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Conducting Peer Outreach to Migrants: Outcomes for Drug Treatment Patients

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Abstract

Peer outreach models have been successful in addressing HIV risk behaviors of drug users. Patients in methadone maintenance treatment programs who were migrants from Puerto Rico and/or familiar with drug use there were trained to conduct HIV-related peer outreach. A group randomized design was implemented; patients in the Experimental (E) condition ($n = 80$) received training and conducted 12 weeks of outreach. Half of the patients completed the training and outreach. At follow-up, patients in the E condition who conducted outreach felt they were more helpful to their community, showed a trend for engaging in more vocational activities, and were more likely to talk with others about HIV, compared to those who did not conduct outreach and those in the Control condition ($n = 78$). Drug treatment patients who are migrants can be trained as peer outreach workers and short-term benefits were found. Longer term maintenance of benefits should be assessed.

Keywords

Methadone maintenance patients; Peer outreach; Drug users; Migrants; HIV risk; Puerto Rico

Introduction

The need to address HIV risk among migrants has been identified in the growing literature on migrant and immigrant populations and HIV [1–4]. The literature documents examples of efforts to reach these populations and influence their health behaviors, including HIV risk behaviors. Some of these efforts use peers to conduct outreach (i.e., individuals who came from the migrant or immigrant community and developed familiarity with resources and practices that could be helpful to migrants) [5–7].

There are many reports in the HIV-prevention literature of the successful use of outreach workers in targeting populations at high risk of HIV [8, 9]. Generally, outreach workers targeting high risk drug users bring risk reduction messages (e.g., don't share injection equipment), tools (e.g., condoms, bleach for needle cleaning) or referral information (e.g.,

for HIV care). They work within communities where they have some familiarity; some are indigenous to the community and others (such as former drug users), have skills in accessing high risk groups. Additional support for the use of outreach workers who are former drug users is found in the literature showing that peer outreach workers benefit personally from conducting outreach, through an enhanced sense of competence and purpose [10].

Prior research found that risk behaviors are higher in Puerto Rico, primarily due to the scarcity of drug treatment, needle exchange programs (NEP), and other related services [11–13]. This research also indicated that drug users who had used in Puerto Rico and subsequently used in New York, were riskier than other Puerto Rican drug users in New York [14]. Furthermore, some drug users reported coming to New York from Puerto Rico to seek drug treatment [15].

The Bienvenidos project was developed to reduce HIV risk among individuals who had used drugs in Puerto Rico and were now in the Northeast US (New York and New Jersey). These individuals are herein referred to as migrant drug users. While individuals who were born in Puerto Rico are US citizens, because they experience some of the same barriers to health care as foreign-born immigrants to the mainland, and some report frequent travel on the “air bridge” between New York and Puerto Rico [15], we have used the term “migrant.”

Based on these prior findings, an intervention to target migrant Puerto Rican drug users was developed. The primary focus of the intervention was to recruit and train drug users from Puerto Rico (or those familiar with drug use in Puerto Rico) who were currently in methadone maintenance treatment programs (MMTPs) to be peer outreach workers, targeting other migrant drug users from Puerto Rico. The study assessed whether this kind of intervention was feasible and efficacious in reducing risk behaviors of the patients in the MMTPs who were trained as peer outreach workers, and other migrant Puerto Rican drug users with whom they conducted outreach. Other outcomes examined for those trained as peer outreach workers included changes in vocational involvement, social support, and perception of their role as health educators. A randomized trial was used to assign patients to the outreach training or control conditions, and interviews were conducted at baseline and follow-up periods. This paper reports on the short-term impact of the intervention on the patients trained as peer outreach workers, and examines outcomes separately for those who conducted outreach activities and those who did not.

Methods

A multi-level intervention was implemented, focused on training patients in MMTPs to conduct outreach.

Research Design and Recruitment

A group randomized design was used. Four pairs of clinics were identified in the New York/New Jersey area. To control for differences between MMTP treatment systems, such as differing policies regarding availability of patient services, each pair of clinics recruited was within the same program system. In addition, each pair was selected based on both clinics being located in two non-overlapping geographic communities, and there being a sufficient number of patients who were Puerto Rican to permit recruitment of approximately 20 per clinic (a total of 80 patients were recruited from the Experimental Clinics and 78 from Control clinics).

Three pairs of clinics in New York City and one pair in New Jersey participated and recruitment occurred between 2005 and 2008. After the program directors agreed to participate, presentations were made to clinic staff, and with their assistance [16], clients

were recruited for the study. Eligibility criteria were: bilingual in Spanish and English, used drugs in Puerto Rico (in the last two pairs of clinics, in order to reach the target recruitment numbers, this criterion was expanded to include those who had family/friends who had used there), and could participate in a 1 week training and conduct outreach for 12 weeks.

During the recruitment period the project outreach supervisor was stationed at the clinics. Individuals who met the criteria were referred by their counselors for further screening. The requirements for the training and outreach period necessitated the exclusion of those patients who were employed full-time. Each patient signed an informed consent (approved by each participating program system's Institutional Review Board (IRB) and the IRB of the grantee institution [National Development and Research Institutes, Inc.]), completed a baseline interview, and provided a urine sample (for testing for heroin and cocaine) prior to training. Interviewing was conducted either in a clinic office (when space was available) or when necessary, arrangements were made for the patient to go to a nearby field research site. Trained research assistants conducted the computer-assisted interview (CAPI) in English or Spanish. The baseline interview required approximately 2 h to complete, and patients were paid \$25.00. After recruitment and interviewing were completed, one clinic in each pair was randomly assigned to the Experimental condition and the other to the Control condition. After each pair of clinics completed the entire research cycle (i.e., recruitment, training, conducting out-reach and all interviews [see below]), work in the next pair of clinics was initiated. Thus a total of four cycles (each with one pair of clinics) was conducted.

The Experimental condition consisted of 4 or 5 days of training that included information on the rationale for the research project, an overview of HIV and HCV facts, discussion of outreach strategies, role plays for conducting outreach, and a practice outreach event [16] (see Colón et al. 2010, and an outline of the training at: cduhr.org [search for Bienvenidos]). The first two cycles provided 4 days of training. In the final two cycles, an additional day of training was added, to enhance role plays and provide a more extensive outreach training experience. Patients in the Control condition were assigned to a one-session training regarding asthma and diabetes. After the training, patients in the Experimental condition participated in 12 weeks of supervised outreach. During this period they were assigned to conduct outreach in pairs, and met for weekly supervision with an outreach supervisor (for individual and paired supervision), in which their activities in the prior week were reviewed and the next week's activities were planned [16]. All patients, in Experimental and Control conditions, were paid \$7/h for their participation in the intervention (training and outreach activities). Subsequent to the 12 weeks of outreach activities, all patients received their first follow-up interview, followed by two additional interviews, 3 and 6 months later, and were paid \$30.00 for the follow-up interviews. This paper focuses on data from the baseline and first follow-up interview.

During approximately the same time period that the patient training was underway, staff from the same clinic (in the Experimental condition) received a 10-h training that included information regarding why the intervention was developed, advantages of using peer outreach to access migrants, risk behaviors of Puerto Rican migrant drug users, and health service needs of migrants (see training outline at website). After the patient and staff trainings were completed, a final 2-h session brought together clinic staff and patients to exchange information from the trainings, and to share ideas about how staff and patients could work together to reach migrant drug users and reduce their risks. In the Control condition, after the final follow-up interview was conducted, an abbreviated version of the staff training was delivered to clinic staff that focused primarily on the HIV-related risks of migrants from Puerto Rico.

Data Collection and Instruments

Data were collected from patients in several domains: sociodemographic information, risk behaviors, drug use, talking with others about HIV, social support (i.e., extent of emotional and tangible support they received from others) and perception of their role as health educators. Sociodemographics included gender, age, marital status, birthplace (Puerto Rico, US, other), education level and employment status (the latter two items were asked at baseline and follow-up interviews). Injection risk behaviors included ever injected, current injection, and any sharing of injection equipment (i.e., syringes, cottons, cookers or water). Sex risk behavior data included having any unprotected sex and engaging in sex with multiple partners. All current self-reported risk behavior data were collected at baseline and follow-up, based on the 30 days prior to the interview and were dichotomous (no vs. yes). Drug use-related variables included number of months in MMTP and current use of heroin or cocaine (measured through self-report and ON-TRAK urinalysis).

All patients were asked, at baseline and follow-up, about whether they talked with others about HIV, and were administered a social support scale. The item about talking with others about HIV asked whether they had talked with anyone about HIV in the prior month. If they responded “yes,” they were asked who they talked to (sex partners, drug users, friends, acquaintances/strangers) and the content of the conversation [17]. To assess social support, the Medical Outcomes Study (MOS) Social Support Survey [18] was used. This 19-item scale includes four functional support subscale items (emotional/informational, tangible, affectionate, and positive social interaction). Each of the items ranges from 1 (none of the time) to 5 (all of the time). High internal validities were reported (all alphas $>.91$ and alpha for total score was $.95$) [18]. Total social support was computed (the sum of the 19 items), with a higher score indicating higher social support.

To assess patients' perception of efficacy in conducting outreach activities, an 18-item component of the Health Educator Role was used [8] (Latkin, Personal Communication, January 2009). Principal components analysis in this sample revealed three factors: helping community (7 items, e.g., “I have helped a lot of people in the community”); helping drug users/friends (5 items, e.g., “I can help drug users to reduce their risk of HIV”); and efficacy in educator role (6 items, e.g., “most people would listen to me if I were to tell them to use condoms”). Responses for each item ranged from 1 (strongly agree) to 5 (strongly disagree). High internal validities were found: alphas = $.79$, $.79$, and $.82$, respectively). A higher score indicates a higher perceived level of efficacy.

The dependent variables included measures of drug use and injection risk (e.g., current use of heroin or cocaine as measured by urinalysis, current injection and injection-related risks), retention in MMTP, and extent to which patients talked with others about HIV (after the outreach phase of the intervention was completed). Other variables examined included sex risk behaviors, perception of their health educator role, involvement in vocational activities, and change in social support.

Follow-Up Procedures

After completion of the outreach period, patients in both the Experimental and Control conditions were contacted by postal mail and asked to call to set up their first follow-up interview. The majority of interviews were conducted in the project field research sites. For those who did not respond to the first letter, a second letter was sent. If no response was received to both letters, a letter was provided to the counselor to give to the patient. Detailed locator information that was collected at the initial interview was used during follow-up, to telephone the patient or other individuals whose numbers were provided. If these efforts failed, visits to the patient's last known address were made. In a few circumstances, when

patients could not come to the field site, interviews were conducted in other private locations (e.g., their home or a restaurant).

Statistical Analyses

Baseline characteristics of patients were first compared between Experimental and Control groups, using chi-square tests and *t* tests. We considered that completing the training and engaging in some of the outreach activities, even if not for the 12 weeks, would be necessary to have experienced the full intervention. To test significant changes between baseline and follow-up by the three groups examined (i.e., Experimental condition—conducted out-reach; Experimental condition—no outreach; and Control condition), McNemar tests for categorical variables and ANCOVA for continuous variables were conducted. To examine interactions between time and group effects (using the three groups), Repeated Measures Analysis of Variance was performed for continuous dependent variables (e.g., health educator role), and Generalized Estimating Equation (GEE) models were performed for dichotomous dependent variables (e.g., had any unprotected sex). The last two analyses examined differences in changes across groups between baseline and follow-up.

Results

Comparison of Experimental and Control Patients at Baseline

A total of 158 patients were recruited to be trained as peer outreach workers ($n = 80$ in Experimental and $n = 78$ in Control conditions). There were no significant differences in demographic characteristics or in drug use and HIV-related characteristics between the patients recruited in the two conditions (Table 1). Overall, almost three-quarters of the patients were male, the average age was about 41, and close to half were born in Puerto Rico. Patients in both conditions had been in MMTP for an average of over 3 years. Approximately half tested positive for heroin or cocaine at baseline, and about one-fifth were current injectors. The majority of patients (71%) reported using drugs in PR (not shown in tabular form). In terms of sex risks, about half reported being sexually active in the prior 30 days, and the majority of these (more than two-thirds) reported having unprotected sex. Approximately one in six patients reported being HIV-positive.

Participation in Intervention: Experimental and Control Conditions

Of the 80 patients whose clinics were randomly assigned to the Experimental condition, 70% completed the entire training curriculum; about half (49%) completed the training plus the 12 weeks of supervised outreach. As seen in Fig. 1, there was a non-significant trend of differences by cycle: in the NY-based clinics, 73% completed the training and 54% completed outreach; in the NJ clinics, the completion rates were 62 and 33%, respectively ($P < .10$ for completing both the training and outreach components). There were no significant differences between the three NY cycles in completing components of the intervention (65, 70 and 84% in each of the three cycles, respectively, completed the training; 50, 60 and 53%, respectively, completed both training and outreach components). More than half of those in the Experimental condition, 61%, conducted at least some outreach. We report study outcomes separately among those in the Experimental condition who had engaged in at least some of the outreach activities, even if not for the 12 weeks, from those in the Experimental condition who did not participate in any outreach activities.

Of the 78 patients whose clinics were randomly assigned to the Control condition, 40% attended the one session education regarding asthma and diabetes. Project resources required that this be a more modest training, in terms of time allotted, and thus only one session was provided for this condition. Travel conditions, weather, and other factors contributed to lower participation rates in this single-session condition. Participants were highly engaged

and interested in the topics, and were given information booklets (in Spanish and English) and referral sources to share with others.

Follow-Up Rates

The first follow-up was conducted an average of 5.3 months after the baseline interview, and an average of 7.1 weeks after the outreach component of the Experimental intervention was completed. The overall follow-up rate was 86%, with rates in the four cycles ranging from 78 to 90%. Follow-up rates for the Experimental condition were somewhat higher than for the Control condition, 91 and 81%, respectively, although this did not reach statistical significance ($P = .06$). Outcome data will be presented for a total of 136 participants who completed the 1st follow-up interview, 73 who were in the Experimental condition and 63 in the control condition.

Outcomes: Drug Use and HIV-Related

As noted in the description of baseline characteristics of the patients, about half tested positive for heroin or cocaine at baseline. As seen in Table 2, there were no significant differences in drug use between baseline and follow-up. It is interesting to note, however, that there was a trend for patients in the Experimental condition who did not participate in the outreach component of the study to evidence higher rates of drug use at baseline and follow-up than those who conducted outreach (54% vs. 43% at baseline, n.s.), and while not reaching statistical significance, they appeared more likely to be current injection drug users (IDUs) (31% vs. 15%, $P = .11$). Furthermore, we assessed the percent of patients who were still in MMTP at follow-up and whereas almost all had been retained, there was a trend for those in the group that did not conduct outreach to have a smaller percent retained in treatment (81% vs. 92% of the group that conducted outreach). No significant differences were found in drug use between the Experimental and Control conditions at follow-up. Since risk reduction was a focus of the training, we examined equipment sharing among current IDUs. The figures are merely suggestive, given the small number who reported injecting drugs, and there were no significant differences by group over time.

The primary focus of the intervention was to train patients to talk to others about HIV-related issues, including sex risk and injection-related risks. As seen in Table 2, those in the Experimental condition who conducted outreach were significantly more likely to talk with others about HIV at follow-up, including their sex partners, drug users, friends, and acquaintances/strangers (all $P < .05$ or better). It should be noted that patients were asked about this activity for the 30 days preceding each interview, at baseline and follow-up. Follow-up interviews were conducted at least 1 month after patients completed their intervention-related outreach activities (an average of 7.1 weeks after these were completed), and thus this item measured the extent to which they talked to others about HIV after their supervised outreach activities ended. There were no significant differences in the other two groups between baseline and follow-up in the percent who talked with others (in the prior 30 days) about HIV. GEE models showed that there were significant interactions between intervention conditions over time in talking to friends and acquaintances/strangers, when the group that conducted outreach was compared with the control group.

Outcomes: Sexual, Vocational and Social Support

No significant differences, by group, were found in the percent who reported engaging in sex in the 30 days prior to baseline, or in changes in sex risk from baseline to follow-up (Table 3). Multiple sex partners were reported by relatively few of the participants, with no significant changes over time. Trends indicated a greater decline in multiple partners for those who had conducted outreach.

Three subscales measuring the Health Educator Role were examined. Those in the Experimental condition who conducted outreach were more likely to report increases in their perception that they were helping and were respected in their community. Furthermore, while increases were relatively small across all the subscales, this group increased in all three subscales, whereas there were slight declines in the other two conditions. Thus, there was a significant increase ($P < .05$) in the total Health Educator Role score for the group that conducted outreach (Table 3). MANOVA analyses showed that there were significant differences in change across the three groups between baseline and follow-up ($F = 3.17$; $P < .05$). The most significant change over time was found in the Experimental condition group that conducted outreach, as compared with the control group ($F = 5.85$; $P < .05$).

At follow-up, 13% of the group that conducted outreach reported involvement in vocational activities (primarily training programs) compared to 0% for those who had not conducted outreach and 5% for those in the Control condition ($P < .10$). Changes in social support over time were also examined, and there was no significant increase in social support found for those who had conducted outreach.

Discussion

Patient Recruitment and Participation in Training

Recruitment of patients from MMTP clinics to participate in training to be outreach workers was successfully accomplished, with a target of about 20 per clinic achieved. An examination of patient characteristics showed that there was equivalence across characteristics of those in the Experimental and Control Conditions. In the Experimental condition, almost all patients subsequently began the training and completed it. However, only about half the patients completed both components, including the 12 weeks of conducting supervised outreach. It should be noted that many patients had never completed any training program, and many had never completed HS or engaged in employment. Life crises were not uncommon among patients, in terms of issues such as family problems, incarceration and homelessness, which often took priority over scheduled training or outreach sessions. Qualitative interviews [19, 20] indicated that patients received many positive benefits from the outreach training experience, and if there were more flexibility in training dates, additional patients would have participated and graduated. It is recommended that training opportunities for MMTP patients include the possibility of rolling admissions and other methods by which individuals can make up missed sessions.

The trends in drug use differences between those in the Experimental condition who completed all intervention components and those who did not, point to several implications. Those most likely to complete the intervention and conduct outreach tended to be less involved in drug use and less likely to be current injectors. While this does not indicate that total abstention from illegal drugs is necessary to successfully participate in this kind of training program (in fact, some of the current users successfully completed the entire intervention), it points to the need for increased support to those individuals who continue to use drugs, to assist them in maximizing training opportunities.

Drug Use and Other Outcomes

Drug use and sex risk behaviors of patients in the Experimental condition were not found to be impacted during the follow-up period. Drug use per se was not a focus of the intervention, and during the intervention, those patients who continued to use drugs were encouraged to manage their drug use so that they could still effectively conduct their outreach responsibilities [16]. The difficulty in achieving sex risk reduction, as noted by

other investigators [21, 22], remains a challenge for HIV-prevention efforts among drug users.

Patients in the Experimental condition who conducted outreach were significantly more likely to talk with others about HIV after the training and outreach intervention was completed. Prior studies found that among high risk individuals, talking to others about HIV was related to their own risk reduction [21]. The potential impact of these changes in interpersonal communications and activities on longer term risk reduction requires follow-up over a longer time period and will be assessed in subsequent analyses. Among the most promising outcomes was the indication that those who conducted outreach activities were more positive about their role as Health Educators (total score $P<.05$) and appeared to engage in additional vocational activities ($P<.10$), compared to the other groups. Providing continued support for patients who initiate efforts to enhance vocational involvement is likely to be needed.

Limitations

There were several limitations to the data collected in this study. The study recruited only Puerto Rican drug users, and some results may not be generalizable to other groups. All data (except for urine test results) were based on self-report, and may have been influenced by social desirability. Factors mitigating against this included the highly trained interviewers and the “harm reduction” non-judgmental approach of the supervisor. While the Experimental and Control conditions were similar in terms of the characteristics of participants recruited, the lower attendance in the Control training reduced equivalence of participants in terms of intervention exposure. In addition, the relatively small sample sizes precluded achieving statistically significant results for some variables, while identifying important trends in the comparisons. Nonetheless, several conclusions emerged.

Conclusions

Patients in MMTP who are migrants can participate in extensive, multi-session training opportunities, although additional support may be needed for those who continue to use drugs. Short term outcomes indicate benefits to participants in terms of their perception of helping their communities, engaging in conversations with others about HIV, and initiating vocational activities. Future analyses on longer-term follow-up is needed to determine whether gains are maintained and whether there are impacts that only emerge over longer follow-up periods.

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Fig. 1.
Engagement in the Bienvenidos training and outreach components

Table 1

Characteristics of patients recruited for Experimental and control clinics

	Experimental (n = 80)	Control (n = 78)
<i>Demographics</i>		
Gender: % male	76	64
Age (mean, SD)	40.8 (8.8)	42.3 (8.9)
Marital status (%)		
Never	42	53
Married/common law	34	18
Separated/divorced/widowed	24	29
Birthplace (%)		
PR	37	50
US	63	47
Other	0	3
HS/GED graduate (%)	45	49
Employed (% full/part time)	11	11
<i>Drug use and HIV-related</i>		
Number of months in MMTP (mean, SD)	39.6 (48.2)	43.0 (44.6)
H or C+ at baseline (%)	47	44
Ever IDU (%)	69	72
Current IDU ^a (%)	21	19
Sexually active ^a (%)	56	59
If yes, had any unprotected sex ^a (%)	68	59
HIV+ status (%)	14	18

No significant differences between the two groups were found at $P < .05$ ^aBased on prior 30 days

Table 2

Drug use, drug treatment and HIV-related outcomes by intervention status (comparisons within condition between baseline and follow-up)

	Experimental Conducted outreach (n = 47)		Experimental No outreach (n = 26)		Control (n = 63)	
	Baseline	Follow-up	Baseline	Follow-up	Baseline	Follow-up
Heroin or cocaine+ (%)	43	40	54	54	40	40
Enrolled in MMTP (%)	100	92	100	81	100	91*
Current IDU (%)	15	17	31	23	21	13
If yes, shared equipment	29	50	12	17	38	14
Talked about HIV with (%)						
Sex partners	25	50*	29	31	24	39
Drug users	19	43**	28	31	14	24
Friends	17	43*	16	15	22	22
Acquaintances/strangers	6	45***	20	15	14	14

McNemar tests were performed

* $P < .05$

** $P < .01$

*** $P < .001$

Table 3

Sexual risk, vocational-related and other outcomes by intervention status

	Intervention condition					
	Experimental			Conducted outreach (n = 47)		
	B	F		B	F	
Engaged in sex (%)	57	68		50	69	
Any unprotected sex ^a (%)	77	68		54	61	
Multiple sex partners ^a (%)	15	9		8	6	
Health educator role (mean, SD)						
Helped/respected in community ^b	25.0 (4.2)	26.3 (3.8)**		25.8 (4.0)	25.2 (4.1)	
Helped drug users/friends ^c	19.3 (3.5)	19.7 (2.9)		19.2 (3.0)	18.6 (4.0)	
Efficacy in educator role ^d	18.9 (4.3)	19.5 (3.8)		18.1 (4.3)	17.9 (3.6)	
Total score	63.3 (8.5)	65.6 (8.2)*		63.0 (8.8)	61.7 (7.3)	
Recent vocational activities (%)	NA	13		NA	0	
Social support ^e	70.9 (20.1)	71.7 (18.9)		74.4 (16.3)	75.5 (16.0)	

NA = not available

* $P < .05$

** $P \leq .01$

^a Based on those who were sexually active in the last 30 days

^b The scale has 7 items, range of scores: 7–35

^c The scale has 5 items, range of scores: 5–25

^d The scale has 6 items, range of scores: 6–30

^e The scale has 19 items, range of scores: 19–95