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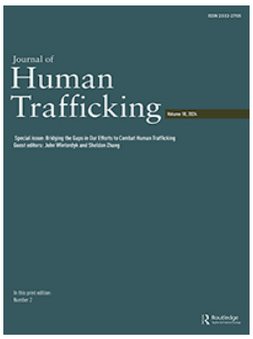

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My Body, My Choice: An Adapted Sexual Health Intervention for Youth with Histories of Commercial Sexual Exploitation

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Abstract

Youth with commercial sexual exploitation (CSE) histories experience high rates of unplanned pregnancies and sexually transmitted infections, with few interventions targeting their needs. We therefore piloted an evidence-based sexual health education intervention tailored for CSE-impacted youth, My Body, My Choice (MBMC). MBMC was implemented in two rounds between March and October 2021 with a total of 37 youth who completed a baseline questionnaire, engaged in a 13 to 16-hour online course over two to three weeks, and then assessed the course's likability and feasibility via a post-course evaluation survey. To measure sexual health knowledge retention and attitudes, follow-up questionnaires were administered at baseline, 1-month, and 3-months post-course. Descriptive and bivariate analyses examined demographic characteristics and differences between timepoints. Most participants identified as female (92%), and Latinx (57%) or Black (27%). Overall, youth had an improved understanding of sexual health concepts over time, with significantly increased knowledge regarding birth control methods such as IUDs and condoms. Youth expressed high rates of satisfaction with MBMC, with 93% seeking continued course access. Findings underscore the utility and acceptability of MBMC and may inform future interventions to reduce health disparities and improve sexual health outcomes among youth with CSE histories.

KEYWORDS

Sexual health; commercial sexual exploitation; child sex trafficking; youth; adolescent; intervention research

Introduction

Commercial sexual exploitation (CSE) of children can be defined as the sexual abuse or exploitation of a minor for the financial benefit of any person or in exchange for anything of value, including money, food, housing, and other items (Institute of Medicine [IOM] & National Research Council [NRC], 2014). Youth experiencing CSE have increased sexual health risk (E. S. Barnert et al., 2020; Godoy et al., 2022; Ijadi-Maghsoodi et al., 2016; Muftic & Finn, 2013). CSE-impacted youth frequently endure unprotected and forced sexual activities, which often result in unplanned pregnancy and sexually transmitted infections (STIs) (E. S. Barnert et al., 2020; Ijadi-Maghsoodi et al., 2018). One study found that 52% of girls experience physical violence and 27% experience sexual violence while exploited (Stöckl et al., 2021). Furthermore, 59% of CSE-impacted female youth reported an STI and 58% became pregnant while exploited, with an average age of first pregnancy at 16 years old (E. S. Barnert et al., 2020; Ijadi-Maghsoodi et al., 2016; Muftic & Finn, 2013). The high risk for sexual health challenges, along with barriers to sexual healthcare, some of which may be unique to CSE-impacted

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youth, underscore the importance of developing sexual health interventions that target the specialized needs of the focal population (E. Barnert et al., 2019; Godoy et al., 2020).

Barriers and Misconceptions Related to Sexual Healthcare

While youth with CSE histories exhibit high healthcare needs, they also face barriers to accessing sexual healthcare, some of which may be unique to their circumstances of CSE and intersectional disparities common among CSE-impacted youth (Ijadi-Maghsoodi et al., 2018). Barriers include difficulties scheduling appointments, lack of transportation, inability to pay for services, restrictions from housing placements, distrust in healthcare providers, confidentiality concerns, and fear of retribution from traffickers (Child Welfare Council CSEC Action Team, 2015; Garg et al., 2020; Ijadi-Maghsoodi et al., 2018; Walker, 2013).

Research has also found that exploiters' controlling nature (over youth's bodies, time, access) may further limit their agency to engage in sexual healthcare (Godoy et al., 2020), which is further complicated by erroneous beliefs related to birth control among CSE-impacted girls (Kelly et al., 2019). One study found that girls with CSE histories held the misconception that birth control methods contribute to infertility and have low efficacy, which were attributed to personal experiences, peer accounts of side effects, and inaccurate sexual health resources, suggesting that sexual health outcomes may be improved by enhancing sexual health knowledge among youth experiencing CSE.

Gaps in Evidence-Based Sexual Health Education Programs

Several sexual health education interventions target trauma-impacted youth; however, these programs have not been effectively adapted to fit the specific needs of CSE-impacted youth, despite the high rates of prior and ongoing trauma in the CSE population (Combs et al., 2019; Donenberg et al., 2018; L. S. Jemmott et al., 2006). Of note, Making Proud Choices for Youth in Out-of-Home Care is a trauma-informed, evidence-based sexual health intervention for youth in the legal system. Findings revealed significant improvements in sexual health knowledge and attitudes as well as condom use consistency among predominately adolescent boys who identified as Black (Combs et al., 2019; L. S. Jemmott et al., 2006). However, the intervention was limited in that it did not integrate perspectives or experiences related to sexual abuse or CSE risk, which is extremely common for youth who have had contact with the child welfare and juvenile legal system, especially girls. Additional limitations include that the study was compressed into a one-day format, included mainly male participants, did not address substance use and did not implement any longitudinal follow-up to assess for change over time. Still, the initial findings were promising and influenced the adaptation of Making Proud Choices for Youth in Out-of-Home Care for the purpose of this study.

Adaptation Process

Our team previously adapted Making Proud Choices for Youth in Out-of-Home Care to develop My Body, My Choice (MBMC), a sexual health education intervention for youth with histories of CSE (see Godoy et al., 2022). We used a community-based participatory research approach to partner with lived experience experts and key multidisciplinary stakeholders to inform the adaptation process. The research team worked with lived experience experts to identify age-appropriate and CSE-specific language to ensure the curriculum and assessments would not unintentionally re-traumatize participants. We intentionally included the perspectives of individuals in the LGBTQ community, incorporated substance use psychoeducation, and utilized a text message-based system to send participants sexual health information (Godoy et al., 2022).

Methods

Current Study

The current study aimed to test the feasibility and acceptability of the online sexual health education intervention MBMC with youth impacted by CSE. To measure whether MBMC made a meaningful improvement in sexual health knowledge attitudes and reduced substance use and sexual health risk, participants were asked to complete four online questionnaires: a baseline questionnaire distributed before beginning the online Zoom course, an evaluation survey distributed immediately concluding the online Zoom course, a questionnaire 1-month following the Zoom course, and the last questionnaire 3-months following the Zoom course. We hypothesized that MBMC would be associated with increases in sexual health knowledge among participants at 1-month and 3-month post intervention, compared to baseline.

Research was conducted in collaboration with Los Angeles County Departments of Children and Family Services, Probation, Public Health, and Mental Health; community-based organizations including Saving Innocence, National Center for Youth Law, and Children's Law Center; and healthcare providers, including AltaMed and pediatricians. Study procedures were approved by the UCLA Institutional Review Board (IRB# 19–000507) and the Los Angeles Superior Court, juvenile division.

Study Design, Sampling, and Setting

We used a pre-experimental one group pretest-posttest design to implement two rounds of MBMC with two cohorts receiving the intervention at two different timepoints. To identify potential participants, we used purposive and convenience sampling techniques (Padgett, 2016). Our sampling frame included a list of 468 potentially eligible youth in Los Angeles County provided by the Department of Children and Family Services and the Department of Probation. In compliance with the Superior Court of Los Angeles California, we then contacted youths' attorneys to obtain their permission to contact eligible youth. After submitting appropriate documentation to the court and communicating with attorneys, we received permission to contact 42 potentially eligible youth via telephone, e-mail, and text message to determine interest and eligibility. The study team screened youth for eligibility and obtained verbal consent for participation. Eligible youth had to be between the ages of 13 and 21, self-report a history of CSE or be at risk of CSE, have prior child welfare or juvenile legal system involvement, have access to a wireless device capable of receiving SMS text messages, and have Internet access.

Intervention Procedures

Given COVID-19 pandemic regulations, the intervention was implemented between March and October 2021 entirely online via secure, videoconferencing software (i.e., Zoom). The MBMC course was delivered in two rounds via Zoom, with differing schedules for each round to accommodate the varying availability of our facilitators. Despite these differences, we ensured that both rounds were scheduled after school hours to accommodate our youth participants. In the first round, the curriculum was delivered over three weeks, on Tuesday, Wednesday, and Thursday, totaling nine days with sessions lasting an hour and a half each day, totaling 13.5 hours. The first round included 21 youth and was co-facilitated by five lived-experience experts and two professional health educators from a local community-based healthcare provider. After feedback from the initial round suggesting that the curriculum felt rushed, the second round was adjusted to span two weeks, Monday through Thursday, for eight days with two-hour sessions each day, resulting in a total of 16 hours. The second round of implementation included 16 youth and was co-facilitated by four lived experience experts and two professional health educators.

To ensure privacy and confidentiality, we asked youth to delete their last names from their Zoom profile. Lived experience experts received training on the MBMC intervention prior to the sessions and were compensated for their time. To reduce potential attrition and ensure that these youth were

adequately compensated for their time, participants received e-gift cards for participation in MBMC sessions (up to $75), baseline and follow-up questionnaires (up to $240), and mini quizzes (up to $55) which totaled up to $370.

The curriculum was structured into 11 modules, each designed to take around one to 1.5 hours, encompassing a broad range of topics: 1) Introduction to MBMC, 2) Sexuality, 3) Relationships and Healthy Sexual Decisions, 4) Consent and Communication, 5) Pregnancy and Your Options, 6) Contraception and Condom Use, 7) STI Prevention, 8) HIV and AIDS, 9) Judgment Impairment and Beliefs about HIV/AIDs, 10) Practicing Affirmative Consent and Problem Solving, and 11) Enhancing Advocacy and Communication Skills. Attendance was promising, with about 67% of participants in the first round attending at least seven sessions, and about 75% in the second round attending six sessions.

Data Collection

We administered four questionnaires to participants, including a baseline questionnaire, a posttest evaluation survey, and 1- and 3-month follow up questionnaires. Knowledge retention was first assessed at baseline and then compared to the 1-month and 3-month questionnaire responses that were delivered after the online Zoom course. Responses to all three questionnaires were measured using a pre-posttest design by comparing the baseline knowledge acquisition to test results at the 1-month and 3-month. The posttest evaluation survey included 25 questions assessing the acceptability and likability of youth's engagement with MBMC and was immediately distributed to participants following their completion of the online Zoom course. No personally identifiable information (e.g., first or last name) was collected; responses were linked to a unique identifier. Youth were allowed to skip any questions they did not feel comfortable answering without penalty. We administered questionnaires through a secure, online platform (Qualtrics), the results of which are maintained in a secure online database (Qualtrics).

Due to unforeseen changes made to the electronic data collection tool, a slightly different set of response options were presented to participants from round 1 when they completed both 1- and 3-month questionnaires. These options differed relative to those presented to participants from rounds one and two and participants at baseline. In creating variables for analysis, attempts were made by the research team to group similar responses together (i.e., slightly familiar vs. a little familiar) and hopefully mitigate the potential bias introduced by these inconsistencies. Specific details about response option differences are noted in the table footnotes.

Measures

The posttest evaluation survey included 17 statements, with responses ranging from "strongly disagree" to "strongly agree," which aimed at assessing youth participants' perceptions and experiences of MBMC. Statements covered a range of areas from wishing to gain more access to the course more frequently, ease in following course material, hope for the same courses to offer health information on sex, and enjoyment from games, activities, and discussions during the course. The survey also sought to assess the course's appeal to peers, levels of engagement, and comfort in participation, and the overall learning outcome. The ease of accessing Zoom meetings, recollection of session schedules, impact of technology issues on participation, and overall satisfaction with facilitators and survivor leaders was also addressed in the survey.

Six categories were measured in the baseline, 1-month, and 3-month questionnaires: (a) understanding of sexual health concepts, (b) understanding of birth control, (c) attitudes and beliefs about various sexual health topics, (d) communication about sexual activities with others, (e) access and availability of sexual health resources, and (f) an "about you" section which asked about previous sexual activity. The baseline questionnaire also captured demographic information, including the

Table 1. Number of Questions Corresponding to Information Domains Across Measures.

No. of Questions ($N = 85$)	Information Domain
13	Demographics
10	Knowledge about birth control, pregnancy and STI prevention, and healthy relationships
12	Familiarity of birth control methods
11	Attitudes about condoms, STIs and pregnancy/paternity
8	Self-efficacy related to condom use, contraceptive methods, healthy relationships, and communication skills
3	Frequency on the use of birth control methods if engaging in sexual activity
3	Access and availability of birth control methods and healthcare
25	Feasibility and likability

participants' age, gender identity, race/ethnicity, education level, pregnancy history, and current living situation.

Youths' understanding of sexual health concepts were assessed via questions ($n = 10$) about their knowledge of STIs, birth control methods, healthy behaviors, and pregnancy. Response options included true, false, don't know, or skip. The birth control category asked youth to rate how familiar they were of different birth control methods ($n = 12$) on a scale from "not at all familiar" to "very familiar." The third category contained attitude or belief ($n = 11$) about condom usage, consent, pregnancy, STIs, and safe sex practices and asked youth to rate each on a scale of "strongly disagree" to "strongly agree." The communication category asked participants to rate statements ($n = 8$) regarding communicating with sexual partners and talking about sex practices with their guardians on a scale of "strongly disagree" to "strongly agree." The access and availability category asked participants to rate their experiences regarding birth control access and availability on a scale from "strongly agree" to "strongly disagree."

Lastly, the "about you" section contained questions ($n = 3$) on participants' use of birth control if/when engaging in different sexual activities. See Table 1 for an overview of the measures contained within the baseline, 1-month, and 3-month questionnaires. One item specifically referenced the past 3 months ("If you had anal sex ... in the past three months, how often did you or your partner use a condom?"). Since the approximate length of time between baseline and 1-month assessments was only 1.5 months, events occurring between 1.5 to 3 months in the past would have been considered by respondents answering this item at both time points. Given this overlap, our ability to identify significant changes over time may have been diminished. For other items the time frame was left ambiguous, and a similar reduction in power could have occurred.

Analysis

Thirty-seven individuals completed the baseline questionnaire in either round one or round two. Of these 37 participants, 31 individuals completed all three assessments (baseline, 1-month, and 3-months), and this sample size of 31 was used to analyze change over time. Frequencies and percentages were used to describe the baseline demographic characteristics of the entire sample ($N = 37$) and the subsample used in analyses ($n = 31$). Table 2 provides an overview of participation by timepoint. Across all outcome measures, dichotomous variables were created at the survey item-level. Dichotomous variables were used in place of ordinal or categorical versions to facilitate a more parsimonious analytical approach which was appropriate given the limited sample size. Dichotomous variables also eased interpretation of findings and allowed for consistency across measures. Some items (such as those from the Understanding Concepts measure) were already dichotomous (True/False; see Table 3). For the other items, dichotomous variables were created by collapsing together response options in consultation with the broader research team.

Table 2. Demographic Characteristics at Baseline.

	Participants who Completed the Baseline Assessment ($N = 37$)		Participants who Completed the Baseline, 1 Month and 3 Month Assessments ($N = 31$)	
	n	%	*n*	%
Gender Identity				
Female	34	91.9	30	96.8
Non-Binary/Third Gender	1	2.7	1	3.2
Skip	2	5.4	0	0.0
Race/Ethnicity				
Asian American	2	5.4	1	3.2
Asian American, White (non-Hispanic or European American)	1	2.7	1	3.2
Black or African American	7	18.9	5	16.1
Black or African American, Latinx	1	2.7	1	3.2
Black or African American, Latinx, Other	1	2.7	1	3.2
Black or African American, White (non-Hispanic or European American)	1	2.7	1	3.2
Latinx	18	48.7	16	51.6
Latinx, Other	1	2.7	1	3.2
Native/Indigenous or Alaska Native	1	2.7	1	3.2
Other	2	5.4	2	6.5
White (non-Hispanic or European American)	2	5.4	1	3.2
Race/Ethnicity (Disaggregated)				
Asian American	3	8.1	2	6.5
Black or African American	10	27.0	8	25.8
Latinx	21	56.8	19	61.3
White (non-Hispanic or European American)	4	10.8	3	9.7
Native/Indigenous or Alaska Native	1	2.7	1	3.2
Other	4	10.8	4	12.9
Highest Grade Completed				
7		2.7	0	0.0
8	2	5.4	2	6.5
9	8	21.6	6	19.4
10	4	10.8	3	9.7
11	10	27.0	8	25.8
12	4	10.8	4	12.9
High School Diploma/GED	4	10.8	4	12.9
Some College	3	8.1	3	9.7
Skip	1	2.7	1	3.2
Juvenile Justice or Child Welfare System Involvement				
Child Welfare System	16	43.2	13	41.9
Child Welfare System, None	1	2.7	1	3.2
Juvenile Justice System	3	8.1	2	6.5
Both	7	18.9	7	22.6
None	10	27.0	8	25.8

For each item, two statistical tests were conducted: one to assess changes in response probabilities between baseline and 1-month assessments, and one to assess changes in response probabilities between baseline and 3-month assessments. In both instances, an Exact McNemar test was implemented as appropriate for the relatively small sample size.

For each individual, a count of the number of correct "Understanding Concepts" items was also calculated at baseline, 1-month, and 3-months, and two statistical tests were once again conducted to assess changes in the median number of correct responses relative to baseline. In this case, the statistical tests invoked were the Wilcoxon Signed-Rank test (also appropriate for small sample sizes). Frequencies and percentages were used to describe responses to the "Evaluation Items" asked following completion of rounds one and two of the MBMC intervention. All available evaluation item responses were presented. Analyses are exploratory in nature and despite conducting two hypothesis tests for each item (baseline vs. 1-month, baseline vs. 3-month), a Bonferroni or other correction for

Table 3. Understanding Concepts.

	Count and Percentage of Participants Providing a Correct Response ($N = 31$)					
	Baseline		1 Month		3 Month	
ROUND 1 + ROUND 2	n	%	n	%	n	%
If a person has unprotected sex, they are at increased risk for HIV or another sexually transmitted infections (STI). [TRUE]	30	96.8	28	90.3	30	96.8
IUDs (like Mirena or ParaGard) are a form of birth control that can last for 3–10 years. [TRUE]	7	22.6	23	74.2***	23	74.2***
Condoms help prevent pregnancy and STIs. [TRUE]	13	41.9	28	90.3***	27	87.1***
If a person insists on having sex when another person who does not want to have sex, it is a sign of an unhealthy behavior. [TRUE]	25	80.7	28	90.3	28	90.3
Having a partner who is frequently jealous is a sign of a healthy behavior. [FALSE]	19	61.3	24	77.4	21	67.7
The birth control pill must be taken every day at about the same time of day in order for it to work. [TRUE]	21	67.7	27	87.1	28	90.3*
You can't get pregnant/get someone pregnant the first time you have sex. [FALSE]	21	67.7	27	87.1	26	83.9
Pulling a penis out of a vagina before ejaculation (cum) prevents pregnancy [FALSE]	15	48.4	20	64.5	23	74.2*
If information about sexuality or sexual health is posted on an Internet site, you can count on it to be accurate and credible. [FALSE]	17	54.8	19	61.3	21	67.7
Unprotected vaginal sex can lead to pregnancy. [TRUE]	29	93.6	27	87.1	29	93.6

*p < .05, **p < .01, ***p < .001, Exact McNemar Test assessing the significance of changes relative to Baseline among the paired sample.

Note: Responses of "Don't Know" and "Skip" were treated as incorrect.

Table 4. Total Number of Correct Responses and Increases Over Time in the Number of Correct Responses by Pattern of Assessments Completed.

Total Number of Correct Responses and Changes over Time($N = 31$)							
Baseline		1 Month			3 Month		
Mean	Median	Mean	Median	p Value*	Mean	Median	p Value*
6.35	6.00	8.10	8.00	<0.0001	8.26	9.00	<0.0001

*Wilcoxon Signed-Rank test evaluating significant changes relative to Baseline.

multiple testing was not explicitly employed. It is not unusual to forego adjustments for multiple testing when analyzing data from pilot studies that are inherently underpowered to identify significant effects. Since results are not intended to be confirmatory, there is often value in using unadjusted p-value thresholds to signal domains in which larger, well-powered studies might successfully confirm an effect.

Table 5. Access and Availability.

	Count and Percentage of Participants Responding Strongly Agree or Somewhat Agree ($N = 31$)					
	Baseline		1 Month		3 Month	
ROUND 1 + ROUND 2	n	%	n	%	n	%
I usually have access to condoms	23	74.2	22	71.0	23	74.2
It is easy for me to have a condom with me, if I think I will need it	25	80.7	24	77.4	23	74.2
I know where to go to get a birth control method other than condoms (for example: pills, the patch, NuvaRing).	27	87.1	26	83.9	27	87.1

*p < .05, **p <. 01, ***p < .001, Exact McNemar Test assessing the significance of changes relative to Baseline among the paired sample.

Note: 17 participants from Round 1 received slightly different response options at 1 Month and 3 Month. For those participants at that time point, the percentage reflects responses of Strongly Agree or Agree.

Table 6. Communication.

	Count and Percentage of Participants Responding Strongly Agree or Somewhat Agree ($N = 31$)					
	Baseline		1 Month		3 Month	
ROUND 1 + ROUND 2	n	%	n	%	n	%
I am confident in my ability to talk to sexual partners about practicing safe sex	22	71.0	24	77.4	26	83.9
I am confident in talking to my sexual partner about using a condom.	27	87.1	28	90.3	26	83.9
I feel like I have the knowledge to make choices about sex that are best for me.	29	93.6	27	87.1	29	93.6
I know how to refuse sex with a sexual partner when I don't want to have sex	24	77.4	26	83.9	25	80.7
Saying we have to use a condom is like saying to my sexual partner, "I don't trust you."	8	25.8	3	9.7	5	16.1
I am able to talk to my care team about using birth control.	24	77.4	23	74.2	24	77.4
I am able to talk to my guardian about using birth control.	24	77.4	20	64.5	20	64.5

*p < .05, **p < .01, ***p < .001, Exact McNemar Test assessing the significance of changes relative to Baseline among the paired sample.

Note: 17 participants from Round 1 received slightly different response options at 1 Month and 3 Month. For those participants at that time point, the percentage reflects responses of Strongly Agree or Agree.

Table 7. Attitudes and Beliefs.

	Count and Percentage of Participants Responding Strongly Agree or Somewhat Agree ($N = 31$)					
	Baseline		1 Month		3 Month	
ROUND 1 + ROUND 2	n	%	n	%	n	%
I feel confident that I can use a condom correctly.	25	80.7	23	74.2	27	87.1
It is important for me to communicate with my sexual partners about what I want or don't want to do.	29	93.6	26	83.9	28	90.3
It is important for me to use a form of birth control aside from condoms.	26	83.9	24	77.4	22	71.0
Using a condom (or having my partner use a condom) is important to me.	24	77.4	22	71.0	27	87.1
Having a baby (or another baby) would change the way I plan for my future.	26	83.9	21	67.7	23	74.2
Birth control or condoms are embarrassing to use.	2	6.5	2	6.5	2	6.5
I feel confident I can protect myself from pregnancy and STIs/HIV.	25	80.7	24	77.4	25	80.7
I feel confident that I can use a form of birth control correctly.	27	87.1	24	77.4	24	77.4
It doesn't matter whether I use birth control or not; when it is my time to get pregnant, I will.	16	51.6	15	48.4	14	45.2
It is too much of a hassle to use birth control if you are having sex.	8	25.8	3	9.7	7	22.6
	Count and Percentage of Participants Responding Extremely Important or Very Important					
Thinking about your life right now, how important is it to you to avoid getting pregnant?	23	74.2	24	77.4	23	74.2

*p < .05, **p < .01, ***p < .001, Exact McNemar Test assessing the significance of changes relative to Baseline among the paired sample.

Note: 17 participants from Round 1 received slightly different response options at 1 Month and 3 Month. For those participants at that time point, the percentage reflects responses of Strongly Agree or Agree. For the last item, the percentage reflects responses of Somewhat Important or Very Important.

Results

Among participants who completed any assessment, the majority were female (92%), with ages ranging from 13 to 21 years. Fifty-seven percent identified as Latinx, 27% identified as Black or African American. Thirty percent indicated having a 12th grade education or higher. Sixty-five percent reported involvement with the child welfare system and 27% reported involvement with the juvenile legal system, including 19% who reported involvement with both systems (see Table 2). Of the 37 participants who completed any assessment, 84% ($n = 31$) completed all three assessments.

Table 8. Understanding of Birth Control and Barriers.

	Count and Percentage of Participants Responding Slightly Familiar or Not Familiar at All (*N* = 31)					
	Baseline		1 Month		3 Month	
ROUND 1 + ROUND 2	n	%	n	%	n	%
Education on not having sex at all/abstinence	8	25.8	4	12.9	3	9.7
Birth control pills or oral contraception (the pill)	5	16.1	2	6.5	3	9.7
Internal condoms	11	35.5	8	25.8	6	19.4
External condoms	6	19.4	6	19.4	4	12.9
Dental Dam	20	64.5	14	45.2	12	38.7
Injectable birth control (the shot), like Depo Provera or Lunelle	8	25.8	6	19.4	5	16.1
The birth control patch (Ortho Evra)	11	35.5	6	19.4	4	12.9*
An IUD or intrauterine device (Mirena or Para Gard)	12	38.7	6	19.4	4	12.9*
Birth control implants (tiny rods in arm), like Implanon or Nexplanon	8	25.8	7	22.6	4	12.9
Intravaginal birth control (Nuva Ring)	14	45.2	9	29.0	6	19.4*
Emergency contraception, Plan B or the "morning after pill"	5	16.1	4	12.9	2	6.5
Withdrawal or pulling out	8	25.8	3	9.7	1	3.2*

*p < .05, **p < .01, ***p < .001, Exact McNemar Test assessing the significance of changes relative to Baseline among the paired sample.

Note: 17 participants from Round 1 received slightly different response options at 1 Month and 3 Month. For those participants at that time point, the percentage reflects responses of A Little Familiar or Not at All Familiar.

Sexual Health Knowledge

Participants demonstrated increased understanding of several important concepts at 1- and 3-months (Table 3). The percentage of participants correctly identifying the statement "IUDs (like Mirena or ParaGard) are a form of birth control that can last for 3–10 years" as true increased from 23% at baseline to 74% at both 1- and 3-month assessment time points (Table 2, both $p < .001$). Similarly, the percentage of participants correctly identifying the statement "Condoms help prevent pregnancy and STIs" as true increased from 42% at baseline to 90% at 1-month and 87% at 3-month assessment time points (both $p < .001$). For two other statements, "The birth control pill must be taken every day at about the same time of day in order for it to work" and "Pulling a penis out of a vagina before ejaculation (cum) prevents pregnancy," statistically significant increases were observed between baseline and the 3-month assessment time point (both $p < .05$). Across the 10 items assessing understanding of concepts, the median number of correct responses increased from 6.0 at baseline to 8.0 at 1-month and 9.0 at 3-month assessment time points (both $p < .0001$; see Table 4).

Table 9. About You.

	Count and Percentage of Participants					
	Baseline		1 Month		3 Month	
ROUND 1 + ROUND 2	n	%	n	%	n	%
If you had anal sex (where a penis goes into an anus or butthole) IN THE PAST 3 MONTHS, how often did you or your partner use a condom? **(*N* = 24)**						
Never	17	70.8	10	41.7*	12	50.0
Other/Skip	7	29.2	14	58.3	12	50.0
If you have vaginal sex, how often do you or your sexual partner use birth control methods (for example: condoms, birth control pills) to prevent pregnancy and/or sexually transmitted infections? **(*N* = 27)**						
Never	9	33.3	6	22.2	4	14.8
Other/Skip	18	66.7	21	77.8	23	85.2

*p < .05, **p < .01, ***p < .001, Exact McNemar Test assessing the significance of changes relative to Baseline among the paired sample.

Note: 17 participants from Round 1 received different response options at 1 Month and 3 Month. Those response options were: Very Often/Often/Sometimes/Not Often/Never/Skip. For other participants/time points the options were: Always/Most of the Time/Sometimes/About Half the Time/Never.

Response frequencies did not provide evidence of significant improvements in access and availability, communication, or attitudes and beliefs from baseline to 1- or 3-month assessment time points (see Tables 5–7). Across all three time points, approximately three-quarters of participants responded, "extremely important" or "very important" to the question, "Thinking about your life right now, how important is it to you to avoid getting pregnant?" indicating a prevalent and consistent desire to avoid getting pregnant among this sample.

Lack of familiarity with certain birth control methods was notable at baseline with greater than 35% of respondents being only "Slightly Familiar" or "Not Familiar at All" with each of the following: internal condoms (36%), dental dams (65%), the birth control patch (36%), intrauterine devices (39%), and intravaginal birth control (45%). Improved familiarity was indicated at the 3-month assessment time point for methods including: the birth control patch, intrauterine devices, and intravaginal birth control (all $p < .05$). Further, statistically significant decreases were observed in the percentage of participants indicating poor familiarity with "Withdrawal or pulling out" from baseline (26%) to the 3-month assessment time point (3%, $p < .05$; see Table 8).

The baseline data revealed that among the 24 participants who reported having had anal sex in the past 3 months 71% selected "Never" as their (or their partner's) condom use frequency for these events (see Table 9). This trend showed a slight reduction at the 1-month follow-up, with 42% (10 participants) continuing to report never using condoms when engaging in anal sex. However, by the 3-month follow up, the proportion increased to 50% (12 participants). Among the 27 participants who reported having vaginal sex at baseline, 33% selected "Never" as their (or their partner's) frequency of use of birth control methods to prevent pregnancy and/or sexually transmitted infections. This percentage decreased to 22% (6 participants) at the 1-month follow-up and further to 15% (4 participants) by the 3-month follow-up.

Evaluation item responses indicated high levels of satisfaction across both cohorts (Table 10). Many participants felt that the course was easy to follow, that course activities were fun, and that they liked

Table 10. Evaluation Survey Responses, Rounds 1 and 2.

		Percentage Responding "Agree" or "Strongly Agree"					
		Round 1 ($N = 10$)		Round 2 ($N = 17$)		Total ($N = 27$)	
		n	%	*n*	%	*n*	%
1	I think that I would like access to this course frequently	8	80.0	17	100.0	25	92.6
2	I found the course difficult	1	10.0	0	0.0	1	3.7
3	I thought this course was easy to follow	9	90.0	16	94.1	25	92.6
4	I think that I would like more courses like My Body, My Choice, with sexual health information	7	70.0	17	100.0	24	88.9
5	I found the various games, activities, and discussions in this course were fun	9	90.0	17	100.0	26	96.3
6	I thought there was too much explaining in this course	1	10.0	1	5.9	2	7.4
7	I would imagine that most youth my age would enjoy this course	8	80.0	14	82.4	22	81.5
8	I found this course very boring and awkward	2	20.0	0[b]	0.0	2[c]	7.7
9	I felt very comfortable talking and participating during this course	5	50.0	16	94.1	21	77.8
10	I feel that I learned a lot of things with this online course	9	90.0	17	100.0	26	96.3
11	This course was better than I expected	9	90.0	17	100.0	26	96.3
12	It was easy to log into the zoom meeting	8	80.0	14	82.4	22	81.5
13	It was easy to remember the days and times of the online course	8	80.0	17	100.0	25	92.6
14	I felt that the technology issues were annoying and made me not want to participate	1	10.0	1	5.9	2	7.4
15	I liked the facilitators and survivor leaders	9	90.0	17	100.0	26	96.3
16	I thought it was easy to fill out and complete the baseline questionnaire	8	80.0	17	100.0	25	92.6
17	I enjoyed the online course	1	11.1[a]	17	100.0	25[c]	96.2

[a]Denominator = 9 non-missing responses.
[b]Denominator = 16 non-missing responses.
[c]Denominator = 26 non-missing responses.

the facilitators and survivor leaders. Overall, 96% of participants indicated agreement with the statements "I enjoyed the online course," "This course was better than I expected," and "I feel that I learned a lot of things with this online course."

Discussion

This study found that MBMC is a feasible and acceptable sexual health intervention for youth with CSE histories. Findings showed that youths' knowledge significantly increased, particularly their understanding of birth control concepts and methods. Following the intervention at 1- and 3-months, the results revealed that participants retained new knowledge of and familiarity about different contraceptive methods, including condoms and birth control. Compared to baseline, participants developed more positive attitudes toward using condoms, greater self-efficacy in their ability to communicate with their partners, and improved self-efficacy in their technical skills related to condom usage. However, outcomes that did not demonstrate improvements include access and availability of contraceptive methods and greater self-efficacy in their ability to communicate with their guardians. Maintaining retention and engagement pose challenges when working with CSE-impacted youth because of their varying living situations while maintaining confidentiality (i.e., frequent moves, homelessness, running away, multiple out of home placements) (Greeson et al., 2019; Rothman et al., 2020; Whaling et al., 2020); however, our study had a notably high retention rate with 33 out of 37 participants completing all four questionnaires. These findings highlight important implications for practice and research.

Implications for MBMC

Findings suggest that future iterations of MBMC can include a focus on providing local healthcare clinics to encourage youth to access free contraceptives. MBMC could also improve by placing greater emphasis on communication with guardians and caregivers since most youth revealed discomfort when communicating about sexual health topics. Many youth with CSE histories come from unstable homes and families and experienced early maltreatment (De Vries & Goggin, 2020; Godoy et al., 2020); thus it is not surprising that most participants did not improve their communication with their guardians and caregivers. Future interventions could benefit from including youths' guardians and caregivers and having both groups work together to practice communication approaches to help ease youth discomfort. Additionally, given the high percentage of youth who have never used contraceptive devices when engaging in anal sex, incorporating modules into the MBMC on the importance of using safe-sex practices when engaging in anal sex would likely be worthwhile. Lastly, based on the results of the evaluation survey, a very high majority of youth thoroughly enjoyed participating in the MBMC intervention. Overall, the findings have relevance for strengthening and improving MBMC and can also potentially guide other sexual health intervention approaches and/or clinicians to become aware of gaps in knowledge and high receptiveness to sexual health education.

It is also important to address the importance of sexual health programs, especially considering that the sexual health education many youth receive lacks comprehensive, inclusive, and accurate components (American Academy of Pediatrics [AAP], 2024; Goldfarb & Lieberman, 2021). While the California Healthy Youth Act of 2016 requires that schools teach students about sexual health at least once in both middle and high schools, sex is often described as a problematic behavior which prevents young people from exploring their sexuality in healthy ways (California Department of Education [CDE], 2023; Goldfarb & Lieberman, 2021). More so, because 55% of high schoolers report having sex by the age of 18, it is imperative that they receive factual and accurate sexual health information, yet most adolescents report using the internet, where misinformation is prevalent, to learn about sexual health information (AAP, 2024). Research has also demonstrated that comprehensive sexual health education has the potential to prevent sexual violence by teaching youth to identify the

qualities of healthy relationships, the importance of affirmative consent, and how to put the knowledge into practice (Goldfarb & Lieberman, 2021). Future sexual health programs should take a comprehensive approach to better prepare youth to not only understand their bodies and sexuality, but also learn the importance of topics that make them better informed to make healthy sexual decisions on their own (AAP, 2024).

Situating MBMC within a Reproductive justice context

External factors, such as poverty and racism, prevent many girls from accessing reproductive healthcare resources and information that are vital for their wellbeing. Reproductive justice is part of a larger social justice framework that aims to increase reproductive autonomy among oppressed women and girls by creating a female-led movement that seeks to incorporate economic equity, education, and access to reproductive healthcare within discussions about reproductive health (Burger et al., 2022). The literature explains that reproductive oppression occurs with the exploitation of girls' bodies and sexuality. By improving the sexual health knowledge of youth with histories of exploitation through MBMC, the curricula therefore align with the aims of the reproductive theory in increasing resources for young girls who are oppressed (Burger et al., 2022). Through a sexual health curriculum, youth with histories of CSE can learn about STI prevention, healthy and unhealthy relationships, consent, effective communication skills, and other topics that aim to equip them with the knowledge and skills to make informed decisions about their reproductive health and build bodily autonomy. Sexual health education supporting youth with CSE histories addresses the systemic barriers that prevent many from obtaining resources by increasing access to sexual health education that can inform the individual choices youth make about their sexual health, further promoting reproductive justice among this population.

Limitations

Our study had several limitations, including a small sample size, difficulties obtaining court permission and attorney consent, and technology barriers associated with the COVID-19 pandemic. First, the small sample size limited the generalizability, findings are only representative to participants and cannot be generalized to all CSE-impacted youth (Etz & Arroyo, 2015; Tipton et al., 2017). Second, abiding by the regulations of the Superior Court of Los Angeles required that the research team obtain written attorney permission before making any contact with eligible or interested youth. This limitation hindered the number of potential participants we were able to contact and may have introduced a sampling bias. Of the 468 eligible youth in the sampling frame, we received permission from 40 attorneys to contact 41 eligible youth.

Lastly, barriers associated with the COVID-19 pandemic provided greater difficulties with adapting MBMC to an entirely online format. Participants experienced challenges related to internet connectivity, learning how to use the platform, and the tiredness associated with long periods of time spent videoconferencing, also known as "Zoom fatigue" (Deniz et al., 2022), which may have affected knowledge retention, or reminders about implementation dates which may have affected attrition rates. Despite the limitations experienced due to the COVID-19 pandemic, conducting the intervention online ensured that participants were not limited by transportation issues and could access the curriculum on a variety of technological devices which enhances the portability and scalability of the intervention. Despite its limitations, the study had a high retention rate, and youth indicated enthusiasm for and enhanced knowledge following the intervention, indicating that further research to build on this exploratory study is likely worthwhile to pursue for improving the sexual health outcome of youth who have experienced CSE.

Conclusion

The findings from this study reveal the acceptability and feasibility of MBMC among youth with histories of CSE. To our knowledge, this is the first study to develop and implement a sexual health education intervention that targets this specific population. Findings suggest that specialized intervention efforts that are trauma-informed and collaborate with lived experience experts may help increase sexual health knowledge and reduce common barriers when accessing healthcare resources among girls and young women impacted by CSE, indicating a key opportunity to improve sexual health outcomes and enhance reproductive justice for youth who are or have been commercially sexually exploited.

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Declarations and Ethic Statements

This study has been approved by the UCLA Institutional Review Board (IRB# 19–000507) and the Los Angeles Superior Court. Researchers obtained informed written consent from all participants in the study and attorney permission per Los Angeles Superior Court regulations.

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