ever being tested for HIV (12). Both of these rates are low for a population at elevated risk of HIV infection. In our study, HIV testing identified two individuals in need of HIV treatment, and diagnosis of infection is the first step in the HIV continuum of care that is at the heart of initiatives to end AIDS.

In our study, 10% of all participants reported decreasing their number of sexual partners in the past three months to protect against HIV infection, 2% reported changing types of sexual behaviors, and 42% had used more condoms. None of these protective behaviors was associated with participation in sexual risk reduction programs. These results corroborate ample findings from the United States that call for implementing theory-driven, manualized, and efficacy-tested sexual risk reduction programs to promote safer sexual behavior.

Black and multiracial ethnicity was significantly associated with participation in sexual risk reduction programs; this finding is in contrast with findings in other countries,

TABLE 1. Characteristics of sexually active adults with mental illness, by participation in a sexual risk reduction program in the past year[a]

Characteristic	Participated in program: Yes (N=58) N	%[b]	No (N=583) N	%[c]	Total (N=641) N	%	p
Age							.101
<40	29	11	227	89	256	40	
≥40	29	7	356	93	385	60	
Gender							.924
Male	24	9	245	91	269	42	
Female	34	9	338	91	372	58	
Race							.001
White	12	6[d]	198	94[e]	210	33	
Black	22	18[e]	103	82[d]	125	19	
Multiracial	24	8	282	92	306	48	
Education							.171
Grade school	20	7	255	93	275	43	
High school and beyond	38	10	327	90	365	57	
Marital status							.814
Married or long-term relationship	28	9	272	91	300	47	
Not married	30	9	311	91	341	53	
Psychiatric diagnosis							.349
Severe mental illness	44	10	408	90	452	71	
Nonsevere mental illness	14	8	175	92	189	29	
Unprotected sex in past 3 months							.828
Yes	42	9	436	91	478	75	
No	13	8	145	92	158	25	
Decreased number of sexual partners in past 3 months							.579
Yes	7	11	57	89	64	10	
No	51	9	526	91	577	90	
Changed sexual behaviors in past 3 months							.287
Yes	2	18	9	82	11	2	
No	56	9	574	91	630	98	
Used condoms more frequently in past 3 months							.176
Yes	29	11	238	89	267	42	
No	29	8	345	92	374	58	
HIV test in past 3 months							.024
Yes	14	15[e]	77	85[d]	91	14	
No	44	8[d]	504	92[e]	548	86	
HIV knowledge score (M±SD)[f]	10.6±1.9		10.0±2.5		10.1±2.4		.036

[a] Not all participants answered every question.
[b] Percentages are read from left to right. Values represent the percentage of persons with a given characteristic who participated in the program.
[c] Percentages are read from left to right. Values represent the percentage of persons with a given characteristic who did not participate in the program.
[d] Negative adjusted standardized residual, indicating that the standardized difference between observed count and expected count was lower than expected.
[e] Positive adjusted standardized residual, indicating that the standardized difference between observed count and expected count was higher than expected.
[f] As measured by the Brief HIV Knowledge Questionnaire, a 17-item true-false scale. Possible scores range from 0 to 17, with higher scores indicating greater HIV-related knowledge.

in which underinclusion of minority racial-ethnic groups in health care is a common disparity (13). Almost half (47%) of this sample reported being married or in a long-term relationship. Future research should examine the extent to which HIV prevention is of salient concern in long-term partnerships and whether introducing condoms, a potentially difficult task, is warranted.

Relying on patient and provider referral for study participation and reliance on self-report are limitations of this study. Regarding the latter, we used validated instruments to counter response bias and improve recall (14), except in the case of some protective behaviors, with documented test-retest reliability (9). Those who participated in sexual risk reduction programs may have differed from those who did not in terms of access and reasons for participation. We obtained cross-sectional data; longitudinal studies are the next step. Caution is warranted in generalizing from the Brazil context, where health care is guaranteed, to countries where it is not and to adults with mental illness who are not inclined to participate in research; who are not in psychiatric treatment; or whose personal, clinical, socioeconomic, or cultural situations differ from those of the adults in this sample.

CONCLUSIONS

Almost three decades after the first descriptions of high rates of HIV infection among persons with mental illness, the epidemic remains highly overrepresented and poorly addressed in this population, even where resources have been dedicated. Individuals with mental illness are not routinely included in efforts to end AIDS. Recovery principles emphasize integrating general medical and mental health care for individuals with mental illness, but there has been limited uptake of HIV-focused health initiatives in mental health settings (15). Mental health care systems must join efforts to end AIDS as a public health threat by delivering evidence-based HIV prevention services to reduce unsafe sexual behavior. This includes focusing on patient sexuality as a component of recovery-based services and introducing newer advances such as pre-exposure prophylaxis. Ending this epidemic will

not be achieved as long as public health initiatives ignore public mental health care systems.

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This research was supported by grant R01 MH65163 ("RCT of a Brazilian HIV Prevention Intervention for the SMI," Milton L. Wainberg, M.D., principal investigator) from the National Institute of Mental Health (NIMH) and center grant P30-MH43520 (Robert Remien, Ph.D., principal investigator) from NIMH to the HIV Center for Clinical and Behavioral Studies at New York State Psychiatric Institute and Columbia University. Dr. Norcini-Pala was also supported by National Research Service Award grant T32 MH19139 ("Behavioral Sciences Research in HIV Infection," Theodorus Sandfort, Ph.D., principal investigator). The authors gratefully acknowledge the enormous contributions made to the NIMH-sponsored Interdisciplinary Project on Sexuality, Mental Health, and AIDS (PRISSMA [PRojeto Interdisciplinar em Sexualidade, Saúde Mental e AIDS]) by individuals receiving care at the Instituto de Psiquiatria da Universidade Federal do Rio de Janeiro and the Instituto Philippe Pinel and by mental health care providers and other staff at these institutions. PRISSMA team members include Abmael de Sousa Alves, Erínia Belchior, Maria Tavares Cavalvanti, M.D., Ph.D., Denise Corrêa, Tatiana Dutra, Denise Feijó, M.D., Fernanda Gomes Luz, Alfredo Gonzalez, M.A., Carlos Linhares, Ph.D., Paulo Mattos, M.D., Ph.D., André Nunes, Cláudia Simone dos Santos Oliveira, Suely Olivera, M.A., Diana Pinto, Ph.D., Alexander Ramalho, Débora Salles, Marcia Silviano, and Vandré Matias Vidal.

The authors report no financial relationships with commercial interests.

Received March 14, 2017; revisions received August 28 and November 22, 2017; accepted January 5, 2018; published online March 1, 2018.

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