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Qualitative Evaluation of Historical and Relational Factors Influencing Pregnancy and Sexually Transmitted Infection Risks in Foster Youth

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Abstract

Purpose—To explore how attitudes, norms, behaviors, responses to early life experiences, and protective factors influence pregnancy and sexually transmitted infection risks from the perspectives of current and former foster youth to inform the development of prevention strategies.

Methods—We conducted semi-structured individual qualitative interviews with a diverse sample of 22 current/former foster youth aged 15–21 years (63% female; average age = 18.6 years). We then used Theoretical Thematic Analysis to systematically analyze the data for key themes related to sexual health in four categories: 1) norms and attitudes, 2) responses to early life experiences, 3) protective factors, and 4) youth-driven intervention ideas.

Results—Participants reported a range of sexual experience levels, varied sexual orientations, and also reported varied life experiences prior to and during foster care. We detected several norms and attitudes that likely contribute to risks of early pregnancies and sexually transmitted infections. These included that one can tell by looking whether a partner is trustworthy or has a sexually transmitted infection, that condoms aren't necessary with long-term or infrequent partners or if birth control is used, and that teen pregnancy is an inevitable event. With respect to responses to early life experiences, youth frequently described difficulties dealing with strong emotions in the context of romantic and/or sexual relationships; many attributed these difficulties to early experiences with biological family members or in foster care. Participants linked emotion regulation difficulties with struggles in trust appraisal, effective communication, and impulsive

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behaviors. Youth also described a variety of protective factors that they felt helped them prevent sexual risk behaviors or improved their lives in other respects. Finally, participants endorsed factors likely to improve intervention acceptability and efficacy, including an open, non-judgmental group-based environment, involvement of peer mentors, and inclusion of caregiver and caseworker training components.

Conclusions—Trauma-informed, tailored intervention strategies which address key norms and attitudes and provide broad-based assertiveness and emotion regulation skills are likely to be the most effective strategies to reduce risks of teen pregnancies and sexually transmitted infections among teens in foster care. Group-based interventions that involve peer mentors and caregiver and caseworker components may be especially acceptable and effective for teens in foster and/or kinship care.

1. Introduction

Foster youth can face many challenges during adolescence and the transition to adulthood including low economic and educational achievement, involvement with the juvenile and criminal justice systems, and high risk of physical and mental health problems.^{1–8} One area of particular importance is reproductive health. Compared with youth in the general population, youth who have been in foster care have 2–14 times the risk of sexually transmitted infections (STIs) including Human Immunodeficiency Virus as well as 2–4 times the risk of teen pregnancy. Nearly half of young women in foster care report having been pregnant by age 19; males who are currently or have been in foster care also report impregnating partners at a higher rate compared with youth who do not have this history.^{4–13} These outcomes are likely due to high rates of exposure to adversities early in life (e.g. poverty, abuse and neglect, parental substance abuse, intimate partner violence, and the disruption of relationships with biological caregivers), which in turn lead to increased rates of sexual risk behaviors such as early sexual debut, higher numbers of total and casual partners, and higher rates of reporting sex with an infected partner.^{4–9,11} The health, psychological, and economic impacts of STIs and early/unwanted pregnancies for this and other populations are well-documented.^{14–21}

Studies in other groups of adolescents suggest that interventions informed by a health promotion theory such as Social Cognitive Theory (SCT) are the most effective.^{22–25} SCT posits that: 1) knowledge and skills are important but insufficient to engender behavior change; 2) psychological determinants of behavior including an individual's attitudes (beliefs about consequences of risky and protective sexual behaviors), norms (beliefs about what is acceptable to peers), and self-efficacy (confidence in ability to change) are key intermediate factors which significantly influence behavior; and 3) that people learn by observation and practice.²³ SCT-based sexual health interventions include hands-on activities to reinforce knowledge skills (e.g. facilitated condom demonstrations) as well as role-playing exercises to help youth recognize stimuli that trigger unsafe sexual behaviors and develop scripts for risky situations. They also focus on behavioral goals that teens and young adults can readily accomplish such as increasing condom and/or birth control use, or improving partner communication skills.^{22,24,25}

Some interventions based on SCT or similar theories have been shown to increase pregnancy and STI related knowledge, skills, or attitudes among adolescent foster youth.^{26–29} However, to date none have demonstrated consistent long-term reductions in sexual risk behaviors for this group. One intervention designed to reduce substance-related and delinquent behaviors that has been shown to reduce teen pregnancies among young women in foster care is Multidimensional Treatment Foster Care.³⁰ However, this intervention is financially and temporally intensive and targets highly impaired youth, and thus it is not practical to deliver on a wide-scale basis to all foster youth.

The purpose of the present study was to better understand proximal factors influencing pregnancy and STI risks in foster youth, to inform the development of more viably scalable interventions that address the needs of this vulnerable population. We specifically sought to use qualitative methods to explore foster youths' perceptions of norms and attitudes, responses to early life experiences, and protective factors influencing sexual health behaviors and outcomes. We also desired to briefly explore STI and pregnancy prevention/intervention ideas from the perspectives of current and former foster youth. This study represents the second portion of a mixed methodology study designed to elucidate unique factors influencing pregnancy and STI risk among foster youth to inform prevention efforts. In the first study, we used longitudinal data and path analysis techniques to evaluate mediators of relationships between early life abuse and foster care experiences and sexual risk behaviors in young adulthood. Results suggested that having a history of abuse and having been in a group home were associated with increased externalizing behaviors, which in turn were associated with increased STI risk. Having a close relationship with a foster caregiver and remaining in care past age 18 were protective.³¹ In the present study, we extend this work by more closely examining foster youths' accounts of their experiences with sexual relationships and their beliefs around factors influencing sexual risk behaviors.

2. Material and Methods

2.1 Sampling and Recruitment Procedures

We partnered with caseworkers from the Department of Social and Health Services and a private agency that provides independent living services to transition-age foster youth from Washington to recruit a sample of 22 youths (62% female) aged 15–21 years who had been in foster or kinship care for at least 6 months as a teen. We employed maximum variation purposive sampling techniques, a technique used in qualitative research to capture a range of perspectives of the population being studied.³² We accomplished this by going to multiple staffing meetings at each agency to explain the study, recruitment criteria, and our goal to interview youths who were diverse in terms of age, race, ethnicity, experiences in foster care, and engagement in sexual and other risk behaviors, to allow us to understand the needs of a wide variety of youth in the foster system.

For youths under 18, we initially obtained written permission from caseworkers (similar to informed parental consent). We also sent a letter to biological parents allowing them to opt their youth out of the study over a 10 day period for minors under 18 who were not legally free (i.e., for whom one or both biological parents still had some legal rights). State or private agency personnel then contacted all youths (over and under 18) to determine if they

were interested in participation. Once a potential participant expressed interest in the study, we scheduled an in person meeting at a confidential site of the participant's choosing. A total of 30 youths underwent this procedure, 8 of which no-showed or canceled the meeting (73% response rate).

2.2 Interview Procedure

Once the above steps were accomplished, we obtained written informed consent or assent from the youth (depending on whether the youth was over or under 18). Semi-structured in-person interviews were completed by the principal investigator (who has been a foster parent), or one of two research staff. One of these staff members was also a former foster parent whom had worked for over 40 years as a mental health practitioner with foster youth and other high risk youth. All interviewers were white females. Interviews lasted 45–90 minutes, and no participants terminated the qualitative interview early. Questions were developed *a priori*, and additional probes were added iteratively during the analysis process (Table 1). Participants were allowed to direct the interview, with investigators suggesting topics after significant lapses in conversation. Interviewers were asked to cover each of the main topics in the script during each interview, but were instructed to prioritize an in-depth, participant-led discussion of a given aspect of a topic over the completion of all of the scripted questions within that topic. Interviews were digitally recorded, transcribed, and reviewed for accuracy. Immediately after each interview, interviewers completed brief assessment forms to describe main themes and suggest new topics to explore probes. Initial probes were primarily open ended (a few yes/no questions were included to cue participants to the next topic which were followed by open ended questions). Following the interview, participants were invited to complete a 20 minute audio computer-assisted self-administered survey to collect basic information on demographics, foster care experiences, and sexual behaviors; 21 out of 22 participants (95%) completed this survey. Participants received \$15 for the qualitative interview and \$15 for the survey. Using a procedure approved by the approved by the Washington State Institutional Review Board, all instances of disclosed abuse were reported to Child Protective Services. Specifically, we explained in the consent/assent process that we were required to report any events of abuse to a minor, regardless of whether the survivor was currently over or under 18. A total of eight youth disclosed abuse events during their interview and required a report. We also developed an “emotional distress” protocol, in which we described in the consent/assent process that we would call the crisis line after the interview with any youth who reported significant emotional distress. We indicated that we would also notify caseworkers for the youths under 18. No youth required implementation of this procedure. Finally, we provided a handout of free and low cost counseling and health resources for all youth at the end of the interview.

2.3 Analysis

We used Theoretical Thematic Analysis, a stepwise qualitative analysis technique which allows for the use of pre-existing theoretical frameworks such as SCT.^{23,33} Steps include familiarizing oneself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report.³³ An initial codebook was developed using a deductive approach based on themes expected from SCT, and included codes for norms (beliefs about what is acceptable to peers), attitudes (beliefs about

consequences of risky and protective sexual behaviors), and self-efficacy (confidence in ability to engage in protective behaviors). Subsequently, additional codes were added to the codebook based on the data itself, following an inductive approach. Analysis was then performed by six coders, with at least two persons independently coding each interview. All coders were white, one was male, and three had experience as foster caregivers and/or mental health practitioners who had worked with foster youth. We initially employed an incident coding procedure in which every portion of the interview transcript was read and coded for important themes. Provisional code families were then created. Next, we conducted a focused coding process during which codes were re-analyzed to clarify code families and main themes. The interview assessment forms were used at this step to triangulate (confirm) data from the transcripts and increase rigor of our analysis. Data were then stratified by age (over 18 versus 18 and under) and self-identified gender to explore age and gender-specific themes. Finally, the principal investigator examined the codes a third time to clarify and organize themes and prepare the manuscript, which all investigators reviewed multiple times for accuracy. Throughout this analysis process, researchers met weekly to discuss themes, update the codebook, and resolve discrepancies by discussion (typically 3–8 meetings per transcript).

3. Results

In the sections that follow, we initially describe study participants characteristics. We then present main themes related to 1) norms and attitudes regarding sex, condom use, birth control, and STI and pregnancy risks, 2) responses to early life experiences that were linked by participants to STI and/or pregnancy risks, 3) protective factors, and 4) intervention ideas described by participants. Though themes detected were, for the most part, surprisingly consistent across different ages and gender, variation of themes by these factors where present are indicated in each section.

3.1 Description of participants

Survey results revealed that the 21 youths who completed the survey were of mixed gender, racially and ethnically diverse, and averaged 18.6 years of age (Table 2). Most of the youths reported multiple family and group home placements. Approximately one in three had been placed with a relative caregiver at some point in time, though this was not always their current caregiver. Youth were also diverse in sexual orientation, with 48% reporting some attraction to the same sex. Most but not all participants were sexually experienced: seven reported that they had experienced a pregnancy/gotten a partner pregnant, and six reported having had an STI. Twenty-four percent (five participants) of the youths reported low sexual risk behavior patterns (no pregnancies, no STIs, and 0–1 lifetime sexual risk behaviors). A higher proportion of young men in our study reported a low risk pattern (48%) than young women (21%).

Qualitatively, all participants described having experienced at least one major stressor, including personal or family struggles with addiction, mental health problems, homelessness, school problems, incarceration, and/or death of a biological parent or other family member. Approximately half disclosed a history of abuse or neglect. Participants described romantic and sexual relationships varying in length from weeks to years. While

most partners were similar in age, a few female participants described experiences with older male partners. Descriptions of the character of these relationships diverged widely, ranging from negative experiences (e.g. cheating, lying, unequal power dynamics, abuse) to positive characteristics (e.g. honesty, trust, emotional support). Age at voluntary sexual debut was consistent with national statistics,⁷ with about half reporting age at first sex prior to 16, and half reporting that they had been 16 or older or had not yet had voluntary sex. Participants typically described ample access to condoms and birth control, and most described exposure to some sexual education, though it was frequently described as insufficient, boring, or not applicable to their life experiences (“Everybody thinks maybe it’s all BS what they teach us in health class - that maybe you can pull out and it won’t affect us” – Male, age 20). STI and pregnancy prevention educational groups conducted at community agencies were described positively, though few youths reported access to them. Other sources of sexual health information included peers, internet or other media sources including pornography, and adults including biological and foster parents.

3.2 Norms and attitudes

Normative beliefs around when most people have sex for the first time varied widely, with some youths perceiving it to be typical for peers to have sex as early as 12–13 years of age. The majority of participants (especially males) endorsed a belief that most teenagers had more than one partner, though many youth described personally preferring a single partner.

Key norms and attitudes related to condom use are described in Table 3. Norms ranged from endorsement of consistent condom use to no condom use among peers. Most acknowledged that peers knew that condom use was the “right thing to do.” Most of the youths described a favorable personal attitude towards condoms, though a notable minority described negative or ambivalent attitudes (e.g., preferring to only use one if they were explicitly asked). Despite mostly favorable attitudes, consistent with survey data, multiple youth described instances in which they appraised a potential partner to be high risk but did not use condoms. Others advocated for condom use in others, but reported personal non-use. It appeared especially common for older participants (both male and female) to endorse strong attitudes in favor of condom use despite personal non-use or inconsistent use. Reasons given for why they or their friends might not use condoms included difficulty discussing them with a partner, not wanting to interrupt the moment, not having one available, and not knowing how to use them. Overall, the youths described several rules about when condoms were used or not used (see Table 3), with some reporting increased condom use after an STI diagnosis or scare.

The most frequently endorsed methods of pregnancy prevention were condoms, pills, Depo Provera, Plan B, and withdrawal. Overall, attitudes and norms around birth control were mixed, with multiple young women reporting concerns that hormonal methods might hurt their body (“Because I have, not personally, but experience with people whose bodies can’t have kids after using it.” – Female, age 15). When experiences or concerns about side effects were mentioned, Depo Provera was the form most commonly described. Similar to what was expressed with respect to condom use after an STI diagnosis or scare, participants often described that they or their friends went on birth control following a pregnancy/

pregnancy scare (“A couple of my friends the reason why they got birth control because they had got pregnant before and they got abortions.” – Female, age 20). Dual contraceptive and condom use was infrequently described (“If they know the chick for a fact is on birth control, they would forget the condom unless they don’t really know the chick.” – Male, age 20).

Around half of the youths described personal pregnancies or scares, and almost all indicated that teen pregnancy was common among peers. Interestingly, although most reported not wanting to get pregnant, participants consistently endorsed that pregnancy was an inevitable event regardless of personal desires (“I mean [pregnancy] could happen any time truthfully.” – Male, age unknown). Additionally, many described an attitude of ambivalence, i.e. that teen pregnancy was acceptable as long as the prospective parent was emotionally and/or financially ready for the pregnancy (“I think when you know what you want in life and you’re like able to support yourself and your head’s steady and...the other person that you’re having a baby with is there to support you for the right reasons, then I think you can be able to think about it. But until then no...I’m almost there.” – Female, age 15).

3.3 Responses to early life experiences

The youths poignantly described how experiences in biological families or foster care shaped them differently than other youth:

“Our experiences and things that we’ve been through and people that we’ve come in contact with have kind of shaped us a little differently. Someone who hasn’t been in foster care will never fully, 100% understand that texture or that mold that we come from.”

– Female, age 20.

Though many described positive traits or experiences they had as a result of past experiences, in this section we focus on factors that youths perceived as increasing pregnancy or STI risks. Broadly, most challenges related to the regulation of strong emotions (especially anxiety, fear, or anger) and fell into three main categories: trust appraisal, communicating effectively in the context of strong emotions, and controlling impulses. Though we focus on quotes and subthemes relating to pregnancy/STI risks, similar themes were described in other relationships such as those with foster caregivers, peers, and healthcare providers.

3.3.1 Difficulties with trust appraisal—Many of the youths described having a hypervigilance to untrustworthy or dangerous behaviors as a result of past experiences (“I don’t really trust anyone else but myself to really deal with it, because my trust has been extremely broken from being in foster care.” – Male, age 18). They indicated a variety of ways of managing this anxiety, several of which influenced partner choice or STI risk. Many participants described conducting rapid appraisal of potential romantic/sexual partners to determine whether a partner was safe or trustworthy (“I can get their vibes and I can tell they’re telling the truth.” – Female, age 20); this strategy was most commonly reported by older participants and was frequently described as an adaptive response to past trauma. This quick assessment strategy was described with respect to specifically assessing STI risk as

well. Interestingly, some described that physical attractiveness was a sign that a prospective partner did not have an STI (“...pretty girls don’t have STD’s.” – Female participant, age 20), whereas others felt that physical attractiveness made it more likely that they had an STI (“I mean even if he’s hot, usually that means he has something.” – Female, age 20). Other youths described a slower appraisal period during which they remained disengaged and observed a potential partner.

“I feel like you got to through stuff... And if they’re there and they’re open arms, you know you can trust them. But if they turn you down or push you away, it’s like ‘no I can’t trust you, I can’t rely on you.’”

– Female, age 20

Some participants tested partners or peers outright to determine trustworthiness (“I kind of see the person’s reactions...you know, what buttons I can push and what buttons I can’t push.” – Male, age 21). Occasionally this resulted in outright oppositional behaviors:

“I’m actually kind of silent about it. I kind of go in the shadowy way of holding it back but letting it out slowly just like in little ways. Setting something where somebody loses it or something or sometimes it’s major, stealing something. I mean it’s like I don’t know what else to do instead of something insane.”

– Male, age 21).

Many of the youths subsequently endorsed situations in which their appraisal strategy had resulted in inaccurate information, for example relaying experiences in which they had thought they could trust a partner followed by a perceived betrayal (“I think it’s still hard because people put on disguises. I would think that I’m with the best dude and he’s the worst one.” – Female, age 20). Repeated experiences with misplaced trust was often very distressing for youth (“I really can’t trust nobody because I’ve been let down and hurt so many times by people that I thought was my friends, best friends, family members, sisters, brothers.” – Female, age 20). A few participants described noticing that they or other foster youths would adopt an emotionally removed or business-like approach in relationships as an adaptive strategy: (“Depending on who you talk to and what they wanted and how you could be of use to them would depend on how much or if they loved you...that’s kind of how I was.” – Female, age 20) This participant illustrated how this could turn into engagement in sex for money:

“Some people literally treat [romantic relationships] strictly like a business thing. Like I’m hanging out with you for X amount of hours so I’m going to need this amount of money for myself to go do this when I’m not with you, because to me time is money.”

– Female, age 20.

3.3.2 Difficulties communicating effectively in the context of strong emotions

—Many of the youths, especially female participants, expressed that early abuse experiences made it difficult to engage in conversations around sex. For example, one participant described her difficulty discussing her sexual relationship with her boyfriend after she learned he was cheating on her: (“It was really hard. Anybody that brought up sex to me I

was feeling very awkward about it. Really timid and shy about it.” – Female, age 20). Others expressed difficulties with asking to use condoms or birth control (“Yeah, I usually don’t talk about [condoms or STDs]. I know you’re supposed to but I guess...I don’t know...it’s kind of awkward.” – Female, age 17). This difficulty was similarly described around contraceptive conversations with health care providers: (“They’re like, ‘There’s all these different types of birth control.’ And in your head you know it’s the right thing to do...but then again you’re like which one is the one that I take. You don’t really know because they give you so many choices. So I was like forget it; I’m not going to take any of them.” – Female, age 20). Male and female participants also commonly described aggressive or passive aggressive communication strategies in romantic or sexual relationships (“I just get really upset and I just say f__ it and I ignore her and I was like I’m just going to take you home. And I don’t call her, I don’t text her.” – Male age 17).

3.3.3 Difficulties controlling impulses—In addition to more deliberate strategies which participants used to manage strong emotions in their romantic relationships, many of the youths described situations in which they had difficulty controlling impulsive behaviors in the context of their romantic relationships (“I’m cool, calm and collective [sic] in all situations. I believe that but if you get under my skin, if you really just, I’m going to snap, you know. Like my girl, like I was around her all the time for four years so the littlest thing made me snap.” - Male, age unknown). Young men in our study were especially likely to report difficulties with impulsive externalizing behaviors, though young women reported these types of behaviors as well. Some participants specifically related difficulties with impulse control to pregnancy and STI-protective behaviors (“I let my feelings get the best of me, it was hard to acknowledge anything else around me like protection or whatever.” – Male, age 19). Other described pervasive impulse control difficulties that were less linked strong emotions, which also contributed to casual or unprotected sex (“[Sex] kind of just happened. Some people just have that feeling they just want to have sex you know.” – Male, age 19).

3.4 Protective factors

The youths described a variety of external factors and characteristics that they felt were helpful in their lives, overall and also specifically in mitigating pregnancy or STI risk (Table 4). Almost half described deliberately creating extremely close, family-like relationships with friends, mentors, former foster caregivers, siblings, or partners, whom they viewed as sources of advice or emotional support about their romantic or sexual relationships. A few participants described the foster system as protective. Involvement in extracurricular or community activities, seeking out experiences different from those experienced in their family of origin, and having educational or other goals were also described as both generally and specifically protective against early pregnancy/STIs. Other protective characteristics included having a sense of personal responsibility, which youth felt improved their chances of achieving healthy relationships and reaching other goals, and learning how to develop stepwise plans to work towards their goals. Additionally, when reflecting on experiences described in the previous section, some participants described that learning emotion regulation skills in order to delay gratification and master impulses in situations involving strong emotions was protective in both a general and sexual health-specific sense. For

example, though many youths endorsed that young teens tended to prioritize sex over emotional connection, they also frequently described that prioritization of an emotional connection increased with age. This theme was especially common among young women in our study. Some youths engaged in public dating activities as a strategy to delay sexual activity and assess partner compatibility and trustworthiness in a more gradual fashion: (“It’s just like getting to know one another at first. Like, going out into the community and socializing basically...seeing what you don’t like and like.” - Transgender female, age 17).

3.5 Youth intervention ideas

The youths also described many ideas regarding potential strategies to help teens in foster care avoid unwanted pregnancies and STIs. Several themes were endorsed by multiple youth. Consistent with the principles of SCT, most of the youths preferred a group rather than individual format, and many also noted the importance of interactive and engaging content. Almost half of the youth described wanted a non-judgmental facilitator who encouraged an open communication environment (“We should start being open about [sex] because a lot of kids are knowing a lot more than what parents think they know.” – Female, age 21). Some youth specifically described wanting a facilitator who was willing to share a little about themselves and/or who was willing to incorporate the youth’s ideas (“...Feeding off of us, learning from off of us. That’s the best thing, because it feels better.” – Female, age 20). Many participants also described the potential benefit of having peer facilitators or leaders involved in such a program (“Link them up with youth who have experienced foster care or alumni foster care. And the reason for that is because no matter what people say, people who haven’t gone through foster care firsthand will never know what it’s like to be in foster care.” – Male, age 19). Most endorsed that having both genders present would be the most helpful, however a notably minority (2 participants) indicated that they felt that having the genders separated would be helpful. Finally, many of the youths indicated a need for foster caregivers, kinship caregivers and caseworkers to be trained on basic sexual health information as well as how to engage in open conversations around these topics with the youths for whom they care (“Especially like with [foster] parents, because then they could be like ‘oh and I have this problem with my kid’ and then someone can be like ‘oh, same here. Yeah, we can converse about that.’” – Female, age 16).

4. Discussion

Likely due to high rates of early adverse experiences including abuse, neglect, other exposures, and disrupted relationships with biological caregivers, foster youths are at high risk of poor adult health and other outcomes.^{1–8} Intervention studies in other teen populations suggest that tailored approaches informed by SCT or another health promotion theory are likely to be the most effective way to improve sexual health outcomes for a given population.^{22–25} This is the first study that uses SCT to qualitatively explore the norms, attitudes, responses to early life experiences, and protective factors that current and former foster youths perceive as influencing reproductive health outcomes. Put into the context of existing literature, many attitudes and norms are similar to those seen in other populations (e.g., condoms aren’t necessary with steady partners). This is similarly true for the protective factors that decreased youths’ risks of STIs, pregnancies, and other outcomes (e.g. being

connected to positive peers, caregivers and other adults, and social activities).^{22,34,35} Other themes may be more specific to this population (e.g., that one can tell by looking whether someone is trustworthy or has an STI, and that early pregnancy is inevitable). Participants perceived difficulties with emotion regulation as a result of early life experiences, which in turn were linked with several factors influencing pregnancy and STI risks including difficulties with assessing and effectively communicating with partners, and engagement in birth control or condom use (even when personal attitudes were strongly in favor of these behaviors). The importance of emotion regulation skills is consistent with our past quantitative work indicating that externalizing behaviors mediate the link between early life abuse and later sexual risk behaviors.³¹

Overall, findings suggest that to be maximally effective, pregnancy/STI prevention programs for foster youths should:

1. Utilize example situations that are relevant to the unique life experiences of foster youth and that reflect the effects of past abuse and other adverse childhood experiences on current relationship behaviors (i.e., are trauma-informed).
2. Promote protective norms and attitudes (e.g., that condoms demonstrate respect), and directly address maladaptive norms and attitudes, most notably that it is possible to judge STI risk or trustworthiness of a partner based on a rapid visual appraisal, that condoms are not necessary in long-term relationships, with known partners, with partners with whom sexual contact is infrequent, or when a youth is already using birth control, and that teen pregnancy is an inevitable event. Misperceptions around the safety and efficacy of various birth control methods (including withdrawal) also need to be addressed, as does the perceived link between early life maltreatment and transactional sex, which is supported by existing literature.^{10,31}
3. Address perceived difficulties in emotion regulation and its influence on trust appraisal, effective communication, and impulse control in the context of strong anxiety or anger. This assertion is supported by our past work as well as that of other investigators.^{30,31} This should optimally include content around public outings as a strategy to assess trustworthiness and compatibility of potential partners and to delay sex, as well as content that targets interactions with health care providers and foster caregivers in addition to those with partners and peers.
4. Promote other protective factors including a sense of personal responsibility for one's choices as well as the ability to effectively set goals and carry out steps to reach these goals.
5. Participants also indicated that an interactive, group-based delivery format in which an open, non-judgmental atmosphere is cultivated is likely to be the most acceptable to youth in foster care.
6. Interventions would ideally include a component in which caregivers and caseworkers are trained on basic sexual health information as well as how to have conversations about sexual health with the youths that they serve.

There are several limitations to this study. First, we sampled youths from two child welfare agencies (one public and one private) in a single state; this potentially limits the generalizability of our findings. However, we used maximum variation purposive sampling strategies in this study to recruit youths representing a diverse range of perspectives. In addition, this is the second portion of a mixed method study, and quantitative results similarly demonstrated the relationship between abuse, emotion dysregulation (specifically externalizing behaviors), and sexual health outcomes. This triangulation of findings increases our confidence in results presented in this article. Second, our interview and analytic staff was not diverse in terms of race or ethnicity, and none of us has ever been in foster care, which could potentially bias our interpretation of the main themes. We did however have three former foster parents as well as one person who has worked as a mental health practitioner with foster youths for decades conducting the interviews and analysis. Third, though we saw significant themes related to how early life exposures to adversity affects current behavior in romantic and sexual relationships. Although this suggests that trauma-informed interventions are likely to be important in this group, it is beyond the scope of this study to understand how specific types of adverse experiences are related to sexual health outcomes among foster youth. Finally, we briefly explored themes after stratifying by age and gender, however it was outside the scope of this study to explore gender and age-specific themes in detail. Overall, future research should be conducted to better understand the specific needs of youths in foster care with varied experiences prior to and while in care as well as of different genders, ages, and other characteristics to maximize effectiveness of intervention efforts.

5. Conclusions

Adolescents in foster care are at high risk of STIs and pregnancies. Current qualitative and previous quantitative findings are relevant for child welfare policymakers and practitioners. They suggest the importance of trauma-informed interventions targeting critical norms, attitudes, and emotion regulation and related interpersonal skills for this population, and also provide specific recommendations on the structure of potential preventive interventions from the perspectives of current and former foster youths.

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Abbreviations

STI sexually transmitted infection(s)

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Highlights

- Foster youth perceive many norms & attitudes that contribute to pregnancy/STI risks
- Emotion regulation difficulties also influence trust, communication, & impulsivity
- We present recommendations for sexual health interventions for foster youth

Table 1

List of interview script topics and sample probes

Topic	Example Probes
Future goals & expectations	<ul style="list-style-type: none"> What do you think it means to be successful as an adult? What would get in the way of you being successful? How do you think this influences the way you think about or act in your relationships?
Norms, attitudes, behaviors around romantic & sexual relationships	<ul style="list-style-type: none"> What are romantic relationships like for people your age? How have relationships gone for you? Have you ever chosen to have sex with [partner]? Tell me a story about how you make decisions with [partner].
Norms, attitudes, & behaviors around condom use	<ul style="list-style-type: none"> What about condoms? When do people use/not use them? Can you tell me about a time you talked to a partner about using condoms? Tell me about a time when it didn't go like that.
Norms, attitudes, & behaviors around birth control use	<ul style="list-style-type: none"> Do you think people your age usually use other types of birth control? Why or why not? Tell me your thoughts about birth control.
Norms, attitudes, & behaviors around STIs	<ul style="list-style-type: none"> Do you and your friends ever talk about STDs? What do you talk about? How do people talk about this stuff with people they are having sex with?
Norms, attitudes, & behaviors around pregnancy	<ul style="list-style-type: none"> What do your friends think about having kids? When do most people actually have babies? What age do you think people should have babies? Have you ever wanted a baby? What did you do?
Sources of relationship/sexual health information	<ul style="list-style-type: none"> Where did you learn about sex? (Friends, school, biological parent, foster parent, MD/RN, or another important person in your life.) What was helpful/not helpful? Who would you want to talk to if you had a question about sex or relationships?
Emotion regulation	<ul style="list-style-type: none"> How do you handle it when you are angry at a friend? What about with your boyfriend/girlfriend?
Abuse and foster care influences on relationships	<ul style="list-style-type: none"> A lot of people have told me that being in foster care influences their relationships with other people. Do you feel like that is true for you? Why? Some people have told me that having tough past experiences or being abused influences their relationships. I am not asking you if you have been abused, but am wondering if you have any thoughts about how this might influence relationships.
Youth intervention ideas	<ul style="list-style-type: none"> We have some ideas for how to help youth to have healthy relationships. Some of them involve being in a group with other youth. Have you ever been a part of a group like that? How was it? What would have made it more comfortable? What would make it work better? Do you think it would be helpful to have foster parents learn about this stuff? What about caseworkers? What do they need to learn? Do you have other ideas that would help us? What else should we know/be asking about?

Table 2

Demographic and behavioral characteristics of participants

Characteristics ^a	Proportion or Mean (SD)
Gender	
- Female	62%
- Male	33%
- Transgender	5%
Race	
- White	5%
- African American	33%
- Asian	5%
- Hawaiian Native/Pacific Islander	5%
- Native American	5%
- Mixed	48%
Hispanic/Latino	24%
Age	18.6 (1.9)
Foster Care Experiences ^b	
- Number of foster homes	8.6 (11.1)
- Number of group homes	4.3 (4.9)
- Ever had a kinship placement ^c	30%
Sexual Attraction	
- Completely attracted to opposite sex	52%
- Attracted to both sexes	43%
- Completely attracted to same sex	5%
Sexual Experiences	
- Vaginal sex	82%
- Oral sex	77%
- Anal sex	27%
Sexual Risk Behaviors	
- Inconsistent condom use in past 6 months (vaginal or anal sex)	67%
- Partner 2 or more years older	62%
- Sex with a partner with unknown history	62%
- Sex while drinking/doing drugs	48%
- Inconsistent birth control use in past 6 months (vaginal sex)	48%
- Sex for drugs or money	5%
Pregnancy History	
- No pregnancies/partners pregnant	67%

Characteristics ^a	Proportion or Mean (SD)
- 1 pregnancy/partner pregnant	33%
- >1 pregnancy/partner pregnant	19%
Ever had sexually transmitted infection	29%
Proportion with no pregnancies, no STIs, and 0–1 risk behaviors	24%

^aN = 21; 1 participant declined to complete the survey;

^bN = 14; questions added after the first 7 interviews were completed;

^cN = 13

Table 3

Norms & attitudes about condoms

Theme	Exemplary Quote(s)
Norms and attitudes contributing to <u>no or inconsistent</u> condom use	
Sex with partner is infrequent	"We're not together enough. We're just friends with benefits. It's like sometimes they'll put on a condom if they know they have stepped out and they was with somebody else, then they'll put on a condom. But usually they don't really wear one." – Female, age 20
Partner is trusted	"Probably not, no, because I know that he's not sleeping around with anybody; I'm not. We're really committed to each other, so, like, I trust him more than I've trust anybody within my whole life." – Female, age 17 "There are many key components to romance and I think respect is a big one. And so when you get in one of those relationships like I was saying and I let my feelings get the best of me, it was hard to acknowledge anything else around me like protection or whatever." – Male, age 19
I am in a long-term relationship	"If I'm in a relationship with someone I feel like it's okay to have unprotected sex if we're going to be together for a while, like a long time if that's what your plans are." – Female, age 20
I or my partner have been recently tested for STIs	"Like I didn't use a condom when I was 16 and that was with a girl that I actually like knew was clean and stuff and all that. We were both going to the Public Health thing and, you know, so it was proven that we both were okay." – Female, age 19
I am already on birth control	"I know I'm not going to sleep around, so if I get on birth control, then I'd be happy to have unprotected sex with him." – Female, age 17
We've already had sex without a condom	"If you're not using condoms at first, don't expect to use condoms in the middle or in the end because whatever you start out at first is how the relationship is going to be." – Female, age 20
Sex doesn't feel as good with condoms	"It doesn't feel good with a condom on and it's better with it off." – Male, age 20
Norms and attitudes contributing to <u>consistent</u> condom use	
Condom use shows respect	"I think just having that conversation to an extensive level and taking those necessary steps of precaution second-handedly shows – especially females because they're more analytic – they more look into things. And it would have shown the person that you trust them, that you love them enough to prevent something like this from happening." – Male, age 19
Participant or partner will choose sex with condoms over no sex	"They would probably go towards the condoms just for as like, yeah it's fun, maybe it's not the full pleasure but it's still something." – Female, age 21
Condoms should be used with casual partners	"Sometimes if you're drinking and stuff, you probably won't even think about it. You really won't care if you're drunk or something. You'll be like, 'I don't care I'm still going to have sex with her, it doesn't matter. If she has something I'll just put a condom on.'" – Male, age 17

Table 4

General and STI/pregnancy-specific protective factors

Created family	"I call her my cousin. She was actually one of the staff members at one of my old group homes and just kind of came really close and connected with her family. They were really super cool with me. That's kind of when I became comfortable sharing stuff like that with people, or with her." – Female, age 20
The foster system	"I'm really happy the fact that I was in foster care because without foster care I wouldn't be learning about college, I wouldn't be having much scholarships to go to school and all these great opportunities that befall upon me." – Male, age 20
Involvement in activities or groups	"“What do you do with your free time?” And I'll be like, ‘Well, sleep because usually I'm either at a rehearsal or at church or at choir rehearsal or doing a lot, making sure I'm busy so I don't get into trouble or I have time to be out there like that.’” – Female, age 20
Goals	<p><u>Educational</u> “And we broke up on mutual terms of you know I just want to focus on my grades because I didn't start off so good in the rest of my life.” Male, age 19</p> <p><u>Desire for financial and/or emotional stability</u> “You have to be able to support your kids. But not just financially, like, emotionally, too... you should be ready.” – Female, age 17</p> <p><u>Desire for personal time before or instead of parenting</u> I'm going to school with work with kids. I don't want to leave work and go home to more kids.” – Female, age 20</p> <p><u>Desire to be a good parent</u> When you have a better planned life you have more time for your kids.” – Female, age 20</p> <p><u>Desire to avoid biological caregivers' mistakes</u> “My mom had me when she was 17 and she didn't raise me, none of my siblings. My grandma had to raise us. You know what I'm saying? And I'm just like I'm not about to be a replica.” – Female, age 20</p>
Taking personal responsibility	"I felt like I was lost my life and for a while I was like, man I'm ain't doing jack squat but just sit on my butt all day. It feels good. It feels good to know that I have all those things going around me, to know that I'm actually doing something and I'm making a difference.” – Male, age 20
Developing and carrying out plans	"Even when you're in college and you're playing basketball, they're going to drop you off the roster immediately after they find out you're pregnant. They don't care if you're one month or a couple weeks, three weeks, three months; you're off the roster. That's your whole life-plan gone.” – Female, age 20
Seeking out new experiences	"Be aware of what's going on in like your neighborhood. I like forums. Like I like to go to in-training forums and like hear what people have to say about the government and the system and all that. I like to get educated in that kind of stuff so I like when a person likes to get into that kind of stuff.” – Female, age 20
Learning emotion regulation skills	"I'm kind of used to pushing the stuff and all that to know my limits, where to stop, where to go. And after doing it enough it kind of just dawns on me you know. And the foster care, or foster home did help me with a lot, the group home.” – Male, age 19