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Pregnancy attitudes, contraceptive service utilization, and other factors associated with Los Angeles homeless youths' use of effective contraception and withdrawal

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Abstract

Study Objective—This study aims to understand the associations of contraceptive service utilization (i.e., accessing condoms or birth control), pregnancy attitudes, and lifetime pregnancy history among male and female homeless youth in relation to use of effective contraception and withdrawal.

Design, Setting, and Participants—Between October 2011 and February 2012, homeless youth (14–27 years old) from two drop-in centers in Los Angeles (N=380) were recruited and completed a questionnaire. The data in this paper are restricted to those who reported vaginal sex at last sex (N=283).

Main Outcome Measures—Analyses examined history of foster care, sexual abuse, exchange sex, pregnancy, lifetime homelessness duration, current living situation, contraceptive service utilization, and pregnancy attitudes in predicting use of effective contraception and withdrawal at last sex.

Results—Over 62% of females and 43% of males report having ever been pregnant or impregnating someone. There are no gender-based differences in pregnancy attitudes; 21% agree they would like to become pregnant within the year. Additionally, there are no gender-based differences in reported contraceptive use at last vaginal sex. In the multivariable model, high school education, contraceptive service utilization (RRR: 4.0), and anti-pregnancy attitudes (RRR: 1.3) are significant positive predictors of using effective contraception; anti-pregnancy attitudes (RRR:1.2) and gender (RRR: 0.3) are significantly associated with using withdrawal.

Conclusions—Health professionals should acknowledge that some homeless youth desire pregnancy; for those that do not, access to effective contraception is important. Programs must continue to promote pregnancy prevention, and include discussions of healthy pregnancy habits for pregnancy-desiring youth.

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Study conducted in Los Angeles, CA

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Keywords

homeless youth; pregnancy; attitudes toward pregnancy; contraception; condoms; sexual health

INTRODUCTION

Attitudes toward pregnancy and the likelihood of pregnancy have been largely understudied among homeless youth. Yet, of the estimated 1.6–1.7 million homeless youth in the United States,¹ 30 to 60% of female homeless youth have reported ever being pregnant^{2–9} and 21% of male homeless youth report impregnating someone in their lifetimes.³ These rates are greater than that experienced by their non-homeless peers,^{8–11} with 7 to 17% of 14- to 19-year-old females reporting a history of pregnancy.^{8, 12, 13} Moreover, pregnancy and pregnancy desire is associated with a longer duration of homelessness.^{4,9,14–16} Forty percent of female homeless youth who have been homeless for six months or more report a lifetime history of pregnancy, compared to 14% of females who have been homeless for less than six months.⁹ Additionally, youth who have been homeless for a longer period of time are significantly more likely to report pro-pregnancy attitudes.¹⁶

Contraceptive use is the best predictor of pregnancy among youth.¹⁷ Youth who abstain from contraception are 11 times as likely to become pregnant, while youth who use contraception inconsistently are 3 times as likely to become pregnant.¹⁷ However, disparities in pregnancy rates are explained in part by different contraceptive use patterns.¹⁸ Hormonal contraceptives (e.g., pill, vaginal ring, patch, shot, implant) are the most effective, male condoms are also effective,¹⁹ while withdrawal is the least effective.²⁰ About 60% of sexually-active 15 to 19 year olds report using a highly-effective form of contraception (e.g., intrauterine device [IUD], hormonal contraceptive), 16% use male condoms, 6% use withdrawal or other less effective forms, and 18% do not use any form of contraception.²¹ Comparatively, among homeless youth, 92% report ever using male condoms, 40% have ever used birth control pills, and 13% have had a contraceptive shot.²² Three-quarters of homeless young women report “sometimes” or “always” using contraception, of which 57% report doing so primarily for pregnancy prevention. However, 27% of female homeless youth report not using contraception for over half of their sexual encounters.⁶ At last sexual encounter, 25% of Los Angeles homeless youth report not using any form of contraception, 19% relied on withdrawal, 37% used a condom, 12% used a hormonal method, and 8% used a condom and hormonal method; though these rates are among youth who reported vaginal or anal sex at last sexual encounter.¹⁶ Regardless of effectiveness, homeless youths’ contraceptive use is inconsistent, thus leading to an increased likelihood of pregnancy.

Contextual factors may relate to the decision to use contraception, especially condoms. As a relationship progresses and becomes more serious, condom use declines.²³ Homeless youth are less likely to report condom use with main partners than with their casual partners.^{3,6,24} Among non-homeless youth, ages 17 to 25 years, condom use occurs less often within exclusive sexual relationships, as other forms of contraception are utilized.²⁵ Moreover, male homeless youth who complete at least 10th grade are more likely to use condoms at last sexual encounter;² while pregnant female homeless youth (12–18 years old) are over twice as likely to have dropped out of school than those who are not pregnant.¹⁴ Thus, partner type and education may contribute to homeless youths’ contraceptive use.

Access to condoms and other contraception at drop-in centers, shelters, and other service agencies may increase effective contraception use. Two-thirds of homeless youth report receiving condoms within the previous month; and, male homeless youth who received condoms are almost four times as likely to use a condom at last vaginal sex.²⁶ Female

homeless youth explain that condoms are most commonly utilized because they are available more often and protect against sexually transmitted infections (STIs).⁵ Lack of access to other contraceptive methods may cause homeless youth to rely on other less-effective forms of contraception. Even though homeless youth recognize that the rhythm method and withdrawal are not the most effective methods, they are methods that do not require health professional involvement.⁵

Homeless youths' negative life experiences may contribute to their likelihood of becoming pregnant or impregnating someone. High rates of sexual victimization, history of foster care, current risky sex behaviors (e.g., engaging in exchange sex, unprotected sex, having multiple partners, and participating in high risk sex networks) and limited access to healthcare services heighten the risk for pregnancy among homeless youth.^{8,10} Homeless youth experience high rates of sexual abuse and victimization,¹⁰ which may increase their likelihood of pregnancy; as sexual abuse victims are more likely to engage in risky sex behavior that can lead to pregnancy^{7,8,24} and if forced to have sex, may not have the option to use contraception.¹¹ Foster care history is also associated with both higher rates of homelessness²⁷ and pregnancy;²⁸ and homeless youth with a lifetime history of pregnancy are more likely to have been involved in foster care.⁷ Exchange sex (i.e., trading sex for money, drugs, food, a place to stay, or other means) is pervasive among homeless youth,^{7,29} and is further associated with pregnancy in this population.⁴

Homeless youths' attitudes toward pregnancy have rarely been examined in research to date. A retrospective study of homeless youth found those who experienced a pregnancy felt either excited or ill-prepared physically, emotionally, and financially.¹⁰ Most of these homeless youth reported that they did not want to be pregnant, but also did not use any contraception.¹⁰ One study found that 9% of female homeless youth want to become pregnant and 6% are trying to become pregnant.⁶ A recent study found that 75% of male and 71% of female homeless report that it is "very important" to "avoid becoming pregnant;" while 43% of male and 25% of female homeless youth would be "a little pleased" or "very pleased" if they found out they were pregnant. However, in a multivariate model, being pleased about a pregnancy is not significantly associated with failure to use an effective contraceptive at last sex.¹⁶

Studies exploring attitudes toward pregnancy among non-homeless adolescents suggest that a subset of youth have positive attitudes toward pregnancy. Eight percent of 15- to 19-year-old female youth participating in the National Longitudinal Study of Adolescent Health (Add Health) strongly agreed or agreed that pregnancy "would not be all that bad." Additionally, 7% strongly disagree or disagree with the statement that "Getting pregnant at this time in my life is one of the worst things that could happen to me" (i.e., pro-pregnancy attitude). Twenty-nine percent of those with the strongest pro-pregnancy attitudes became pregnant within one year of the initial interview, compared to only 4% of those with the strongest anti-pregnancy attitudes.³⁰ This may be particularly relevant for homeless youth, as pro-pregnancy attitudes are associated with living away from home for at least two weeks and dropping out of school amongst adolescent girls.³¹ Pro-pregnancy attitudes are also negatively associated with using contraception^{23,32,33} and predictive of becoming pregnant within one year.³⁰ Sexually active high school students who report high perceived positive consequences to teenage childbearing are over three times as likely to have not used contraception the last time they had sex.³⁴ Conversely, youth with anti-pregnancy attitudes are more likely to use contraceptives regularly.^{23,32} Thus, attitudes toward pregnancy may have a direct impact on contraceptive use.

Among homeless youth, the relationship of pregnancy history to subsequent pregnancy desires and contraceptive use is inconclusive. While pregnancy history has not been found to

be associated with unprotected intercourse at last sex among homeless youth,⁴ another study found female homeless youth who have ever been pregnant are much less likely to use condoms with their regular partners.⁷ Other studies have found that non-homeless youth who have a history of pregnancy are more likely to have pro-pregnancy attitudes,^{17,23} to use contraception ineffectively²³ or not at all,³² and to believe that pregnancies strengthen their relationships with a romantic partner.³⁵

As perceived by health professionals, pregnancy is a “serious health concern” for homeless youth.¹⁰ Being pregnant and homeless increases the risk for a variety of health complications and negative birth outcomes.^{36,37} However, it is unknown if homeless youth share these perceptions. Health professionals may erroneously assume that homeless youth wish to avoid pregnancy. However, if homeless youth desire pregnancy, mere contraceptive availability may not be the best public health solution. As such, any potential gender-based differences in pregnancy-related attitudes and behaviors must also be understood in order to best inform public health implications.

Building upon the recent work by Tucker and colleagues (2012),¹⁶ this paper investigates homeless youths’ contraceptive use at last vaginal sex specifically and the relation of pregnancy attitudes with the use of effective contraception or withdrawal. Prior studies are limited in examining the distribution of pregnancy attitudes among homeless youth and their association with using effective contraception or withdrawal. Thus, the goals of this manuscript are twofold: 1) to understand homeless youths’ attitudes toward pregnancy and 2) to determine how demographic characteristics (particularly gender), lifetime sexual abuse and foster care experiences, current homelessness situation, sex behaviors, and pregnancy attitudes relate to homeless youths’ use of effective contraception and withdrawal. Given findings from previous studies acknowledging high rates of pregnancy history among homeless youth, we hypothesize that attitudes toward pregnancy will be positive and as such, use of effective contraception and withdrawal will be low. However, those with anti-pregnancy attitudes will be more likely to utilize withdrawal and effective contraception.

METHODS

Sample

As a part of a longitudinal study addressing social networks and risk behaviors of homeless youth in Los Angeles, a sample of 386 homeless youth (ages 13 to 25 years) were recruited between October 2011 and February 2012 from two drop-in centers in Los Angeles. All youth accessing services at these agencies during the data collection period were eligible to participate, including those who self-reported in the questionnaire that they were older than 25 years. Refusal rates were low, with only 6.7% of youth at Site 1 and 19.9% of youth at Site 2 declining to participate in the study. For this paper, the 6 transgender-identifying youth were dropped from the analyses, to allow for a binary gender category. Additionally, those who reported not engaging in vaginal sex at last sexual encounter (N=97) were removed from the analyses to align with the outcome measure (see “Measures” below for further information), thus creating a sample size of 283. Bivariate and multivariable analyses have smaller Ns due to missing data, as participants were not required to answer every question. The analyses in this paper are cross-sectional and limited to only one wave of data collection, as not all related measures were included in all waves of data collection.

Procedures

Recruitment was conducted for 19 days at each agency; during that time period, recruiters were present at the agency to approach youth for the duration of service provision hours. Recruiters provided clients a brief verbal summary of the study and incentives and asked

about their interest in participating. Any client receiving services at the respective agency was eligible to participate. Each agency has one main entrance where youth sign-in for services for the day, ensuring that all youth were approached. Youth new to the agency first completed the agency's intake process before beginning the study, to ensure they met the eligibility requirements for the agency (and thus the study). A consistent set of two research staff members were responsible for all recruitment to prevent youth completing the survey multiple times within each data collection period per site. Signed informed consent was obtained from youth 18 years of age and older and informed assent was obtained from youth 13- to 17-years-old. Parental consent was waived for minors, as many homeless youth are unaccompanied and have negative family relationships. The study takes about 60–90 minutes to complete and includes two distinct parts: a self-administered questionnaire and a social network interview. (This paper only includes data from the questionnaire, not the social network interview.) Participants received \$20 in cash or gift cards as compensation for their time. This study was approved by the University of Southern California's Institutional Review Board.

Measures

All of the data are self-reported. *Demographic characteristics:* Youth reported their date of birth, from which we calculated their exact age based upon their interview date. Race/ethnicity response options are listed in Table 1. Education was dichotomized into two categories: high school diploma/GED and above or less than high school diploma/GED.

Homeless characteristics—Youth chose the total number of months and years they have been homeless during their lives; responses were converted into years. Current living situation was assessed by asking youth to indicate where they currently live. Consistent with Tsemberis et al.'s³⁸ definition of “homelessness,” this study includes youth who are literally homeless (i.e., sleeping on the streets, in a car or bus, staying in emergency shelter services), temporarily housed (i.e., transitional living, multiple reports of staying with relatives or friends), or stably housed (i.e., same place of stay for at least six months). For the purposes of these analyses, youth who responded as currently staying on the streets, in a squat, abandoned building, car, or bus were categorized as currently living in a “street-based” environment; all other responses were categorized as “non-street-based.”

Sex behaviors—Participants were asked specifics about their last sexual encounter, including the partner type (i.e., “How would you describe this partner? 1) Life partner, husband, wife, spouse; 2) Boyfriend or girlfriend; and 3) Hookup or casual sex partner”) and sexual activity (“The last time you had sex, what kinds of sex did you have? Check all that apply.” Responses included “Vaginal sex, with a condom” and “Vaginal sex, no condom.” The partner type response was dichotomized into an indicator of the last sex partner being a romantic partner by combining response options 1 and 2. All of the analyses were restricted to youth who reported engaging in vaginal sex at last sex to match the outcome variable (see below). Participants were asked if they “ever exchanged sex (oral, vaginal, or anal) for money, drugs, a place to stay, food or meals, or anything else.” Past month frequency of service utilization with the intention of acquiring birth control or condoms (from “everyday or almost every day” to “not at all this month”), for these analyses, is an indicator variable and subsequently referred to as “contraceptive service utilization.” Pregnancy history was assessed by asking both males and females, “How many times in your life have you ever been pregnant or got someone else pregnant?” This item was adapted from the California Health Interview Survey.³⁹

Pregnancy attitudes were measured with three items: (1) “Getting pregnant, or getting someone pregnant, at this time in your life is one of the worst things that could happen to

you,” (2) “It wouldn’t be all that bad if you got, or if you got someone, pregnant at this time in your life,” and (3) “I would like to get pregnant, or get someone pregnant, within the next year.” The first two items were adopted from Add Health;⁴⁰ the third item was created by the study team, with a five-point Likert scale from “strongly agree” to “strongly disagree.” The three items were combined (the first item was reverse coded) to produce a scale, with higher scores indicating anti-pregnancy attitudes. The three-item pregnancy attitude scale had a Cronbach’s alpha of 0.68.

For these analyses, use of effective contraception and withdrawal compared to no contraceptive method serve as a proxy for pregnancy likelihood. As such, the *outcome variable* of effective contraception (i.e., IUD, implant, pill, patch, ring, shot, and condoms) and withdrawal was assessed with a question adapted from the Centers for Disease Control and Prevention’s Youth Risk Behavior Survey (YRBS)⁴¹: “The last time you had vaginal sex, what one method did you or your partner use to prevent pregnancy? (Select only one response.)” Responses were “I have never had vaginal sex; No method was used to prevent pregnancy; Birth control pills; Condoms; Depo-Provera (or any injectable birth control), Nuva Ring (or any birth control ring), Implanon (or any implant), or any IUD; Pulling out/withdrawal; Some other method; Not sure.”

Analyses

The descriptive, bivariate, and multivariable data analyses were completed using STATA Version 12 (StataCorp, College Station, TX). The analyses predicting associations with use of effective contraceptive methods and withdrawal proceeded in two stages. First, a series of bivariate multinomial regressions were run to determine significant associations ($p < 0.10$) between the independent variables and use of effective contraception and withdrawal. Based on methods suggested by Hosmer and Lemeshow,⁴² any independent variable found to be significantly associated (i.e., $p < 0.10$ level) with the dependent variable was retained in the final multivariable multinomial logistic regression model.

RESULTS

Descriptive statistics are presented in Table 1. The sample consists of 193 males and 90 females. The mean age of the sample is 21 years old, 40.1% of the sample self-identify as White, 28.4% as Black, 18.8% as mixed/other races, 12.8% as Latino, and 63.7% completed high school or received their GED. More males report living on the streets (50.0%) compared to females (27.8%) ($\chi^2 = 12.2$, $p < 0.001$). Youth report an average lifetime duration of homelessness of 2.7 years (s.d. 2.7 years). More females report a history of foster care (54.4% versus 35.2%, $\chi^2 = 9.3$, $p < 0.01$) and of sexual abuse (48.9% versus 21.5%, $\chi^2 = 21.2$, $p < 0.001$). Females are also more likely to report that their last sex partner was a romantic partner (83.3% versus 58.0%; $\chi^2 = 17.5$, $p < 0.001$).

Pregnancy history, pregnancy attitudes, past month contraceptive service utilization, and contraception use are presented in Table 1. Males are significantly less likely to report ever being involved with a pregnancy, with 43.7% of males reporting impregnating someone and 62.2% of females reporting having ever been pregnant ($t\text{-test} = -3.14$, $p < 0.01$). There are no significant differences in the three pregnancy attitude items between males and females. Twenty-seven percent of the participants disagree or strongly disagree with the statement that getting pregnant or impregnating someone would be “one of the worst things that could happen.” Thirty percent agree or strongly agree that getting pregnant or impregnating someone “wouldn’t be all that bad,” and 20.7% agree or strongly agree that they would like to become pregnant or impregnate someone within the year. Twenty-seven percent of the youth reported not using any contraceptive at last vaginal sex, 15.3% used withdrawal, and 48.4% used an effective contraceptive method. However, there are no significant differences

between males and females in their reports of contraceptive method use at last vaginal sex, nor any gender differences in past month contraceptive service utilization.

Results of the bivariate multinomial regressions are presented in Table 2. Variables with a significance of $p < 0.10$ are included with demographic and control variables (i.e., site) in the multivariable multinomial model (Table 3) to assess likelihood of using effective contraception and withdrawal versus no contraception at last vaginal sex. The bivariate analyses showed that past month contraceptive service utilization, the last sex partner being a romantic partner, and anti-pregnancy attitudes were all significantly associated with effective contraceptive use. Anti-pregnancy attitudes were significantly associated with withdrawal.

Thus the aforementioned independent variables were retained in the multivariable model, with use of effective contraception and withdrawal compared to no contraceptive method at last vaginal sex as the outcomes. Youth who accessed condoms/birth control in the past month are almost four times as likely to use effective contraception ($p < 0.001$) versus no contraception. Those with more anti-pregnancy attitudes are significantly more likely to use effective contraception ($p < 0.001$) and withdrawal ($p < 0.01$) than no contraception. Additionally, homeless youth with a high school education are twice as likely to report use of effective contraception versus no contraception, compared to those without a high school education ($p < 0.05$); while male homeless youth are 66% as likely to use withdrawal compared to no contraception. There are no significant differences by age, race, interview site, or whether the last sexual partner was identified as a romantic partner.

DISCUSSION

Rates of pregnancy in this sample of homeless youth mirror and exceed rates previously reported.²⁻⁹ One half of the sample in the present study report having ever been pregnant/impregnating someone, with significant differences reported by gender. This may be a result of young men not knowing if they have fathered a child.

Pregnancy attitudes are poorly understood in this vulnerable population and health professionals may assume that homeless youth hope to avoid pregnancy. However, over one-in-five homeless youth in this study express that they want to become pregnant within the year, with no differences in pregnancy attitudes between males and females. This is contrary to findings of previous studies in the general adolescent population, in which boys report more negative perceptions about pregnancy, than girls,⁴³ and contrary to a study with homeless youth in which males were almost five times as likely to report pro-pregnancy attitudes, than their female peers.¹⁶ Homeless youth may view pregnancy as a positive change in their lives, as a motivator to achieve housing, find employment, receive substance abuse treatment and mental healthcare.^{7,11} Moreover, homeless youths' pro-pregnancy attitudes¹⁶ mirror those of foster youth;^{28,44} such desires represent a means to have someone to love who will love in return, to sustain and improve a romantic relationship and build a family, and to show their good parenting capabilities. These views may apply regardless of gender.

Akin to non-homeless adolescents, this study found that homeless youth with anti-pregnancy attitudes were more likely to use effective contraception^{23,32} and withdrawal,⁴⁵ implying that youth who do not want to become pregnant are utilizing contraception with a range of effectiveness to minimize the likelihood of conception. However, homeless youth in this sample report a much lower rate of using highly effective contraceptive methods, and a greater rate of using condoms, withdrawal, or no method, in comparison to previous research with non-homeless adolescents.²¹ Proportions of youth reporting withdrawal and

no contraceptive methods are similar to another recent study of Los Angeles homeless youth.¹⁶ The higher rates of condom use among homeless youth might reflect greater intervention emphasis on preventing HIV and STIs in this population. Additionally, condoms may be a more accessible form of contraception, compared to other highly effective forms that require healthcare visits and follow up (e.g., IUD, implant, pills, shot). In this study, homeless youth who report accessing contraception within the previous month were more likely to report using effective contraception, but not withdrawal at last vaginal sex, indicating that access to effective contraception may directly increase use of effective contraception. These findings are similar to a previous study, in which male homeless youth who reported getting condoms within the previous month were more likely to report using a condom at last vaginal sex.²⁶

Of note, homeless youth with a high school education were significantly more likely to use effective contraception at last vaginal sex. However, it is unknown if the youth received comprehensive sexual education in school. Homeless youths' lifetime sex education program attendance and specific topics discussed should be investigated in future studies. Additionally, gender was only significant in the multivariable multinomial model for withdrawal. This may be attributed to not conducting dyadic-level analyses (i.e., both partners speaking about the same sexual event), and/or their reported sex partners not being a part of the population sampled. No matter, such findings present the need for further research into understanding why male homeless youth are significantly less likely to use withdrawal than female youth, while there are no gender differences for use of effective contraception.

Because our work is analogous to that of Tucker and colleagues (2012),¹⁶ it is worthwhile to compare and contrast our findings. Both studies found similar rates of specific contraception use, though our data is limited to those who reported vaginal sex at last sex, and Tucker et al.'s (2012)¹⁶ includes youth who reported vaginal or anal sex during the last sexual encounter. Regardless, overall contraception rates were similar, suggesting increased generalizability of our findings for Los Angeles area homeless youth. The largest contradiction between our results and Tucker et al.'s (2012)¹⁶ findings concern youths' pregnancy attitudes and their relation to the use/non-use of contraception. We found that there were no gender differences in attitudes toward pregnancy, while Tucker et al. (2012)¹⁶ reported that male youth were almost five times as likely to indicate pro-pregnancy attitudes. Furthermore, we found that anti-pregnancy attitudes were significant predictors in youth reporting use of effective contraception and withdrawal at last sex; whereas, Tucker et al. (2012)¹⁶ found that pro-pregnancy attitudes were not statistically significant in a model predicting nonuse of effective contraception at last sex.

There are three possible explanations as to why our findings regarding attitudes toward pregnancy and their association with use/nonuse of effective contraception differ: 1) measures, 2) analysis inclusionary criteria, and 3) sampling strategies. The most likely explanation may be due to great differences in the pregnancy attitude items utilized in each study. Both studies utilized pregnancy attitude items from prior studies, though not the same items. The inclusion criteria may also greatly impact the findings, as Tucker et al. (2012)¹⁶ included youth who reported vaginal or anal sex at last sex; whereas we excluded persons who reported only anal sex during the last sexual encounter. Both studies survey a sample of homeless youth in Los Angeles, CA, though the sampling strategies are quite different. The authors of this paper utilized an event-based sampling approach to survey all interested clients at two drop-in centers in Los Angeles, one in Hollywood and one in Santa Monica. Tucker et al. (2012)¹⁶ created a probability sample of homeless youth by randomly selecting youth from shelters, drop-in centers, and street sites around Los Angeles County. It is

possible that the inclusion of more and different geographic areas by Tucker et al. (2012)¹⁶ also affected the discrepant findings.

Limitations

While outside the scope of these analyses, we recognize that “use of effective forms of contraception” as an outcome does not assess for the contraception being used correctly. Future studies should assess correct contraception use, particularly for condoms. A secondary limitation of this outcome variable (adapted from the YRBS) restricted respondents to choose only one contraceptive method at last vaginal sex. Youth may have used multiple methods; thus, this restriction may result in an under- or over-reporting of using effective contraception. In the future, youth should be able to select which contraceptive method(s) were used at last vaginal sex. Under-or-over reporting may also result from response bias related to perceived social desirability. Additionally, these analyses were restricted to participants who reported engaging in vaginal sex during their last sexual encounter. However, participants who have vaginal sex but did not have vaginal sex during the last sexual encounter are not included in the analyses, and thus their behaviors may be different than the findings presented here. In subsequent waves of this longitudinal study we are assessing for current pregnancy, which we did not measure in the findings presented here, potentially affecting youths’ attitudes toward pregnancy. The three pregnancy attitudes items summed to create a pregnancy attitude score yielded a Cronbach’s alpha of 0.68, slightly less than the 0.7 standard. This speaks to further development and testing of pregnancy attitude items to be used with homeless youth. Based on gender differences related to pregnancy, male homeless youth may underreport (perhaps unintentionally) impregnation frequencies. Finally, as the data are cross-sectional, we can only assess for associations and not causations. These findings provide a first step in understanding homeless youths’ attitudes toward pregnancies, history of pregnancy, and factors affecting using effective contraception and withdrawal.

Implications

Our findings highlight the need for the adaptation of evidence-based pregnancy prevention programs for use with homeless youth. A significant number of youth in this study report prior pregnancies and positive pregnancy intentions, reinforcing the need for homeless youth targeted pregnancy prevention and interventions to acknowledge and incorporate pregnancy attitudes. Programs should also build on the relationship between anti-pregnancy attitudes and use of effective contraception. As there are no differences in pregnancy attitudes between the genders, pregnancy prevention programs should target both the individual and the couple; for no gender appears to be particularly pro- or anti-pregnancy in this sample of homeless youth, unified conversations should occur with romantic partners as a unit. Partner communication should be stressed, particularly in regards to each partner’s contraception and pregnancy desires.³¹

As a substantial portion of homeless youth report not using any form of contraception at last vaginal sex, and likely many of the youth who reported use at last sex may not do so consistently, programs should shape positive attitudes toward effective contraception, instruct youth how to use various contraceptive methods (especially condoms),^{17,24} and inform youth about emergency contraception and its accessibility.³³ To complement these tailored interventions, agencies and street outreach teams must make condoms widely available and accessible to homeless youth.^{8,10} This is particularly important as we found that contraceptive access within the previous month is significantly associated with using effective contraception at last vaginal sex, that other forms of contraception may not be regularly accessible or affordable for homeless youth,^{7,8} and because other contraception do not protect against HIV and other STIs.

Given the rates of prior pregnancy and the desire for pregnancy in the coming year, interventions that target pregnancy prevention are not enough. Public health efforts must also focus on intervention programs promoting healthy pregnancies and parenting.⁸ Program content should include healthy pregnancy habits and means to prevent negative birth outcomes, and be supported by accessible prenatal services³⁷ including providing services in less traditional settings (e.g., shelters, drop-in centers, meal programs) where youth are already comfortable.^{8,36} Shelters, drop-in centers, and other point-of-access services for homeless youth should provide pregnant homeless youth with nutritious meals and snacks, as malnutrition can contribute to poor birth outcomes.³⁷

Based on the findings of this study, we need a two-fold approach to pregnancy-related interventions with homeless youth. While pregnancy prevention efforts remain imperative and must continue in order to support those with anti-pregnancy attitudes, health educators, social workers, case managers, physicians, and other health professionals must move beyond generalizing homeless youths' pregnancies as "unwanted." Rather, emphasis must be placed on prevention of pregnancy, as well as promotion for and support of healthy pregnancies.

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Table 1

Demographic Characteristics, Experiences, Sex Behavior, History of Pregnancy, Pregnancy Attitudes, and Contraception Use among Homeless Youth in Los Angeles, CA

	Total (N=283)			Males (N=193)			Females (N=90)			Chi-sq/ t-test
	n	%		n	%		n	%		
Site										
Site 1	135	47.70		106	54.92		29	32.22		12.68 ***
Site 2	148	52.30		87	45.08		61	67.78		
Demographic Characteristics										
Age (Range: 14–27 years old)	Mean	Std. Dev		Mean	Std. Dev		Mean	Std. Dev		
	21.35	2.09		21.57	2.08		20.88	2.06		2.62 **
Race	n	%		n	%		n	%		
Black	80	28.37		50	26.04		30	33.33		16.32 **
Latino	36	12.77		21	10.94		15	16.67		
Mixed/Other ¹	53	18.79		29	15.10		24	26.67		
White	113	40.07		92	47.92		21	23.33		
High school/GED graduate	179	63.70		122	63.54		57	64.04		0.01
Lifetime Experiences										
Foster care history	117	41.34		68	35.23		49	54.44		9.34 **
Sexual abuse history	83	30.29		40	21.51		43	48.86		21.17 ***
Homelessness Experiences										
Lifetime duration of homelessness (Range: 0–10.92 years)	Mean	Std. Dev		Mean	Std. Dev		Mean	Std. Dev		
	2.72	2.72		2.83	2.70		2.49	2.77		0.95
Current living situation	n	%		n	%		n	%		
Street-based ²	118	42.75		93	50.00		25	27.78		12.24 ***
Sex Behavior										
Exchange sex history	49	17.50		32	16.75		17	19.10		0.23
Birth control/condom service utilization in past month	96	35.29		59	31.72		37	43.02		3.29
Last sex partner identified as romantic partner	187	66.08		112	58.03		75	83.33		17.53 ***
Number of lifetime pregnancies										
0	141	50.36		107	56.32		34	37.78		–3.14 **
1	66	23.57		42	22.11		24	26.67		
2	31	11.07		19	10.00		12	13.33		

	Total (N=283)	Males (N=193)	Females (N=90)	Chi-sq/ t-test
3	24	8.57	14	7.37
4	8	2.86	3	1.58
5+	10	3.57	5	2.63
				5
				5.56
Pregnancy Attitudes				
Getting pregnant, or getting someone pregnant, at this time in your life is one of the worst things that could happen to you.				4.59
Strongly agree	76	27.05	48	25.00
Agree	38	13.52	31	16.15
Neither agree nor disagree	91	32.38	60	31.25
Disagree	33	11.74	22	11.46
Strongly disagree	43	15.30	31	16.15
It wouldn't be all that bad if you got, or if you got someone, pregnant at this time in your life.				3.66
Strongly agree	37	13.21	25	13.02
Agree	47	16.79	32	16.67
Neither agree nor disagree	90	32.14	61	31.77
Disagree	41	14.64	33	17.19
Strongly disagree	65	23.21	41	21.35
I would like to get pregnant, or get someone pregnant, within the next year.				2.76
Strongly agree	27	9.64	15	7.85
Agree	31	11.07	22	11.52
Neither agree nor disagree	70	25.00	49	25.65
Disagree	52	18.57	34	17.80
Strongly disagree	100	35.71	71	37.17
Contraceptive method at last vaginal sex				
No method was used to prevent pregnancy	77	27.40	47	24.48
Birth control pills	18	6.41	15	7.81
Condoms	103	36.65	74	38.54
Depo-Provera (or any injectable birth control), Nuva Ring (or any birth control ring), Implanon (or any implant), or any IUD	15	5.34	7	3.65
Pulling out/withdrawal	43	15.30	34	17.71
Some other method ³	6	2.14	3	1.56
				3
				3.37
				11.24
				3
				3.37
				32.58
				8
				8.99
				10.11
				3
				3.37

	Total (N=283)	Males (N=193)	Females (N=90)	Chi-sq/ t-test		
Not sure ³	17	6.05	11	5.73	6	6.74

*
p<0.05,

**
p<0.01,

p<0.001

¹“Other” race includes American Indian, Alaskan Native, Asian, Hawaiian or Other Pacific Islander, and any other races reported by the participants.

²Street-based living situations include street, squat/abandoned building, car, or bus.

³Due to their ambiguity, these participants were dropped from subsequent analyses.

Bivariate Multinomial Logistic Regressions for Use of Effective Contraception and Withdrawal versus No Contraception among Homeless Youth in Los Angeles, CA

Table 2

	Effective vs. None		Withdrawal vs. None	
	Relative Risk Ratio	95% CI	Relative Risk Ratio	95% CI
Site (Site 1 is reference)	0.99	0.56 1.73	0.84	0.40 1.77
Gender (Female is reference)	0.65	0.36 1.18	0.41	0.17 0.99*
Age	1.02	0.89 1.17	1.15	0.96 1.37
Race (White is reference)				
Black	1.74	0.88 3.48	0.88	0.33 2.29
Latino	1.87	0.70 4.98	1.85	0.57 6.02
Other Race/Mixed	1.54	0.71 3.34	0.93	0.32 2.66
High school/GED graduate	1.76	0.99 3.14#	1.41	0.66 3.02
Foster care history	0.67	0.38 1.18	0.58	0.27 1.25
Sexual abuse history	0.81	0.44 1.49	0.63	0.28 1.46
Lifetime duration of homelessness	0.95	0.85 1.07	1.01	0.88 1.16
Currently living on street	0.72	0.40 1.28	1.23	0.58 2.62
Exchange sex history	0.84	0.39 1.81	1.51	0.60 3.83
Birth control/Condom service utilization	3.43	1.77 6.65***	1.89	0.79 4.53
Last sex partner was romantic partner	0.48	0.26 0.90*	0.68	0.30 1.54
Ever pregnant/impregnated someone	0.72	0.41 1.27	0.92	0.44 1.94
Pregnancy attitudes	1.25	1.13 1.38***	1.19	1.05 1.35**

p<0.10,

* p<0.05,

** p<0.01,

*** p<0.001

Table 3

Multivariable Multinomial Logistic Regression Model for Use of Effective Contraception and Withdrawal versus No Contraception among Homeless Youth in Los Angeles, CA

	Effective vs. None		Withdrawal vs. None	
	Relative Risk Ratio	95% CI	Relative Risk Ratio	95% CI
Site (Site 1 is reference)	1.00	0.47 2.14	0.87	0.33 2.52
Gender (Female is reference)	0.50	0.24 1.05	0.34	0.12 0.93*
Age	1.01	0.86 1.19	1.12	0.91 1.37
Race (White is reference)				
Black	2.24	0.91 5.48	1.63	0.51 5.19
Latino	2.37	0.67 8.36	3.84	0.90 16.31
Other Race/Mixed	1.80	0.71 4.56	1.56	0.47 5.15
High school/GED graduate	2.03	1.04 3.96*	1.62	0.70 3.78
Birth control/Condom service utilization	3.98	1.90 8.33***	2.20	0.87 5.59
Last sex partner was romantic partner	0.63	0.30 1.34	1.12	0.43 2.89
Pregnancy attitudes	1.26	1.13 1.41***	1.21	1.06 1.39**
N	241			
Log likelihood	-211.71			
R ²	0.12			

* p<0.05,

** p<0.01,

*** p<0.001