A Peer-Based Substance Abuse Intervention for HIV+ Rural Women: A Pilot Study

Kenneth D. Phillips

University of Tennessee - Knoxville, kphill22@utk.edu

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Alcohol and other drug (AOD) use plays a major role in the acquisition and spread of HIV, and the majority of women living with HIV are either active or recovering drug users. Forty-six percent of women’s cases of HIV infection have been attributed to injection-drug use and 18% to women’s heterosexual contacts with injection-drug users. Substance abuse often contributes to noncompliance with HIV treatment. Individuals with multiple diagnoses, such as those with HIV and substance abuse, may not be able to withstand the burden of integrating the different clinical approaches used to treat their substance abuse and other comorbid disorders such as HIV. This article reports the results of an intervention pilot study testing a peer counseling intervention for substance abuse in rural women with HIV. Thirteen women completed the intervention. Although limited by sample size, results suggest that this intervention was effective in helping women to acknowledge problems with their alcohol and drug abuse and to begin taking steps to achieve sobriety.

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Alcohol and other drug (AOD) use plays a major role in the acquisition and spread of HIV (Coyle, 1998), and the majority of women living with HIV are either active or recovering drug users (Weissman et al., 1995). Forty-six percent of women’s cases of HIV infection have been attributed to injection-drug use, and 18% to women’s heterosexual contacts with injection-drug users (Coyle, 1998). Recent studies suggest that women, especially minorities, frequently contract HIV while engaging in unprotected sex for crack cocaine (Cohen, Navaline, & Metzger, 1994; Weissman et al., 1995). Additionally, AOD abuse has been associated with poorer outcomes such as more depressive symptoms, poorer HIV disease management, and poorer quality of life (Hans, 1999; Kettinger, Nair, & Schuler, 2000; Mynatt, 1998; Nair et al., 1997; Nelson-Zlupko, Kauffman, & Dore, 1995; Westermyer, Kopka, & Nugent, 1997).

This article reports the results of a pilot intervention study that tested a peer counseling intervention for substance abuse in rural women with HIV. The pilot intervention for substance abuse was developed and implemented as an extension of a larger study of a peer-based social support intervention for depressed rural women with HIV, A Peer Counseling Intervention for Rural Women with HIV. The primary aim of the pilot study was to assess the effectiveness of the peer counseling intervention for substance abusing (SA) rural women on adapta-
tional outcomes important to HIV and AOD abuse: drugs of abuse, consequences of AOD use, motivation to change AOD use, perceived control of AOD use, and ability to access AOD information/treatment (self-advocacy).

BACKGROUND

Although substance abuse is a significant problem for rural women with HIV, it was not adequately addressed in the peer counseling intervention in the original study. Interventions need to focus specifically on substance abuse because successful substance abuse treatment by itself reduces HIV risk behaviors, at least temporarily (Eldridge et al., 1997). Moreover, substance abuse often contributes to noncompliance with HIV treatment (Demas, Schoenbaum, Wills, Doll, & Klein, 1995).

Individuals with multiple diagnoses, such as those with HIV and substance abuse, may not be able to withstand the burden of integrating the different clinical approaches used to treat substance abuse and other comorbid disorders (Brown, Huba, & Melchior, 1995). Higher levels of burden associated with multiple disorders are associated with lower levels of retention in treatment programs and with gaining fewer benefits from treatment (Brown et al., 1995).

Treatment for HIV often involves managing complex medication regimens that may pose a tremendous challenge to SA women with HIV (Lyons, 1997). These women may not be able to adhere to treatment regimens because of cognitive impairment caused by drug abuse or comorbid psychiatric disorders or staying high for long periods. There is great concern and many ethical issues surrounding prescribing antiretroviral therapy to such individuals, because improper use could produce a drug-resistant virus (Katzenstein et al., 1997). These issues make it imperative that SA women with HIV get treatment that addresses substance abuse and comorbid disorders as well as treatment for HIV.

Getting treatment for substance abuse is especially important for rural minority women whose drug of choice often is crack cocaine (Boyd & Mackey, 2000b). Women who abuse crack cocaine are at high risk themselves and at high risk of passing HIV to others because of the sexual practices associated with procuring and using cocaine (Cohen et al., 1994; Eldridge et al., 1997). Crack users report more sex partners including injection-drug users, less condom use, and frequent bartering of sex for cocaine (Eldridge et al., 1997). Moreover, crack users are at increased risk because crack abuse reduces immune functioning directly and also indirectly through adverse life circumstances associated with its use such as poor nutrition, inadequate medical care, and untreated sexually transmitted diseases (Eldridge et al., 1997). However, most HIV risk-reduction strategies have focused on either injection-drug users or homosexual men (Cohen et al., 1994).

Research shows that one of the most common coping strategies among individuals with HIV is AOD use (Demas et al., 1995). Infected individuals often perceive that many of the stressors associated with HIV disease are out of their personal control and have difficulty identifying things they can do to manage the problems associated with being HIV. Therefore, the use of drugs and alcohol may appear to be more viable coping options than problem-focused coping strategies (Demas et al., 1995). Although use of AOD to cope with stress is only effective in the short term, the temporary relief it provides may be something that some women with HIV do not want to relinquish. As a result, many women may not actively seek AOD treatment because they are using AOD to cope with stress and to self-medicate symptoms of comorbid disorders.

A sense of personal control is an important issue for HIV-infected individuals because perceived loss of control may result in a profound sense of powerlessness in managing the disease (McCain & Zeller, 1994). Feelings of helplessness and loss of control can impair self-care and management of the disease (Dilley, Ochitill, Perl, & Volberding, 1985; Orgnero & Rodway, 1991) and contribute to use of AOD. Many individuals who abuse AOD feel hopeless and powerless and use AOD because it gives them a sense of power and control (Boyd & Mackey, 2000a, 2000b; Frances, Frances, Franklin, & Borg, 1999). However, as AOD use spins out of control, users have less and less control over other aspects of their lives.

THE PEER COUNSELING SUBSTANCE ABUSE INTERVENTION

A stress and coping model (Lazarus & Folkman, 1984) provided the framework for the research.
According to the stress and coping model of substance abuse, the use of AOD is conceptualized as a method of coping with the emotional distress associated with difficult life situations (Shiffman & Wills, 1985). The peer counseling intervention described was designed to provide emotional and informational support to assist HIV-positive women develop motivation to change their substance abuse and develop problem-focused coping strategies to manage problems associated with their substance abuse and HIV.

The SA peer counseling intervention was also based on principles from motivation enhancement therapy (MET). MET was specifically developed for Project MATCH, an 8-year, national, multisite, clinical trail that compared three alcoholism treatment methods (DiClemente, Bellino, & Neavins, 1999; Miller, Zweben, DiClemente, & Rychtarik, 1999). MET is based on a transtheoretical model of how people change addictive behaviors (Prochaska, DiClemente, & Norcross, 1992). Research has demonstrated that people with AOD problems progress through a series of stages of change and motivation to change differs significantly at each stage (DiClemente et al., 1999; Miller et al., 1999). People in the precontemplation stage are likely to deny that they have a problem and are not contemplating change. People in the contemplation stage begin to consider both that they have a problem and the feasibility and costs of changing that behavior. As people progress to the determination stage, they make a decision to take action and change. As individuals begin to modify their problem behaviors, they enter the action stage. After successfully completing the action stage, individuals move into the maintenance stage. If individuals begin using AOD again, they relapse and the cycle begins again.

MET is based on techniques of motivational interviewing (MI) (Miller & Rollnick, 2002). MI is a way to help people recognize and do something about their problem behaviors. MI proposes interviewing techniques that are appropriate for each stage of change in the transtheoretical stage of change model. The MET model was chosen for the peer counseling substance abuse intervention because it is compatible with the stress and coping model of the parent grant and has been shown to be effective with outpatient SA women (Brown, Melchior, Panter, Slaughter, & Huba, 2000).

METHODS

Sample

Participants from the parent study (n = 278) were recruited from public health and community-based organizations that provide services to HIV-infected women residing in rural areas and small towns with populations less than 50,000 in Georgia, Alabama, and South Carolina. The sample was recruited from the identified caseload of each participating site. Inclusion criteria were (1) residence in rural area or small towns with a population of less than 50,000; (2) age 18 years or older; (3) verified positive for HIV; (4) English-speaking; (5) no evidence of dementia as verified by medical records; and (6) a score of 16 and higher on the Center for Epidemiological Studies Depression Scale (Radloff, 1977).

Assignment of participants to the SA intervention was based on a score of 5 or more on the Michigan Alcoholism Screening Test (MAST, Selzer, 1971) and/or a score of 6 or more on the Drug Abuse Screening Test (DAST, Skinner, 1982). Thirteen women completed the SA intervention.

Procedure

Women from the parent study who met criteria for the SA intervention were contacted by peer counselors to ascertain willingness to participate in the four additional SA peer counseling sessions. SA peer counselors were HIV-positive women who were peer counselors in the parent study and who also had been in recovery from SA for over a year. On agreement to participate, peer counselors met the women at their homes or other preferred locations, obtained written informed consent, and began the SA peer counseling intervention. The intervention was implemented in four counseling sessions over an 8- to 12-week period. Each session lasted approximately 30–60 minutes. At the beginning of each session, peer counselors administered a questionnaire (Stages of Change Readiness and Treatment Eagerness Scale, SOC-RATES) to determine stage of change and a questionnaire (Drinker/Drug Inventory of Consequences, DrInC-2R) to assess AOD use and consequences of use. During each session, peer counselors focused on SA and related problems and used MI techniques to facilitate motivation to change their SA. Peer counselors also provided information about community agencies/resources and assisted women to contact those agencies.
Before beginning the SA peer counseling intervention, the peer counselors attended a training session on MI and other techniques needed to provide the SA intervention. MI techniques and other strategies were covered in a peer counseling manual that was given to each SA peer counselor. Peer counselors were supervised by one of the PIs. Supervision entailed meeting with each peer counselor and reviewing each counseling session. Supervision sessions were held on a weekly or biweekly schedule depending on the occurrence of counseling sessions.

Instrumentation

Sociodemographic Variables

Measures were obtained to provide a profile of the participants of the study, employing instruments validated in the parent study. Standard sociodemographic variables (age, race, education, religion, income, partnership status) were assessed upon entry to the study and updated as appropriate at each subsequent interview. Additional items measured the participant’s history of HIV disease and alcohol and drug use.

Case identification scores on two screening instruments for alcohol/drug abuse and responses to quantity/frequency questions regarding alcohol/drug use were used to determine eligibility for the SA intervention. Alcohol abuse was defined as a score of 5 or more on the MAST (Selzer, 1971). The MAST is a 25-item questionnaire that provides rapid and effective screening for alcohol-related problems and alcoholism. The MAST takes approximately 5 minutes to administer. Test–retest reliability for the MAST has been reported as .84 (Skinner & Sheu, 1982). The predictive validity for the MAST is .86 using a cutoff of 5/6 (Ross, Gavin, & Skinner, 1990). The MAST correlates moderately with the presence of current alcohol disorders (.65) established with the Diagnostic Interview Schedule (Ross et al., 1990). In a recent study of substance abuse in rural women in South Carolina, the MAST, using a cutoff score of 5, had a reliability of .94. In that same study, the sensitivity of the MAST was 87.5% and the specificity was 83% (Boyd, 2000).

Drug abuse was defined as a score of 6 or greater on the DAST (Skinner, 1982). The DAST (Skinner, 1982) is a 20-item questionnaire that provides rapid screening for drug abuse. The DAST total score orders individuals along a continuum with respect to their degree of problems or consequences related to drug abuse. As the DAST score increases, there is a corresponding rise in the level of drug problems reported. A DAST score of 6 or greater is suggested for case identification. The DAST takes approximately 5 minutes to administer. The internal consistency of the DAST has been reported as .92 (Skinner, 1982). Concurrent validity of the DAST was examined by correlating the DAST with background variables, frequency of drug use, and psychopathology. In a recent study of substance abuse in rural women (Boyd, 2000), using a cutoff score of 6, the DAST had a sensitivity of 94% and specificity of 99%.

The DrInC-2R (Miller, Tonigan, & Longabaugh, 1995), a 50-item instrument for assessing adverse consequences of alcohol and drug abuse was used to assess adverse consequences of alcohol and/or drug abuse. The wording of items was changed to reflect consequences of both alcohol and drug abuse. A sample item is “I have felt bad about myself because of my drinking/drug use.” SA women completed this instrument at initial assessment, at the beginning of each peer counseling session, and postintervention to measure changes in substance abuse consequences. Although the instrument has high face validity, the instrument has not been extensively tested.

Women’s stage of change in relation to their substance abuse was measured with the SOCRATES (Miller & Tonigan, 1996). SOCRATES is a 19-item, experimental instrument designed to assess readiness for change in alcohol/drug abusers. The instrument yields three factorially derived scale scores: Recognition (RE), Ambivalence (AM), and Taking Steps (TS). Psychometric analyses are limited; however, some data exist on the internal consistency and test–retest reliability. The internal consistency of the three scales ranges from .60 to .88 for the Ambivalence scale, from .85 to .95 for the Recognition scale, and from .83 to .96 for the Taking Steps scale (Miller & Tonigan, 1996). Test–retest reliabilities (Pearson) are as follows: .83 for the Ambivalence scale, .94 for the Recognition scale, and .93 for the Taking Steps scale (Miller & Tonigan, 1996). There are two forms of the SOCRATES, one for alcohol and one for drugs. Both forms contain the same questions with specific wording for either alcohol or drug abuse. High scores on any scale
indicate that the respondent may recognize that she has a problem and may be ready to take steps to change her behavior.

Substance abuse-related situational control variables were measured as perceived control of SA and self-advocacy. Perceived control was measured using a four-item scale, Loss of Control Scale (LOCS), developed and tested by Pagel et al. (1985) for use in investigating responses to illness. The measure assesses perceived control in the context of the stressors and life change experienced as a consequence of the illness. Two of the items assess perceptions of current control and two assess the expectancy of control in the future. The four items are rated on a six-point response format ranging from no control (6) to complete control (1), with higher scores reflecting less perceived control. The four-item scale has a reported internal consistency reliability of .80 (Murdaugh, 1997).

Substance Abuse Self-Advocacy was measured with an instrument developed by the investigators for use in the parent study, and modified for substance abuse. The scale, the Self-Advocacy Scale (SAS), assesses women’s perceptions of their skills for overcoming problems in accessing HIV/AOD-specific information and health-care services. The SAS was based on data obtained in focus group interviews with HIV-infected women (Moneyham, 2000). The scale consist of 11 items rated on a four-point response format of extent of agreement with items ranging from strongly disagree (1) to strongly agree (4). Items are summed for a total score (range 11–44), with higher scores indicating higher perceived self-advocacy.

Data Analysis

Because there were only 13 women in the SA intervention, inferential statistics were not performed. Differences in scores on all measures are reported in table format to enhance visualization of scores before and after the intervention.

RESULTS

Of 158 women from the parent study who were available for the peer counseling intervention, 13 women completed the SA intervention. Women ranged in age from 29 to 69 years ($M = 41.8$, $SD = 9.5$), were predominantly African American (80%), had high school or below education (73%), and had a household income less than $10,000 (87%). Of those who abused drugs, the most common drugs of abuse for lifetime use were cocaine (87%), marijuana (69%), amphetamines (38%), and heroin (23%).

Women scored higher on all subscales of SOCRATES for both AODs at postintervention assessment. Increase in scores on the Recognition scale indicates that they recognized that their AOD abuse is a problem. Higher scores on the taking steps scale indicated that they were beginning to change their AOD use. High scores on the Ambivalence scale suggest that respondents sometimes wonder if they are in control of their substance abuse, are drinking/using too much, are hurting others with their use, and/or are alcoholic or substance abusers (Miller & Tonigan, 1996). Agreement with these items suggests ambivalence. However, women in this study had difficulty with those items, that is, they thought that if they agreed with items worded in this manner, it meant that they were in denial of their AOD problems (i.e., that they did not wonder, they knew that they had problems with AOD use; Table 1).

Women scored lower on all subscales of the Drinker Questionnaire at postintervention assessment. Lower scores on this instrument indicate that

<table>
<thead>
<tr>
<th>SOCRATES</th>
<th>First Assessment</th>
<th>Last Assessment</th>
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<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>SD</td>
</tr>
<tr>
<td>Recognition that drug use is a problem</td>
<td>20.4</td>
<td>11.1</td>
</tr>
<tr>
<td>Ambivalence</td>
<td>10.1</td>
<td>5.7</td>
</tr>
<tr>
<td>Taking steps</td>
<td>25</td>
<td>12.5</td>
</tr>
<tr>
<td>Recognition that alcohol use is a problem</td>
<td>24.3</td>
<td>8.9</td>
</tr>
<tr>
<td>Ambivalence</td>
<td>13.2</td>
<td>5.2</td>
</tr>
<tr>
<td>Taking steps</td>
<td>27.0</td>
<td>8.9</td>
</tr>
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</table>
women experienced fewer alcohol- and drug-related negative consequences after the intervention (Table 2).

From pre to postintervention, women scored slightly higher on the SA locus of control total scale and on the future SA locus of control scale. They scored about the same on the current locus of control for SA. Their mean scores on the current and future locus of control subscales were high (11 out of a possible 12), suggesting that they had control of their substance use (Table 3).

Scores were the same on the SA SAS from pre- to postintervention. Their mean scores on this scale, 33 out of a possible 44, suggest that they perceive themselves as having moderate ability to access AOD resources. However, none were accessing or receiving AOD treatment.

**DISCUSSION**

Of the 158 women from the parent study who were eligible for the SA peer counseling intervention, only 13 (8%) participated. The low participation rate was affected by the difficulty in identifying and retaining substance abuse peer counselors for a majority of the areas where the pilot study was implemented. If more SA counselors were available at more sites, many more of the women would have participated.

Although it is difficult to evaluate an intervention with only 13 participants, the SA peer counseling intervention appears to have been effective in modifying substance abuse outcomes. Over the course of the intervention, the women were able to acknowledge that their AOD use was problematic and were taking steps to change their behavior. Women also had fewer negative consequences from AOD use in every domain measured including physical consequences, interpersonal consequences, intrapersonal consequences (e.g., “I have felt bad about myself because of my drinking/using”), impulse control (e.g., “I have driven a motor vehicle after having three or more drinks or after using”), social responsibility (e.g., “I have missed days of work or school because of my drinking/using”), and control (over use) (e.g., “Drinking/using has helped me relax”).

Peer helpers have a long history of success in treating addictions. Alcoholics Anonymous (AA) was founded on the concept of one alcoholic helping another, and that concept is part of most self-help groups for addictions. However, many women do not feel comfortable in attending support groups. Many self-help groups consist predominately of men, and that prohibits women from dealing with issues important to them such as victimization. Moreover, the goals of AA and other support groups may not be appropriate for some women. Primary goals of AA are a deflated ego, surrender, and powerlessness (Kaskutas, 1992). Many women with AOD disorders already have deflated egos and feel powerless. Many are

**Table 2. Consequences of Alcohol and Drug Use (DrInC-2R)**

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<th>First Assessment</th>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>Range</td>
<td>M</td>
</tr>
<tr>
<td>Physical consequences</td>
<td>9.5</td>
<td>6.9</td>
<td>0–22</td>
<td>5.6</td>
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<tr>
<td>Interpersonal consequences</td>
<td>12.1</td>
<td>9.4</td>
<td>0–25</td>
<td>8.4</td>
</tr>
<tr>
<td>Intrapersonal consequences</td>
<td>13.3</td>
<td>8.6</td>
<td>0–24</td>
<td>7.7</td>
</tr>
<tr>
<td>Impulse control</td>
<td>8.1</td>
<td>8.4</td>
<td>0–24</td>
<td>5.8</td>
</tr>
<tr>
<td>Social responsibility</td>
<td>7.6</td>
<td>5.7</td>
<td>0–17</td>
<td>4.3</td>
</tr>
<tr>
<td>Control</td>
<td>4.4</td>
<td>2.9</td>
<td>0–8</td>
<td>2.4</td>
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**Table 3. Substance Abuse Locus of Control and Substance Abuse Self-Advocacy**

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<th>First Assessment</th>
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<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>Range</td>
<td>M</td>
</tr>
<tr>
<td>SA locus of control: Total scale</td>
<td>21.3</td>
<td>4.0</td>
<td>3–47</td>
<td>22.5</td>
</tr>
<tr>
<td>(perceived control of stressors and life change associated with substance abuse)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Current SA locus of control</td>
<td>10.5</td>
<td>2.3</td>
<td>6–12</td>
<td>10.6</td>
</tr>
<tr>
<td>Future SA locus of control</td>
<td>10.7</td>
<td>2.3</td>
<td>6–12</td>
<td>11.7</td>
</tr>
<tr>
<td>SA self-advocacy (perceptions of ability to access SA information and health-care services)</td>
<td>32.9</td>
<td>3.6</td>
<td>26–39</td>
<td>32.6</td>
</tr>
</tbody>
</table>
survivors of childhood and/or adult victimization and/or are from minority groups who have felt powerless and defeated most of their lives (Boyd, 2003). For these women, a strengthened self-image, independence, and feelings of power and mastery may be important to recovery.

Use of peer counselors avoids those problems and may be the most effective way to help women recover. The relationship of peer counselor to participant was that of a confidant and friend-mentor who understood the plight of participants because of shared life circumstances. The shared experience of addiction and struggle for recovery enabled peer helpers to role model healthy recovery and provide hope that the participant too could recover. Peer counselors also helped women with other issues of living, for example, transportation, childcare, and housing. Anecdotal evidence suggested that these women welcomed the peer counselors and would have liked to prolong the intervention.

Scores on the locus of control measure suggest that women thought they had control over their substance abuse; however, most were still struggling with control. Scores on the SAS suggest that women were confident about their ability to access AOD information and treatment. Example items on this scale are “I know how to get treatment for alcohol/drugs when I need it”; “I can overcome health-care workers bad attitudes to get the treatment I need”; “When the doctor prescribes treatment for my drug/alcohol use, I accept it even if I do not agree with the treatment.” None of the women had received treatment other than the peer counseling intervention. Adding AOD treatment to the treatment that is required for HIV may be a burden in terms of both money and time, and these women may not have been willing or able to take on extra burden.

The sample size for this study is extremely limiting. However, the improvements made by the 13 women who participated suggest that this intervention should be further developed and tested.

REFERENCES


