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**Implementing High-Intensity Trauma-Informed Sexual Behavior Risk Reduction in
Justice-Involved Women**

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Abstract

Sexually transmitted infections continue to be a source of significant morbidity in people with a history of incarceration, particularly women. Justice-involved women are at exceptionally high risk of long-lasting and severe health consequences of contracting an STI. This evidence-based practice implementation project used a repeated measures design to compare sexually transmitted infection knowledge acquisition and condom use self-efficacy in a group of incarcerated women before, immediately after, and three weeks following participation in the Safer Sex Self-Efficacy Workshop. Of the participants (N= 21), 100% demonstrated a significant increase in sexually transmitted infection knowledge and condom use self-efficacy between pre- and post-test scores of the Sexually Transmitted Disease Questionnaire and the Condom use Self-efficacy Scale and maintained those increases at the three-week follow-up.

Keywords: Justice-Involved, Women's Health, STI prevention

Implementation of High-Intensity Trauma-Informed Sexual Behavior Risk Reduction in Justice-involved Women

Incarcerated women and girls, hereafter referred to as justice-involved women are a rapidly growing segment of jail and prison populations (American Civil Liberties Union, 2020). Justice-involved women are those detained in jails and prisons or supervised by the community corrections system through probation or parole (Boutwell & Freedman, 2014). The rates of incarceration for women have steadily increased over the last few decades and are twice those of men (Pew Center on States, 2008; Penal Reform International, 2015; Carson, 2020; Mauer, 2013). Women's incarceration rates increased by 837 % between 1978 and 2015 compared to a 367% increase for men (Prison Policy Initiative, 2018). The increase can be attributed to women's drug use patterns, participation in the drug trade, and lack of available treatment for substance abuse (Wahler, 2015).

Justice involvement should be viewed through a lens of intersectionality, considering that gender, race, class, and even sexual identity merge to impact one's experience with the American legal system. Policies such as random drug testing of pregnant women of color and law enforcement activities that target the poor exacerbate the problem (Lester et al., 2004). With the lack of treatment options and disparities in the prosecution of drug offenses, women, especially those belonging to African American, Latinx, and economically disadvantaged groups, are likely to be imprisoned because of drug use rather than enrolled in a drug treatment program (Barberi & Taxman, 2019a). Correctional facilities disproportionately house women of color (Mallicoat, 2014). Black women (83 per 100,000) are incarcerated at a rate 1.7 times that of their White counterparts, while the probability of incarceration for Latinx women (63 per 100,000) is 1.3 times that of White women (48 per 100,000) (The Sentencing Project, 2019).

Harsh sentencing laws, including mandatory minimum sentencing for drug-related offenses, have resulted in a 700% increase in the number of women being held in prisons and jails (American Civil Liberties Union [ACLU], 2015; Turner, 2015; The Sentencing Project, 2020), with the number exceeding 231,000 over the past four decades (Prison Policy Initiative, 2022). Justice-involved women tend to be arrested for drug-based offenses, sex work, and property crimes (Mallicoat, 2014). Most are held at county-level facilities (The Sentencing Project, 2019; Bradley & Davino, 2002).

According to Ahmad et al. (2016), many women enter detention centers with chronic conditions such as hypertension and poorly managed type II diabetes and lack basic preventative health care. Although the number of women held in jails and prisons has grown, funds to address this group's specific social, cognitive, and medical needs are insufficient and less than those allocated to meet the needs of their male counterparts (Swavola et al., 2016). Justice-involved women often struggle to access reproductive healthcare such as abortion care, contraception, and hormone replacement to manage menopausal symptoms (Knittel et al., 2017).

Women must adjust to a system of justice designed primarily with men in mind that often neglects their gender-specific healthcare needs such as cervical and breast care (Binswanger et al., 2010; Salisbury & Van Voorhis, 2009). Petrillo (2021) pointed out that justice-involved women belong to a particularly vulnerable population, in which childhood trauma, mental illness, substance abuse, and sexual exploitation are common. Some scholars suggest that past victimization is a precursor to incarceration in women (Karlsson & Zielinski, 2018). Lynch et al.'s (2014) study of nearly 500 women in jails across four states and Washington, D.C. found that 91% of the women suffered from some form of mental illness. Fifty-three percent had

histories of PTSD, and 38% suffered from a dual diagnosis of mental illness and substance use disorder. Previous research identified a relationship between mental illness, substance use disorder, and intimate partner violence (McKee & Hilton, 2017). In conjunction with mental illness, substance abuse can lead to a plethora of health issues, including dental problems, heart valve dysfunction, and sexually transmitted infections (STIs) (National Institute on Drug Abuse, 2020).

STI/HIV Among Justice-Involved Women

In 2000, there were 18.9 million newly diagnosed cases of STIs in the U.S. (Weinstock et al., 2004). In January 2021, the CDC announced 26 million newly diagnosed STIs in 2018, indicating that one out of every five people living in the U.S. has an STI (CDC, 2021a). The U.S. healthcare system incurs an annual cost of \$16 billion dollars in relation to STI diagnosis, treatment, and sequelae (Owusu-Edusei et al., 2013). The three most commonly reported STIs include gonorrhea, chlamydia, and syphilis (Satterwhite et al., 2013). These infections are curable by treatment with antibiotics. However, if left untreated, any of these infections can lead to infertility, increased susceptibility to HIV, costly congenital disabilities, and even stillbirth (Van Der Pol, 2014).

People of color are disproportionately affected by STIs (Rhodes et al., 2020). Black women accounted for 42% of the newly diagnosed HIV cases in this country in 2018, while Latinx women accounted for 27% (NCHHSTP, 2021). That same year, chlamydia and gonorrhea rates in Black women were respectively five times and seven times those of White women. (CDC, 2021b). These differences are not necessarily attributed to differences in sexual risk behaviors but more to a lack of access to care and smaller social networks that are more likely to result in exposure to high-risk partners (Hogben & Leichter, 2008).

According to the CDC's Sexually Transmitted Disease Surveillance Report (2021), justice-involved individuals have higher rates of sexually transmitted infections than the general population. Khan et al. (2011) found that people in jail had a 30-40% higher chance of having an STI than people in the community, while Maruschak (2016) noted that 6% of state and federal prisoners had an STI compared to 3% of the public. Justice-involved women are unequally affected by social determinants of health that increase their susceptibility to poor health outcomes.

Justice-involved women have a high risk of infection, with chlamydia and gonorrhea rates as high as 11.4% and 3.1%, respectively (Javanbakht et al., 2014). They are likely to reenter their communities and transmit untreated infections by continued unprotected sex, sex for trade, multiple partners, and sex under the influence of drugs (Rich et al., 2016). Taken together, the underfunding of STI-related public health efforts and the rise of infections in vulnerable populations suggest that justice-involved women have an unmet need for reproductive health education and resources.

STI/HIV Testing and Treatment in Correctional Settings

STI/HIV testing and treatment vary between correctional facilities. Many jails offer opt-in STI screenings done only at the inmate's request or based on symptoms, while other facilities provide opt-out testing (Shaikh et al., 2015). Opt-in screening is problematic because it relies on the patient to report symptoms of an STI. Research has shown that 75-90% of women infected with STIs are asymptomatic (Tuddenham et al., 2022), as many STIs do not produce symptoms, especially in women. Syphilis has symptoms that can mimic other ailments, leading to a delay in diagnosis (Peeling et al., 2017), possibly resulting in congenital syphilis or stillbirth if the

woman becomes pregnant while infected. Opt-out testing covers all arrestees upon arrival at the facility (Rosen et al., 2016) and results in higher expenditure on laboratory fees and increased staff workload (Lederman et al., 2020). The CDC recommends that jails offer gonorrhea and chlamydia testing upon intake in conjunction with treatment, behavioral counseling for prevention, and follow-up (CDC, 2015). The U.S. Preventative Task Force recommends either high-intensity or low-intensity behavioral counseling for all sexually active teens or adults at risk of contracting STIs (LeFevre, 2014). High-intensity or high contact time behavioral counseling interventions are those lasting greater than or equal to 120 minutes. Successful interventions included basic STI information, prevention methods, personal risk assessment, and skills training in condom use and effective communication (LeFevre, 2014). A meta-analysis (N=39) by Henderson et al. (2020) concluded that interventions of this type lead to increased and more routine condom use (13 RCTs; n=5,253; odds ratio [OR], 1.31; 95% CI, 1.10 to 1.56) and a substantial increase in the number of times condoms were used with sexual intercourse (7 trials; n randomized = 2,920; mean difference, 10.75; 95% CI, 1.01 to 20.50). Von Sadvoszky et al. (2013) conducted a meta-analysis of 13 systematic reviews. They concluded that participants who received behavioral counseling interventions reported more condom use and reduced STIs for at least six months following the intervention compared to the control group (von Sadvoszky et al., 2013). High-intensity interventions and those that included a group counseling component increased the participants' use of condoms and reduced high-risk sexual behaviors like sex with multiple partners (LeFevre, 2014).

Approaches to Providing STI Care in a Correctional Setting

The majority of justice-involved women are of reproductive age, which increases the need for gender-specific healthcare (Zeng, 2019). The American College of Obstetricians and

Gynecologists (ACOG, 2021) recommends that women in jails receive care aligned with current ACOG guidelines, focusing on infectious diseases, mental health, and substance abuse. Other recommendations include rapid STI screening to facilitate treatment before release, provision of pre-exposure prophylaxis to reduce HIV transmission, and re-entry programs that focus on STI prevention, skill development, and employment (Knittel et al., 2017). Additionally, ACOG (2021) encourages using a trauma-informed care approach while collecting sexual histories and performing pelvic exams.

According to the Agency of Healthcare Research and Quality (AHRQ, 2016, p.1), "Trauma-informed care is an approach to engaging people with histories of trauma that recognizes the presence of trauma symptoms and acknowledges the role that trauma has played in their lives." About 90% of the women in one study reported physical or sexual abuse by a partner in the year before incarceration (Lynch et al., 2012). Considering that most women in custody are dealing with current or past trauma, it is crucial to avoid re-traumatization in our efforts to provide assistance (McDaniels-Wilson & Belknap, 2008). Lack of a trauma-informed approach with women who have likely been exposed to adverse childhood events such as parental neglect, violence in the home, and food insecurity can be detrimental (Centers for Disease Control and Prevention [CDC], 2022). Perceived lack of understanding on behalf of medical professionals can trigger anxiety and stress and lead to a lack of participation in healthcare activities (Grossman et al., 2021).

The Safer Sex Efficacy Workshop

The Safer Sex Efficacy Workshop (SSE workshop) is a high-intensity behavioral counseling intervention that aligns with the type of intervention recommended by the CDC. It is a single-session, three-hour-long evidence-based intervention designed to increase understanding

of HIV/STI prevention strategies, self-efficacy, condom use negotiation, and condom use intentions (Basen-Engquist, 1994). The SSE workshop was tested among college students. The participants were randomly placed into three groups—one that participated in the workshop, another that attended an HIV prevention lecture, and the third that participated in a class on family violence. Each group was given pre-test, post-test, and follow-up self-report questionnaires.

According to Basen-Engquist (1994), the workshop consists of four sections: The first section introduces HIV/STI risk factors, transmission, and prevention methods, the second section addresses barriers to practicing safer sex and ways to overcome them, the third section uses role-playing activities to develop condom negotiation skills, and in the last section participants practiced condom application using plastic models. Participants also discussed ways to make safer sex more appealing and how to initiate conversations around STI status and sexual history. Study participants increased their frequency of condom use from pre-test to two-month follow-up more than members of the control groups; however, there was no increase in the discussion of sexual histories or STI status was noted between the SSE workshop participants and the participants in the control groups.

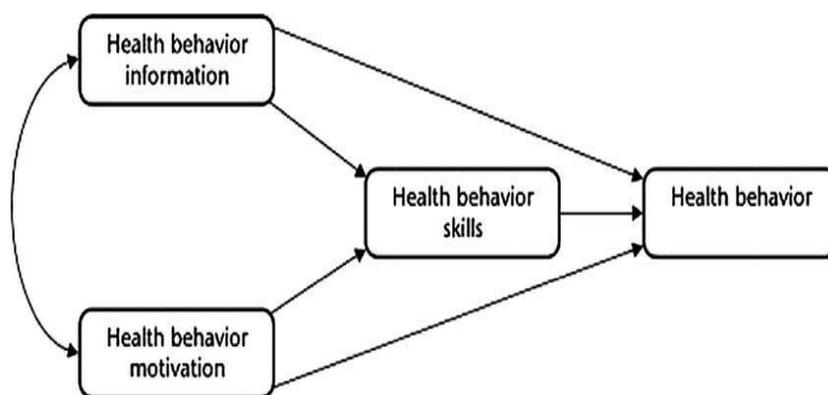
Because the SSE workshop was tested in a college student sample, the results might not generalize to justice-involved women. Nonetheless, the justice-involved participants are of a similar age with a similar sexual risk profile. According to Rudolf et al. (2020), college-age women participate in sexual activities while using drugs or alcohol and engage in casual sex with unfamiliar partners, similar to justice-involved women.

Theoretical Framework

The Information, Motivation, and Behavioral skills model is predicated on three determinants working in conjunction to facilitate behavior change. In the model, information refers to facts about the specific health condition and knowledge about health promotion as it applies to that condition (Fisher et al., 2010). In the realm of STI prevention, an example of information would be "condom use prevents STIs" (Fisher et al., 2010). Motivation determines whether an informed person is inclined to engage in behavior change. According to the model, personal motivation is the individual's attitude toward performing the required behavior changes (Fisher et al., 2010). Motivation can be personal and social. Social motivation would include a support system in place, encouraging behavior change. Women in jails and prisons tend to build "pseudo-families" or re-create family structures while incarcerated (Collica, 2010) and can use these relationships to support and reinforce positive learned behaviors (see figure 1).

Figure 1

The Information-Motivation-Behavioral Skills Model of Health Behavior



From J. D. Fisher and W. A. Fisher (1992). Changing AIDS risk behavior. *Psychological Bulletin*, 111, 455-74.

In conjunction with information and motivation, there are behavioral skills. Individuals need a specific skill set to perform health promotion behaviors. Participants need a high level of self-efficacy to execute behaviors effectively and the objective ability to perform them.

According to Bandura (1990), "perceived self-efficacy is a person's belief that they can exert control over motivation, behavior, and social environment." An example would be a person's ability to obtain condoms and successfully negotiate condom use with a partner. A well-informed and highly motivated individual who believes in her ability to carry out health promotion behavioral skills has the determinants required to initiate and maintain health promotion behaviors as defined by this model.

Purpose

According to the Substance Abuse and Mental Health Services Administration (SAMHSA, 2020), justice-involved women often reenter society, only to encounter the unresolved problems they faced before incarceration. Specifically, they potentially experience the health consequences of untreated STIs or facilitate their spread in the community. The lack of adequate support in the community makes the period of imprisonment a prime opportunity to enact evidence-based group risk-reduction interventions specifically tailored to decrease the public health problem of STIs in this population. Although research supports high-intensity behavioral interventions to increase STI prevention in young women, there is a dearth of information about the specific effects on women in a correctional setting. Few prisons/jails offer structured reproductive health education programs despite the clear need. Therefore, the purpose of this evidence-based practice implementation project was to implement the SSE workshop in a correctional facility for women in Northern California to reduce sexual risk behaviors and increase condom use intention.

Methods

Design

This evidence-based practice implementation project used a repeated-measures design to examine the impact of a behavioral counseling intervention delivered to one group of justice-involved women. The dependent variables were measured over three periods: before the intervention, immediately after, and a three-week follow-up.

Setting

This project took place at a rural detention facility in California's San Joaquin Valley. This local detention facility serves individuals awaiting trial or those sentenced for drug offenses, driving under the influence, property crimes, murder, etc. Most people housed at this facility are San Joaquin County residents, but detainees include offenders from other counties and states, as well. Due to its underserved population with various acute and chronic medical conditions, the jail is a significant source of community health access and treatment for different medical conditions ranging from STI/HIV to hypertension and COPD.

Various medical professionals provide medical services 24 hours a day, seven days a week. The jail has physicians, nurse practitioners, registered nurses, licensed vocational nurses, medical assistants, and a host of other clinicians to address the needs of the incarcerated population. The professionals involved in delivering the intervention included Nurse Practitioners, Licensed Vocational Nurses, and a counselor trained in trauma-informed treatment modalities.

The jail core consists of an area designated for inmates requiring a higher level of care, including those diagnosed with Type I diabetes mellitus, acute alcohol withdrawal, and post-operative patients. The medical staff uses the main clinic for primary care provider visits and individual clinics are located in each housing unit. Patients have access to specialty clinics located at the nearby county hospital. The number of patients seen by all the medical staff varies and can exceed

100 per day, depending on the circumstances. The jail's daily census is approximately 1,500 people. Prior to implementing this doctoral project, opt-in STI testing was the standard of practice. Due to the workflow in the jail, there was little to no time allotted for discussing STI risks and prevention methods in detail.

Sample

Participants included female detainees aged 18-45 who were in custody for at least one month. Due to the project's group nature, women with a history of assaultive behavior toward staff or other inmates and those who displayed disruptive behaviors such as self-talking or active psychosis were not permitted to take part in group activities. Transgender women were excluded because they were housed in a different unit. Participants were limited to English-speaking women due to limited access to interpreter services and a lack of educational materials in other languages. The facility's institutional review board approved the implementation of the project.

Data

Demographic data were collected through chart review and included age, gender, and race/ethnicity. Upon arrival to the facility, detainees provided self-reported demographic information. In addition, the presence of STIs was obtained through chart review. The dependent variables measured were knowledge of sexually transmitted diseases and condom use self-efficacy using reliable and valid instruments.

The Sexually Transmitted Disease Knowledge Questionnaire

The Sexually Transmitted Disease Knowledge Questionnaire (STD-KQ) was used to measure patients' levels of knowledge regarding sexually transmitted infections such as transmission, prevention, and treatment modalities (See Appendix A). This 27-item tool was created in 2007 and comprised true or false statements about common sexually transmitted

infections (Jaworski & Carey, 2006). The total score ranges from 0 to 27, with higher scores indicating greater knowledge of STIs. The STD-KQ has an internal consistency of $\alpha=.86$ and test-retest reliability of $r=.88$ (Jaworski & Carey, 2006).

Condom Use Self-Efficacy Scale

The Condom use Self-Efficacy Scale (CUSES) measures participants' ability to obtain condoms, put them on and take them off properly and negotiate use with a partner (See Appendix B). This scale is a 28-item questionnaire that uses a 5-point Likert scale, rating items from (0) strongly disagree to (4) strongly agree (Brafford & Beck, 1991). Higher scores indicate greater effectiveness at using condoms and advocating for self-protection. The range of possible scores is 0-112. This scale has an internal consistency of $\alpha=.91$ and test-retest validity of $r=.81$ (Brafford & Beck, 1991).

Procedures

Planning

The project team introduced the staff to the project and the reasons for implementing the evidence-based intervention during a monthly staff meeting. Next, staff were briefed on the project's selection criteria, duration, location, and desired outcomes for the project through a memo. Lastly, the project team displayed infographics that defined the project's goals in places frequented by the staff, such as the lunchroom and library. The project team used infographics to enhance recruitment and remind staff about the project.

Implementation

The Nurse Practitioners were trained to conduct SSE workshops using a didactic approach. The training for facilitators included presenting information on common STIs, facilitating role-playing activities, and demonstrating proper condom application with a condom

demonstrator model. They received the User's Guide and Instructor's Handbook (Sociometrics, 2016) to review and ensure the SSE Workshop's proper adaptation.

Participants were recruited in two ways. The triage or booking nurses referred detainees who met the inclusion criteria to a project team member. In addition, participants were allowed to self-enroll by using a sign-up sheet placed on the unit. Once a project team member contacted the candidate, she described the project to the prospective participants and obtained informed consent. All participants were offered an opportunity to be tested for STIs, including gonorrhea, chlamydia, and syphilis. Those who refused to be tested still had access to the education program and were allowed to complete the questionnaires.

A nurse practitioner generated an STI/HIV testing order if the patient agreed to test. All staff were oriented to this process to ensure that specimens were collected promptly, preferably within 24 hours of the order being placed. Past procedures required detainees to fill out a medical request for STI/HIV testing. The new approach ensured that eligible women were automatically enrolled in SSE workshops with the choice to opt out at any time.

Recruitment for the SSE workshops took place between August and September of 2021. The single-session workshops were delivered to small groups of three to four participants at a time due to facility restrictions enacted to reduce the risk of COVID-19 transmission. Sessions lasted from 2.5 to 3 hours, depending on group engagement. Each session covered the essential components of the SSE workshop as outlined by the handbook: introduction to HIV/STIs, transmission and prevention, risk identification, condom negotiation, and condom application. An interdisciplinary team consisting of a nurse practitioner and a counselor conducted the sessions. The counselor served as a consultant and additional support to ensure trauma-informed delivery of the SSE Workshop. A member of the project team read the survey questions aloud to

the participants to address any issues with low literacy at each of the three data collection points: before the intervention, immediately after, and at the three-week follow-up.

Analysis

Descriptive analysis was performed on demographic data, including age and race/ethnicity. The mean and standard deviation was calculated for age. Percentages were determined for race/ethnicity. Further analysis was conducted to obtain STI rates for participants who agreed to be tested. The data for condom-use self-efficacy and STI knowledge were analyzed descriptively using means and standard deviations for each data collection period. Repeated measures analysis of variance (ANOVA) was used to compare the group means for before the intervention, immediately after, and at three-week follow-up for STI knowledge and condom use. Data analyses were performed using Intellectus Statistics software.

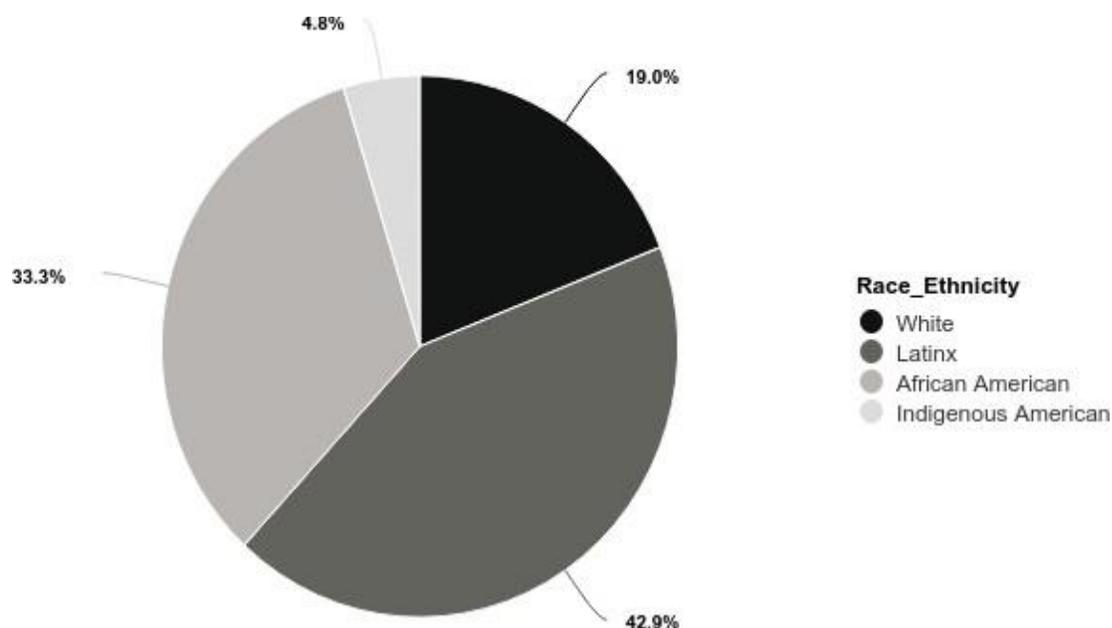
Results

Participant Characteristics

All participants identified as female (N=21) and were in the age range of 20-45 years old, with a mean age of 33.86 ± 7.22 . Most women were Latinx (42.9%), with the second most predominant group being African American (33.3%). Figure 2 illustrates the race/ethnicities of the participants.

Figure 2

Participant Race/Ethnicity (N=21)



Of the 21 participants, 11 opted out of STI screening. Among those who were tested for STIs (n=10), the most common infection was syphilis (50.00%, n=5). Table 1 shows the rate of positive STIs within the sample.

Table 1

Frequency Table for Sexually Transmitted Infections (N=10)

Variable	N	%
Syphilis	5	50.00
Gonorrhea	4	40.00
Chlamydia	4	40.00
Trichomonas	1	10.00

Knowledge and Condom Use Self-efficacy

The response rate-for both the Sexually Transmitted Disease Knowledge Questionnaire (STD-KQ) and the Condom use Self-efficacy Scale (CUSES) was 100% (N=21) at baseline, immediately after the intervention, and at the three-week follow-up. Participants had varying degrees of sexually transmitted infection knowledge, with the pre-test scores ranging between 9 (38%) and 24 (89%) correct responses for 27 items. The mean pre-test score was 15.52 ± 7.00 , the mean post-test score was 21.38 ± 2.92 , and the mean follow-up score was 21.00 ± 2.37 . Results of

the repeated measures ANOVA showed that mean knowledge of sexually transmitted infections significantly increased ($F = 31.15$, $p < .001$). *Post hoc* analysis indicated a significant increase in knowledge from pre-test to posttest ($p < .001$) and pre-test to three-week follow-up ($p < .001$), as demonstrated in Table 2.

Table 2

Knowledge of Sexually Transmitted Infections: Pre-test, Post-test, 3-week Follow-up Repeated Measures ANOVA, N=21

Variable	Mean (S.D.)	Min-Max	F	Difference	S.E.	df	p-value
Pre-test	15.52 (4.00)	9-24	31.15				p<.001
Post-test	*21.38 (2.92)	15-26	31.15	-5.86	0.80	20	
Follow-up	*21.00 (2.37)	17-26	31.15	-5.48	1.00	20	

*Note: *Post hoc Tukey test threshold $p < .05$, indicates a significant difference compared to pre-test value.*

The mean score for the Condom Use Self-efficacy Scale pre-test was 75.71 ± 9.16 , the mean post-test score was 83.14 ± 6.89 , and the follow-up mean score was 82.90 ± 7.27 . Table 3 presents the results of the ANOVA and *post hoc* analyses. Mean condom use self-efficacy increased significantly ($F = 9.88$, $p < .001$). *Post hoc* analysis indicated a significant increase in condom use self-efficacy from pre-test to posttest ($p < .001$) and pre-test to three-week follow-up ($p < .001$).

Table 3

Condom use self-efficacy: Pre-test, Post-test, 3-week Follow-up repeated measures ANOVA, N=21

Variable	Mean (S.D.)	Min-Max	F	Difference	S.E.	df	p-value
Pre-test	75.71 (9.16)	49-88	9.88				p<.001
Post-test	*83.14 (6.89)	72-102	9.88	-7.43	2.22	20	
Follow-up	*82.90 (7.27)	60-101	9.88	-7.19	1.73	20	

*Note: *Post hoc Tukey test threshold $p < .05$, indicating a significant difference compared to pre-test value.*

Discussion

The purpose of this project was to implement an evidence-based sexual health education program in a correctional setting. Justice involvement is associated with high levels of sexual risk-taking behaviors, and women who have been incarcerated need tailored sexual risk reduction strategies (Kuo et al., 2018). Caviness et al. (2012) found that of 174 justice-involved female participants, 2.9% tested positive for chlamydia, 20.5% for trichomonas, and 2.5% for gonorrhea. Of the 10 participants who opted-in for testing, 40% tested positive for chlamydia, 40% tested positive for gonorrhea, 50 % tested positive for syphilis, and 10% tested positive for trichomoniasis. The higher rates in this project are consistent with the STI rates in San Joaquin County, where this project took place which exceed state and national averages (CDPH, 2021). According to the California Department of Public Health (CDPH, 2021), California had the most reported cases of STIs in the US in 2019.

There were also statistically significant increases in the STI knowledge. Study participants mean scores on the STD-KQ improved from pre-test scores to posttest and was sustained through the follow-up testing at three weeks. The findings were consistent with the literature supporting high-intensity STI prevention interventions. Diallo et al. (2010) produced

similar results, where at six-month follow-up, participants were more likely to report a sustained increase in HIV knowledge.

Lastly, there was a significant increase in condom use self-efficacy from baseline which was sustained at the three-week follow-up. These findings are consistent with the literature supporting high-intensity behavioral counseling in developing self-protective behaviors like consistent condom use (Henderson et al., 2020). This is promising since condom use self-efficacy is associated with actual condom use (Dilorio et al., 2000). In addition, Jemmott et al. (2007) demonstrated an increase in condom use at three months post-intervention and sustained behavioral change at 12 months.

Limitations

This project's results should be interpreted in light of the following limitations. It was conducted during the height of the COVID-19 pandemic. COVID-19 restrictions to ensure social distancing limited each group to four participants; hence, the intervention was not accessible to many participants who could benefit from the education program.

Another limitation was the unpredictability of participants' length of stay. The length of confinement in a county jail can vary widely between detainees. The team selected participants from specific units to ensure their availability for the duration of the project from the delivery of the intervention through the three-week follow-up. Consequently, the entire sample of 21 completed the program with a 100% response rate in all surveys.

There was also no opportunity to follow up with participants after release. Therefore, long-term retention of learning is unknown. However, Johnson et al. (2014) found that a high-intensity intervention with justice-involved women resulted in a significant decrease in unprotected sexual encounters from baseline. The reductions were noted at the 2-month follow-

up and changed little between the 2-month and 8-month follow-up. Gilbert et al. (2021) used high-intensity behavioral counseling to prevent HIV in incarcerated women. Among the study participants, 38% fewer unprotected vaginal or anal intercourse acts were reported during the 12-months following the intervention (incidence rate ratio, 0.62; 95% CI, 0.39-0.97; $p = .04$) (Gilbert et al., 2021).

Another limitation is the project's reliance on self-reporting, which can be prone to social desirability bias (King, 2022). Many people might fear being judged or viewed negatively for sexual activity, especially acts considered taboo, such as anal sex (King, 2022). Therefore, it is possible that some participants underreported high-risk sexual behaviors. Using tablets or other devices to allow participants to respond anonymously can offset this bias, but due to low literacy rates reported for justice-involved individuals, the investigator read the questions and entered responses for the participants to enable full participation. A 2016 study published by the National Center for Education Statistics reports that 70% of justice-involved individuals read at a 4th-grade level (National Center for Education Statistics, 2016).

Implications for the Future and Sustainability

Despite the high need to implement targeted interventions for justice-involved women, there is a lack of dissemination in this setting. This lack of dissemination might be primarily due to the protected status of incarcerated individuals or societal disregard of this population. The results of this project indicate that there is value in high-intensity behavioral intervention strategies. Interventions of brief duration, like this single session intervention, have also been shown to have the desired effect according to USPSTF (LeFevre, 2014).

Follow-up research should be conducted to determine whether the increases in STI knowledge and condom use self-efficacy translate into sustainable behavioral changes in this

population. Additional studies should be performed in correctional facilities to test the acceptability, feasibility, and efficacy of the short-term intervention. Implementing this project was quite labor-intensive for the limited staff at the jail. Training peer educators could be a feasible alternative in the correctional setting. A systematic review and meta-analysis conducted by He et al. (2020) found that peer educators are effective facilitators of STI prevention interventions.

Conclusion

The results of this DNP project reflect that the use of high-intensity behavioral strategies incorporating information about sexual risk behaviors, STI knowledge, and behavioral skills practice increased knowledge and condom use self-efficacy. Most available curricula are designed to address the needs of men who have sex with men, college students, and adolescents. Researchers should develop more ways to address the needs of incarcerated women since they are a population with multiple risk factors, including trauma, substance abuse, and mental illness. Managing incidence and reducing the risk of STI transmission in a correctional setting is beneficial to those who are incarcerated and the community as a whole.

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Appendix A

The Sexually Transmitted Disease Knowledge Questionnaire

The Sexually Transmitted Disease Knowledge Questionnaire (STD-KQ; Jaworski & Carey, 2007)

Instructions: For each statement below, please circle true (T), false (F), or I don't know (DK). If you don't know, please do not guess; instead, please circle DK.

	True	False	Don't Know
1. Genital Herpes is caused by the same virus as HIV.	T	F	DK
2. Frequent urinary infections can cause Chlamydia.	T	F	DK
3. There is a cure for Gonorrhea.	T	F	DK
4. It is easier to get HIV if a person has another Sexually Transmitted Disease.	T	F	DK
5. Human Papillomavirus (HPV) is caused by the same virus that causes HIV.	T	F	DK
6. Having anal sex increases a person's risk of getting Hepatitis B.	T	F	DK
7. Soon after infection with HIV a person develops open sores on his or her genitals (penis or vagina).	T	F	DK
8. There is a cure for Chlamydia.	T	F	DK
9. A woman who has Genital Herpes can pass the infection to her baby during childbirth.	T	F	DK
10. A woman can look at her body and tell if she has Gonorrhea.	T	F	DK
11. The same virus causes all of the Sexually Transmitted Diseases.	T	F	DK
12. Human Papillomavirus (HPV) can cause Genital Warts.	T	F	DK
13. Using a natural skin (lambskin) condom can protect a person from getting HIV.	T	F	DK
14. Human Papillomavirus (HPV) can lead to cancer in women.	T	F	DK
15. A man must have vaginal sex to get Genital Warts.	T	F	DK
16. Sexually Transmitted Diseases can lead to health problems that are usually more serious for men than women.	T	F	DK
17. A woman can tell that she has Chlamydia if she has a bad smelling odor from her vagina.	T	F	DK
18. If a person tests positive for HIV the test can tell how sick the person will become.	T	F	DK
19. There is a vaccine available to prevent a person from getting Gonorrhea.	T	F	DK
20. A woman can tell by the way her body feels if she has a Sexually Transmitted Disease.	T	F	DK
21. A person who has Genital Herpes must have open sores to give the infection to his or her sexual partner.	T	F	DK
22. There is a vaccine that prevents a person from getting Chlamydia.	T	F	DK
23. A man can tell by the way his body feels if he has Hepatitis B.	T	F	DK
24. If a person had Gonorrhea in the past he or she is immune (protected) from getting it again.	T	F	DK
25. Human Papillomavirus (HPV) can cause HIV.	T	F	DK
26. A man can protect himself from getting Genital Warts by washing his genitals after sex.	T	F	DK
27. There is a vaccine that can protect a person from getting Hepatitis B.	T	F	DK

Appendix B

The Condom Use Self-Efficacy Scale (CUSES)

The Condom Use Self-Efficacy Scale: Response Means and Standard Deviations

These questions ask about your own feelings about using condoms in specific situations. Please respond even if you are not sexually active or have never used (or had a partner who used) condoms. In such cases, indicate how you think you would feel in such a situation. Responses are scored as follows: *strongly disagree* = 0, *disagree* = 1, *undecided* = 2, *agree* = 3, *strongly agree* = 4.

Statement

1. I feel confident in my ability to put a condom on myself or my partner.
2. I feel confident I could purchase condoms without feeling embarrassed.
3. I feel confident I could remember to carry a condom with me should I need one.
4. I feel confident in my ability to discuss condom usage with any partner I might have.
5. I feel confident in my ability to suggest using condoms with a new partner.
6. I feel confident I could suggest using a condom without my partner feeling "diseased."
7. I feel confident in my own or my partner's ability to maintain an erection while using a condom.
8. I would feel embarrassed to put a condom on myself or my partner.†
9. If I were to suggest using a condom to a partner, I would feel afraid that he or she would reject me.†
10. If I were unsure of my partner's feelings about using condoms, I would not suggest using one.†
11. I feel confident in my ability to use a condom correctly.
12. I would feel comfortable discussing condom use with a potential sexual partner before we ever had any sexual contact (eg, hugging, kissing, caressing, etc).
13. I feel confident in my ability to persuade a partner to accept using a condom when we have intercourse.
14. I feel confident I could gracefully remove and dispose of a condom after sexual intercourse.
15. If my partner and I were to try to use a condom and did not succeed, I would feel embarrassed to try to use one again (eg, not being able to unroll condom, putting it on backwards, or awkwardness).†
16. I would not feel confident suggesting using condoms with a new partner because I would be afraid he or she would think I've had a past homosexual experience.†
17. I would not feel confident suggesting using condoms with a new partner because I would be afraid he or she would think I have a sexually transmitted disease.†
18. I would not feel confident suggesting using condoms with a new partner because I would be afraid he or she would think I thought they had a sexually transmitted disease.†
19. I would feel comfortable discussing condom use with a potential sexual partner before we ever engaged in intercourse.
20. I feel confident in my ability to incorporate putting a condom on myself or my partner into foreplay.
21. I feel confident that I could use a condom with a partner without "breaking the mood."
22. I feel confident in my ability to put a condom on myself or my partner quickly.
23. I feel confident I could use a condom during intercourse without reducing any sexual sensations.
24. I feel confident that I would remember to use a condom even after I have been drinking.
25. I feel confident that I would remember to use a condom even if I were high.
26. If my partner didn't want to use a condom during intercourse, I could easily convince him or her that it was necessary to do so.
27. I feel confident that I could use a condom successfully.
28. I feel confident I could stop to put a condom on myself or my partner even in the heat of passion.

†Item reverse scored.

