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Positive Transitions (POST): Evaluation of an HIV Prevention Intervention for HIV-Positive Persons Releasing from Correctional Facilities

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Abstract

People with HIV who are released from custody frequently do not maintain the viral suppression and other health benefits achieved while incarcerated. This study was conducted to provide preliminary evidence of efficacy of an intervention to reduce HIV risk behaviors and increase use of HIV medical services following release from custody. People with HIV were recruited from San Francisco County jails, San Quentin State Prison and the California Medical Facility (Vacaville, CA), and randomly assigned to the “standard of care” or POST intervention. POST consisted of 4 sessions pre-release and 2 sessions post-release, focusing on HIV prevention and access to care. Behavioral data were obtained for the 3 months before incarceration and 3 months after release. Although POST participants reported a statistically significant increase in receiving health care at HIV clinics (62.5–84.4 %), there were no significant differences between the POST and control participants with respect to any primary outcomes.

Resumen

Con frecuencia las personas infectadas con el VIH que son liberadas después de un periodo de encarcelamiento, no logran mantener la supresión viral y otros beneficios de salud logrados

durante el encarcelamiento. Este estudio se realizó para proporcionar evidencia pre-liminar sobre la eficacia de una intervención cuyo objetivo es reducir las conductas de riesgo de transmisión del VIH y aumentar usar los servicios médicos para tratar la infección del VIH después de ser liberados del encarcelamiento. Participantes infectados con el VIH fueron reclutados de las cárceles del condado de San Francisco, la Prisión Estatal de San Quintín y el Servicio Médico de California (Vacaville, CA), y aleatoriamente asignados a la intervención POST o al cuidado estándar. POST consistió en 4 sesiones antes de ser liberados y 2 sesiones después de la liberación, centrándose en la prevención de la transmisión del VIH y el acceso a servicios médicos. Datos sobre conductas de riesgo fueron obtenidos para los 3 meses antes de la encarcelación y 3 meses después de la liberación. Aunque los participantes POST reportaron un aumento estadísticamente significativo en recibir atención médica en las clínicas de VIH (62.5–84.4 %), no hubo diferencias significativas entre los participantes POST y los participantes control con respecto a cualquier resultado primario.

Keywords

HIV prevention; Prison; Jail; Reentry

Introduction

The Centers for Disease Control and Prevention (CDC) has estimated that approximately 1.1 million persons in the United States are living with HIV infection, and approximately 18 % are unaware of their infection [1]. HIV antiretroviral therapy (ART) is effective in reducing viral load of HIV-infected persons [2], morbidity and mortality [3-6] and transmission of HIV to sex partners [7]. Increasing the percentage of HIV infected persons in each stage of the continuum of HIV care (diagnosed, linked to care, retained in care, prescribed antiretroviral medication, adherent to antiretroviral treatment, and virally suppressed) is important in preventing new HIV infections and improving the health of persons with HIV, two of the goals of the National HIV/AIDS Strategy [8]. Each year, an estimated 14 % of persons with HIV in the United States enter the correctional system [9]. HIV testing on entry results in diagnosing persons with HIV who were not diagnosed by community HIV testing services [10-15], and at year-end 2010, 1.5 % of males and 1.9 % of females entering state and federal prisons were reported to be infected with HIV [16]. Medical services in correctional facilities can improve the health status of incarcerated people with HIV by providing treatment for HIV infection [17-19], thereby contributing to the prevention of new HIV infections from incarcerated and released persons with HIV.

Several studies have documented that the health benefits associated with a reduced viral load achieved by people with HIV while they were incarcerated, are often not maintained following their release to the community [19-22]. These authors suggested that comprehensive discharge planning efforts, coordinated efforts of agencies and providers, and ongoing assistance after release, may be required to ensure that people with HIV maintain engagement in care following incarceration. The National Commission on Correctional Health Care and guidance from the CDC also recommend that discharge planning should include continuity of care on the outside that is initiated prior to release [23-25]. Many

medical providers, prevention specialists and community groups working with currently and formerly incarcerated persons concur with this recommendation [19, 20, 26-28].

There is a dearth of research on programs that help reduce HIV risk behaviors, and maintain engagement in HIV care and prevention services for people with HIV released from correctional settings. One report on a health promotion intervention with HIV-infected men leaving prison found men who attended the intervention reported more use of community resources and less HIV risk behaviors during the 8 months after release from custody than men who did not receive the intervention [29]. Another study compared an ecosystem intervention to an individual level intervention (theoretically based on Project START—a 6 session individual intervention). Both of these interventions consisted of an initial health education session, 2 sessions before release and up to 16 sessions over 4 months following release from custody [30]. Both groups significantly reduced sexual risk over time with no differences between the groups [30]. At completion of the interventions, ecosystem participants were significantly less likely to be taking HIV medication or adherent to HIV medication than the individually focused intervention participants. However, no group differences were observed at 4 and 8 months after completion of the interventions, and the percentage of all participants taking HIV medications significantly increased over the post-release period, nearly returning to the pre-release level. This finding suggests that behavioral interventions delivered over 4 months can be efficacious with helping people take their HIV medications following their released from custody.

The majority of the sessions in both the ecosystem and individually focused interventions evaluated by Reznick et al. [30], were provided post-release and were resource-intensive, pointing to the need to develop a less-intensive intervention for HIV-positive persons released from custody. The Positive Transitions (POST) intervention is a six-session individual-level intervention, the majority of which was provided before release, and usually completed within 2 weeks post release. The purpose of our study was to determine preliminary efficacy and feasibility of this less intensive intervention, to reduce HIV risk behaviors and increase use of health care services at an HIV clinic after release for HIV-positive people. Since this was a pilot study to assess preliminary efficacy, it was not powered to determine differences in outcomes of interest. POST was specifically designed for HIV-positive persons being released from correctional facilities in the San Francisco Bay Area.

Methods

We developed POST, an educational and skills-building intervention to reduce HIV risk behaviors and increase use of health care services at an HIV clinic for people with HIV following their release from correctional settings. The intervention design was based on the information-motivation-behavioral skills (IMB) theoretical model [31]. POST was delivered by individuals with experience working with incarcerated populations and providing transitional case management (TCM) services. Interventionists were trained for 3 days on the intervention protocol. To ensure fidelity to the intervention, the supervisor met at least weekly with the intervention staff.

We planned to recruit and retain approximately 150 participants from San Quentin State Prison (SQSP), the California Medical Facility (CMF) and 5 San Francisco County Jails between July 2008 and May 2009. In these facilities, people with HIV are offered TCM as the “standard of care” prior to their release. TCM was provided by Centerforce (a community-based organization) at the prisons and in the San Francisco County Jails by the Forensic AIDS Project (FAP), a program of jail health services provided by the San Francisco Department of Public Health. Recruitment into the study occurred after potential participants were enrolled in the “standard of care” (TCM). The TCM staff obtained verbal approval from their clients who met POST eligibility requirements and provided a list of names to the POST co-investigator (author JL). To be eligible for the study, participants were required to be over 18 years of age, able to speak English, incarcerated for less than 5 years, and scheduled for release within 60 days and before July 31, 2009 to local bay area counties. The POST assessment staff explained the study to potential participants, obtained written consent and conducted the baseline assessment. The baseline assessment included questions on HIV risk behaviors, receipt of health care at an HIV clinic, and demographic characteristics. Participants were then randomly assigned to the intervention condition which received POST (in addition to TCM) or the comparison condition (TCM only). To evaluate the intervention, assessment staff met with the participants approximately 3 months following their release from custody. The assessment staff entered responses directly into laptop computers for all baseline data and the majority of post-release assessments. In the event that it was not possible to conduct post-release assessments in-person, the assessment was conducted by telephone. The study was approved by the California Health and Human Services Agency, Committee for the Protection of Human Subjects (Institutional Review Board) and received a Certificate of Confidentiality from the Centers of Disease Control and Prevention.

Participants in the comparison condition received TCM only, the “standard of care” for people who are HIV-infected and released from these institutions. The TCM program provided referrals to community-based medical and social services. The services included assistance with medical appointments, enrollment into AIDS Drug Assistance Program (ADAP), housing placement, substance abuse treatment, hepatitis testing and vaccination, and provision of vouchers for food and transportation. When TCM participants reported that lack of transportation was a barrier to accessing services, TCM staff provided taxi vouchers to facilitate the participant’s ability to attend their first health care visit at an HIV clinic after release.

The intervention condition consisted of TCM, the “standard of care”, and six individual-level POST sessions. Four intervention sessions were usually scheduled to be provided 2 weeks before the participant’s release from custody, and the remaining 2 sessions during the first 2 weeks in the community. Intervention sessions lasted approximately 90 min; all pre-release intervention sessions were conducted in a confidential space at the facility. During the fourth intervention session, the first post-release intervention session was scheduled. While the goal was to conduct all post-release sessions in-person, occasionally post-release intervention sessions were conducted by telephone.

The first 4 sessions covered the following topics: (1) health conditions, medications, skills-building on communicating effectively with providers, assistance with enrollment in AIDS drug assistance programs (ADAP), (2) sexual risk reduction (condom use, abstinence, serotyping, monogamy), (3) substance use and mental health, and (4) planning for transition and access to HIV or other health care provider, HIV medication adherence, and public services after release. During these intervention sessions each participant set goals and developed an individual action plan to meet during the first 3 months after release. Pre-release sessions included client-centered discussions of motivations, barriers, facilitators, risks, and repercussions of risk behavior. The 2 post-release intervention sessions included discussions of achievement and barriers to reaching their individual goals. The intervention staff kept process notes on goals achieved by participants. These sessions focused on any challenges participants had in achieving their goals, including determining appropriate health care and prevention services such as substance abuse treatment and partner counseling and referral services (PCRS), and problem solving to overcome those challenges. The post-release sessions also included discussions about potential repercussions of risk behavior and any desired changes to their individual sex and drug use action plan. In addition, when TCM providers were not able to connect the participant to the provider of their choice, POST intervention staff initiated communication with medical providers and HIV prevention programs, and accompanied the participant to the first post-release medical or other service need appointment.

We compared baseline assessment data to evaluate the random assignment process into the intervention ($n = 37$) and comparison conditions ($n = 36$), and compared characteristics of those who completed the 3-month assessment ($n = 59$) to those who were lost to follow-up ($n = 14$) (Fig. 1). For these two analyses we used Fisher's Exact Tests to determine significance of differences in dichotomous variables and Student's t tests for continuous variables. To determine the efficacy of the intervention we used repeated measures logistic regression controlling for baseline measures/conditions and intent-to-treat analysis to compare change between the two study arms in HIV risk behaviors, STD diagnoses, health care at an HIV clinic, and taking HIV medications at 3 months after release.

Participants in the intervention and comparison conditions received TCM services before release to the community; therefore we also assessed change from baseline to follow-up using McNemar's test, both separately for each condition and for the two conditions combined. Additionally, we reviewed the HIV risk reduction and treatment goals set by the intervention condition participants prior to release from prison/jail and compared them to the goals they achieved during the first 2 weeks in the community. This comparison provided an assessment of how successful POST intervention participants were in reaching the goals they had set for themselves during their first 2 weeks in the community (time of 6th intervention session).

Measures

The primary outcomes of interest were receipt of health care at an HIV clinic, changes in sexual and injection drug use (IDU) behaviors, and diagnoses of sexually transmitted

infections comparing the 3 months before incarceration to the 3 months following release from custody. Receipt of health care at an HIV clinic was reported by participants on the baseline and the 3-month assessment. Vaginal and anal sexual risk behaviors were assessed independently and numerical responses were dichotomized to none (zero) or any (1). For drug injection, participants were asked if they ever injected (shooting, skin popping) drugs that were not prescribed by a health care provider. Participants were asked if they had been diagnosed with a sexually transmitted infection (e.g., Chlamydia, Gonorrhea, Syphilis, or Herpes) by a health care provider. Taking HIV medications was measured during the 3-month assessment. We asked if they had ever taken antiretroviral medications, were they taking HIV medications at time of release (this was used as the baseline measure in outcome analyses), and when was the last time they took HIV medications (dichotomized to this week or over a week ago, used as the follow-up measure in outcome analyses).

Achievement of individual goals was determined based on information provided during the sixth intervention session (approximately 2 weeks after release). The intervention staff recorded process notes on the goals achieved by participants during the intervention sessions. These notes were reviewed and tabulated to determine how many and the percentage of each participant's goals were achieved. The measure of achieving the medical adherence goal was based on the intervention staff notes describing the participant's disclosure of taking HIV medications as prescribed.

Results

Of the 73 HIV-positive persons recruited into the study and released from custody, 60 % were diagnosed with HIV within a correctional facility and most (92 %) had been diagnosed prior to this incarceration (data not shown); about half (52 %) had been diagnosed at least 5 years prior to study participation. Participants were 7 % women, 5 % transgender, and 88 % men; among males, 58 % reported being heterosexual and 42 % gay or bisexual (Table 1). More than half (56 %) of participants were non-Hispanic black, and the mean age was 41 years old. Sixty percent had been incarcerated at least 10 times since the age of 18, 67 % had ever been prescribed antiretroviral drugs and 56 % had ever injected drugs.

For the 3-month reporting period before this current incarceration, 38 % of participants reported that they had unprotected sex (vaginal, anal, or both), 22 % reported unprotected vaginal sex and 27 % unprotected anal sex. Additionally, approximately half (51 %) had received health care at an HIV clinic, almost 10 % had been diagnosed with an STI, and 36 % had injected drugs during the 3 months before this incarceration. Finally, crack (40 %), powder cocaine (22 %), and crystal/methamphetamine (29 %) were the most commonly reported drugs used in the 3 months before this incarceration (data not shown).

The random assignment process resulted in comparable study arms at baseline (Intervention $n = 37$, Comparison $n = 36$) with regard to demographic characteristics, time since HIV diagnosis, and HIV risk behavior variables in the 3 months prior to this incarceration. The only statistically significant difference between treatment groups at baseline was in the proportion reporting unprotected anal sex in the 3 months prior to the incarceration: 40.5 % in the intervention condition and 13.9 % in the comparison condition (Table 1).

Follow-up assessments were completed with 81 % (n = 59) of participants. There were no significant differences at baseline in the variables of interest between persons who completed the 3-month assessment (n = 59) and those lost to follow-up (19 %, n = 14) (data not shown).

Outcome analyses were conducted on the analytical sample of 59 participants who completed the follow-up assessment. Comparing the two arms at 3 months post-release, with statistical control for baseline conditions in repeated measures logistic regression analysis, there were no statistically significant differential changes between the two groups for any of the outcome variables of interest (Table 2). However, there were findings that warrant further discussion: a reduction in IDU use for all participants combined, and an increase in health care at an HIV clinic by both the intervention group alone, as well as for both groups combined.

Thirty-nine percent (39 %) of all study participants who completed the 3-month assessment (n = 23) reported IDU during the pre-incarceration reporting period and 24 % (n = 14) during the follow-up period (Table 2). While neither group separately made a significant reduction in IDU from baseline to the 3-month assessment (Intervention [40.6–31.3 %], $p = 0.375$; Comparison [37.0–14.8 %], $p = 0.0703$), there was an overall statistically significant reduction in IDU when the two groups were combined (OR = 0.18, 95 % CI [0.04, 0.79], $p = 0.02$).

At post release follow-up the intervention arm participants reported a significant increase in health care at HIV clinic from 62.5 to 84.4 % (OR = infinite, $p = 0.02$). (The odds ratio is infinite because of a zero value in the denominator: all intervention participants who had seen a provider during the 3 months before incarceration had also seen a provider by the 3-month assessment.) Comparison arm participants also reported an increase (44.4 to 63.0 %) in health care at HIV clinic, but this change was not statistically significant. When the two conditions were combined, there was a statistically significant overall increase in health care at HIV clinic from 54 to 75 % (OR = 5.00, 95 % CI (1.54, 16.27), $p = 0.01$).

Twenty-seven of the 32 intervention condition participants in the analytical sample completed all six intervention sessions and discussed their progress in achieving their goals with the interventionists following their release from custody. Prior to release, the mean number of goals set by these 27 participants was 2.1 for a total of 56 goals. The types of sexual risk-reduction goals made were: increase condom use; continue practicing safe sex; do not engage in sex work; and set personal sexual boundaries. The types of drug-related risk reduction goals made were: become clean/sober and drink alcohol/use drugs less. During the 6th intervention session which occurred approximately 2 weeks after release from custody, participants reported achieving 19 (34 %) of the personal goals they had set. Specifically, during the final intervention session, participants discussed achieving the following goals: sexual risk behaviors (36 %), drug-related risk behaviors (45 %), health care at HIV clinic (27 %), adherence to HIV medication (27 %), and use of HIV prevention resources (36 %).

Discussion

In this pilot study of HIV-positive persons released from custody, there were no significant differential changes between the two groups from baseline to the 3-month assessment for any of the primary outcomes. During the final intervention session at 2 weeks post-incarceration, most POST participants reported that they had not yet met their goals related to accessing medical visit at HIV clinic, or HIV medication adherence. However, by 3 months following release from custody there was a statistically significant increase in receipt of health care at HIV clinics by participants who received the POST intervention, suggesting that the participants needed more time in the community to access health care at HIV clinics.

The majority of research studies on HIV prevention with persons entering the correctional system have predominately enrolled HIV-negative persons. These studies have documented that persons entering correctional facilities report high rates of HIV sex risk behaviors (e.g., mean number of partners 36.1; unprotected sex at last sex 70 %; 66 % with at-risk partner) before incarceration [13, 32, 33]. Prior research has documented that learning of one's HIV infection is associated with reductions in HIV risk behavior [34-36]. The majority of our study participants had become aware of their HIV infection before this incarceration and may have already reduced their sex risk behaviors. Although we do not have supporting data, it is possible that some study participants had long-term partners with HIV and behavioral interventions such as POST may not result in behavior change with these partners.

Prior studies that reported on HIV-positive people being released from custody have documented 30 % of participants linked to HIV health care services within 21 days [37] and 28 % within 90 days [18]. The higher rates of health care at HIV clinics reported in our study, both in the 3 months before and the 3 months following release, may be due to several factors: the availability of HIV providers in the community, and the variable may have measured other medical services in addition to HIV specific care. Given the null finding between the two groups we cannot conclude that the POST intervention is more effective than TCM in increasing health care at HIV clinics. However, the statistically significant increase in health care at HIV clinics by POST participants during the 3 months after release, may be due to the additional activities provided by POST intervention staff.

While neither group showed a significant decrease in IDU, there was a reduction in IDU among all study participants. This overall reduction in IDU may have been a result of the interventions or due to drug treatment programs that the participants had been engaged in during or after release from custody. There are methods to reduce the likelihood of HIV transmission through drug use, such as use of needle exchange programs, disinfecting injecting equipment and not sharing injection materials. However, the persistent use of injection drugs by nearly a quarter of participants is a public health concern since injection drug users represent 7 % of new HIV infections in the U.S [38].

There are several limitations that should be considered. First, the sample does not represent all persons with HIV released from these facilities. The recruitment process may have resulted in a selection bias since POST research staff did not directly contact all people with

HIV due for release. Some potential participants may have not received the TCM program and others may have declined permission to be referred to POST staff. Consequently, it is not clear to what extent the study population represents all people with HIV being released from the participating facilities. Secondly, all study participants were enrolled in the “standard of care” designed to affect some of the same outcomes as the POST intervention, specifically access to HIV related health care. Therefore, the effect of the “standard of care” is being compared to the POST intervention plus the “standard of care”, and we are not able to evaluate the effect of the POST intervention alone. Finally, use of inperson assessment and participant-reported data may have introduced some bias; we were not able to access medical records on many of the participants to obtain current CD4 and viral load measures. Since participants did not enter data into the laptop computers, respondents may have provided socially desirable responses, however differential reporting between groups would not be expected.

Our goal was to enroll and retain 150 participants into the study; however, fewer participants were enrolled than anticipated. During the study period, the overall number of people with HIV being released from SQSP and CMF decreased, thereby lowering the number of potential participants (*personal communication, Joseph Bick, August 2008*). Consequently, while we extended the recruitment period by several months and recruited from an additional facility (SQSP), we were not able to achieve the projected sample size for the study. Since the majority of people incarcerated are not infected with HIV, evaluation studies for this population may require a multitude of facilities or an extensive recruitment period to enroll a larger sample size. In addition, recruitment strategies which reach a greater number of potential participants may be necessary. One approach would be to have medical providers refer potential participants directly to the research program.

Given that neither intervention reduced HIV sexual behaviors, HIV prevention programs for this population may consider limiting extensive sexual risk reduction counseling to those who may benefit the most, such as those with recently diagnosed HIV infection and those who disclose high rates of HIV risk behaviors. To achieve the goals of the National HIV/AIDS Strategy, it is critical to increase the proportion of people with HIV in all stages of the continuum of HIV care. People with HIV should receive HIV care services, reduce their viral load through adherence to medication, and prevent transmission to their partners.

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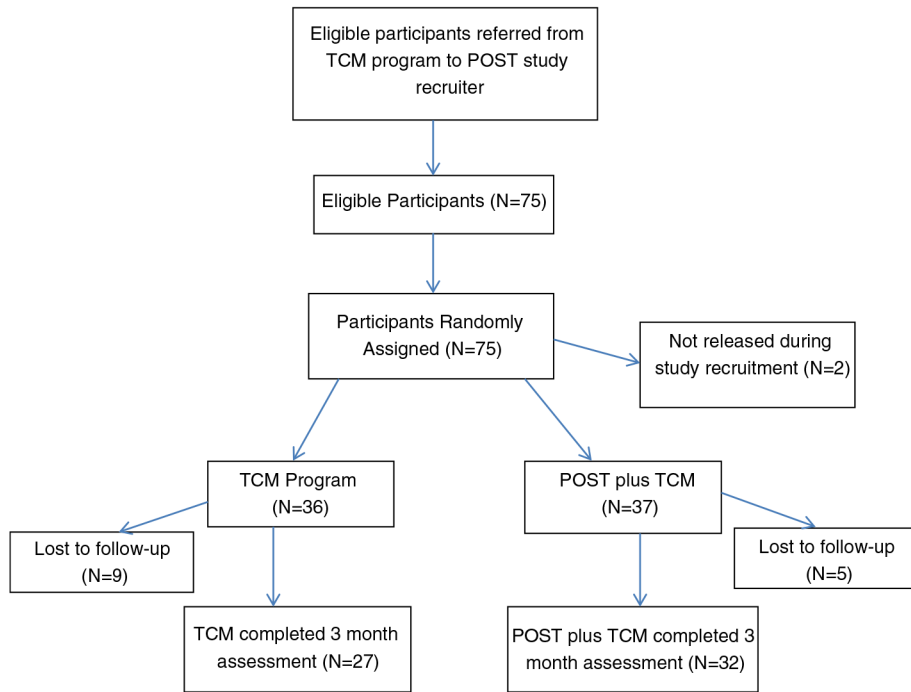


Fig. 1.
POST recruitment and follow-up flow diagram

Table 1
 Baseline characteristics of all incarcerated HIV-positive persons enrolled into POST Study and by group assignment; July 2008–November 2009, (N = 73)

Characteristic	Total % (n), N = 73	Intervention % (n), N = 37	Comparison % (n), N = 36	P value, fisher's exact test
Time since diagnosis (>5 years)	52.1 (38)	59.5 (22)	44.4 (16)	0.2447
Gender and orientation				0.7074
Female	6.8 (5)	8.1 (3)	5.6 (2)	
Heterosexual male	50.7 (37)	48.6 (18)	52.8 (19)	
Gay, bisexual male	37.0 (27)	40.5 (15)	33.3 (12)	
Transgender	5.5 (4)	2.7 (1)	8.3 (3)	
Race/ethnicity				1.0000
Black, non-hispanic	56.2 (41)	54.1 (20)	58.3 (21)	
White, non-hispanic	28.8 (21)	29.7 (11)	27.8 (10)	
Hispanic/other	15.1 (11)	16.2 (6)	13.9 (5)	
Mean Age in years [Standard deviation]	41.3 [8.9]	42.9 [8.8]	39.6 [8.9]	0.1200
Incarceration >=10 times since age 18	60.3 (44)	59.5 (22)	61.1 (22)	1.0000
Ever prescribed ARV drugs	67.1 (49)	75.7 (28)	58.3 (21)	0.1396
Ever injected drugs	56.2 (41)	59.5 (22)	52.8 (19)	0.6403
Activities in past 3 months				
Health care at HIV clinic	50.7 (37)	59.5 (22)	41.7 (15)	0.1626
Unprotected vaginal sex	21.9 (16)	24.3 (9)	19.4 (7)	0.7784
Unprotected anal sex	27.4 (20)	40.5 (15)	13.9 (5)	0.0172
Unprotected sex (vaginal, anal, or both)	38.4 (28)	48.6 (18)	27.8 (10)	0.0926
STI diagnosis	9.6 (7)	10.8 (4)	8.3 (3)	1.0000
Injection drug use	35.6 (26)	43.2 (16)	27.8 (10)	0.2231

Behaviors and STI diagnosis reported by POST Study participants at baseline^a and follow-up^b assessments, (N = 59); July 2008 – November 2009

Table 2

Behaviors and STI diagnosis	Combined Intervention and Comparison % (n), N = 59		Intervention % (n), N = 32		Comparison % (n), N = 27		Differential change			
	Baseline	Follow-up	P value	Baseline	Follow-up	P value	Baseline	Follow-up	Odds ratio (95 % CI)	P value
Unprotected vaginal sex	23.7 (14)	13.6 (8)	0.1460	21.9 (7)	15.6 (5)	0.6875	25.9 (7)	11.1 (3)	1.85 (0.38–8.95)	0.4432
Unprotected anal sex	30.5 (18)	27.1 (16)	0.7539	40.6 (13)	34.4 (11)	0.7266	18.5 (5)	18.5 (5)	0.77 (0.28–2.09)	0.6016
Unprotected vaginal or anal sex	42.4 (25)	35.6 (21)	0.3877	46.9 (15)	43.8 (14)	1.0000	37.0 (10)	25.9 (7)	1.48 (0.55–3.98)	0.4355
Injection drug use	39.0 (23)	23.7 (14)	0.0225	40.6 (13)	31.3 (10)	0.3750	37.0 (10)	14.8 (4)	2.25 (0.65–7.76)	0.2003
Health care at HIV clinic ^c	54.2 (32)	74.6 (44)	0.0075	62.5 (20)	84.4 (27)	0.0156	44.4 (12)	63.0 (17)	1.52 (0.43–5.37)	0.5115
Taking HIV medications	47.5 (28)	49.2 (29)	1.0000	46.9 (15)	46.9 (15)	1.0000	48.1 (13)	51.9 (14)	0.86 (0.44–1.68)	0.6630
STI diagnosis	10.2 (6)	5.1 (3)	0.5078	9.4 (3)	3.1 (1)	0.6250	11.1 (3)	7.4 (2)	0.49 (0.02–10.65)	0.6477

P values for change across time are from McNemar's test

P values for differential change are from repeated measures logistic model

^aBaseline: reporting period reflects 3 months before incarceration, except "Taking HIV medications" reflected at time of release

^bFollow-up: reporting period reflects 3 months following release from custody, except "Taking HIV medications" reflected in past week

^cFor Health care at HIV clinic and Taking HIV medications, an increase is a favorable change; the odds ratio greater than one for Health care is in the direction favoring the intervention, and the odds ratio less than one for Taking HIV medications is in the direction favoring the comparison condition (neither is statistically significant). For all other outcomes reported here, a decrease is the favorable direction; an odds ratio <1 indicates greater improvement in the intervention, >1 indicates greater improvement in the comparison condition (although none are significant)