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Improving Condom Self-Efficacy and Use among Individuals Living with HIV: The Positive Choices Mapping Intervention

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Abstract

Few interventions have been designed to improve behavioral outcomes and reduce risk of HIV transmission of individuals living with HIV, most focusing on preventative efforts directed at individuals who are HIV-negative. However, people living with HIV present individual and public health risks (infection with a different strain of HIV, health complications from contracting STD's, continued sexual activity with individuals with unknown HIV status) that have become the focus of intervention efforts. The current paper explores a promising new intervention, The Positive Choices Mapping intervention (PCM), designed to increase condom self-efficacy and use among African American crack cocaine smokers who are living with HIV. The intervention was grounded in Social Cognitive Theory and incorporated an empirically backed visual representation strategy (node-link mapping). The focus of the current paper is on the main components of the intervention.

Interventions designed to reduce the spread and consequences of HIV remain in great need as global HIV infection rates have been estimated at 38.6 million, including 4.1 million newly infected adults or children in the year 2005 (UNAIDS, 2006). Even in regions where infection rates have stabilized, subpopulations continue to demonstrate increased risk (for example, African American men who have sex with men, Kalichman, 2005). Indeed, HIV infection rates in the United States have become increasingly concentrated in racial and ethnic minorities and the poor, groups with limited access to health care programs (Karon, Fleming, Steketee, & De Cock, 2001). Traditionally, HIV interventions have focused on prevention efforts directed at reducing the spread of disease among “high risk” groups such as drug injectors (Des Jarlais, Friedman, & Hopkins, 1985; Klinkenberg & Sacks, 2004), or individuals who smoke crack cocaine or are on-the-street homeless (Smereck & Hockman, 1998). However, risk reduction programs for individuals already living with HIV (PLWHA) have largely been neglected (Crepaz, Hart, & Marks, 2004; Kalichman, 2005).

Sexual risks for PLWHAs include infection with a different strain of HIV, health complications from exposure to other STD's, and continued sexual activity with partners who have not yet been exposed to HIV. PLWHAs may have inaccurate beliefs (“An individual is not contagious when their viral load is low”) that increase the chances of risky sexual behaviors with partners with the same, different, or with unknown HIV status (Crepaz, Hart, & Marks, 2004).

A common but difficult goal of most interventions targeting HIV is to reduce risk through the consistent use of condoms during sex (which is particularly important for PLWHAs). However, significant barriers to consistent condom use include negative attitudes about consistent condom use (Bowen & Trotter, 1995; Williams et al., 2000), normative beliefs and outcome expectancies concerning condom use (Bowen, Williams, McCoy, & McCoy, 2001), as well as incorrect or insufficient knowledge about HIV transmission and health (Crepaz, Hart, & Marks, 2004). Complicating matters, as the level of intimacy increases between individuals, condom use may stop as a symbol of trust, loyalty, and validation of the relationship (Williams et al., 2000).

However, intervention programs can lead people to increase condom use (see Albarracin et al., 2005 for a meta-analysis). Key components of successful programs include actively engaging participants and incorporating principles common to such theoretical approaches as the Theory of Planned Behavior (Ajzen, 1991) and Social Cognitive Theory (Bandura, 1994; see Albarracin et al., 2005). Notable intervention approaches include the Information-Motivation-Behavioral Skills Model (Anderson et al., 2006), that emphasizes learning behavioral skills that actualize key information and personal motivation, and identification of leaders in social networks to disseminate important information to change normative beliefs, self efficacy, and behavior (Amirkhanian et al., 2005; Kelly et al, 2006). However, few interventions have been designed specifically for those already living with HIV/AIDS, the Healthy Relationships intervention (Kalichman, 2005; Kalichman et al., 2001), a notable exception, appears to be successful. However, innovative interventions that are well grounded in theory remain needed. The current paper explores a promising new intervention, The Positive Choices Mapping intervention, which is grounded in Social Cognitive Theory and integrates a visual representation technique called node-link mapping, was developed to help African-American individuals who are living with HIV and smoke crack cocaine. Although the intervention was designed to be culturally relevant and applicable to this population, it is also expected that the intervention will be generally useful for any individual living with HIV.

Background

The PCM is grounded in Social Cognitive Theory (SCT) (Bandura, 1994). The intervention uses mapping (discussed below), personal experiences, and model stories, to a) provide important information on HIV and to change faulty beliefs; b) to change attitudes and self-efficacy toward pleasure and the use of condoms; c) to alter cognitive schemas and scripts that interfere with consistent condom use; d) to develop negotiation skills and self-efficacy for disclosing status; e) to discuss rights and responsibilities of being a sexual being independent and inclusive of HIV status; f) to examine gender role expectations and power in relationships; and g) to review actual behavior and plans for future behavior.

In addition to targeting key components of SCT (improving attitudes, self-efficacy, perceived norms, and outcome expectancies regarding condom use), the PCM intervention incorporates node-link mapping, a visual representation strategy that has been shown to be effective in a variety of treatment settings (see Czuchry & Dansereau, 2003 for a review). Mapping uses nodes (to encapsulate information) and corresponding links (to show how ideas are connected and to explore the relationships among ideas) to facilitate communication and problem solving (see Figures 1–4 for examples of maps used in the PCM intervention). Maps can be created spontaneously by counselors and/or patients in individual or group sessions (“free maps”), have a pre-existing spatial structure and questions to guide exploration and/or discussion of a topic (“guide maps”), present information in an organized structure (“knowledge maps”), or involve some combination of free, guided, and knowledge mapping approaches (“hybrid maps”). Maps can also be used as overheads or enlarged and laminated to use as posters to capture common ideas in a group

setting. Individuals can further modify personal maps based on their own experiences and expectations.

Node-link mapping has been shown to be an effective supplement to substance abuse treatment, particularly in methadone maintenance and residential treatment settings (see Czuchry & Dansereau, 2003 for a review). Maps have been shown to improve memory for AIDS-related information (Knight, Simpson, & Dansereau, 1994), improve communication (Dansereau, Dees, Joe, & Simpson, 1996), and are particularly effective for individuals with attentional difficulties (Czuchry, Dansereau, Dees, & Simpson, 1995; Dansereau, Joe, & Simpson, 1995; Newbern, Dansereau, Czuchry, & Simpson, 2005). Individuals who are addicted to cocaine have been shown to have neurocognitive deficits in attention and executive control (Jovanovski, Erb, & Zakzanis, 2005), thus a mapping approach was deemed particularly relevant for individuals addicted to crack cocaine. Mapping approaches also help explore the cognitive representations that either support or impede behavioral change by making thoughts concrete and visible and can often reveal problematic thinking (Czuchry & Dansereau, 1999). Mapping, in turn, should help people initiate and sustain improvements in self-efficacy, outcome expectancies, and perceived norms regarding condom use, all of which facilitate behavioral change.

Node-link mapping, however, has not been readily applied to community-based HIV prevention programs. An iterative study done with the current population (HIV positive African American crack smoking individuals) revealed improved attitudes and behavior toward consistent condom use, and follow-up research is currently underway. Although the research has not yet been completed in this arena, node-link mapping has consistently shown it can be beneficial in a variety of treatment and educational settings (Czuchry & Dansereau, 2003; O'Donnell, Dansereau, & Hall, 2002). It is therefore expected that key benefits of mapping that have been shown to cut across settings (improved memory, attention, and communication) will transfer to community based HIV prevention programs.

Intervention Components

The PCM intervention was designed for both group sessions and individual sessions. Each session consists of a group session that lasts approximately 1 hour, and a brief individual session for each participant. The purpose of the individual session is to give the participants the opportunity to discuss issues that they did not feel comfortable discussing with the group. In the current setting, participants were recruited through community contacts or through participants who had completed sessions. All participants were paid for participation in each session and for recruiting others. Participants were randomly assigned to either the PCM or a control group that received six one-hour sessions that primarily targeted AIDS-related knowledge. In both cases, sessions were run in groups of 4–10 participants.

Session 1 (Introduction to Node-Link Mapping and Correction of Faulty Logic)

—The primary objectives of the first session are to introduce participants to mapping and to correct misconceptions concerning HIV transmission and health. Individuals are introduced to mapping by completing a “Map of Me” (a simple free map that captures key characteristics of the self; see Figure 1 for an example of a map completed by one of the participants in the study). Even individuals with no prior exposure to visual representation strategies can quickly create a map and gain an understanding of the key features of node-link mapping (i.e., that ideas and their relationships can be depicted spatially). A second goal of the first session is to challenge and change myths and faulty logic through a series of knowledge and guide maps (see Figure 2 for an example). These mapping activities provide the practitioner with insight into the experiences that individuals have had and how they

represent them cognitively. The goal is to reshape these cognitive representations and beliefs so that they can support consistent condom use. The session is concluded with an educational piece on AIDS-related information that is common to both the PCM and control groups.

Session 2 (Changing Attitudes and Self-Efficacy Regarding Pleasure and Outcome Expectancies)—A significant barrier to consistent condom use is negative outcome expectancies (“I’ll lose my erection”; “Condoms make sex less pleasurable/romantic”; see Williams et al., 2000). The second session is thus primarily directed at improving attitudes, self-efficacy, and outcome expectancies regarding condom use (i.e., it is both important and pleasurable to incorporate condoms). In the second session, the group completes a hybrid map to identify barriers and generate potential solutions to increase condom use. Reduced “pleasure” (or its equivalent) is typically generated spontaneously (or, if need be, mentioned by the group facilitator) and is followed by a demonstration of male and female condoms and how they can be used to make sex fun and pleasurable (some glow in the dark, some taste like strawberries, some have a “warming” sensation). The demonstration is a common feature of both the PCM and control groups. A model story is then examined (going to a place to get crack, getting high, and having sex without a condom) and ways are explored in which the chain of events could have been altered to produce a different outcome (e.g., no sex or sex with a condom; see Figure 3).

Session 3 (Improving Self-Efficacy for Disclosing Status and Negotiating Condom Use)—The primary objective for the third session is to improve self-efficacy for negotiating condom use in a variety of situations and with different types of partners (primary or secondary). The session begins with an animated PowerPoint map that sequentially reveals the dialogue (and corresponding thoughts) for a partner and an individual who has not yet disclosed his or her status. Individuals then complete a guide map on Disclosing HIV status prior to an open discussion about the reasons for and against disclosing status to partners. The group then works together to create the thoughts and dialogue that will lead to either a positive or negative outcome using a large poster map (see Figure 4). These scripts are designed to give individuals a sense of self-efficacy and control when communicating with their partners.

Session 4 (Rights and Responsibilities of Being a Sexual Being and Exploration of Situations in which Condom Use is Difficult)—Individuals who are HIV-positive and feel either they do not deserve to have sex or that they will maintain abstinence do not develop plans for incorporating condoms during sex and will thus be less likely to use them when sex inevitably occurs (such as when high). Consequently, it is important to increase self-esteem and self-efficacy for condom use by legitimizing the rights and responsibilities of being a sexual human being. The session begins with a map about sexual rights and responsibilities, followed by an open discussion of what does and does not change as a function of being HIV-positive. Next, the group completes a map on situations where condom use is difficult. Individuals then personalize their own maps based on personal experiences and expectations. The session helps individuals acknowledge that although their status may have changed, their needs as sexual beings remain important and legitimate.

Session 5 (Relationship Expectations and Gender Roles)—Attitudes concerning gender roles and expectations within the relationship provide the context within which individuals attempt (or do not attempt) to use condoms. As such, it is important to explore these aspects of the relationship to identify potential times and situations to introduce condoms. Participants use a dialogue poster map (same as Figure 4) to examine two model

stories: 1) “Shauna is HIV+ but her partner Michael is not. They have been dating awhile but this is going to be the first time they have sex. She wants to use protection. Michael is reluctant. How is Shauna going to win him over?” and 2) “Debra wants to reintroduce condoms into a long-term relationship with John. They only recently quit using condoms, after using them awhile, but now it seems difficult to bring up the topic. How should she talk to John about this?”. The model stories and dialogue map provide a forum for discussing issues of trust, power, and gender and relationship roles and expectations, resulting in scripts that can be put into action. These discussions and scripts are designed to improve self-efficacy, outcome expectancies, and norms (i.e., their peers involved in the intervention are trying to increase condom use).

Session 6 (Examination of Actual and Vicarious Behavior and Plans for Future Pleasurable Condom Experiences)—The sixth session is designed to review key concepts that have been covered in previous sessions, to review actual behavior regarding condom use (successful or otherwise), and to further improve self-efficacy and outcome expectancies. The session concludes with the production of a map by each individual for the goal “*consistent condom use every time*”. The session serves to solidify negotiation self-efficacy for introducing condoms into relationships, increase attitudes and self-efficacy regarding condoms as an important, regular, *pleasurable* aspect of sex, and to ensure that each individual has a plan for how to make consistent condom use a reality.

Discussion/Implications

Although it is difficult to design interventions to increase consistent condom use with all partners, interventions can be successful when they are designed to actively engage participants and target such theoretically based concepts as the Theory of Planned Behavior or Social Cognitive Theory (Albarracin et al., 2005). The Positive Choices Mapping intervention is particularly promising as it also incorporates a visual representation strategy (node-link mapping) that has been successfully implemented in a variety of treatment and educational settings (Czuchry & Dansereau, 2003; O'Donnell, Dansereau, & Hall, 2002). Mapping approaches facilitate memory, communication, and problem solving, and are particularly effective for individuals with attentional problems (Czuchry & Dansereau, 2003). Mapping can thus improve intervention outcomes for individuals with a range of cognitive or psychological deficits, which are common among individuals who continue to abuse substances (Czuchry & Dansereau, 1999). It is important to note that the PCM intervention occurs within the context of a peer group environment, which has the additional benefit of changing perceived norms (participants in the intervention are trying to increase their use of condoms). Preliminary results for the PCM intervention and the results for other interventions designed for individuals living with HIV (the Healthy Relationships intervention, Kalichman, 2005; Kalichman et al., 2001) reveal that consistent condom use can be realized, even with individuals who are particularly difficult to treat due to cognitive or psychological deficits and/or continuing substance abuse issues (smoking crack cocaine).

Practical Considerations

The flexibility of mapping approaches (free, guide, knowledge, and hybrid), and the focus of the PCM intervention on key SCT components (self-efficacy, outcome expectancies, norms) provide practitioners with a variety of ways to integrate aspects of the intervention with established programs regardless of program philosophy. Sessions can be developed for groups, individuals, or a combination of the two. Particular maps can be used with specific individuals, and maps or model stories can be adapted and changed as needed to maximize their relevance and effectiveness. As long as maps are not overly complicated and are not organized haphazardly (that is, they follow Gestalt principles of organization; Wallace,

West, Ware, & Dansereau, 1998), they should confer the benefits observed in a growing body of empirical research (Czuchry & Dansereau, 2003). Thus, it may not be necessary that the entire intervention be adopted for beneficial effects to be observed. However, given the difficulties in changing condom use behavior, it is recommended that programs use all six sessions whenever feasible.

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map YOURSELF

Figure 1.

An example of a free “map of me” completed by one of the PCM participants.

Myth Buster Map

Figure 2.
A guide map to explore myths versus facts concerning HIV.

Breaking The Chain Map **L = “Leads To”** **Figure 3.**

A guide map to examine ways to change the outcome when a condom is not used.

Figure 4.
Dialogue guide map.