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SI – SRH Sexual-risk factors of partner age-discordance in adolescent girls and their male partners

Dianne Morrison-Beedy, Ph.D., RN, WHNP-BC, FNAP, FAANP, FAAN [Professor of Nursing and Professor of Public Health Senior Associate Vice President],
USF Health Dean, College of Nursing University of South Florida

Yinglin Xia, PhD, MS [Research Assistant Professor], and
Department of Biostatistics and Computational Biology University of Rochester Medical Center

Denise Passmore, PhD [Assistant Professor of Nursing]
University of South Florida

Abstract

Aim and objectives—To investigate differences in sexual-risk factors between adolescent girls reporting similar-aged or older sex partners.

Background—Adolescent girls are at significant risk for heterosexual-acquired HIV infection and other long term reproductive health issues. Sexual partner age-discordance in teen girls has been correlated with STIs, lack of protection, multiple partners, and earlier age of sexual transition.

Design—A descriptive study comparing girls currently involved with age-discordant partners to those with similar-aged partners. Two-sample t-test for continuous variables and for categorical variables, Chi-square or Fisher exact test were used to compare groups.

Methods—Baseline data from 738 sexually-active, urban, adolescent girls ages 15 to 19, were analyzed to determine which behaviors were more likely to occur in girls with older partners. Data were collected as part of a gender specific HIV-prevention intervention in a randomized controlled trial tailored to adolescent girls.

Results—Multiple reported sexual risk behaviors were found to significantly differ between the two groups at baseline. Overall, girls with older partners had more episodes of sexual instances (vaginal, anal, and oral). Specific sexual risk behaviors were found to be statistically significant between the two groups. Girls with older partners started having sex at earlier ages, had more lifetime sexual partners, higher incidents of STIs and were reluctant to discuss using condoms with their partners. Girls with similar-aged partners were less willing to engage in risky sexual behaviors.

Corresponding Author: Dianne Morrison-Beedy, PhD, RN, WHNP-BC, FNAP, FAANP, FAAN University of South Florida, College of Nursing 12901 Bruce B. Downs Blvd, MDC 22 Tampa, FL 33612 (P) 813.974.9091 (F) 813.974.1537 DMBeedy@health.usf.edu.

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1. substantial contributions to conception and design of, or acquisition of data or analysis and interpretation of data,
2. drafting the article or revising it critically for important intellectual content, and
3. final approval of the version to be published.

Conclusions—Findings from this investigation support data from other studies. Relationships with older male partners place adolescent girls at increased risk for HIV/STIs and unintended pregnancy.

Relevance to clinical practice—Adolescent girls in age-discordant relationships are at risk for immediate and long term sexual health morbidities. Identifying girls who are at increased risk by asking tailored questions will enable nurses to recommend appropriate diagnostics for this population and provide age specific counseling.

Keywords

Adolescent sexual health; HIV prevention; sexual-risk reduction; partner age

Introduction

Globally, more than 90% of all adolescent and adult HIV infections are transmitted heterosexually (National Institute of Allergy and Infectious Diseases (NIAID) 2008). Hormonal changes during the menstrual cycle put females at increased risk for HIV infection, and adolescent girls are at even more risk in part, due to an immature genital tract as compared to adult women (Quinn & Overbaugh 2005, Wira & Fahey 2008). In the U.S., approximately 25% of all new HIV diagnoses are in adolescents and young adults (ages 13-24) and are one of the few age groups in which HIV infection rate did not decrease (Centers for Disease Control and Prevention (CDC) 2013, Hall *et al.* 2008). HIV risk factors specific to adolescent girls include early age of sexual transition, unprotected sex, and sex with older partners (CDC 2011, Halpern *et al.* 2007). A history of sexually transmitted infections (STIs), including human papillomavirus (HPV), is often a precursor to HIV infections (CDC 2011, Manlove *et al.* 2008, Ryan *et al.* 2008). In addition to indicating risky behavior, this risk is not only related to exposure to infection agents but also to vaginal physiological alterations facilitating HIV transmission (Houlihan *et al.* 2012, Rottingen *et al.* 2001). In the U.S., approximately 50% of all new STIs occur in 15-24 year olds (Weinstock *et al.* 2004). Adolescent girls with older partners are particularly vulnerable to acquiring STIs which can also put them at risk for long-term sexual and reproductive health issues including fertility concerns (Magnus *et al.* 2006, Ryan *et al.* 2008).

Sexual partner age discordance poses a common risk for adolescent girls. In fact, studies of HIV-infected girls have shown greater differences in partner age than those of girls not infected (Sturdevant *et al.* 2001). In an analysis of data from over 20,000 U.S. adolescents., behavioral risks associated with girls having an older romantic partner included early sexual transition, lack of contraception practices, more unplanned pregnancies and STIs (Halpern *et al.* 2007). Adolescent girls with older partners often begin having sex at earlier ages. In a sample of teens in San Francisco, over 75% of 14-year-old girls had vaginal intercourse, while only 21% of those with similar-aged partners reported having had sex (Gowen *et al.* 2004). Similar findings were identified in 15-year-old girls in Nova Scotia who were found to be at greater sexual risk when involved with older partners (Langille *et al.* 2007). In studies of African American adolescent girls, those with older partners were more likely to begin sexual activity at younger ages and have higher rates of STI infections (Ompad *et al.* 2006, Seth *et al.* 2010). African American adolescent girls with older partners who were pregnant were three times more likely to test positive for chlamydia than girls with similar-aged partners (Begley *et al.* 2003). Girls who initiated sex at younger ages with similar-aged partners were still less likely to acquire an STI than girls with older partners and early sexual transition (Ryan *et al.* 2008). Similarly, in a study of African American males, men who partnered with younger girl had higher rates of STIs than those with same-aged partners (Thurman *et al.* 2009).

Other factors associated with HIV risk include having multiple sexual partners (Locke & Newcomb 2008). Data from a large US study indicate that girls with older partners frequently had multiple partners and reported more casual sexual encounters than girls with similar-aged partners (Halpern *et al.* 2007, Ryan *et al.* 2008). Other studies confirmed these findings with men who partnered with younger girls; they were more likely to have multiple concurrent sexual partners and shorter periods of relationship and monogamy than men partnered with similar-aged girls or women (Begley *et al.* 2003, Seth *et al.* 2010, Thurman *et al.* 2009).

Girls who have multiple partners also are at higher risk for unintended pregnancies as well as HIV infection (Chernick *et al.* 2012, Halpern *et al.* 2007). In data collected from 20000 adolescents, girls who partnered with older males were more likely to have a history of unintended pregnancies (Ryan *et al.* 2008). In a study of African American men those who reported partnering with younger girls were more insistent on the importance of impregnating their sexual partners than men partnered with similar-aged women or girls (Thurman *et al.* 2009).

Condoms provide protection against HIV/STI and unintended pregnancy. Unfortunately, in adolescent girls condom use reports decline as male partner age increases (Volpe *et al.* 2013). In over 500 African American adolescent girls, lack of condom use and episodes of unprotected vaginal sex were more frequently reported by girls with older partners (DiClemente *et al.* 2002). Girls in relationships with older partners often describe the relationship as “steady and monogamous” and these perceptions of lower relationship status can impact belief in need for condoms (Eyre *et al.* 2012). These girls also indicated fearing negative reactions from their older partners should they attempt to encourage condom use. Girls in age-discordant relationships were more likely to fear partner violence, which acts as a deterrent to condom negotiation (Sales *et al.* 2012a, Wingood *et al.* 2001). Sexual coercion has been identified as a characteristic of age-discordant partnerships (Gowen *et al.* 2004). This duress can disempower girls leading them to agree to sex without a condom or continuing undesired sexual relationships in order to avoid conflict (Bradley *et al.* 2012). Studies of women, from pre-teen to middle age, have revealed that ability to negotiate with partners as the most significant predictor of condom use and that ability is often lacking in adolescent girls, particularly when dependent or fearful of their older male partners (Di Noia & Schinke 2008, Raiford *et al.* 2007, Sales *et al.* 2012a, Sales *et al.* 2012b).

Women and girls have a variety of reasons for engaging in sex and seeking out casual sexual partners. In addition to “doing it for love”, recreational sex, societal norms, depression, and compensation for low self-esteem have all been identified as motives for sex by women and girls (Anaebere *et al.* 2012, Brawner *et al.* 2012). Some women and girls have described their sexual experiences as a method to relieve stress or as an “anti-depressant” to bolster their moods rather than as a need to seek intimacy (Brawner *et al.* 2012, Dawson *et al.* 2008). The need to relieve stress and depression often supersedes the desire to practice safe sex (Brawner *et al.* 2012). Having an older partner may enhance the status of adolescent girls among their peers which can increase their self-esteem (Gowen *et al.* 2004). In a study of 715 adolescent African-American girls, almost one-fourth of them received financial support from their boyfriends and these partners were usually reported to be older (Rosenbaum *et al.* 2012). Girls who are financially supported by their boyfriends were more likely to practice risky sexually-behaviors and use drugs and alcohol and more likely not to use condoms. Many girls report their older partners take care of them financially and emotionally; girls also considered them more sexually experienced which led to reliance on their partners to be the decision-maker in safe sex behaviors (Anaebere *et al.* 2012). To provide appropriate treatment and intervention to reduce sexual risk in adolescent girls,

nurses' understanding of behavior and intimacy choices can be broadened by investigations that include partner age discordance.

Aims

The aim of this study was to investigate differences in sexual-risk factors between adolescent girls reporting sexual partners' age as 2 years or greater than their own age, and adolescent girls reporting sexual partners' age as less than 2 years greater than their own age. The decision to use 2 years or greater as the age range was based on the review of literature which indicated that age differences as small as 2 years could impact sexual risk behavior in adolescent girls (Begley *et al.* 2003, DiClemente *et al.* 2002, Magnus *et al.* 2006, Teitelman *et al.* 2011).

METHODS

Data were collected as part of a randomized controlled trial (RCT) to determine the efficacy of a sexual-risk reduction intervention tailored to low-income, urban, sexually active adolescent girls living in a large northeastern U.S. city (Morrison-Beedy *et al.* 2012). This analysis reports on characteristics collected at the baseline assessment to examine the impact of sexual partner age on sexual-risk among adolescent girls. Institutional Review Board (IRB) approval from participating institutions was obtained as well as a Federal Certificate of Confidentiality. The clinical trial was registered at ClinicalTrials.gov (NCT 00161343).

Participants

Girls were recruited from reproductive (clinics that specialize in treating individuals with reproductive and sexual health needs) and general health clinics as well as youth development programs and through word-of-mouth. Girls were approached by recruiters or responded to media publicizing the program and if interested were given the opportunity to apply for admittance into the HIV intervention program. Eligibility to participate included the following: a) girls aged 15–19 years; b) could participate in an English-speaking intervention; c) unmarried; d) not pregnant; e) not given birth within the past 3 months; and, f) sexually active within the past 3 months. Recruiters screened over 1700 applications for appropriate age, then screen age-eligible girls in a private area of the recruitment location. Screening for the study was ongoing over a four-year period, December 2004 to April 2008. All girls meeting the criteria were invited to participate in the program.

Measures

Upon completion of informed consent or assent procedures participants provided a urine specimen that was tested for Chlamydia trachomatis and Neisseria gonorrhoeae using the Becton Dickinson BD ProbeTecET Amplified DNA Assay urine processing kit. Participants also completed an audio computer assisted self-interview (ACASI). All participating teens received \$10 for completion of the baseline characteristics survey.

Information gathered through ACASI included items designed to identify extensive baseline sociodemographic, sexual history and other factors related to sexual behavior. Sociodemographic characteristic items requested information on age, race, and ethnicity (Hispanic/non-Hispanic) and marital and living status. Sample questions for the measures are shown in Appendix 1.

Sexual history and current risk behavior items assessed number of sexual partners, and the number of occasions of protected and unprotected (without condoms) vaginal and anal sex. Sexual risk was measured by identifying behaviors that increased the threat of HIV/STI infections among participants such as number of sexual partners and history of STIs. These

items were presented once for evaluation of steady partner sexual behaviors and again for evaluation of behaviors with other partners.

Participants also reported on any risk-reduction strategies which they currently employed. A modified version of the Condom Attitude Scale (CAS) was used to determine participants' attitudes regarding condoms. Coefficient alphas for subscales and total CAS ($\alpha=.91$) were generally high as were test-retest correlations (Sacco *et al.* 1991). This scale consists of 6 items that measure attitudes towards condoms. For each item, participants selected from 1 ("strongly disagree") to 5 ("strongly agree") to indicate their level of agreement with the statement.

Average alcohol consumption and drug use during the previous 3 months was assessed, including episodes of binge drinking. Participants were also asked about their partner's use of alcohol and drugs before sex.

The Sexual Efficacy Scale consisted of 12 items that identified participants' confidence with confronting sexual partners, steady or others, about safe sexual practices. The scale has been found to be a good fit for use with women based on a multidimensional model (RCFI = .99) (Murphy *et al.* 2001). Participants rate their perceived level of confidence from 0 ("not at all confident") to 10 ("completely confident") to indicate how secure they might be in discussing issues such as condom use and HIV testing with their sexual partners.

The Sex Motives Scale (Cooper *et al.* 1998) examined motivators for having sex by rating items from "Never/Almost Never" to "Always/Almost Always". There were six subscales within the survey and internal consistency was determined based on a sample of 1666 adolescent and young adult men and women (Cooper *et al.* 1998). Subscales were measured using two or three questions and were identified as: a) enhanced motives ($\alpha=.87$), b) intimacy motives ($\alpha=.90$), c) self-affirmation motives ($\alpha=.87$), d) coping motives ($\alpha=.82$), e) partner motives ($\alpha=.85$), and f) peer pressure motives ($\alpha=.87$).

A 10-item Koss Sexual Experience Scale was used to measure reported and unreported incidents of rape and experiences of sexual aggression and/or victimization (Koss & Oros 1982). This tool has been found to be useful in identifying instances of unlabeled rape in victims. Participants responded with the number of times, from 0 to 5 or more, they had been victims of sexual aggression regardless of whether the aggression ended in sexual intercourse. Internal consistency is reported to be .74, and test-retest agreement rate was 93% when used with a sample of college-age students (Koss & Gidycz 1985).

A 21-item version of the HIV-knowledge questionnaire was used to identify baseline knowledge regarding HIV and AIDS among the participants. Reliability of the HIV-knowledge questionnaire has been shown to be internally consistent ($\alpha=.91$) and test-retest reliability was high for multiple time periods (Carey *et al.* 1997). Responses for all questions were "Yes", "No", or "Don't Know."

Participants were screened for depression using a 9-item shortened form of the Center for Epidemiological Studies-Depression Scale (CES-D). Internal consistency for this version has been shown to be high ($\alpha=.87$) (Santor & Coyne 1997). Responses for these questions ranged from "Rarely or none of the time (less than 1 day/week)" to "Most of the time (5-7 days/week)". Because this instrument focuses on very recent time periods of the participants' lives, such as the previous week, test-retest reliability is low (Sadloff 1977).

Statistical analysis

We analyzed baseline data using descriptive statistics (means, standard deviations, and percentages) to characterize the sample and depict their sexual and substance use at baseline and histories as well as sexual behaviors. We also determined the percentage of total sexual episodes that involved unprotected sex with participants' steady partner and other partners. We then analyzed and compared the differences between girls who reported sexual partners' age as 2 years or greater than their own age versus those reporting sexual partners' age as less than 2 years greater than their own age. For continuous variables, two-sample t-test was used; for categorical variables, Chi square or Fisher exact test was utilized as appropriate. All the statistical analyses were performed using SAS, version 9.3 (SAS Institute, Cary, NC).

RESULTS

Sociodemographic characteristics

Over 1700 age-appropriate applicants to the program were screened and 43% were deemed ineligible primarily due to not having had sex (71%) or had given birth (23%) within the last 3 months. Eligible participants ($n=738$) had a mean age of 16.5 years ranging from 15 to 19 years ($SD = 1.3$). A majority of participants identified themselves as African American (69%), non-Hispanic (83%) and lived with their families (85%) rather than alone or with a partner (see Table 1). Most girls (69%) were impoverished as identified by participation in the "free lunch" program.

Urine tests for STI's

Urine testing for current STI's revealed that 84 (11%) of the participants were positive for either chlamydia or gonorrhoeae with 4 girls testing positive for both. Comparisons of the two groups (girls with older partners versus girls with similar-aged partners) were not statistically different.

Sexual history

Slightly less than half of the participants (45%) reported most recent sexual partners' age as 2 to 54 years greater than their own age, with the remaining girls (55%) reporting sexual partners' age as less than 2 years greater than their own age. Comparisons of sexual history at baseline between the two groups of participants showed some significant differences as shown in Table 2. Age of first vaginal sex was young for all participants, however, girls with older male sexual partners reported a significantly younger age of sexual transition ($M = 14.11$) than those with similar-aged partners ($M=14.5$). Initiation age of other sexual activity, such as anal and oral sex, with male partners was comparable between the groups. In addition to beginning sex at younger ages, girls with older male partners also reported having had more lifetime sexual partners ($M=4.7$) than those with similar-aged partners ($M=4.0$). History of pregnancies between the two groups was found to be significant with 30% of participants with older male partners reporting past pregnancies compared to only 20% of those with similar-aged partners. They were also more likely to report having been treated for STI's than those with similar-aged partners (44% vs. 33%).

Sex of all types (vaginal, anal, oral) during the previous 3 months was found to be higher among girls with older partners. Significantly higher instances of the following types of sexual incidents were reported: a) times had vaginal sex with steady partners; b) times had vaginal sex without a condom with both steady and other partners; c) times had anal sex, protected and unprotected; and, d) times given oral sex to steady partner.

Sexual behavior

Sexual risk—Overall threat for sexual risk with steady partners was greater ($p<.04$) among girls with older partners ($M=0.68$) than those with similar-aged partners ($M=0.48$). There were also two specific sexual risk items that were statistically significant in a comparison of the two groups. The first, “fear of driving a partner to have sex with another person if asked to use a condom”, was of more concern ($p<.01$) for girls with similar-aged partners ($M=0.44$) than those with older partners ($M=0.23$). However, the second item, which addressed “fear of anger if asking a steady partner to use a condom”, was rated as more worrisome ($p<.01$) to girls with older partners ($M=0.13$ vs. $M=0.062$).

Risk reduction strategies—Consistent with the sexual risk category described above, girls with similar-aged partners reported utilizing more actual risk-reduction strategies, such as asking partners to be tested for HIV (20% vs. 18%) and requiring partners to wear a condom (27% vs. 17%) as shown in Table 3. Significantly, half of all girls with similar-aged partners reported avoiding risky sexual behaviors at a rate almost twice as high as those with older partners (26%).

Condom attitudes (CAS)—Negative attitudes towards condoms were found to be significantly different on two of the items from this measure. Girls with older partners indicated at a higher rate ($M=2.1$) than girls with similar-aged partners ($M=1.8$) that “using condoms are a sign that you do not trust your partner” ($p<.02$). Despite the fact they reported using condoms more often, girls with similar-aged partners ($M=1.83$) were more likely ($p<.008$) to indicate that condoms are disgusting than those with older partners ($M=1.60$).

Substance use

One-half of all girls reported using alcohol in the last three months, with 55% indicating they had participated in binge drinking. Within the same period of time, 41% reported using marijuana, whereas, use of other drugs were reported by only 4 of the 738 participants. Alcohol or marijuana use prior to sex with a steady partner was reported by almost one-fourth of the participants. The only characteristic that differed significantly between groups ($p<.0001$) was frequency of binge drinking during the last 3 months. Binge drinking, defined as 4 or more drinks on one occasion, occurred more frequently among girls with older partners ($M = 1.04$) than girls with similar-aged partners ($M = .97$).

Sex Motives Scale

Two subscales from the Sex Motives Scale showed significant differences between the two groups, enhanced motives ($p<.03$) and intimacy motives ($p<.005$). Girls with older partners indicated more frequently that enhanced motives, such as sexual satisfaction and thrills, were an important motive to have sex ($M=5.15$ vs. $M=4.62$). Girls with similar-aged partners, however, were more likely to choose intimacy motives, such as feeling closer to their partners and love, as reasons to have sex ($M=8.14$ vs. $M=7.38$). All other motives (peer or partner pressure, coping, self-affirmation) were not statistically different between the two groups.

Non-significant Outcomes

Results from the KSES, HIV-Knowledge Questionnaire, and the CES-D measures did not indicate any significant differences between the two groups.

Discussion

Within this sample of urban, adolescent, sexually-active girls, 45% of the participants (n=738) reported having a male sexual partner from at least 2 to 54 years older than themselves. This risk factor has been shown to correlate with other sexual-risky behaviors increasing concerns regarding susceptibility to HIV infection and other sexual health threats (Begley *et al.* 2003, DiClemente *et al.* 2002, Halpern *et al.* 2007, Ompad *et al.* 2006, Ryan *et al.* 2008, Seth *et al.* 2010, Volpe *et al.* 2013). Overall, the behaviors most identified as sexually risky have been confirmed in this study to be more prevalent in girls with older partners. These sexual-risk behaviors include early age of sexual transition, lack of protection during vaginal and anal sex, multiple partners, and history of STIs.

Age of sexual transition was shown to be significantly younger in girls with older partners in this study. Factors motivating this earlier initiation were not identified by the participants, however, one study of Australian adolescents revealed that these girls often were more anxious to transition to adulthood than their peers (Rosenthal *et al.* 1999). It has also been suggested that sex can indicate a desire for relationship which could motivate earlier transition (Anaebere *et al.* 2012, Chernick *et al.* 2012), however, girls with older partners in this study more frequently identified that motives for sex were related to thrill-seeking and sexual satisfaction rather than love or intimacy. Additionally, earlier sexual transition may indicate an interest in expanding their sexual experiences which could offer an explanation for thrill-seeking and sexual satisfaction as an important motive, in addition to love and relationship, for having sex. Consideration of the motives for early sexual relationships can aid nurses in understanding what motivates young adolescent girls to initiate sexual intercourse at an early age and aid them in counseling this population.

This study also documented the lower rates of condom usage among girls with older partners. These girls reported not only more frequent sex, but more unprotected vaginal and anal sex with steady as well as casual partners, which has been reported by other studies of adolescent girls in age-discordant relationships (DiClemente *et al.* 2002). Anal sex in particular has also been identified as predictive of other risky behaviors including more casual sexual partners and money for sex (Gorbach *et al.* 2009). One especially significant finding was that girls with similar-aged partners were twice as likely to report avoiding risky sex than girls with older partners. Consequently, these girls also reported that they refused sex without condoms and had requested HIV testing of their partners at a higher rate than girls with older partners. Lack of condom use can be related to a variety of reasons such as belief in the monogamy and stability of the relationship or gender power imbalances (Begley *et al.* 2003, Sturdevant *et al.* 2001, Teitelman *et al.* 2011, Thurman *et al.* 2009). In this study, girls with older partners indicated that they not only feared angry reactions if asking their male sexual partners to use a condom, but also expressed concern that asking a partner to use a condom implied infidelity. They also reported performing oral sex on their male partners more frequently than girls with similar-aged partners. These risk-laden behaviors may indicate a gender-power imbalance based on the participants' reported fears and has been shown in other studies to be characteristic of age-discordant relationships in adolescents (Begley *et al.* 2003, Sturdevant *et al.* 2001, Teitelman *et al.* 2011). Girls in relationships with older partners often do not have the communication skills to negotiate for condom use and many perceive their partners to be more experienced and therefore more knowledgeable regarding sexual risk (Sturdevant *et al.* 2001) exacerbating their inability to state their own needs or preferences. Girls with older partners in this study reported twice as many episodes of unprotected sex in the previous three month periods than those with similar-aged partners. This evidence implies that these girls are at greater sexual risk than their peers in similar-aged relationships.

Participants with older partners in this study also listed more lifetime sexual partners than girls with similar-aged partners, which concurs with findings reported in the literature (Gowen *et al.* 2004, Ryan *et al.* 2008) and is a critical factor in increased sexual health risk. Though not examined in this study, most literature reports that males partnered with younger women or girls are much more likely to have multiple concurrent partners which has been shown to increase HIV/STI risk in males as well as females (Begley *et al.* 2003, Locke & Newcomb 2008, Seth *et al.* 2010, Thurman *et al.* 2009). Determining an adolescent girl's number of sexual partners can be an important screening tool for identifying sexual health risk.

All the factors described in this study are highly predictive of increased incidence of STIs, including HPV, which is often a precursor to HIV infection (Chernick *et al.* 2012, Houlihan *et al.* 2012). Though baseline tests for STI's revealed no significant differences between the groups, analysis of STI history indicated that significantly more girls with older partners had been treated for STIs. These findings regarding the increased sexual risk of adolescent girls with older partners are consistent with the literature, and this knowledge can provide nurses with an understanding of the sexual risk adolescent girls are vulnerable to when partnered with older males.

Limitations

The sample was recruited from one U.S. urban midsized area and most participants were African American and economically disadvantaged, therefore, results do not necessarily generalize to other populations or to adolescent girls from other geographic regions. Girls who declined participation, may have differed significantly from the final sample. Although self-report data on sexual behaviors may reflect bias, however, use of ACASI surveys has been shown to reduce bias. Other common STIs, for example, *Trichomonas vaginalis*, were not tested for in this study. Therefore, active STI infection rates may have been higher if other STIs had been assessed.

Implication for further study

Further investigation of partner age-discordance is needed in order to identify sexual risks and fully understand motives for selecting older partners. Longitudinal studies could reveal risks to reproductive health and well-being of girls involved in these relationships. Including this information in intervention programs targeting adolescent girls could be studied to determine its effectiveness. The importance of family influence in impacting adolescent girls' partner choices and onset of vaginal sex should be studied to provide guidance to parents and nurses working with teen girls.

Conclusion

This study reveals that there are significant behavior and motivational differences in the sexual risk of girls with older partners and girls with similar-aged partners. These differences increase the risk of girls with older partners for HIV, STIs, and unintended pregnancies and may acculturate girls to acceptance of gender-power imbalances. Additionally, these risks can also impact the sexual and reproductive health of adolescent girls far into the future causing fertility and other health issues, such as cervical cancer, of which they may not be aware. This study utilized a large sample of urban, adolescent girls in the U.S., which raises concerns about the sexual risk-taking behaviors of this population. It is important that adolescent girls, their families, counselors and health care providers are aware of the risks inherent to sexual relations with older partners.

Relevance to clinical practice

Since many of the girls described in this study are impoverished and have limited access to healthcare, they are frequently seen by nurses in community health settings or emergency departments (Chernick *et al.* 2012). By asking strategic questions, including age and number of sexual partners, nurses will be able to recommend age and partner-specific approaches essential for protecting the sexual and reproductive health of this population.

Engaging girls in non-judgmental conversations where they can discuss what motivates their sexual decisions can provide nurses with a basis to guide the girls towards appropriate risk-reduction choices by providing them with a menu of individualized options they can use to protect their sexual health based on their individual needs. Because STI/HIV infections can compromise reproductive and fertility outcomes, nurses should determine whether child bearing is a long term goal and educate girls on the impact of risk behaviors.

Allowing patients to practice communication skills with nurses in a safe environment would enable girls to learn positive approaches to improve their sexual behavior negotiation skills. Behavior change is not an all or nothing outcome rather an incremental process. Thus supporting each step girls take towards safer sexual behaviors is essential. In addition to risk for sexual health, girls with older partners may have increased risk for violence and unwanted coercion due to gender-power imbalances in the relationships. Adolescent girls are motivated to have sex for various reasons these motives may include love and intimacy needs, or status within a peer group, need to relieve stress or depressive systems (Gebhardt *et al.* 2003, Rosenbaum *et al.* 2012, Seth *et al.* 2010). Identifying motivations for sex will aid nurses as they guide clients to appropriate resources, provide education, and help them employ behavioral strategies to help them reduce sexual risk behaviors.

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Appendix 1: Sample Questions from Measures

Measure	Sample Questions
Sexual risk behavior	<ul style="list-style-type: none"> In the past 3 months, how many times have you had vaginal sex without a condom with your other male partners?" If I asked my other partner(s) to use a condom, <u>most</u> of them would hit or hurt me.
Condom Attitude Scale	<ul style="list-style-type: none"> A condom ruins the mood. Sex with a condom can still be pleasurable.
Sex Motives Scale	<ul style="list-style-type: none"> Enhanced motives subscale – How often do you have sex because it feels good? Love and closeness subscale – How often do you have sex to become closer with your partner?" Self-affirmation subscale – How often do you have sex to help you feel better about yourself? Coping motive subscale – How often do you have sex because you worry that your partner won't want to be with you if you don't?

Measure	Sample Questions
	<ul style="list-style-type: none"> Peer pressure subscale – How often do you have sex just because friends are having sex?
Koss Sexual Experience Scale	<ul style="list-style-type: none"> How often have you had sex play (fondling, kissing or petting but not intercourse) when you didn't want to because a man used his position of authority (boss, teacher, camp counselor, supervisor) to make you?
HIV Knowledge Questionnaire	<ul style="list-style-type: none"> Does showering, or washing one's genitals/private parts, after sex keep a person from getting HIV? Is it possible that a person would get HIV from oral sex with an infected partner?
Center for Epidemiological Studies-Depression Scale	<ul style="list-style-type: none"> During the past week, I felt that everything I did was an effort. During the past week, I was happy.

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What does this paper contribute to the wider global clinical community?

- Globally, women and girls are at high risk for HIV/AIDS; this paper examines factors, specifically partner-age discordance, that contributes to that risk in adolescent girls in the U.S. who are medically underserved and predominantly impoverished.
- Although the sexual risks identified in this specific population may not be applicable to other locations throughout the world or even within the U.S., the information provided in this paper provides clinicians with an understanding of sexual risks that could potentially impact adolescent girls.
- Methods provided in this paper for screening and communicating with adolescent girls who are at susceptible to HIV/STIs and other sexual health consequences can be utilized by all clinicians for screening girls and assessing their sexual risk.

Table 1Demographic Characteristics of Total Sample at Baseline ($N = 738$)

	n (%)
Race	
Black/African American	510 (69)
White/Caucasian	67 (9)
Mixed/multiracial	79 (11)
Other	82 (11)
Ethnicity	
Hispanic	125 (17)
Not Hispanic	613 (83)
Living situation	
Family's apartment or home	624 (85)
Own apartment or home	58 (8)
Other	54 (7)
Poverty	
Free school lunch (proxy)	513 (69)
Paid for school lunch	225 (31)

Table 2

Baseline sexual history (past 3 months) differences at baseline between girls with older partners and girls with younger partners ($N = 738$)

	<u>Means / Percentages</u>		<i>p</i>
	Partner's age	Partner's Age	
	=>2	<2	
Age of first vaginal sex	14.11	14.5	<.001
Total sexual partners (lifetime)	4.7	4.0	<.05
Ever pregnant	30%	20%	<.001
Ever treated for STI	44%	33%	<.0001
Times vaginal sex with steady partners (last 3 months)	17.5	10	<.001
Times vaginal sex without a condom with steady or other partners (last 3 months)	8.5	4.6	<.0001
Times anal sex, protected and unprotected (last 3 months)	1.35	.23	<.01
Times given oral sex to steady partner (last 3 months)	1.93	.94	<.0001

Table 3

Sexual risk reduction methods at baseline between girls with older partners and girls with similar-aged partners ($N = 738$)

	<u>Means / Percentages</u>		<i>p</i>
	Partner's age	Partner's Age	
	=>2 yrs	<2 yrs	
Refused to have sex without condoms	17%	27%	<.001
Asked partners to be tested for HIV	18%	20%	<.05
Avoided Risky Sexual Behaviors	26%	50%	<.001
Use condom for birth control	.46	.57	<.05
Self-efficacy for safer sex	47.21	45.49	<.05