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PROJECT POWER: ADAPTING AN EVIDENCE-BASED HIV/STI PREVENTION INTERVENTION FOR INCARCERATED WOMEN

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Abstract

Incarcerated women are a critical population for targeted HIV/STI prevention programming; however, there is a dearth of evidence-based, gender-specific behavioral interventions for this population. Systematically adapting existing evidence-based interventions (EBIs) can help fill this gap. We illustrate the adaptation of the HIV/STI prevention EBI, Project Safe, for use among incarcerated women and delivery in prisons. Project POWER, the final adapted intervention, was developed using formative research with prison staff and administration, incarcerated and previously incarcerated women, and input of community advisory boards. Intervention delivery adaptations included: shorter, more frequent intervention sessions; booster sessions prior to and just after release; facilitator experience in prisons and counseling; and new videos. Intervention content adaptations addressed issues of empowerment, substance use, gender and power inequity in relationships, interpersonal violence, mental health, reentry, and social support. This illustration of the adaption process provides information to inform additional efforts to adapt EBIs for this underserved population.

Incarcerated women are a critical population for efficiently providing targeted evidence-based HIV and sexually transmitted infection (STI) prevention programing.

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Comparing general population rates for HIV and STIs among women to available data on women prisoners, while not strictly equivalent, does suggest significant dis-parities. For instance, in 2011, the positivity of chlamydia (7.4%) among women entering adult corrections facilities in the United States was 11 times as high as the reported case rate (. 65%) for the general population of women (CDC, 2012a). For HIV, in 2008, it was estimated that, nationwide, 1.9% of incarcerated adult women were HIV-positive, compared to 1.5% of incarcerated men (Maruschak & Beavers, 2009). This is 13 times as high as the Centers for Disease Control and Prevention's (CDC) 2008 estimated prevalence rate of .15% for adolescent and adult women in the US (CDC, 2012b). Further, it is estimated that annually 22,723 women living with HIV in the U.S. are released from a correctional facility, suggesting an important public health opportunity (Spaulding et al., 2009). Correctional facilities provide an ideal opportunity to access, engage, and retain some of the most high-risk individuals for HIV and STI prevention initiatives. Persons who are incarcerated may have more available time to participate in evidence-based risk-reduction programming. It is also a time when they can contemplate behavior changes while outside of the environment and social networks that may reinforce risk behaviors (Abad, Carry, & Fogel, 2012). There is a crucial need for tailored HIV and STI prevention programming for incarcerated women. Despite this need and the public health opportunity of reaching high-risk women in correctional settings, evidence-based gender-specific risk reduction interventions have not been identified to address the unique needs of this population (CDC, 2011).

The development of new evidence-based interventions (EBIs) is resource and time intensive. Systematic adaptation of existing EBIs to meet the needs of new tar-get populations and settings provides one avenue for efficiently filling gaps in current programming. To fill the critical gap in behavioral interventions for incarcerated women and to expedite the intervention development process, CDC funded the University of North Carolina Chapel Hill (UNC CH) School of Nursing through Adopting and Demonstrating the Adaptation of Prevention Techniques (ADAPT-2) for a three-phase project. UNC CH was funded to: (1) conduct formative research with the target population, (2) adapt an existing EBI based on the formative research, and (3) evaluate the efficacy of the adapted intervention in a randomized trial (CDC, 2007).

In this paper, we focus on phase 2, the adaptation process, to provide practical information to the field about specific ways of adapting existing EBIs for this under-served population (manuscripts for phases 1 and 3 are in progress). We illustrate the use of a systematic process to adapt an existing EBI to meet the HIV/STI prevention needs of incarcerated women and for delivery in prison facilities in North Carolina and describe the specific adaptations made to the intervention delivery and content.

METHODS

We used CDC-developed guidance to structure the adaptation process. In 2006, CDC published the Map of the Adaptation Process: A Systematic Process for Adapting Evidence-Based Behavioral Interventions (the MAP) to provide initial guidance on how to appropriately adapt EBIs for new populations and settings while retaining fidelity to the core elements of the original intervention (McKleroy et al., 2006). Core elements are the main

theoretical and logical constructs of the original intervention considered responsible for the intended behavior change. Maintaining these constructs with fidelity during adaptation is considered essential for producing similar successful outcomes (Galbraith et al., 2011; McKleroy et al., 2006).

The MAP follows a three-phase process for adaptation. The first is the assessment phase to identify the target population's risk factors and behavioral determinants, assess organizational capacity to implement an intervention, and select the EBI that best meets the needs of the target population. The second phase is to pre-pare the organization for implementation by creating necessary partnerships and collaborations, adapting the intervention materials, and pre-testing and piloting the adapted materials. The third phase is to implement the adapted intervention with the new population or setting. The goal of the current project was to adapt an existing EBI to be implemented in two North Carolina Department of Corrections (NC-DOC) women's prison facilities among HIV-negative women with relatively short sentences (up to 14 months) who were due to be released within 6 months.

ASSESSMENT PHASE

As a first step in the adaptation process, the principal investigator (PI) approached members of the NCDOC and prison administration to assess their capacity and interest in the project. The PI's extensive experience with women prisoners and delivering small group interventions in women's prisons in North Carolina (NC) were important in laying the groundwork for adapting the intervention and collaborating with the prison facilities. The NCDOC women's social work supervisor was designated as the point of contact and institutional champion for the project. The point of contact was involved throughout the adaptation process to ensure that the intervention was feasible and adhered to the facility logistics and policies.

Based on previous experience in correctional settings, existing literature on sexual risk for women prisoners, and communications with the original intervention developer, Rochelle Shain, the PI chose Project SAFE as the EBI to be adapted. Project SAFE is a small group intervention shown to be efficacious in reducing risky sexual behaviors and STI incidence among African American and Mexican American women in STI clinics (Shain et al., 1999). The AIDS Risk Reduction Model (ARRM) (Catania et al., 1989; Catania, Kegeles, & Coates, 1990) provides the theoretical basis for SAFE (Shain et al., 1999). SAFE follows the three main stages of ARRM: recognizing one's risk; commitment to reducing that risk; and following through with the commitment by seeking solutions. The intervention addresses stage-specific needs and includes knowledge of disease transmission, recognition of personal risk, perception of the costs, and benefits of behavioral change, self-efficacy, and attainment of skills (Catania, Coates, & Kegeles, 1994; Catania, et al., 1990, 1994). SAFE also promotes social support at each stage of change. The intervention consists of three 3–4 hour sessions delivered by a female facilitator over three weeks. Sessions include information, group discussion, games, video clips, behavior modeling, and role play. The original SAFE curriculum did not include core elements, so to guide the adaption process, the intervention developer in collaboration with the PI identified the following core elements: (1) The

intervention is directed toward an identifiable target population in a well-defined community; (2) the intervention is based on ARRM (Catania et al., 1989; Catania et al., 1990) to provide structure and coherence; (3) there are progressive stages through which an individual passes toward risk reduction; and (4) knowledge of the community from which the target population is drawn is essential so that the intervention content and presentation are consistent with and relevant to the client's belief system, values, behaviors, language, and lifestyle.

Formative research was conducted to gather specific information for adapting Project SAFE for women prisoners. All research protocols were approved by local and CDC IRBs and reviewed by NCDOC, Department of Research and Development, and the study received a certificate of confidentiality. Activities included: in-depth interviews with 28 former and 25 current women prisoners; one focus group with four former women prisoners who had previously participated in a prison-based group intervention; and in-depth interviews with 10 NCDOC prison staff and administrators. The formative research methods and findings will be presented in a separate publication.

PREPARATION PHASE

Building off the partnerships and formative research in the assessment phase, the adapted intervention, known as Project POWER, was developed. The project team used an iterative process that involved multiple drafts of the intervention curriculum and multiple stakeholders throughout the revision process. In collaboration with the project team, the original Project SAFE developer and the prison point of contact reviewed and provided feedback on multiple drafts of the intervention curriculum. In addition, the project team received feedback on Project POWER from an eight-member community advisory board (CAB) from the HIV community, including HIV medical and service providers and HIV-positive individuals, a six-member CAB from the NCDOC corrections community, including prison staff and administrators, and three formerly incarcerated women.

A Project POWER intervention training manual was developed to guide the facilitator trainings. Facilitators reviewed the training manual, received 1.5 days of face-to-face training with the PI, and served as the assistant facilitator with the PI one time before leading the intervention. In addition, facilitators completed a mandatory training with NCDOC personnel which addressed prison rules, regulations, appropriate behaviors while in a prison, and sexual assault training.

IMPLEMENTATION PHASE

The pilot test of Project POWER consisted of one cohort of 5–6 women at each of the two participating prisons. The PI was the only facilitator for one cohort; for the second cohort, the PI and an additional nurse interventionist facilitated the sessions. Sessions were recorded and transcribed, and participants completed an evaluation of the facilitator and each intervention session. As a result of the pilot, additional minor changes were made to finalize Project POWER. The final curriculum was approved by the prison point of contact and other members of the prison administration.

RESULTS

The following sections describe the adaptations made to the intervention delivery and content.

INTERVENTION DELIVERY

Revise Intervention Structure. Based on an assessment of the prisons' organizational capacity, it was determined that the original session format of SAFE had to be revised to accommodate the highly structured prison schedule; the 3–4 hour sessions would have overlapped with other scheduled activities in the prison. So, for POWER, the 9–12 hours of intervention content was reformatted into eight 1½–hour sessions, delivered over an 8-week period. The intervention structure was also adapted to include in-facility and post-release booster sessions. One month after the last intervention session, the original cohort of women attend a 1½–hour booster session inside the facility. After their release, individual women received three brief booster telephone calls at 2, 6, and 10 weeks post-release. The in-facility booster was developed to provide a refresher just prior to release, and the post-release booster phone calls reinforce the intervention content while the women are back in their community environment. Providing these booster sessions just before and a short time after the reentry period provides additional resources of support to the women during their challenging and vulnerable transition back home.

Adapt Facilitator Characteristics. The PI's previous experience along with focus group feedback identified the need for a credible intervention facilitator with experience and understanding of the corrections environment and the needs of the population. The facilitator must be able to address complex issues of substance use, mental health, violence and trauma, incarceration, and sexual risk behaviors. It is critical that the facilitator is also able to meet the challenges of developing trust with the women and creating an environment of acceptance, appropriate self-disclosure, and respect while in the prison setting. To meet these needs, POWER was implemented by facilitators with previous training and skills in counseling (i.e., nurses and social workers) and previous experience working in correctional settings.

In one session of SAFE, a male facilitator joins the group to deliver content on the male perspective of sexual relationships and role play with the participants. This was not feasible in POWER because the implementing prisons would not allow a male facilitator to engage with the women inmates on topics of sexuality. Although the intervention content remained the same, it was decided that a female facilitator and the participants would take the male role in the sexual communication and negotiation role play exercises.

Develop New Videos. The women in the formative research identified the importance of HIV/STI prevention mentoring from previously incarcerated peers; however, prison policies restrict prison access to formerly incarcerated women. To address this, as well as the recommendation from the HIV CAB to update the original intervention videos, the PI developed new video segments consisting of interviews with formerly incarcerated women. The original SAFE intervention has approximately 2½ hours of video content. Due to

resource constraints and the need to incorporate additional topics into POWER (see below), videos comprise 30 minutes of the POWER content. The PI developed eight 4–5 minute videos that illustrate important aspects of HIV/STI risk and prevention for previously incarcerated women identified in the formative research. The eight segments include: Introduction of Video Participants; HIV/AIDS and Safe Sex; Substance Abuse; Self-Esteem and Self-Care; Relationship Abuse; Tired of Being Tired; Persistence; and Work after Release. The video segments are interspersed throughout different intervention sessions to convey information, inspire the participants, and prompt discussion.

INTERVENTION CONTENT

Minor changes were made throughout the intervention to reflect the change in target population, to update HIV and STI information, and to expand basic re-productive health information. For example, specific cultural aspects of SAFE for African American and Mexican American women were revised to be more relevant for the predominantly White and African American population of women in NC correctional facilities.

The formative research provided information on some of the unique determinants of sexual risk for this population of women. The information gleaned from the formative work revealed a syndemic of risk factors for HIV/STI. Women prisoners may experience synergistic effects from psychological, relationship, and social contextual factors, reinforcing one another to create circumstances that can trigger high-risk behavior. Factors include: self-esteem; gender and power inequity in relationships; trauma and abuse; substance use; mental health; and reentry. Adaptations were made to either enhance or add to existing aspects of SAFE that address these critically important factors. Enhance Empowerment. Current and former women prisoners from the focus group and individual interviews acknowledged that self-esteem and self-worth were in short supply in their lives, particularly as a result of emotional, physical, and sexual abuse. They explained that a woman needed to respect her body and truly believe she was of value in order to protect herself from HIV/STI.

The intervention was adapted to bring to the forefront an overarching positive tone of empowerment throughout all of the intervention sessions. The facilitator script was edited to continuously reinforce the idea that the women are worthy of happiness, respect, and health and to reframe their identity as strong survivors. Following ARRM, SAFE has a strong focus on raising participants' risk awareness to address issues of denial. Given the critical need for empowerment in this population, it was important to adapt the materials to carefully help the women to consider their personal risk without diminishing their self-esteem and sense of hope. Participant involvement in intervention exercises was enhanced to emphasize active problem-solving from the women and to encourage them to see themselves as sources of strength and wisdom.

To support women in valuing themselves and their bodies, a positive sexual health promotion perspective was incorporated, encouraging the idea that sex can be positive, pleasurable, and healthy for both men and women. For instance, an exercise was added where the participants list positive and negative aspects about sexual behaviors. They then

work in groups to problem solve about specific ways they can enjoy the positive aspects of sexuality while still keeping themselves safe from HIV/STI.

Specific exercises were also included to further reinforce empowerment, such as identifying and sharing positive affirmations, and a graduation ceremony. In addition, the women from the formative research communicated a strong sense of mission to support and give back to their families and communities. This begins in the groups when the women support, encourage, and comfort one another. Tying together the women's collective sense of commitment to their growing self-worth and SAFE's emphasis on social support, each session of POWER began and concluded with the addition of a chant: "We are one as women. We are one in the spirit. We are strong as women. We will succeed."

Address Synergistic Effects of Multiple Risk Factors. The formative research re-vealed that incarcerated women face synergistic effects of multiple risk factors for HIV/STI. These included substance abuse, gender and power inequity in relation-ships, interpersonal violence, and mental health challenges. Intervention content was revised and new segments included to address the individual and cumulative effects of these on the women's sexual health and risk.

Lifeline Stories. One main exercise, the lifeline stories, was developed and incorporated into the curriculum to address the combined and cumulative effects of multiple risk factors as well as assist women in identifying personal successes. It begins with a homework assignment where women make a timeline of the critical moments in their lives—both positive and negative. The women are then invited to share their lifeline stories with the group and discuss how past and present life circumstances created both success and risk. These lifeline stories are then used to anchor and personalize specific discussions and identify goals and plans for positive outcomes when they transition back home.

Substance Use. Interviews with current and previously incarcerated women as well as prison staff supported previous literature that underlined the influence of sub-stance use as a risk factor for HIV/STI for this population of women (Fogel & Belyea, 1999; Fogel & Martin, 1992). For example, women noted that substance abuse clouds their judgment about sexual risk. Further, drug use is often associated with a street economy that can lead to the exchange of sex for drugs or money. The women in the formative research also indicated that experiences of trauma, depression, and substance use are highly interrelated. For instance, some women use drugs and alcohol as a coping strategy for dealing with trauma-induced depression.

SAFE touches on substance abuse as a trigger for unsafe sex, but does not go into the depth needed for this group of women. To adapt the intervention, issues related to substance use, as well as sex work, were integrated throughout the intervention. For instance, substance use was included in the kinds of information women should know about their sex partners and was discussed as one way women deal with abuse. Several intervention elements were added to increase participants' risk awareness, knowledge, and skills related to substance use, including: a group discussion about the pros and cons of substance use, how drugs/alcohol

contribute to sexual risk, and strategies for avoiding risk; information on HIV transmission through injection drug use; and a skill demonstration of how to clean needles.

Gender and Power Inequity in Relationships. The data from the current and previously incarcerated women suggested that issues of gender inequity, love, and relationships play an important role in their condom use and sexual risk. The women described challenges to safer sex due to economic dependence, low self-esteem, the need to feel loved and emotionally close, the fear of rejection, and the fear of physical or verbal abuse. Sex was often depicted as a commodity, both in and out of intimate relationships. Sometimes it was explicitly for money or drugs, but the women also used sex in exchange for critical resources, such as food and shelter for themselves and their children. Gender norms—such as men are supposed to be in control of relationships and sex, and women who use condoms are easy and dirty—also played into the context of sexual risk.

To address these findings, additional content was included in POWER to enhance and tailor the existing intervention material regarding gender norms, relation-ships, sexual communication skills, and condom negotiation skills. For example, discussions about gender norms and myths about sexuality were expanded, and role play exercises were tailored to reflect the experiences of incarcerated women's relationships and sexual risk. A new exercise was included to help identify situations when it would be challenging to practice safe sex, and participants would then discuss solutions to these specific challenges. This exercise helps integrate issues of intimate partner violence, sex work, and substance use into the original intervention discussions about HIV/STI risk triggers and barriers to safer sex.

Interpersonal Violence and Mental Health. The interviews with past and current women inmates revealed the consistent presence of violence and abuse in their lives. The data underscore how emotional, physical, and sexual abuse affects the women's mental health, substance use, and sexual risk. As noted above, abuse and depression can lead to substance use. Substance abuse, in turn, can leave the women vulnerable to low self-esteem, additional abuse, and unsafe sex.

SAFE did not specifically address interpersonal violence, so POWER was adapted to reflect this important aspect of risk throughout the intervention and in a set of specific exercises. Relationship violence was incorporated as a factor that can increase a woman's risk of getting an HIV/STI, a consideration in negotiation strategies to increase condom use, and as part of the lifeline exercise (discussed above). Specific exercises were added to build participants' knowledge of abuse patterns and to identify ways to remain safe in abusive circumstances. Intervention content was also added to address the depression that often arises from abuse and trauma and its association with substance use and sexual risk. Participants are provided with information to identify depression, strategies for healthy self-soothing, and encouragement to seek social and medical support, inside and outside the prison setting.

New Content on Reentry. The women in the formative research indicated that there are significant challenges to reentry, including issues related to employment, housing, and drug and alcohol addiction. This is of particular concern as the needs of newly released women

accumulate and compete with their ability to practice risk reduction and access medical care. Social isolation further exacerbates these challenges. The women explained that the communities to which they are released are fraught with negative exposure and influences for drug and sexual risk. They are often caught between distancing themselves from the negative influences and gaining the critical social support they need to survive upon reentry. Stigma, drug use, sex work, and incarceration often isolate them from positive social environments, such as church. The corrections CAB also suggested providing the women with a plan for release and support for reentry.

Intervention content was added in the final sessions to address reentry. One of the important elements in ARRM and SAFE is commitment to reducing risk and following through with the commitment by seeking solutions. For the incarcerated women in POWER, this is deeply intertwined with planning for reentry. The goal-setting elements of SAFE were revised to reflect this, and they are an essential part of the final intervention session, booster session, and post-release booster calls. The women develop two personal goal plans: one to help them successfully reenter the community, including plans for employment and housing; and one for goals related to their sexual health. The participants work toward implementing these plans and meeting their goals in the in-facility booster and the post-release booster calls.

Cultivating Social Support. Another important part of SAFE is the use of social support at each stage. Throughout the intervention sessions, social support from each other is emphasized and cultivated in the positive environment, the sharing of personal information, supporting one another with challenges, and problem-solving solutions. In SAFE, the participants are encouraged to continue to support one an-other after the intervention is over. This, however, is not always feasible for rural incarcerated women who are released at different times to different parts of the state. In addition, there is the risk of reinforcing social connections to criminal and sexual risk behaviors. However, developing positive relationships and social support is an important strategy for successful reentry as well as meeting their sexual health goals. To guide them through their preparation for reentry, the women are asked to identify one drug-free person outside of prison with whom they would feel comfortable discussing issues such as HIV/STI and sex and drugs, and who would support them in their efforts to be safe. The positive support they built in the intervention is used as an example of the power of support and how to foster it in their lives.

Additional Booster Sessions. In addition to personal goal plans, the in-facility booster session covers a brief review of the sessions, employment information and skills, condom skills practice, a POWER video clip on reentry, and an activity where the women decorate t-shirts as a way to remind them of their experiences and goals from POWER. Upon release, the women are mailed a packet that includes local resources; a make-up case with condoms, lubricant, and lotion; and the t-shirt they created. In the post-release booster calls, the interventionist checks in with the participant on how she is doing with her support person, personal goal plans, sexual risk behaviors, and positive affirmations, answers any questions, and offers to send additional condoms, if needed.

DISCUSSION

Following the MAP, the Project SAFE EBI was adapted to develop the intervention Project POWER to meet the unique HIV and STI prevention needs of incarcerated women and fit the setting of NC prison facilities. SAFE was chosen for its strong theoretical foundation for behavior change, with emphasis on gender and power in relationships, social support, and empowerment (Shain et al., 1999). The rich information gathered at each phase of the adaptation process provided critical in-formation for adapting the delivery and content of the intervention, while adhering to the core elements of SAFE. The formative work identified multiple intersecting risk factors for HIV and STI infection for this population of women. The women experience synergistic effects from psychological, relationship, and social contextual factors reinforcing one another to re-create risk. The adaptations enhanced aspects of empowerment and gender and power in relationships and added new content to address substance use, interpersonal violence, mental health, and reentry. POWER's intervention content is delivered by credible sources that resonate with incarcerated women through facilitators experienced with the population, and through new videos featuring previously incarcerated women. To adapt POWER for the unique circumstances and policies of the local prison facilities, the intervention was broken into shorter segments; one in-facility booster session and three post-release booster calls were added; and the male co-facilitator role was removed. In addition, post-intervention social support was revised so that women would have a source of sup-port in the local community where they would be released.

The adaptation process for this project was extensive due to three major adaptation activities: (1) update the intervention videos; (2) adapt the intervention delivery and content for a highly vulnerable population; and (3) adapt the intervention delivery and content for a non-traditional HIV/STI prevention intervention setting. Although SAFE was designed for high-risk African American and Mexican American women diagnosed with a non-viral STI, the complex needs of incarcerated women create an intense vulnerability to HIV/STI that needed to be addressed in the intervention. Further, intervention facilitators need experience and training to address the complexities of working with this population and within the prison setting. Using nurse and social work professionals with existing skills helped to limit the training required to deliver the intervention. In terms of the setting, although correctional institutions can be ideal for providing HIV/STI prevention tools, these efforts need to be balanced with the mission and goals of the facilities. It is also a challenging setting in which to work due to the highly structured, bureaucratic, and ever-changing environment at all levels of the organization. To address these issues, it was essential to get buy-in and involve the NCDOC administration from the beginning and throughout every step of the process. Process evaluation data from the intervention trial will also provide valuable information about the intervention feasibility and acceptability.

CONCLUSION

Despite the challenges of implementing research and interventions in correctional settings and the complex HIV/STI prevention needs of incarcerated women, it is imperative that we identify, develop, and implement a broad set of gender-specific HIV/STI prevention tools for

this population. The adaptation process described here and the POWER intervention provide important resources for building such a portfolio. The adaptation process can help guide efforts to adapt POWER and other behavioral interventions for local correction environments. Additional work is needed to explore the feasibility and effectiveness of implementing interventions such as POWER in short-term jail settings. Interventions adapted specifically for adolescent girls in juvenile detention facilities provide the opportunity to work “upstream” and intervene early on the social, behavioral, and emotional risk factors addressed in POWER. Behavioral and biomedical interventions are also critical for incarcerated women who are living with HIV/AIDS. POWER can provide a model for addressing the social, behavioral, and mental health factors that can create barriers to HIV transmission prevention, engagement and retention in care, and adherence to anti-retroviral medications. In this way, adaptation can serve as a mechanism to better equip public health and correctional institutions to effectively provide incarcerated women with needed HIV/STI prevention, care, and treatment.

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