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The Development of a Brief Jail-Based Cervical Health Promotion Intervention

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Abstract

The primary objective of this article was to describe the development and pilot implementation of a brief jail-based cervical health promotion intervention. The intervention was guided by a preliminary study of incarcerated women's cervical health knowledge, awareness, and health literacy, as well as a social and feminist approach to intervention development. We developed and conducted a pilot implementation of the Sexual Health Empowerment Project to increase cervical health knowledge, reduce barriers related to beliefs about cervical cancer, and improve self-efficacy and confidence in navigating health systems. This article offers a framework for how empirically and theory-based interventions are developed and tailored for a jail setting. Future work should include the evaluation of the long-term effects of such a disease-specific program on health behaviors and outcomes among high-risk and vulnerable groups of women as they leave jails and enter communities.

Keywords

cervical cancer; cancer prevention and control; health disparities; health promotion; minority health; women's health

BACKGROUND

Women serving time in the criminal justice system are disproportionately affected by cervical cancer and poor health. In the general population in the United States, about 12,000 new cases of cervical cancer are diagnosed each year (Centers for Disease Control and Prevention, 2013). Over the past 40 years, however, incarcerated women in North America have consistently been 4 to 5 times more likely to have cervical cancer compared to age-matched samples of noninstitutionalized women (Binswanger, Krueger, & Steiner, 2009; Moghissi & Mack, 1968). Incarcerated women are also 6 to 11 times more likely to have abnormal cervical exams (Martin, 1998; Ramaswamy, Kelly, Koblitz, Kimminau, & Engelman, 2011).

The 1 million women under correctional supervision in the U.S. also have high rates of sexually transmitted infections (Hale et al., 2009), along with other risks for cervical cancer, including histories of multiple sex partners (Fogel & Belyea, 1999), trading sex for money or drugs (Bond & Semaan, 1996), tobacco use (Cropsey, Eldridge, & Ladner, 2004), and human papillomavirus (HPV) infection (Bickell, Vermund, Holmes, Safyer, & Burk, 1991). Women of color, a group at greater risk for poor cervical health outcomes (McDougall, Madeleine, Daling, & Li, 2007; Patel et al., 2009), are also disproportionately represented in the criminal justice system. Black women are 7 times as likely as White women to have spent time in jail or prison, and Latina women are 3 times as likely as White women to go to prisons in their lifetime (Freudenberg, 2002; The Sentencing Project, 2003). Thus, incarcerated women of color, in particular, face multiple risks for poor cervical health outcomes. In addition to these risks, studies suggest that although women with criminal justice involvement do get screened for cervical cancer (Binswanger, White, Pérez-Stable, Goldenson, & Tulskey, 2005; Ramaswamy et al., 2011), follow-up care after screening remains problematic (Clarke et al., 2007; Martin et al., 2004). Little is known about why women involved in the criminal justice system have suboptimal abnormal cervical exam follow-up experiences. Limited health promotion programs are available to specifically address cervical health among this high-risk group of women. Until we effectively address incarcerated women's heightened cervical health risks, given the barriers of incarceration, release, and poor health histories, the cervical cancer health disparity between incarcerated and nonincarcerated women will persist.

In the "free" community, educational, outreach, and mass media interventions have been employed to promote cervical cancer screening and in some cases abnormal Papanicolaou (Pap) test follow-up. For example, culturally tailored educational interventions, one with a self-efficacy-building component (Figueroa-Muñoz Ledo, Márquez-Serrano, Idrovo, & Allen-Leigh, 2014) and another with the use of a lay health educator/patient navigator (Duggan et al., 2012) have been used to improve screening uptake among Latina women. Another novel intervention used a family-focused educational approach to improve literacy and screening among Latina, Black, and Arab women (Williams et al., 2013). Targeted automated phone reminders and mass media messaging have been used to improve screening uptake among diverse groups of women, as well (Fornos, Urbansky, & Villarreal, 2014; Michielutte et al., 1989). A review of such cervical cancer prevention programs showed that community outreach is effective, as are targeted patient mailings and Pap test cost reduction programs, and in some cases physician prompts have improved screening and follow-up of abnormal Pap tests (Marcus & Crane, 1998). The authors of this review, as well as others, have concluded that a combination of approaches is best, and ultimately interventions should be tailored directly to the subgroups most at risk (Vellozzi, Romans, & Rothenberg, 1996). In fact, Vellozzi et al. (1996) have shown that strategies that work for one subgroup, for example, mass media campaigns for targeting Latina women, may not work for others, in that case Black women. Like most educational programs, we felt that a cervical health promotion intervention for incarcerated women would have to be tailored specifically to the women's educational, social, and cultural backgrounds—balancing delivery of information and empowerment for health behavior change against the real structural constraints of their criminal justice involvement. We also sought to take advantage

of the unique opportunity for using jails as points of health intervention, thus designing a standard individual-level health promotion program.

By way of background, women in U.S. jails are a different population than those in U.S. prisons. Jails house individuals awaiting adjudication, sentenced to terms of 1 year or less, as well as probation and parole violators (James, 2004). Because of the relatively short length of stay and rapid turnover—women leave jails days, weeks, and months after arrest—there is substantial opportunity to engage these women in brief, jail-based community health prevention programs (Ramaswamy & Freudenberg, 2007). Indeed, such programs have addressed sexual health needs and drug use, for example, among people in jails, with success (Clarke, Gold, Simon, Roberts, & Stein, 2012; Freudenberg et al., 2010). Following this tradition, we developed a brief, jail-based cervical health promotion intervention. Because researchers and public health educators are unfamiliar with the process of working with jail populations and developing interventions tailored to that setting, the goal of this article was to describe the development of such an intervention. By describing the development and pilot implementation of our jail-based public health education intervention, we offered a framework for how to use empirical and theory-based approaches for tailoring health promotion interventions to a jail setting. Our particular focus was on cervical cancer prevention among women with criminal justice involvement, which is an understudied topic in public health.

METHOD FOR INTERVENTION DEVELOPMENT

Our objective was to describe the development of a brief jail-based cervical health promotion intervention. We described the empirical and theory-based approach to intervention development. In a subsequent section of this article, we described the pilot implementation of the intervention to illustrate how health promotion interventions can be tailored to a jail setting, as well as an informal retrospective process evaluation of our efforts.

Empirical Evidence—Needs Assessment Data

Between fall 2011 and winter 2012 and over 4 months, we conducted an assessment of cervical health knowledge, awareness, and health literacy among women in jail as a possible explanatory factor for cancer risk. In particular, we were interested in those women with recent abnormal cervical exam experiences, in order to investigate loss to follow-up after abnormal Pap test results. To do this, we analyzed data collected with 45 women in a Midwestern county jail through focus groups and in-depth interviews. Though we recruited women based on their self-report of abnormal Pap test history in the past 5 years, we found through in-depth interviews with the participants that almost half of the women misinterpreted abnormal Pap test events as any reproductive health problem diagnosis, such as ovarian cysts, bleeding, and sexually transmitted infections. Women's lack of understanding about the meaning of "abnormal Pap" was common, despite overall high general health literacy scores on a standardized instrument—91% had "adequate" levels of health literacy when measured with the Short Test of Functional Health Literacy in Adults. Additionally, the women showed deficits in their ability to process and understand information relevant to their cervical health. For example, the women believed that the Pap

test was an all-purpose test used to detect not only cancer but also sexually transmitted infections, pregnancy, and rape. The women in our study also had misinformation about Pap test screening recommendations, with some thinking that screening should occur monthly or whenever a woman engaged in risky sex behavior. The women reported conflicting notions about the etiology of cervical cancer—infectious, hereditary, and even related to hygiene. Only 1 out of 45 participants correctly identified the connection between HPV and cervical cancer. Apart from knowledge and beliefs about the Pap test and cervical cancer, our participants reported barriers to self-efficacy and ability to navigate health care systems—the perception of mistrust toward clinicians inside jails and in the community and the feeling that preventive sexual health care is a low priority due to competing needs related to drug use, money, and repeated episodes of criminal justice involvement.

Theoretical Approach

Our needs assessment findings forced us to consider the range of theoretical approaches that might form the basis for a health behavior intervention. In particular, we drew on social theory that might explain the macro and mid-level factors that influence women's ability to address their health needs. Given our experience working with marginalized subgroups, social theory provided a rich field from which to draw lessons about inequality, health, and social outcomes. Ultimately, our theoretical framework guided intervention structure and overall approach, rather than individual intervention sessions. For example, we felt that women could leverage in-group knowledge, community social relations, and local resources. Drawing on the social theorist Pierre Bourdieu's (1984) argument that social transformation occurs through a network of social relations, we designed a group-based intervention that emphasized the strategies women might use to navigate ongoing criminal justice involvement, community reentry, family, romantic and sexual partners, and health services both inside and outside the jail. The "social transformation" that we were interested in was the women's ability to engage in health-promoting activities, even when balanced against other priorities. Bourdieu theorized that people's preferences, in this case health promotion practices, were strongly tied to social position and thus, social mobility. By engaging in explicit discussions of preferences and health practices with peers, public health researchers, and educators, we sought to create an environment in which women would have a chance to harness the shared experience and knowledge of the group, as it related to health-promoting activities.

Second, we wanted an approach that empowered women with knowledge and skills, since so many of these women experience disempowerment in several areas of their lives, given their difficult life circumstances and the nature of their criminal justice involvement. For us, empowerment started with increasing knowledge about a broad range of reproductive health problems, including cervical cancer prevention. We used an empowerment approach to address beliefs and improve self-efficacy related to screening and treating those problems, with an emphasis on how women could be advocates for their own health as well as other women's. We planned to discuss openly challenges and participant-driven solutions to navigating health care providers and broader health systems. We sought to empower women to tackle the range of their reproductive health needs and make the perception of a more "distant" problem of cervical cancer prevention a priority. The sexual health empowerment

component of the intervention stemmed from a feminist perspective on health— understanding women’s experience within their social and political context, as well as a health-focused approach, not disease or illness focused (Andrist & MacPherson, 2001; Kelly & Bobo, 2004). This approach emphasized the context of romantic and sexual partnerships, family, and community in women’s lives; the role of the intersection of race-, class-, and gender-specific health outcomes; and rejection of status quo values and assumptions about women (Kelly & Bobo, 2004).

Although social and feminist theory informed the overall approach to intervention development, helping us contextualize our participants’ lives and experiences, individual session content was rooted much more heavily in empirical data from our own needs assessment and that of the literature on factors associated with cancer prevention (see Figure 1). For example, both our own data and the literature addressed the importance of building knowledge (Hunter, 2005; Simon et al., 2010), addressing beliefs about cervical cancer (Eggleston, Coker, Das, Cordray, & Luchok, 2007; Hunter, 2005; Simon et al., 2010; Vanslyke et al., 2008), self-efficacy (Binswanger, Mueller, Brendan Clark, & Cropsey, 2011; Hunter, 2005; Lindau, Basu, & Leitsch, 2006; Simon et al., 2010), and confidence navigating health care providers and systems relating to cervical cancer prevention (Eggleston et al., 2007; Goffman, 2009; Lindau et al., 2006; Magee, Hult, Turalba, & McMillan, 2005; Martin et al., 2004; Plugge & Fitzpatrick, 2004; Simon et al., 2010). It seemed appropriate to us to use social theory to frame our broader approach, yet draw on empirical evidence to frame individual session content.

RESULTS: PILOT IMPLEMENTATION OF THE INTERVENTION AND RETROSPECTIVE PROCESS EVALUATION

We described the pilot implementation of our intervention to illustrate how a cervical health promotion intervention can be tailored to a jail setting. In doing so, we first outlined the intervention structure, setting, participants, and outcomes of our pilot implementation to provide specific examples of each component of intervention implementation as they occurred in the field. The second half of the results section provides a retrospective overview of the feasibility of implementation and assessment of our efforts to develop an empirically and theoretically based intervention.

Intervention Structure

The Sexual Health Empowerment (S.H.E.) Project intervention was designed to be delivered in small-group (cohort) format in a large-scale study, based on previous experience with delivering interventions in jails (Pankey, Kelly, Nollen, & Ramaswamy, in press). We planned for each cohort to have approximately 10 participants. The intervention was designed to consist of five sessions, starting on the Monday of a week without a holiday and ending on a Friday. This format follows the structure of previous studies that have been successfully conducted and accounted for rapid turnover of women from jails (Ramaswamy et al., 2011). Because of this turnover, we would have limited time with each cohort of women and have found that a 1-week, 5-day/session intervention is feasible and effective and reaches the largest number of potential participants in our target facility. We anticipated

low to no attrition over the 5-day period and planned to recruit women who would be in the facility at least through the week. Each intervention session was designed to last approximately 2 hours from 10 a.m. to 12 p.m., given jail schedules (meals and court visits). Session 1 included the baseline survey and took 3 hours, and Session 5 included a satisfaction survey.

Figure 1 describes the key components of the S.H.E. Project. The intervention sessions were primarily organized around improving knowledge, reducing screening and treatment barriers related to beliefs, and improving self-efficacy and women's ability to navigate interactions with providers and health care systems, all of which were driven by the literature on factors associated with cancer prevention, Bourdieu's (1984) conceptualization of improving the ability to navigate social relations and changing participants' orientation to reproductive health, and our own preliminary study of incarcerated women's cervical health knowledge, awareness, and health literacy. Finally, we infused elements of sexual health empowerment that were sensitive to the women's social positions and the culture of ongoing criminal justice involvement (sources provided in Figure 1).

The S.H.E. Project was delivered by the lead investigator, who has experience in conducting research with inmates, teaching public health, and delivering health interventions, and a recent Master of Public Health graduate student, who also had experience delivering health interventions. We also engaged jail medical staff in delivered components of the intervention, though we planned to also bring in volunteer doctors and nurses from the community so that participants could practice interacting with clinicians in mock scenarios and openly ask questions to build both self-efficacy and confidence.

Setting and Participants

Participant recruitment for the pilot study occurred during a 1-week period in summer 2013, with women incarcerated in a county jail in Kansas City, Kansas. This facility held both adult and juvenile inmates, though only people older than 18 years were enrolled in this pilot study. Adults housed in the facility either were awaiting sentencing for misdemeanor convictions or had been sentenced. The average daily population of the adult facility was approximately 300 inmates. Approximately 10% of the daily population was female, with turnover of inmates occurring daily.

We recruited English-speaking participants only, given that less than 10% of the local jailed population was Latina. In previous research at these facilities, we found that many of the Latina women were fluent in English, though this may be a limitation in future programming. We screened for eligible participants through word of mouth (via jail special programs staff) and by posting recruitment flyers in the housing units. We used a recruitment flyer that said, "Are you interested in participating in a study about your sexual health?" Such a recruitment technique has been feasible in past studies (Pankey et al., in press; Ramaswamy et al., 2011).

Using these methods, we recruited seven women on the day our pilot study started. Fifty-four women were housed in the detention center; 21 women were interested in the study; 11 of those women were eligible based on being able to participate in a weeklong intervention;

and 7 of the eligible women ultimately decided to participate, prior to reviewing the study consent form. All 7 consented to participating. Our university's institutional review board approved the protocol for the needs assessment, as well as the intervention pilot implementation of the intervention described below.

Outcomes, Measures, and Findings From Pilot Implementation

Planned outcomes for the pilot implementation corresponded to the intervention goals to address cervical health knowledge, beliefs, self-efficacy, and confidence in navigating providers and health care systems. Thus, pre- and postintervention, we used the Pap Knowledge Scale (Fernandez et al., 2009), Health Belief Model Scale for Cervical Cancer and Pap Smear Test (Guvenc, Akuz, & Acikel, 2010), Self-Efficacy Scale for Pap Smear Screening Participation (Hogenmiller et al., 2007), and three questions we developed about confidence navigating health systems specific to women with criminal justice involvement based on our own preliminary studies. Though perhaps overwhelming for a 5-day pilot intervention, we used these three standardized scales as measures for our outcomes, since using such instrumentation is a standard in the field. Additionally, we wanted to field-test the instruments in order to gauge whether instruments were appropriate for the study and whether our participants comprehended the questions on the instruments. Finally, we used a 10-question satisfaction survey at the conclusion of the intervention. A longer term study would look at behaviors and health outcomes over time. That was beyond the scope of this pilot.

In June 2013, we were able to conduct a small feasibility pilot with seven women. We successfully recruited and retained seven women for a 1-week pilot in a jail setting, demonstrating that such a recruitment technique is possible. One participant had a court date on the final day of the intervention but returned the following week to the jail (after contacting the principal investigator of the study after release from jail) to complete the postintervention survey. We developed a first draft of intervention materials and piloted these along with survey instruments. At the beginning of the intervention none of the women knew current Pap test screening recommendations, but by the end 71% knew the recommendations. Postintervention, we found increased scores in knowledge about cervical cancer ($p = .13$), decreased fear about cervical cancer ($p = .11$), increased self-efficacy for screening ($p = .61$), and increased confidence navigating providers and health systems ($p = .02$).

Our satisfaction survey indicated that participants enjoyed participating in the program (mean scale score of 4.9 on a scale of 1 [*not at all*] to 5 [*quite a lot*]), looked forward to the program each day (mean scale score of 4.6), learned new information from the program (mean scale score of 4.7), and felt that the program met their expectations (mean scale score of 4.7; Cronbach's alpha for all items was .8). All participants said they would participate in a program like this again.

Specific suggestions from participants were to make the program longer in duration, for example over a 2-week period versus 1 week. One participant also thanked us for giving her a reason to leave her jail cell. Two participants indicated that they liked the "instructors" or "teachers." One participant said the pre- and postintervention surveys should be revised as

the language was confusing, a sentiment echoed by multiple participants during the administration of surveys. One participant in her feedback survey (though others during the course of the program) said we should make sure the intervention “games” were better organized. During the intervention, participants expressed a desire for more technologically advanced pedagogical methods. We used whiteboards and cutout papers. Some of the participants expressed a desire for multimedia presentation of information.

Retrospective Process Evaluation

In doing a retrospective process evaluation, we sought to provide an overview of the feasibility of implementation and assessment of our efforts to develop an empirically and theoretically based intervention (Jones, Baker, Gelaude, King, & Jemmott, 2013; Sanchez et al., 2014). The following questions guided our assessment of feasibility of implementation: (a) Were we able to recruit participants? (b) Were we able to retain participants? (c) Was the jail amenable to our implementation? (d) Did jail administrators facilitate intervention delivery and follow-up of participants?

Indeed, as described above, we recruited almost 13% of women housed in the detention unit. Of those women who were interested in participating, we found that 52% were eligible. Of the eligible women, 64% participated. We successfully retained six participants over the course of the week-long intervention, with the seventh participant missing only the last day to make a court appearance. She contacted the jail to complete her follow-up assessment 1 week after the intervention was completed. The jail special programs coordinator contacted the research team to facilitate completion of the follow-up survey in the jail waiting room (the participant was no longer incarcerated). The jail was amenable to intervention implementation, having had a history with the research team. This pilot study was the fourth study to be implemented at the jail in the past 3 years. As in past studies, the jail special programs coordinator facilitated access to a law library that had conference tables at which the intervention could be delivered, along with special programs staff that could be present for securing inmates and protecting the safety of research staff. As part of the ongoing relationship with this jail, we have always gone back to present study findings, as with this pilot study. The jail administrator, county sheriff, medical staff, special programs staff, and other facility employees have attended these presentations over the course of the 3-year-long research relationship.

We used five questions to guide the assessment of our efforts to develop an empirically and theoretically based intervention: (a) Did the needs assessment data inform the intervention? (b) Did the theoretical framework inform the intervention? (c) Was the intervention delivered as designed? (d) What was the quality of intervention delivery? (e) Were the instruments selected appropriate for the intervention?

The needs assessment data directly informed the organization and content of the intervention. Based on needs assessment data, we came up with four intervention domains, which were directly related to previous participants’ knowledge, beliefs, self-efficacy, and confidence related to understanding and preventing cervical cancer.

In a somewhat nontraditional approach, our needs assessment drove the investigation of appropriate theoretical frameworks to support the basis for the intervention. This nontraditional approach was influenced by the order of events: A needs assessment study was conducted prior to intervention development and conception. Based on what we found in the needs assessment and on our interaction with women in needs assessment focus groups, we felt that the women had a unique potential of resources on which to draw—their individual knowledge, in-group knowledge, community social relations, and local resources. Therefore, we conceived of an intervention that could leverage their social relations and build knowledge and self-efficacy around cervical cancer prevention. Although this theoretical framework informed the structure of the intervention (with cohorts of women sharing and building their knowledge base), it did not directly correspond to the content of each of the five intervention sessions. The content was driven much more heavily by needs assessment data and the literature on factors associated with cancer prevention (see Figure 1). The second component of our theoretical framework was a sexual health empowerment approach—the goal of which was to empower women with knowledge and skills, given their unique circumstances. The unique skills required to navigate health systems, given the women we were working with, were incorporated directly into the content of intervention sessions but, more important, informed our orientation to intervention delivery. For example, we emphasized building rapport with participants, creating an environment of mutual respect, and listening to women as experts in their own matters of sexual health. We trained research staff in these areas based on our own experience in the field and modeling intervention delivery behaviors.

We did not conduct a formal assessment of whether the intervention was delivered as designed. However, intervention materials were created according to the sessions in Figure 1 and delivered in the order in which the content appeared. Problems with delivery included not finishing sessions on time, minor problems with games that corresponded to content (e.g., definition matching game had duplicate pieces), and lack of involvement with the range of providers we had planned on (we were able to engage only the jail medical provider in the intervention and not the community-based clinicians).

Quality of intervention delivery was assessed through a satisfaction survey administered to participants at the end of the weeklong intervention. The average satisfaction score was 4.7 on a scale of 1 to 5, where 5 indicated high satisfaction with intervention delivery. As described, participants suggested modifications to intervention delivery, such as better organization of exercises as well as more technologically advanced approach to intervention delivery: for example, with multimedia presentation.

As is common in the field, we chose standardized instruments to correspond to our planned outcomes. Since our theoretical framework primarily informed our approach, we chose instruments grounded in the empirical evidence that supported the individual session content. We used several criteria when choosing instruments: whether scales measured domains of interest, validation in the literature, use with vulnerable samples of women, and length of instrument. Thus, we ended up with the three validated scales and our three-item measure of confidence navigating health systems (no existing instruments to our knowledge specifically assessed navigation of health systems among people with criminal justice

involvement). Determining construct validity of the instruments was beyond the scope of this pilot. But given validation of three of the scales in the literature, we were confident that the scales measured the appropriate domains. Some participants, however, expressed confusion over some of the items, in particular discerning how to use the Likert-type scaling of answer choices for responding to a long list of questions (73 items in total). To minimize issues with reading, we read all the survey questions and responses aloud. We also had two researchers present to help answer questions. We encouraged women to answer as best as they could. One participant skipped the few items she did not understand. There were no other barriers to administering instruments on the first and last day of the intervention, with each survey administration lasting approximately 45 minutes.

DISCUSSION

Our brief jail-based cervical health promotion intervention was developed to address a public health need—the disproportionate burden of poor cervical health among incarcerated women. By describing the development and pilot implementation of our intervention, we sought to offer a framework for how empirically and theory-based interventions can be tailored to a jail setting, illustrating the methods for delivery and issues for consideration when working with vulnerable subgroups of women. In developing our intervention and conducting a needs assessment, we found that our sample of high-risk incarcerated women had varying levels of knowledge regarding their cervical health, thus directly relating to a need for development of interventions to address cervical health promotion. In this article, we demonstrated that developing and implementing a brief jail-based cervical health promotion program can address a public health need, is easy to implement, is potentially replicable, and may have an impact on knowledge, beliefs, and self-efficacy related to cervical health promotion in a longer-term study.

In developing and conducting a pilot implementation of this intervention, several lessons were learned:

1. Social theory can be used to guide the approach to intervention development when working with vulnerable subgroups of women and may be uniquely suited to thinking about the context of inequality in which women make health-related decisions. In conducting public health research, the standard approach is to root interventions directly into health behavior change theory (Glanz, Rimer, & Viswanath, 2008). Although we appreciate this approach, and indeed our intervention content does reflect health behavior change theories, we sought to take a more macro-theoretical approach for our broadest conception of the intervention, including its structure and flavor. We feel that such an approach is appropriately suited to doing effective public health work with the most marginalized subgroups of women.
2. Examining the similarities and differences between needs assessment data and the literature on factors associated with cancer prevention can lead directly to evidence-based intervention session content. As in most interventional studies (Duggan et al., 2012; Figueroa-Muñoz Ledo et al., 2013; Williams et al., 2013), we tailored individual session content to the specific needs of our participants—taking

care to address their unique social position, barriers, and stigma related to their ongoing criminal justice involvement. Using this approach led to pilot data that point to the possible effectiveness of such an intervention in a larger scale study, that is, increases in knowledge, beliefs, self-efficacy, and confidence navigating providers and systems as it relates to cervical health promotion.

3. Implementation of interventions in jails is feasible (Clarke et al., 2012; Freudenberg et al., 2010; Ramaswamy & Freudenberg, 2007). In this study, we were able to “get in” by capitalizing on a longstanding relationship with the facility. We were able to recruit a sample of eligible participants, and we were able to retain participants. The nature of jails—short-term facilities—is that there is high turnover of the women who reside in them (James, 2004). As in our study, a reality of doing interventions in this setting is that participants may leave due to release dates, court appearances, or in some cases administrative actions. Creating a plan for follow-up of such participants at a later date may be warranted, or at the very least, attrition should be planned for in sampling.
4. Formal process evaluations are useful in assessing the fidelity and quality of intervention delivery, including the appropriateness of outcome measures (Jones et al., 2013; Sanchez et al., 2014). We did not, however, conduct a formal process evaluation for this study since it was beyond the scope of the pilot. We did retrospectively evaluate elements of a process evaluation, though. For example, we encountered minor problems with delivery, such as the timely recruitment of community health providers to participate in our sessions. Though participants rated the programming with satisfaction, we did not collect comprehensive data from the researchers who delivered the program, which was definitely a weakness of the pilot. We also found that standardized and field-tested instruments still needed several rounds of piloting and refinement for the sample, which we had not done. In administering survey instruments, we tried to demonstrate fidelity to the instrumentation as originally designed. However, some participants felt that questions were confusing and that answer choices did not make sense in some cases. We have measured health literacy in a previous sample of women incarcerated in this jail and found that more than 90% had adequate levels of health literacy. It is unclear if we were observing a health literacy issue or a research survey literacy issue. This lesson demonstrates the necessity of piloting multiple instruments and assessing not only whether participants comprehend the questions but also whether we are actually able to measure outcomes of interest. The latter requires assessment of construct validity in the sample of interest, which was also beyond the scope of this pilot, though important for large-scale implementation.

A major limitation of our intervention, from the perspective of addressing the unique needs of incarcerated women and cervical health disparities, was the failure to incorporate racial, ethnic, or cultural considerations in designing and delivering the intervention. Our intervention definitely incorporated the dynamics of ongoing criminal justice involvement—to the extent that criminal justice is a type of culture. For example, we addressed the barriers to preventive health care of moving between jail and community, seeking jail-based medical services, and overcoming stigma based on incarceration history. But our intervention failed

to explicitly acknowledge the intersection of race, ethnicity, gender, and criminal justice involvement. Ignoring racial/ethnic considerations, in particular, could have important negative implications to those women from minority groups who are less likely to get diagnosed early (Patel et al., 2009) and have higher rates of cervical cancer, to begin with (McDougall et al., 2007). To that end, an important addition to the intervention would be the inclusion of sessions on the role of race, ethnicity, and culture in beliefs about cervical cancer, for example, acknowledging participants' stories about cancer, sex, reproduction, and health care seeking across race, ethnic, and cultural lines (Birhanu et al., 2012; Sims, 2010). A second example of a needed intervention component would be a session on how race, ethnic-, gender-, class-, and criminal justice history-based discrimination relates to sex and preventive health care-seeking behaviors (Richie, Freudenberg, & Page, 2001; Youman, Drapalski, Stuewig, Bagley, & Tangney, 2010).

There are several future directions for brief jail-based pilot programs like ours. First, such programs should be evaluated for their rigor and comprehensiveness. Second, such programs should be implemented and evaluated on a much larger scale than described in the present study. Our goal was to describe the development of such an intervention and offer an example for how health promotion interventions can be tailored to a jail setting, reaching some of the most vulnerable groups of women. However, the next step in disease-specific health promotion is to test such a fully developed intervention in the field using an appropriate experimental design and long-term follow-up measures that include preventive behaviors and cervical health outcomes. Doing so would fill an important gap in cervical health promotion programming for the high-risk group of incarcerated women.

CONCLUSIONS

The public health impact of describing this brief jail-based cervical health promotion intervention is its potential to inform future efforts at reaching high-risk women. By describing the development of an easily disseminated sexual health intervention that can be adapted to many health conditions and broader cancer prevention efforts in institutionalized populations (jails, prisons, community corrections, and military institutions), we hope to have an impact on both public health and the science of developing effective interventions that address cervical health. If such a disease-specific intervention were to be more rigorously implemented and tested, it might also have the potential to reduce cervical cancer morbidity and mortality for this high-risk and vulnerable group of women. From a disease-specific perspective, as implementation of provisions of the Affordable Care Act occurs, cervical cancer screening, follow-up, and HPV vaccination will be made widely available to all women (U.S. Department of Health and Human Services, 2012). Recent estimates suggest that up to half of all prisoners returning home may be eligible for new health coverage under the Affordable Care Act. An intervention such as the one described here could capitalize on these systems-level changes.

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<p>SESSION 1 KNOWLEDGE</p> <ul style="list-style-type: none"> Female body: review female anatomy with visuals, get women to talk about body parts with lay words (across race, class, cultural lines) Meaning of words: review cervical health words, such as "Pap, abnormal Pap, not normal, positive Pap, pelvic exam, colposcopy, HPV, malignant, terminal, sexually transmitted infection," and encourage women to talk about their understandings of these words Reading pamphlets: review standard cervical health education materials from NCI fact sheets, Planned Parenthood fact sheets, local health department fact sheets, fact sheets from women's health clinics at large local hospitals, and engage women in an open discussion about what works/ what doesn't/what can be gleaned from written information Procedures and routine: How often do you need a Pap giving frequently changing recommendations? What happens during a pelvic exam vs. a Pap test? (demo by nurse), Why do doctors do a colposcopy, why important, what happens during test? Have women explain in their own words before nurse provides an explanation <p>References: Hunter, 2005; Simon et al., 2010</p> <p>SESSION 2 BELIEFS</p> <ul style="list-style-type: none"> Family perspectives: what did your mother say about sexually transmitted infections, pregnancy, cancer? What do you say to your kids? How do romantic or sexual partners react to your news about sexually transmitted infections, HPV, cervical cancer? Engage women in discussion about what kinds of information and beliefs get passed down to them, discussion facilitated by study staff Fear/"If it ain't broke": what fears do you have about cervical cancer screening? What motivates you to get screened? HPV vaccine: vaccine beliefs/experiences/knowledge/acceptability of vaccine for girls and boys/prevention/role of men in HPV transmission: get women to discuss openly, discussion facilitated by study staff Informed consent: review consent forms for research, procedures, surgery; get women to discuss how they feel about each, do they understand forms, do they feel used/like guinea pigs? Perceived susceptibility: who is at risk? What does "risk" mean in context of sexually transmitted infections, HPV, cervical cancer? After women discuss openly, practice risk communication with nurses/doctors for risk of cancer/success of treatment rates. Encourage women to ask questions to help them interpret meaning of "risk." <p>References: Eggleston, Coker, Das, Corray, Luchok, 2007; Hunter, 2005; Vanslyke, et al, 2008</p> <p>SESSION 3 SELF-EFFICACY</p> <ul style="list-style-type: none"> Interpreting the Pap test: have guest nurses/doctors come in and deliver letters, phone messages, verbal "results" for Pap test, abnormal Pap tests, and follow-up instructions. Get women to critique delivery – what works, what doesn't, and ask questions about meaning of words, what are "right" questions to ask? Navigating Kansas City: get women to engage in a discussion about how to navigate free or low cost services locally, transportation options. Use women's own experiences to illustrate methods for navigating but also have study staff do survey of where to go, where to follow-up for free or low cost. Navigating the Web after jail: what are the most useful, timely, user-friendly resources on the Web for sexual, reproductive, and cervical health information? Practice navigating the Web with women. Risk factors: open discussion of role of smoking, drug use, alcohol in women's lives; sexually transmitted infection-type problems and other gynecological infections, get women to brainstorm ways to prevent these problems/barriers to preventing/reality of women's lives. Brainstorm strategies for safe sex given drug use, partners who cheat, having multiple sex partners, abuse <p>References: Binswanger, Mueller, Brendan Clark, & Cropssey, 2011; Hunter, 2005; Lindau, Basu, & Leitsch, 2006; Simon et al., 2010</p> <p>SESSION 4 NAVIGATION OF PROVIDERS AND SYSTEMS</p> <ul style="list-style-type: none"> Trust: what are range of trust issues with nurses, doctors, clinicians in jail: get women to discuss openly Jail and prison health: if you have to seek health services while incarcerated, how do you get preventive screening? Have women talk about issues openly, and then bring in jail medical staff to talk about barriers, rules, then talk to women openly again post-discussion (without jail staff) Stigma: how to go to doctor or hospital without fear of being reported to police? Review options for avoiding police reporting in health care settings. Talk openly about how women think clinicians perceive them based on their criminal justice status. ER care: review local health care options from Session 3; review when it's appropriate to go to ER and other options, as well as motivations to use ER for sexual, reproductive, and cervical health Social support: who can go with you to clinic visits? Do you want/need someone to go, or not? What are benefits and pitfalls of social support? <p>References: Eggleston et al., 2007; Elwood Martin et al., 2004; Goffman, 2009; Lindau et al., 2006; Magee, Hult, Turalba, & McMillan, 2005; Plugge & Fitzpatrick, 2004; Simon et al., 2010</p> <p>SESSION 5 WRAP-UP</p> <ul style="list-style-type: none"> Leftovers: review any material from Sessions 1-4 that did not receive enough attention/discussion Wrap-up exercise: have participants make their own sexual, reproductive, cervical health materials that represent values, languages, experiences associated with their own culture and challenges of ongoing criminal justice involvement <ul style="list-style-type: none"> Brainstorm values, languages, experiences that help women understand issues/take action Brainstorm what kinds of information women would pass on to their sisters, daughters, friends, fellow inmates Start creating materials: pamphlets, drawings, resource boxes to be placed at jail, voice recordings, etc. <p>References: Doak, Doak, Fridell, & Meade, 1998</p>
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Figure 1.
Key Components of Sexual Health Empowerment Intervention (S.H.E. Project)