

Distribution Agreement

In presenting this thesis or dissertation as a partial fulfillment of the requirements for an advanced degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis or dissertation in whole or in part in all forms of media, now or hereafter known, including display on the world wide web. I understand that I may select some access restrictions as part of the online submission of this thesis or dissertation. I retain all ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signature:

Erin Lyndsay Paige Bradley

Date

Exploring Secondary Abstinence among African-American Females at Risk for
HIV/STIs: A Mixed-Methods Investigation

By

Erin Lyndsay Paige Bradley
Doctor of Philosophy

Behavioral Sciences and Health Education

Ralph J. DiClemente, Ph.D.
Advisor

Kirk W. Elifson
Committee Member

Jessica M. Sales
Committee Member

Accepted:

Lisa A. Tedesco, Ph.D.
Dean of the James T. Laney School of Graduate Studies

Date

Exploring Secondary Abstinence among African-American Females at Risk for
HIV/STIs: A Mixed-Methods Investigation

By

Erin Lyndsay Paige Bradley
Master of Public Health, Emory University, 2007
Bachelor of Arts, Spelman College, 2005

Advisor: Ralph J. DiClemente, Ph.D.

An abstract of
A dissertation submitted to the Faculty of the
James T. Laney School of Graduate Studies of Emory University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy
in Behavioral Sciences and Health Education
2011

Abstract

Exploring Secondary Abstinence among African-American Females at Risk for HIV/STIs: A Mixed-Methods Investigation

By Erin Lyndsay Paige Bradley

African-American adolescent females are contracting HIV/STIs at alarming rates, making reducing infections in this population a public health priority. Some sexually experienced adolescents choose to refrain from sex following sexual debut, a practice known as secondary abstinence. However, little is known about this practice. The purpose of this mixed-methods study was to begin addressing research gaps by exploring motivations for secondary abstinence and identifying barriers that hinder motivated adolescent females from becoming or remaining abstinent.

The first component of this research included a qualitative investigation of motivations for secondary abstinence as well as individual and contextual barriers that impede the practice of secondary abstinence. Respondents were 20 adolescent females, ages 18 – 23, who had recently participated in a randomized controlled trial (RCT) of an HIV prevention intervention and expressed interest in secondary abstinence. Several motivations, including HIV/STI and pregnancy prevention, desiring to delay sex until married or in a committed relationship, and personal goal attainment were similar to those identified in previous research. Reasons not previously identified included feeling used for sex and partner infidelity. Respondents also provided insight about barriers to secondary abstinence within young women and in their physical and/or social environment. Individual-level barriers, such as thinking about sex often, made becoming or remaining abstinent difficult. Interpersonal-level barriers such as imbalances in sexual decision-making power, and environmental barriers, such as being alone with a partner presented the greatest challenges for young women.

The second component consisted of a quantitative analysis examining the utility of barriers identified in the qualitative phase for explaining dissonance between interest in secondary abstinence and continued sex. Secondary analysis were conducted using baseline data from 701 African-American females, ages 14 – 20, participating in the aforementioned RCT. Results showed thinking about sex often, receiving more pleasure from sex, being older, and having lower abstinence self-efficacy were associated with continued sex. Believing one's partner was not interested in abstinence and having less relationship power also decreased the likelihood of practicing secondary abstinence.

Findings from this mixed-methods study can be used to refine measurement and inform intervention development to strengthen the abstinence component of HIV/STI prevention interventions.

Exploring Secondary Abstinence among African-American Females at Risk for
HIV/STIs: A Mixed-Methods Investigation

By

Erin Lyndsay Paige Bradley
Master of Public Health, Emory University, 2007
Bachelor of Arts, Spelman College, 2005

Advisor: Ralph J. DiClemente, Ph.D.

A dissertation submitted to the Faculty of the
James T. Laney School of Graduate Studies of Emory University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy
in Behavioral Sciences and Health Education
2011

Table of Contents

CHAPTER 1: Introductory Literature Review	1
Sexual Risk Reduction Approaches	2
Evaluating Evidence for Behavior Change	9
Secondary Abstinence Research	15
Motivations for secondary abstinence	16
Barriers to practicing secondary abstinence	19
Significance of the Proposed Research	23
References	26
CHAPTER 2: Measuring African-American Females' Motivations for Secondary Abstinence	39
Abstract	39
Introduction	40
Methods	43
Results	46
Discussion	56
References	64
CHAPTER 3: Understanding the Dissonance between African-American Females' Interest in Practicing Secondary Abstinence and Continued Sexual Activity	67
Abstract	67
Introduction	68
Methods	72
Results	74
Discussion	90
References	95
CHAPTER 4: Closing the Gap: Exploring Barriers that Impede Secondary Abstinence among Sexually Experienced African-American Females	98
Abstract	98
Introduction	99
Methods	101
Results	108
Discussion	110
References	116
CHAPTER 5: Summary and Conclusions	124
References	132

LIST OF FIGURES

Figure 1: Model of barriers that impede the practice of secondary abstinence 76

LIST OF TABLES

Table 1: Bivariate relationships between secondary abstinence and individual- and interpersonal-level factors 122

Table 2: Odds ratios for barriers to practicing secondary abstinence 123

CHAPTER 1:

Introductory Literature Review

Sexually transmitted infections (STIs) pose a significant risk to the health and well-being of young people. Many adolescents (47%) are sexually experienced before graduating high school (CDC, 2005a); this percent is slightly higher (51%) for African-American youth (YRBS, 2007). The CDC reports sexually active teens have a higher risk of acquiring STIs than adults (CDC, 2007). It has been estimated that approximately half of all sexually active adolescents and young adults will acquire an STI by age 25 (Kaiser Family Foundation, 2006).

STIs such as HIV, herpes, and human papillomavirus (HPV), which can cause genital warts and certain types of cervical cancer, remain incurable. Those who become infected confront myriad physical, psychosocial and economic challenges for the remainder of their lives. However, even acquiring a curable STI poses a significant threat. People infected with curable STIs, such as chlamydia and gonorrhea, may be unaware of their status because they are asymptomatic. Left untreated, curable STIs can also result in serious adverse health consequences, including pelvic inflammatory disease, ectopic pregnancy, chronic pelvic pain, and infertility (CDC, 2005b; Roberts & Kennedy, 2006).

Among young people, African-Americans are disproportionately affected by STIs, including HIV. For example, African-Americans accounted for 55 percent of HIV diagnoses among people ages 13-24 in 2003 (CDC, 2005c) and 68 percent of new AIDS cases among people ages 13-19 in 2007 (Kaiser Family Foundation, 2009). Further, the CDC reports African-American females, ages 15 to 19, have the highest rates of

gonorrhea in any age, racial or ethnic group (CDC, 2009). Gonorrhea and chlamydia infections are co-factors that increase the risk of HIV infection in females (Cohen, 1998; Galvin & Cohen, 2004). Moreover, in a study that identified one in four adolescent females in the United States as having an STI, the rate was not uniform among racial/ethnic groups. Nearly half of the African-American female participants had at least one STI (Forhan, Gottlieb, Sternberg, Xu, Datta, Berman & Markowitz, 2008). Thus, young African-American females who are sexually active are particularly vulnerable for HIV/STI infection. Consequently, reducing HIV/STIs rates among adolescents, especially African-American females, is a public health priority.

Sexual Risk Reduction Approaches

The emergence of the adolescent STI epidemic, as well as disproportionate rates among racial/ethnic groups, is of great concern among researchers, health professionals and community members alike. However, there has been much contention surrounding how to best address the problem. Two main approaches for reducing adolescent STI acquisition have emerged: Abstinence-only and safer sex. Despite sharing a common goal, there are fundamental ideological differences between these two approaches, primarily one's definition of "the problem." This, in turn, influences where one falls on the abstinence-only versus safer sex continuum since the perception of the problem is inextricably linked to the proposed solution.

During the last few decades the debate surrounding which approach is most effective and appropriate has become highly political and emotionally charged, at times making it extremely difficult to separate scientific evidence from popular opinion as both sides present support for their perspective. The following discussion will provide an

overview of each approach as well as an examination of the scientific evidence available to date.

Abstinence-Only Approach. A hallmark of the abstinence-only approach is the argument that abstinence should be the sole focus of prevention efforts because it is the only 100% effective prevention method that eliminates the risk of experiencing adverse health outcomes. Proponents argue that although condoms significantly reduce risk for unintended pregnancy, HIV, and many STIs, condoms do not offer protection against the full range of adverse health outcomes of adolescent sexual activity. Thus, placing emphasis almost exclusively on physical consequences of sex as the problem is contrary to a holistic view of health as “complete physical, mental, and social well-being, not simply the absence of disease or infirmity” (WHO, 1946).

It has been argued that adolescent sexual activity may pose significant risks to a young person’s mental health. For example, proponents of abstinence often cite links between engaging in sex and depression and suicide (Hallfors, Waller, Ford, Halpern, Brodish & Iritani, 2004; Rector, Johnson, Noyes & Martin, 2003; Waller, Hallfors, Halpern, Iritani, Ford & Guo, 2006), lowered self-esteem following initiation of sex (Bearman & Bruckner, 2001), as well as regret expressed by a majority of sexually experienced adolescents who report wishing they had waited to have sex (National Campaign to Prevent Teen Pregnancy, 2007). Associations between sex and depression and suicide have been criticized because conclusions were drawn from cross-sectional studies. A few studies have been conducted to address this valid concern. Using data from a nationally representative sample of adolescents researchers found sexual activity predicted depression at follow-up (controlling for baseline depression) but depression did

not predict onset of sex among female abstainers (Hallfors, Waller, Bauer, Ford & Halpern, 2005). In a similar study, Sabia and Rees (2008) reported a statistically significant but small increase in depression for adolescent females initiating sex between baseline and follow-up but did not provide support for changes in self-esteem.

Abstinence-only proponents also argue that participation in sex can be harmful to a young person's social well-being. Adolescence is a time marked by many developmental changes, one of which is the development of romantic relationships (Connolly & McIsaac, 2009). During this time, young people begin transitioning from primarily having close friendships with those of the same sex into developing close bonds with the opposite sex as well. Developmental psychologists and sociologists acknowledge the surprising paucity of research on adolescent romantic relationships, particularly in comparison to research on close friendships, but suggest research efforts are increasing (Giordano, 2003). Early adolescence is marked by more frequent and shorter relationships while patterns of longer, more stable relationships emerge as age increases (Meier & Allen, 2009). It has also been noted that break-ups can be especially difficult for adolescents (Connolly & McIsaac, 2009). Perhaps the loss of a romantic relationship can be even more difficult when sex is involved. Sexually active adolescents managing the complexities of sexual relationships at a time when they are just beginning to develop romantic relationships can prove challenging. The experiences one accumulates during this period of development are of particular importance as adolescent relationships pave the way for relationships in adulthood (Nangle & Grover, 2007).

Beyond potential effects on development of romantic relationships, engaging in sex may create problems in the broader social context as well. Although over time sexual

attitudes have become more permissive (Fugere, Escoto, Cousins, Riggs & Haerich, 2008), sexually active young women still face double standards regarding certain sexual behaviors such as sex with casual partners or having multiple sexual partners (Crawford & Popp, 2003; Feldman, Turner & Araujo, 1999). As a result, sexually active young women who do not adhere to certain social expectations remain at risk of acquiring derogatory labels such as “slut” (Risman & Schwartz, 2002; Attwood, 2007).

Social risks for sexually active young women have been amplified by advances in technology that sparked cultural shifts in the way young people interact socially. Recent public scandals surrounding “sexting,” posting of sexually explicit pictures on popular social networking websites such as Facebook or MySpace, or teen sex videos posted on the Internet or circulated in school have brought social threats associated with adolescents engagement in sex (whether protected or unprotected) and sex-related activities to the forefront. For example, in a study of teens and young adults ages 13-26, 20 percent of teens and 33 percent of young adults reported sending partially or fully nude pictures of themselves to someone, usually to a boyfriend or girlfriend (National Campaign to Prevent Teen and Unintended Pregnancy, 2008). However, 40 percent of teens and young adults in the study said they have been shown sexually suggestive messages and 20 percent admitted sharing such messages with others. Breaches in privacy can result in psychological (i.e. guilt, humiliation) as well as social consequences (i.e. loss of relationships, damaged reputation). Consequently, the sexual situations young women find themselves in today are much more complicated as threats extend beyond gossip and rumors within one’s more immediate social environment to activities intended to remain private being documented and distributed to a much broader audience. Unfortunately,

since these particular challenges have recently emerged it is too early to accurately assess the impact on short- and long-term social well-being, as only anecdotal evidence is available.

In addition to arguments concerning a limited view of health, proponents suggest teaching abstinence alone is the most appropriate approach regarding cognitive development. Adolescents are in a stage of cognitive development that may make sound decision-making difficult at times. For instance, personal fable refers to an aspect of cognitive development where adolescents believe they are so extraordinary or unique that general laws of cause and effect do not apply to their own lives (Elkind, 1967). This can make it difficult to recognize one's vulnerability to consequences associated with risky sexual behavior. For example, a national survey showed 48 percent of teens say they have never thought about what their life would be like if they got pregnant or got someone pregnant and one-third believes teen pregnancy is not a big deal (National Campaign to Prevent Teen Pregnancy, 2007). It is unlikely these teens are not aware that unintended pregnancy can result from sex. Rather, it appears that teens may not give unintended pregnancy serious consideration because they do not believe it is a likely consequence of their own sexual activity. As a result, proponents of the abstinence-only approach argue that abstinence alone must be taught because adolescents are not cognitively ready to make responsible choices about sexual health.

Arguments for teaching abstinence alone, however, extend beyond protection from a full range of potential consequences or developmental appropriateness, to encompass values-based arguments. For many abstinence-only proponents, sex among adolescents is a moral issue. The abstinence-only approach has become associated with

efforts of conservative morality groups such as the Heritage Foundation and the Family Research Council (Vergari, 2000). Proponents emphasize that “a mutually faithful and monogamous relationship in the context of marriage is the expected standard of human sexual activity,” one of the abstinence-education funding guidelines put forth in the 1996 Welfare Reform Act (Pub L No. 104-193, Sec 912, Sub-section 510). The language of this particular guideline, which is often a source of contention, is consistent with a conservative Christian perspective that sex is reserved for marriage (Gen. 2:24 New King James Version; 1 Cor. 6: 13-16; Heb. 13: 4; Ex. 20:14; Prov. 5:15-20). As a result, some opponents suggest the abstinence-only approach is being used to indoctrinate society (McKay, 1998; Young & Goldfarb, 2000). However, it is important to note that not all people who believe sex should take place in the context of marriage base their values on their faith. Some simply hold more traditional views of sex and marriage, without ascribing to the teachings of any particular religious group. Despite one’s underlying motive, those holding this view are typically labeled as “conservative,” a term with political connotations. It is, perhaps, this values-based layer of the abstinence-only versus safer sex debate that has proven to be most controversial.

Safer Sex Approach. Proponents of the safer sex approach, also referred to as “abstinence-plus” or “comprehensive,” differ in that they support the inclusion of information on condoms and other contraceptive methods in sex education (Kirby, 2008). From this perspective, abstinence is acknowledged as the only way to eliminate the risk of acquiring HIV/STIs, but adolescents should know how to protect themselves from HIV/STIs should they choose to engage in sex. Thus, reducing risk is the primary goal.

Safer sex programs typically focus on condom use, partner selection, sexual communication and negotiation.

Regarding developmental appropriateness, proponents believe the discussion of sex and sexuality is developmentally appropriate from a biological standpoint as adolescents are experiencing rapid and marked physical changes during puberty. Moreover, safer sex proponents argue that there has not been enough scientific evidence supporting negative social or psychological risks of adolescent sex to warrant decreased confidence in protection provided by condoms. Additionally, some researchers suggest the abstinence-only approach is not without flaw. For example, findings from one study examining social and emotional consequences of refraining from sex suggest negative consequences such as feeling left out or angering one's partner (Brady & Halpern-Felsher, 2008). However, abstinence is rarely viewed as harmful so little research on social and emotional consequences has been conducted.

Opponents have argued that teaching safer sex sends a mixed message to adolescents and encourages them to have sex (Rector, 2002). In a national survey 53 percent of teens and 50 percent of adults disagreed (National Campaign to Prevent Teen Pregnancy, 2007). There has been an increase from previous surveys in the proportion of teens and adults who believe that supporting both abstinence and contraceptive use does send a mixed message (National Campaign to Prevent Teen Pregnancy, 2007). However, there has been no scientific evidence that comprehensive programs increase sexual activity (Kirby, 2008).

Evaluating the Evidence for Behavior Change

When evaluating each approach it is important to do so in light of the available scientific evidence. Despite compelling arguments, the worth of any approach rests on the successful translation of knowledge gained from theory or observational research into interventions that impact behavior. The process for assessing this impact includes examining whether such behavioral changes can be demonstrated in a more controlled environment and subsequently replicated in real-world settings.

Abstinence-Only Approach. The research available to evaluate the scientific merit of the abstinence-only approach suffers from substantial weaknesses. One of the most frequently cited weaknesses in abstinence-only intervention research is the lack of randomized controlled trials to evaluate program efficacy (U.S. Government Accountability Office, 2006; Kirby, 2007; Buhi & Goodson, 2007; Santelli, et al., 2006). For example, the most recent systematic review of abstinence-only interventions included only eight manuscripts with results from 13 experimental or quasi-experimental studies that met inclusion criteria (Underhill, Montgomery, & Operario, 2007). However, the authors' review of comprehensive programs conducted the same year included 39 studies (Underhill, Operario, & Montgomery, 2007). In this relatively small body of scientific studies other methodological limitations include failure to report randomization procedures, and provide implementation and fidelity information, making it difficult to accurately draw conclusions (Underhill, Operario, & Montgomery, 2007).

Some of the most striking challenges have been related to measurement. First, it has been noted that some studies fail to include behavioral outcomes such as the initiation of sex (Santelli, et al., 2006; Underhill, Operario, & Montgomery, 2007), which is central

to an evaluation of the effectiveness of a program designed to delay sex initiation. Additionally, evaluations have been plagued by inadequate or inappropriate follow-up periods. For example, one study in Underhill and colleagues' review detected a significant protective effect for incidence of vaginal sex but only included a 2-month follow-up. On the other hand, all four programs from the Mathematica report were deemed ineffective after failing to show lasting effects when evaluated at 42 to 78 months after participants entered the study (Trenholm, Devaney, Fortson, Quay, Wheeler, & Clark, 2007). However, most, if not all sex education programs share the inability to sustain behavior change for such extended periods of time (Weed, 2007; DiClemente, Salazar & Crosby, 2007; Slonim-Nevo, Auslander, Ozawa & Jung, 1996). Despite widespread methodological challenges, there are a few abstinence-only programs that have been evaluated and show promise.

Denny and Young (2006) conducted a quasi-experimental study of an abstinence-only curriculum, *Sex Can Wait*, with a sample of upper elementary students, middle school students, and high school students. In each school, some grade levels were assigned to receive the intervention and other grades served as comparisons. At 18-month follow-up, upper elementary and middle school students in the treatment group were less likely to report sex in the previous month. Additionally, middle school students in the intervention group were less likely to initiate sex at 18-month follow-up. Immediately following the 5-week intervention, high school students receiving treatment were less likely to report having sex ever or in the previous month. However, these effects were not sustained at 18-month follow-up. The authors acknowledge the use of "in-house" comparison groups and potential bias due to attrition as problematic.

Similarly, Weed and colleagues' (2008) quasi-experimental trial of a school-based abstinence intervention among 7th graders revealed positive program effects on four important mediators: intention to have sex, abstinence values, opportunity for sex, and future impact of sex. More importantly, the intervention participants were less likely to have initiated sex one year after the program. Eighty-three percent of the sample completed the survey at 12-month follow-up. Unlike Denny and Young's (2006) study, attrition analyses were conducted and revealed no difference in attrition by treatment condition.

Clark and colleagues' randomized controlled trial of a 10-session, school-based abstinence intervention among a sample of predominately African-American 7th graders revealed a significant protective effect on proportion of students reporting intercourse at short-term follow-up conducted 19 weeks after baseline (Clark, Miller, Nagy, Avery, Roth, Liddon & Mukherjee, 2005). However, analyses showed only a marginally significant intervention effect for initiation of sex at short-term follow-up. Additionally, intervention effects on reported intercourse remained significant for male students at 12-month follow-up, but not females. The researchers acknowledge the small sample size and inability to conduct subgroup analyses as limitations (Clark et al., 2005).

The most promising results to date were from a recent efficacy trial of a theory-based, abstinence-only intervention (Jemmott, Jemmott, & Fong, 2010). In this study, African-American 7th and 8th grade students (N = 662) were randomized to one of five conditions: abstinence-only, safer sex only, 8-hour comprehensive, 12-hr comprehensive, or health promotion control. Among the 559 participants completing 24-month follow-up, those in the abstinence-only arm were less likely to initiate sex than the attention control

group. Sex initiation among participants in the safer sex and comprehensive arms did not differ significantly from the control group. Additionally, the abstinence-only intervention significantly reduced the frequency of sex among sexually experienced adolescents as compared to the control group. The researchers reported good retention at 24-month follow-up (84.4%) and no significant differences in attrition analyses. Moreover, no relationships were found between social desirability measures and self-reported sexual behavior.

Findings from the aforementioned studies are encouraging but represent a minority. Some fairly well-designed experimental and quasi-experimental trials have shown no positive results. Studies conducted by Hernandez and Smith (1990), Kirby and colleagues (1997), Anderson and colleagues (1999), and Blake and colleagues (2001) for example found no significant impact on delaying initiation of sex or other key risk reducing behaviors. However, it should be noted that studies with promising results were conducted more recently. Perhaps this signals improvements in the content, research design and evaluation of newer abstinence interventions. Moving forward, researchers must be able to replicate the findings in other populations through well-designed studies that can withstand rigorous scientific evaluation.

Safer Sex Approach. Unlike abstinence-only programs, there are a number of well-designed studies to evaluate the scientific merit of the safer sex approach. Forty-eight rigorous studies of comprehensive programs were evaluated in a recent review (Kirby, 2008). Kirby found that of the studies measuring initiation of sex, 47 percent delayed sexual debut. Of the 24 studies measuring sexual risk-taking behavior, 15 (62%) reduced risk-taking by impacting multiple behaviors. Twenty-nine percent of those

measuring frequency of sex reported decreases in frequency of sex and none increased sex. Finally, condom use increased in 15 of 32 studies (47%). Moreover, several replication studies have demonstrated intervention efficacy when implemented with fidelity in other populations (Hubbard, Giese & Rainey, 1998; Jemmott, Jemmott, Braverman & Fong, 2005; St. Lawrence, Crosby, Brasfield & O'Bannon, 2002; St. Lawrence, Jefferson, Alleyne, Brasfield, O'Bannon, & Shirley, 1995; Zimmerman, Cupp, Donohew, Sionean, Feist-Price, & Helme, 2008).

It is evident that safer sex interventions have experienced some success, as evidenced by findings in the aforementioned review. However, this approach can also benefit from addressing additional challenges. First, researchers must not become satisfied with simply increasing condom use. Anything short of correct and consistent condom use leaves young people susceptible to STI acquisition. Also, future studies must focus on maintenance of behavioral change, which will likely require incorporating booster sessions that reinforce messages and hone skills needed to prevent initiation of or relapse to risky behavior (Janz, Zimmerman, Wren, Israel, Freudenberg & Carter, 1996; Stanton, Kim, Galbraith & Parrott, 1996).

Summary. Examination of the evidence for both approaches suggests safer sex intervention studies have provided substantially more support for the efficacy of this approach. Abstinence-only intervention research lags behind in building a strong evidence base, but has some promising studies on which to build. One interesting finding worth noting is that abstinence-only interventions have not shown negative effects on safer sex behaviors and safer sex interventions have not served as a catalyst for initiation of sex or frequency of sex (Kirby, 2008). This is an important finding as it refutes

arguments that abstinence-only programs are harmful to safer sex behavior and that teaching safer sex leads to sex.

More research is needed to determine whether efficacious abstinence-only programs can be developed and implemented in various populations. Developers of abstinence-only interventions may benefit from adopting best practices from the best safer sex interventions, such as utilizing behavior change theories to guide intervention design. Additionally, more researchers from both approaches must respond to numerous calls to move beyond individualistic approaches to ecological approaches in intervention development (DiClemente, Salazar & Crosby, 2007; Henrich, Brookmeyer, Shrier, & Shahar, 2006; McLeroy, Norton & Kegler, 2009; Small & Luster, 1994). Finally, future studies regarding both approaches must include measures of STI acquisition and pregnancy, as ultimately reductions in STI and pregnancy rates are the true measure of success.

It is clear that the abstinence-only versus safer sex debate will not soon be settled. In April 2008 a panel of seven, including one proponent of abstinence education, testified before a House of Representatives Committee regarding federal funding for abstinence education. When Congresswoman Virginia Foxx asked, "If provided evidence of abstinent education programs are as or more effective than comprehensive sex education would you support optional federal funding for such programs?" all but one of the safer sex approach proponents responded, "No" ("The sex ed question," 2008). Such responses highlight the fact that more often than not this debate has been and will continue to be "ideologically motivated rather than empirically driven" (DiClemente, 1997, p. 1575). Nevertheless, encouraging abstinence among adolescents is a common theme for both

approaches and remains an important prevention strategy. Therefore, it is necessary to build a sound empirical base to inform the design of the abstinence component of any sexual health education program that aims to reduce HIV/STI rates. Further, it is critical that such programs address the needs of both sexually inexperienced and sexually experienced adolescents.

Secondary Abstinence Research

Although abstinence is an integral component of any HIV/STI prevention program, most of what is known about abstinence comes from research with adolescents without sexual experience. Most studies of sexually experienced youth focus on identifying correlates of sexual debut or reducing risky sexual behaviors (i.e. incorrect and inconsistent condom use, multiple sex partners, etc.). However, a recent survey showed 60 percent of adolescents with sexual experience wish they had waited (National Campaign to Prevent Teen Pregnancy, 2007). Moreover, some sexually experienced adolescents are choosing to abstain from further sexual activity, a practice known as “secondary abstinence.” Yet very little is known about secondary abstinence among sexually experienced youth.

Estimates of secondary abstinence are scarce. There is some information about periods during which adolescents are sexually inactive following initiation. For example, Youth Risk Behavior Survey data analysis showed approximately one-third of African-American adolescents reporting lifetime sexual experience had not had sex in the past 3 months (YRBS, 2007). Similarly, fifty seven percent of African-American females participating in an HIV risk reduction intervention had not had sex for two or more consecutive months prior to entering the study; similar percentages were observed at 6

and 12 month follow-up assessment, 58 and 59 percent, respectively (Bradley & DiClemente, 2008a).

Periods of sexual inactivity in this high risk population are significant since young African-American females can temporarily reduce the risk of HIV/STI acquisition during times they are not engaging in sex. However, these findings must be interpreted with caution. Abstinence is by definition, “voluntary forbearance,” (Merriam Webster, 2009) implying secondary abstinence requires a deliberate decision to refrain from sex. Studies documenting periods of time when adolescents discontinue sex typically do not assess reasons for sexual inactivity, making it difficult to determine if youth had independently chosen to abstain or did not have sex for some other, undetermined reason (i.e. male partner was not available). A recent study acknowledged this concern and sought to estimate the prevalence of secondary abstinence in a population of college students (Rasberry & Goodson, 2009). They defined secondary abstainers as those who were sexually experienced and currently held a “conscious commitment to refrain from sexual activity for an extended period of time” (p77). The authors found 12.5 percent of the mostly white female sample was comprised of secondary abstainers. It is unclear whether the prevalence of secondary abstainers is similar in other populations.

The long-standing emphasis on conducting investigations of abstinence almost exclusively with sexually inexperienced youth has resulted in a dearth of research on secondary abstinence. In recent years, however, several studies have been conducted to explore abstinence perceptions and behaviors of youth with sexual experience.

Motivations for Secondary Abstinence. Exploratory studies have examined adolescents’ motivations for secondary abstinence. Loewenson and colleagues examined

reasons for primary abstinence among sexually inexperienced youth and secondary abstinence among sexually experienced youth in a large, predominantly White sample of 9th and 12th grade high school students (Loewenson, Ireland & Resnick, 2004).

Approximately 8 percent (1,944 of 24,921 sexually experienced adolescents) were classified as secondary abstainers. Secondary abstainers were students who reported lifetime sexual intercourse but indicated they were no longer having sexual intercourse. Analyses showed males reporting secondary abstinence were twice as likely as sexually active males to have caused a pregnancy or be the primary caregiver for a child. This relationship was not found when comparing female secondary abstainers with sexually active females. However, among secondary abstainers females were more likely than males to cite fear of pregnancy, fear of STIs, and not wanting to have sex as reasons for abstaining.

Rasberry (2006) investigated motivations for secondary abstinence among 20 college students, 18 to 24 years old, 13 of whom were female. In this study, religious beliefs were the most frequently discussed motivation for secondary abstinence. Half of the participants also expressed negative past experiences with sex including negative emotions after sex and greater difficulty ending a relationships that involved sex. It is important to note that while findings concerning previous negative sexual experiences seem to be consistent with Loewensen and colleagues study (2004) this construct was operationalized differently in each study. Rasberry's study measured negative cognitive or emotional aspects in regards to participating in sex (i.e. guilt or overall feelings about being sexually active), while Loewensen and colleagues focus on the negative physical consequences of participating in sex (i.e. past STI acquisition or unintended pregnancy).

These findings suggest the importance of considering the impact of both negative physical and psychological consequences as motivation for secondary abstinence.

In a predominately African-American sample of 197 adolescents recruited from an adolescent clinic (mean= 18.2 yrs), 13 percent of participants reported lifetime sexual experience but no sex in the past 3 months (Paradise, Cote, Minsky, Lourenco & Howland, 2001). A self-administered questionnaire allowed participants to indicate one or more reasons for having (or not having) sex. The questionnaire included 10 reasons for not having sex, 8 reasons for sexual activity, and an open-ended option developed by the investigators and was pilot tested for clarity. The two most common reasons given by respondents who were sexually experienced but not sexually active were “Tried it; decided it was wrong for me now” (25%) and “Waiting until I am married or living with my partner” (37.5%). One limitation of this study was that STI and pregnancy fears were not assessed.

African-American adolescent females participating in an intervention to promote periodic secondary abstinence as a risk reduction strategy reported similar motivations for abstinence (Haglund, 2008). This pilot study included a quantitative survey and in-depth interviews with 17 of 33 participants (mean = 16 years) recruited from two alternative schools serving economically disadvantaged youth with poor academic achievement. Survey findings showed avoiding STDs and AIDS and not wanting to have sex were consistently cited between baseline and 7-month follow-up assessment as key reasons for abstinence. Thematic analysis of interview data revealed STI prevention as a reason for abstinence but also showed participants were motivated to prevent repeat pregnancies and as a way to show respect for oneself. Findings from these studies

provide a useful foundation for further investigation with sexually experienced African-American adolescent females.

Reasons identified in investigations among those with sexual experience, such as fear of STIs or pregnancy, religious or conservative sexual values, and waiting until they reach a certain relationship status, are similar to those of primary abstainers (Bassett, Mowat, Ferriter, Perry, Hutchinson et al., 2002; Blinn-Pike, 1999; Haglund, 2006; Loewenson et al., 2004; Morrison-Beedy, Carey, Cote-Arsenault, Siebold-Simpson & Robinson, 2008). However, reasons associated with past sexual experiences are unique to those sexually experienced. Thus, it is necessary to intentionally include those with sexual experience in future studies.

It is important to note that HIV/STI prevention was identified as an important motivator in each of the studies in which it was assessed, highlighting it as a viable option for some sexually experienced African-American females.

Barriers to Practicing Secondary Abstinence. All who are motivated to adopt secondary abstinence are not necessarily able to do so. For some, actual or perceived barriers may inhibit one's ability to move from intention to action. Exploratory analyses of data from a clinic-based sample of sexually experienced, African-American adolescent females participating in an HIV-risk reduction intervention may provide one such example. Approximately 71 percent of participants reported some interest in adopting abstinence as a risk reduction strategy at baseline assessment (Bradley & DiClemente, 2008b). Despite high levels of interest, only 3 percent reported not engaging in sexual intercourse at 6 month follow-up. The observed dissonance between adolescents'

expressed interest in adopting abstinence and their engagement in sexual intercourse may highlight the critical role of barriers in successfully adopting secondary abstinence.

There is a gap in the empirical literature regarding barriers faced by sexually experienced adolescents interested in becoming abstinent but unable to do so. In a recent study by Raspberry & Goodson (2009), perceived barriers were significant predictors in analysis where abstinence self-efficacy was the outcome. Participants with higher self-efficacy to remain abstinent perceived fewer barriers. Barriers included both individual (i.e. alcohol use, physical attraction) and contextual factors (i.e. involvement in a serious relationship, privacy from parents, normative beliefs about sex). Although the relationship between barriers and practicing secondary abstinence was not directly assessed in this study, it is reasonable to assume such barriers could also be directly related to abstaining. Thus, when exploring barriers among African-American adolescent females it would be beneficial to adopt a social ecological perspective that considers the context in which behavior occurs (McLeroy, Bibeau, Steckler & Glanz, 1988; Sallis & Owen, 2002).

Based on findings from research on adolescent sexual behavior, the dissonance between interest in and successful adoption of secondary abstinence among sexually experienced young women may be explained by barriers both within the individual (individual-level factors) and in the individual's environment (i.e. interpersonal- and community-level factors). For example, personal factors such as low self-efficacy for refusing sex and ineffective emotional coping responses (Buhi & Goodson, 2007) that have been found to influence initiation of sexual activity may also hinder one from ceasing subsequent participation in sex. Further, the inability to identify alternative ways

to intimately connect with one's sexual partner or previous failed attempts to become abstinent may also impact successful adoption of secondary abstinence.

In addition to individual-level factors, interpersonal factors may also alter a young woman's ability to become abstinent. For example, a young woman's partner could hinder attempts to become or remain abstinent. Pressure from one's partner was identified as a challenge for young African-American female abstainers in one qualitative study (Haglund, 2006). Moreover, partner type (i.e. casual, regular) or length of the relationship may influence adoption of secondary abstinence.

Comfort with and ability to effectively communicate with a partner about sex has been associated with less risky sexual behavior (Tschann & Adler, 1997; Crosby, DiClemente, Wingood, Salazar, Harrington, Davies & Oh, 2003; Noar, Carlyle, & Cole, 2006). Negotiating secondary abstinence may present unique challenges. Refusing sex with someone whom a young woman has had sex with before may be different from introducing condoms into an existing sexual relationship or refusing sex with a new partner.

Eliminating sex from a young woman's relationship may also depend on her perceived power in sexual decision-making. Researchers applying the Theory of Gender and Power to explore HIV risk among women suggest power imbalances in relationships can negatively impact a woman's sexual health (Wingood & DiClemente, 2000). Investigations of condom use among women provide support for considering this aspect of one's relationship (Crosby, DiClemente, Wingood, Salazar, Head, Rose et al., 2008; Wingood & DiClemente, 1998; Pulerwitz, Gortmaker & DeJong, 2000; Bowleg, Lucas & Tschann, 2004). Moreover, a history of sexual abuse may impact a young woman's

sexual communication with her partner. In a study of experiences of sexual violence and risky sexual behavior among African-American adolescent females, those with a history of abuse were more fearful of negotiating condom use and had lower self-efficacy for communication with partner(s) about sex (Sales, Salazar, Wingood, DiClemente, Rose & Crosby, 2008).

Research regarding primary abstinence suggests perceptions of peer sexual activity and abstinence also influence sexual behavior. Despite actual levels of sexual activity, those who believed their peers are sexually active were more likely to engage in sexual activity while those believing their peers were not engaging in sex were more likely to abstain (Rai, Stanton, Wu, Li, Galbraith, Cottrell, et al., 2003). Also, perceptions that peers had negative attitudes toward adolescent sexual activity were associated with abstinence and delayed initiation of sex (Buhi & Goodson, 2007). These findings are supported by results from a national survey of teens where 90 percent reported it would be easier to abstain if peers spoke positively about abstinence (National Campaign to Prevent Teen Pregnancy, 2003). Thus normative influences from one's community may also significantly impact adoption of secondary abstinence.

In addition to peer influence, other significant people may play a critical role in adopting secondary abstinence. For example, researchers have found those who have more frequent and higher quality parent-adolescent communication are less likely to initiate sex (Borawski et al, 2003; Dittus & Jaccard, 2000; Perrino, González-Soldevilla, Pantin, & Szapocznik, 2000). Further, parent-adolescent sexual communication is also associated with less risky sexual behavior among African-American adolescent females (Hutchinson, J.B Jemmott, L.S. Jemmott, Braverman & Fong, 2003; DiClemente,

Wingood, Crosby, Cobb, Harrington & Davies, 2001). Parent-adolescent communication can provide emotional and informational support in sexual decision-making. It is reasonable to believe that others, who serve as parental figures, such as a mentor, teacher or clergy member, may also provide such support. Consequently, young women who lack support from a significant person may find it more difficult to become abstinent after past sexual experience.

There are a number of factors that may influence young African-American females' adoption and maintenance of secondary abstinence. Closing the gap between interest in and adoption of secondary abstinence depends, in part, on identifying perceived barriers as this information provides insight about which cognitive and behavioral skills are needed to overcome obstacles.

Significance of the Proposed Research

African-American females are at increased risk for HIV/STIs. Although some sexually experienced African-American females are interested in practicing secondary abstinence, little research attention has been devoted to examining their motivations for abstaining and barriers to becoming or remaining abstinent. Failure to investigate barriers may leave many ill-equipped to adopt secondary abstinence as illustrated by the observed dissonance between reported interest in adopting secondary abstinence and continued sexual activity among African-American adolescent females (Bradley & DiClemente, 2008b).

This mixed-methods study is an important step toward extending our understanding of secondary abstinence among African-American adolescent females. Findings will advance the HIV/STI prevention field by addressing gaps identified in this

review of the literature that limit our understanding of secondary abstinence, a virtually unexplored HIV/STI prevention strategy. Therefore, the goals of this research are to contribute to the evidence base by: (1) Identifying sexually experienced African-American adolescent females' motivations for considering secondary abstinence; (2) Developing an in-depth understanding of barriers that hinder young sexually experienced African-American females interested in adopting or maintaining secondary abstinence from doing so; (3) Investigating which barriers best explain the dissonance between interest in and practice of secondary abstinence among African-American adolescent females.

The research was conducted in two phases. The first phase (Chapter 2 and 3) consisted of in-depth interviews conducted with 20 African-American adolescent females who expressed interest in secondary abstinence. This qualitative investigation employed a social ecological perspective to explore reasons why these young women were interested in practicing abstinence after initiating sexual activity as well as challenges that have made current or past attempts to abstain difficult or impossible. Findings from this phase which derived motivations and barriers from the experiences of young women who are members of the target population facilitates identification of undiscovered motivations and barriers and provides depth to the mostly quantitative body of research on secondary abstinence.

In the second phase of this research (Chapter 4), a quantitative analysis of secondary data was conducted to investigate the dissonance between African-American adolescent females' interest in secondary abstinence and continued sexual activity. Barriers that hinder the practice of secondary abstinence identified in the qualitative

phase of the research were examined using baseline data from 701 African-American adolescent females enrolled in a 36-month randomized controlled trial of a theory-based, HIV-prevention intervention.

Findings from this formative investigation can be used to inform the development of new interventions and enhance the ability of existing interventions to adequately equip sexually experienced African-American adolescent females who desire to abstain to do so. Such gains should strengthen prevention efforts in a vulnerable population disproportionately affected by adverse sexual health outcomes.

References

- Abstinence. (2009). In *Merriam-Webster Online Dictionary*. Retrieved November 1, 2009, from <http://www.merriam-webster.com/dictionary/abstinence>.
- Albert, B. (2007). *With One Voice 2007: America's adults and teens sound off about teen pregnancy- A periodic national survey*. Washington, DC: The National Campaign to Prevent Teen Pregnancy.
- Anderson, N.L., Koniak-Griffin, D., Keenan, C.K., Uman, G, Duggal, B.R., & Casey C. (1999). Evaluating the outcomes of parent-child family life education. *Scholarly Inquiry for Nursing Practice, 13*, 211-34.
- Attwood, F. (2007). Sluts and Riot Grrrls: Female identity and sexual agency. *Journal of Gender Studies, 16(3)*, 233–247.
- Bearman, P.S., & Bruckner, H. (2001). Promising the future: Virginity pledges and first intercourse. *American Journal of Sociology, 106 (4)*, 859–912.
- Bersamin, M.M., Fisher, D.A., Walker, S., Hill, D.L., & Grube, J.Q. (2007). Defining virginity and abstinence: Adolescents' interpretations of sexual behaviors. *Journal of Adolescent Health, 41*, 182-188.
- Blake, S.M., Simkin, L., Ledsky, R., Perkins, C., & Calabrese, J.M. (2001). Effects of a parent-child communications intervention on young adolescents' risk for early onset of sexual intercourse. *Family Planning Perspectives, 33(2)*, 52-61.
- Borawski, E., Ievers-Landis, C.E., Lovegreen, L.S., & Trapl, E.S. (2003). Parental monitoring, negotiated unsupervised time, and parental trust: The role of perceived parenting practices in adolescent health risk behaviors. *Journal of Adolescent Health, 33*, 60-70.

- Bowleg, L., Lucas, K.J., & Tschann, J. M. (2004). The ball was always in his court: An exploratory analysis of relationship scripts, sexual scripts, and condom use among African-American women. *Psychology of Women Quarterly*, 28(1), 70-82.
- Bradley, E., & DiClemente, R.J. (2008a). [AFIYA 36-month HIV prevention maintenance study-baseline]. Unpublished raw data.
- Bradley, E., & DiClemente, R.J. (2008b). [HORIZONS 12-month HIV prevention intervention study]. Unpublished raw data.
- Brady, S.S., & Halpern-Felsher, B.L. (2008). Social and emotional consequences of refraining from sexual activity among sexually experienced and inexperienced youths in California. *American Journal of Public Health*, 98 (1), 162-168.
- Buhi, E.R., & Goodson, P. (2007). Predictors of adolescent sexual behavior and intention: A theory-guided systematic review. *Journal of Adolescent Health*, 40(1), 4-21.
- CDC. (2005a). Youth Risk Behavior Surveillance—United States, 2005. *Morbidity & Mortality Weekly Report* 2006, 55(SS-5), 1–108.
- CDC. (2005b). *Trends in Reportable Sexually Transmitted Diseases in the United States, 2004: National Surveillance Data for Chlamydia, Gonorrhea, and Syphilis*. Atlanta, GA: Centers for Disease Control and Prevention.
- CDC. (2005c). *HIV prevention in the third decade*. Atlanta, GA: Centers for Disease Control and Prevention.
- CDC. (2007). *STD Surveillance, 2006. Special Focus Profiles – Adolescents and young adults*. Atlanta, GA: Centers for Disease Control and Prevention.

- CDC. (2007). Youth Risk Behavior Survey- 2007. Atlanta, GA: Centers for Disease Control and Prevention.
- CDC . (2009). Sexual and reproductive health of persons aged 10-24 years - United States, 2002—2007. *MMWR, Vol. 58 / No. SS-6*.
- Cohen, M. S. (1998). Sexually transmitted diseases enhance HIV transmission: no longer a hypothesis. *Lancet 351(S3)*, 5-7.
- Connolly, J., & McIsaac, C. (2009). Romantic relationships in adolescence. In R.M. Lerner & L. Steinberg (Eds.) *Handbook of Adolescent Psychology, Volume 2: Contextual influences on adolescent development, 3rd edition* (pp. 104 -151). Hoboken, NJ: Wiley.
- Clark, L.F., Miller, K.S., Nagy, S.S., Avery, J., Roth, D.L., Liddon, N., & Mukherjee, S. (2005). Adult identity mentoring: Reducing sexual risk for African-American seventh grade students. *Journal of Adolescent Health, 37(4)*: 337.e1–337.e10.
- Congresswoman Virginia Foxx. (2008). *The sex ed. question*. Available from <http://www.youtube.com/user/RepVirginiaFoxx#p/search/0/JGMJsyN92kk>
- Crawford, M., & Popp, D. (2003). Sexual double standards: A review and methodological critique of two decades of research. *The Journal of Sex Research, 40*, 13-26.
- Crosby, R., DiClemente, R.J., Wingood, G.M., Salazar, L.F., Harrington, K., Davies, S., & Oh, M.K. (2003). Identification of Strategies for Promoting Condom Use: A Prospective Analysis of High-Risk African American Female Teens. *Prevention Science, 4(4)*, 263-270.

- Denny, G., & Young, M. (2006). An evaluation of an abstinence-only sex education curriculum: An 18-month follow-up. *Journal of School Health, 76*(8), 414-422.
- DiClemente, R.J. (1997). Preventing sexually transmitted infections among adolescents: A clash of ideology and science. *JAMA, 279*(19), 1574-1575.
- DiClemente, R.J., Wingood, G.M., Crosby, R., Cobb, B.K., Harrington, K., & Davies, S.L. (2001). Parent-adolescent communication and sexual risk behaviors among African-American adolescent females. *Journal of Pediatrics, 139*(3), 407-412.
- DiClemente, R.J., Salazar, L.F., & Crosby, R. A. (2007). A review of STD/HIV preventive interventions for adolescents: sustaining effects using an ecological approach. *Journal of Pediatric Psychology, 32*, 888-906.
- Dittus, P.J., & Jaccard, J. (2000). Adolescent's perceptions of maternal disapproval of sex: Relationship to sexual outcomes. *Journal of Adolescent Health, 26*, 268-278.
- Elkind, D. (1967). Ecogentrism in adolescence. *Child Development, 38*(4), 1025-1034.
- Feldman, S., Turner, R., & Araujo, K. (1999). Interpersonal context as an influence on sexual timetables of youths: Gender and ethnic effects. *Journal of Research on Adolescence, 9*(1), 25-52.
- Forhan, S.E., Gottlieb, S.L., Sternberg, M.R., Xu, F., Datta, S.D., Berman, S. & Markowitz, L.E. (2008, March 13). Prevalence of sexually transmitted infections and bacterial vaginosis among female adolescents in the United States: Data from the National Health and Nutrition Examination Survey (NHANES) 2003-2004. Paper presented at the National STD Prevention Conference, Chicago, IL.

- Fugere, M.A., Escoto, C., Cousins, A.J., Riggs, M.L., & Haerich, P. (2008). Sexual attitudes and double standards: A literature review focusing on participant gender and ethnic background. *Sexuality & Culture, 12*, 169–182.
- Galvin, S. R., & Cohen, M. S. (2004). The role of sexually transmitted diseases in HIV transmission. *Nature Reviews Microbiology, 2(1)*, 33-42.
- Giordano, P.C. (2003). Relationships in adolescence. *Annual Review of Sociology, 29*, 257–281.
- Haglund, K. (2006). Understanding sexual abstinence in African-American teens. *American Journal of Maternal & Child Nursing, 31(2)*, 86-92.
- Haglund, K. (2008). Reducing sexual risk with the practice of periodic secondary abstinence. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 37*, 647-656.
- Hallfors, D., Waller, M., Ford, C., Halpern, C., Brodish, P., & Iritani, B. (2004). Adolescent depression and suicide risk: Association with sex and drug behavior. *American Journal of Preventive Medicine, 27(3)*, 224-231.
- Hallfors, D., Waller, M., Bauer, D., Ford, C., & Halpern, C. (2005). Which comes first in adolescence—Sex and drugs or depression? *American Journal of Preventive Medicine, 29(3)*, 163–170.
- Henrich C.C., Brookmeyer, K.A., Shrier, L.A., & Shahar, G. (2006). Supportive relationships and sexual risk behavior in adolescence: an ecological-transactional approach. *Journal of Pediatric Psychology, 31*, 286-297.

- Hernandez, J.T., & Smith, F.J. (1990). Abstinence protection and decision-making: Experimental trials on prototypic AIDS programs. *Health Education Research, 5*(3), 309-320.
- Hopkins, C.D, Tanner, J.F., & Raymond, M.A. (2004). Risk avoidance versus risk reduction: A framework and segmentation profile for understanding adolescent sexual activity. *Health Marketing Quarterly, 21*(3), 79-106.
- Hubbard, B.M., Giese, M.L., & Rainey, J. (1998). A replication study of Reducing the Risk, a theory-based sexuality curriculum for adolescents. *Journal of School Health, 68*, 243 – 247.
- Hutchinson, M.K., Jemmott, J.B., Jemmott, L.S., Braverman, P., & Fong, G.T. (2003). The role of mother-daughter sexual risk communication in reducing sexual risk behaviors among urban adolescent females: A prospective study. *Journal of Adolescent Health, 33*, 98-107.
- Janz, N.K., Zimmerman, M.A., Wren, P.A., Israel, B.A., Freudenberg, N., & Carter, R.J. (1996). Evaluation of 37 AIDS prevention projects: Successful approaches and barriers to program effectiveness. *Health Education Quarterly, 23*(1), 80-97.
- Jemmott, J., III, Jemmott, L., Braverman, P., & Fong, G. (2005). HIV/STD risk reduction interventions for African-American and Latino adolescent girls at an adolescent medicine clinic. *Archives of Pediatrics & Adolescent Medicine, 159*, 440-449.
- Jemmott, J.B., Jemmott, L.S., & Fong, G.T. (2010). Efficacy of a theory-based abstinence-only intervention over 24 months: A randomized controlled trial with young adolescents. *Archives of Pediatric & Adolescent Medicine, 164*(2), 152-159.

- Kaiser Family Foundation. (Sept 2009). *Black Americans and HIV/AIDS (HIV/AIDS policy fact sheet)*. Washington, DC: Henry J. Kaiser Family Foundation.
- Kaiser Family Foundation. (Sept 2006). *Sexual health statistics for teenagers and young adults in the United States*. Washington, DC: Henry J. Kaiser Family Foundation.
- Kirby, D. (2007). *Emerging Answers: Research findings on programs to reduce teen pregnancy and sexually transmitted diseases*. Washington, DC: The National Campaign to Prevent Teen and Unintended Pregnancy.
- Kirby, D. (2008). The Impact of Abstinence and Comprehensive Sex and STD/HIV Education Programs on Adolescent Sexual Behavior. *Sexuality Research & Social Policy*, 5(3), 18-27.
- Kirby, D., Korpi, M., Barth, R.P., & Cagampang, H.H. (1997). The impact of the Postponing Sexual Involvement curriculum among youths in California. *Family Planning Perspectives*, 29, 100-108.
- Loewenson, P.R., Ireland, M., & Resnick, M.D. (2004). Primary and secondary abstinence in high school students. *Journal of Adolescent Health*, 34, 209-215.
- McKay, A. (1998). *Sexual ideology and schooling: Towards democratic sexuality education*. Ontario, Canada: Althouse Press.
- McLeroy, K.R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. *Health Education & Behavior*, 15(4), 351-377.
- Meier, A., & Allen, G. (2009). Romantic relationships from adolescence to young adulthood: Evidence from the national longitudinal study of adolescent health. *Sociological Quarterly*, 50(2), 308-335.

- Morrison-Beedy, D., Carey, M.P., Cote-Arsenault, D., Seibold-Simpson, S., & Robinson, K.A. (2008). Understanding sexual abstinence in urban adolescent girls. *Journal of Obstetric, Gynecological & Neonatal Nursing*, 37, 185 – 195.
- National Campaign to Prevent Teen Pregnancy. (June 2003). *Science says: The case for the cautious generation, No. 2*. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- National Campaign to Prevent Teen Pregnancy. (May 2007). *Science says: American opinion on teen pregnancy and related issues 2007, No. 31*. Washington, DC: The National Campaign to Prevent Teen Pregnancy.
- National Campaign to Prevent Teen and Unintended Pregnancy. (2008). *Sex and tech: Results from a survey of teens and young adults*. Washington, DC: The National Campaign to Prevent Teen Pregnancy.
- Noar, S.M., Carlyle, K., & Cole, C. (2006). Why communication is crucial: meta-analysis of the relationship between safer sexual communication and condom use. *Journal of Health Communication*, 11(4), 365-390.
- Ott, M.A., Pfeiffer, E.J., & Fortenberry, J.D. (2006). Perceptions of sexual abstinence among high-risk early and middle adolescents. *Journal of Adolescent health*, 39, 192-198.
- Paradise, J.E., Cote, J., Minsky, S., Lourenco, A., & Howland, J. (2001). Personal values and sexual decision-making among virginal and sexually experienced urban adolescent girls. *Journal of Adolescent Health*, 28, 404-409.

- Perrino, T., Gonza'lez-Soldevilla, A., Pantin, H., & Szapocznik, J. (2000). The role of families in adolescent HIV prevention: A review. *Clinical Child and Family Psychology Review, 3*(2) 81-96.
- Pulerwitz, J., Gortmaker, S.L., & DeJong, W. (2000). Measuring sexual relationship power in HIV/STD research. *Sex Roles, 42*, 637-660.
- Rai, A.A., Stanton, B., Wu, Y., Li, X., Galbraith, J., Cottrell, L., et al. (2003). Relative influence of perceived parental monitoring and perceived peer involvement on adolescent risk behaviors: An analysis of six cross-sectional data sets. *Journal of Adolescent Health, 33*, 108-118.
- Rasberry, C.N., & Goodson, P. (2009). Predictors of secondary abstinence in U.S. college undergraduates. *Archives of Sexual Behavior, 38*, 74–86.
- Rector, R. (April 5, 2002). The effectiveness of abstinence education programs in reducing sexual activity among youth. Retrieved from <http://www.heritage.org/Research/Abstinence/BG1533.cfm>.
- Rector, R., Johnson, K.A., Noyes, L.R., & Martin, S. (2003). *The harmful effects of early sexual activity and multiple sexual partners among women*. Washington, DC: The Heritage Foundation.
- Roberts, S., & Kennedy, B. (2006). Why are young college women not using condoms? Their perceived risk, drug use, and developmental vulnerability may provide important clues to sexual risk. *Archives of Psychiatric Nursing, 20*(1), 32-40.
- Risman, B., & Schwartz, P. (2002). After the Sexual Revolution: Gender Politics in Teen Dating. *Contexts, 1*, 16 – 24.

- Sabia, J.J., & Rees, D.I. (2008). The effect of adolescent virginity status on psychological well-being. *Journal of Health Economics*, 27, 1368–1381
- Sales, Salazar, Wingood, DiClemente, Rose & Crosby, (2008). The mediating role of partner communication skills on HIV/STD-associated risk behaviors in young African-American females with a history of sexual violence. *Archives of Pediatric Adolescent Medicine*, 162(5), 432-438.
- Sallis, J.F., & Owen, N. (2002). Ecological models of behavior. In K. Glanz, F.M. Lewis, & B.K. Rimer (Eds.). *Health behavior and health education: Theory, research, and practice* (2nd ed.) (pp. 462-484). San Francisco, CA: Jossey-Bass.
- Santelli, J., Ott, M.A., Lyon, M., Rogers, J., Summers, D., & Schleifer, R. (2006). Abstinence and abstinence-only education: A review of U.S. policies and programs. *Journal of Adolescent Health*, 38, 72-81.
- Slonim-Nevo, V., Auslander, W.F., Ozawa, M.N., & Jung, K.G. (1996). The Long-Term Impact of AIDS-Preventive Interventions for Delinquent and Abused Adolescents. *Adolescence*, 31, 409-421.
- Small S.A., & Luster T. (1994). Adolescent sexual activity: An ecological, risk-factor approach. *Journal of Marriage & the Family*, 56, 181-192.
- St. Lawrence, J., Crosby, R., Brasfield, T., & O'Bannon, R., III. (2002). Reducing STD and HIV risk behavior of substance-dependent adolescents: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 70, 1010-1021.
- St. Lawrence, J., Jefferson, K.W., Alleyne, E., Brasfield, T.L., O'Bannon, R.E., III, & Shirley, A. (1995). Cognitive-behavioral intervention to reduce African-American

adolescents' risk for HIV infection. *Journal of Consulting and Clinical Psychology*, 63, 221-237.

Stanton, B., Kim, N., Galbraith, J., & Parrott, M. (1996). Design issues addressed in published evaluations of adolescent HIV-risk reduction interventions: A review. *Journal of Adolescent Health*, 18(6), 387-396.

The New King James Bible. (1982). Nashville, TN: Thomas Nelson, Inc.

Tschann, J.M., & Adler, N.E. (1997). Sexual self-acceptance, communication with partner, and contraceptive use among adolescent females: A longitudinal study. *Journal of Research on Adolescence*, 7(4), 413-430.

Trenholm, C., Devaney, B., Fortson, K., Quay, L., Wheeler, J., & Clark, M. (2007). *Impacts of four Title V, Section 510 abstinence education programs: Final report*. Princeton, NJ: Mathematica Policy Research, Inc.

Underhill, K., Montgomery, P., & Operario, D. (2007). Sexual abstinence only programmes to prevent HIV infection in high income countries: systematic review, *British Medical Journal*, 335, 248-260.

Underhill, K., Operario, D., & Montgomery, P. (2007). Reporting deficiencies in trials of abstinence-only programmes for HIV prevention. *AIDS*. 21(2), 266-268.

U.S. Congress – 104th. (1996). Personal Responsibility and Work Opportunity Reconciliation Act of 1996, Public Law 104-193, Retrieved from http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=104_cong_public_laws&docid=f:publ193.104.pdf

- U.S. Government Accountability Office. (October 2006). *Abstinence education: Efforts to assess the accuracy and effectiveness of federally funded programs*. Washington, DC: U.S. Government Accountability Office.
- Vergari, S. (2000). Morality politics and educational policy: The abstinence-only sex education grant. *Educational Policy, 14*, 290 – 310.
- Waller, M.W., Hallfors, D.D., Halpern, C.T., Iritani, B.J., Ford, C.A., & Guo, G. (2006). Gender differences in associations between depressive symptoms and patterns of substance use and risky sexual behavior among a nationally representative sample of U.S. adolescents. *Archives of Women's Mental Health, 9*, 139–150.
- Weed, S. (2007). “Abstinence” or “comprehensive” sex education? Salt Lake City, UT: The Institute for Research and Evaluation.
- Weed, S., Ericksen, I.H., Lewis, A., Grant, G.E., & Wibberly, K.H. (2008). An abstinence program's impact on cognitive mediators and sexual initiation. *American Journal of Health Behavior, 32(1)*, 60-73.
- Whitaker, D., & Miller, K. (2000). Parent-adolescent discussions about sex and condoms: Impact on peer influences of sexual risk behavior. *Journal of Adolescent Research, 15*, 251-273.
- Wingood, G.M., & DiClemente, R.J. (1998). Partner influences and gender-related factors associated with non-condom use among young adult African-American women. *American Journal of Community Psychology, 26*, 29-53.
- Wingood, G.M., & DiClemente, R.J. (2000). Application of the Theory of Gender and Power to examine HIV-related exposures, risk factors, and effective interventions for women. *Health Education & Behavior, 27(5)*, 539-565.

World Health Organization. *Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.* Retrieved November 1, 2009 from <http://www.who.int/about/definition/en/print.html>

Young, M., & Goldfarb, E.S. (2000). The problematic (a) – (h) in abstinence education. *Journal of Sex Education & Therapy, 25*, 156-160.

Zimmerman, R., Cupp, P., Donohew, L., Sionean, C., Feist-Price, S., & Helme, D. (2008). Effects of a school-based, theory-driven HIV and pregnancy prevention curriculum. *Perspectives on Sexual and Reproductive Health, 40*, 41-51.

CHAPTER 2:

Motivations for Secondary Abstinence among African-American Females

Abstract

Some African-American adolescent females abstain from sexual activity following sexual debut, a practice known as secondary abstinence. Although secondary abstinence may contribute to reducing HIV/STI-related risk in this population, little research attention has been devoted to understanding why these young women may choose to abstain. Further, the scope of the findings from available research may be limited by the quantitative approaches employed. Thus, the purpose of this qualitative study was to investigate motivations for secondary abstinence among African-American young women. In-depth interviews were conducted with 20 sexually-experienced African-American adolescent females, ages 18-23, who had completed an HIV-risk reduction program and expressed interest in abstinence. Grounded theory, an inductive approach consisting of systematic data collection and analysis techniques, was used to identify secondary abstinence motivations. Motivations for secondary abstinence not identified in previous studies included feeling used for sex, partner infidelity, and abuse or sexual assault. Also, young women were motivated to abstain from sex in order to focus on improving various aspects of their lives. Respondents also reported motivations similar to those identified in previous studies, including not being married or in a committed relationship, being away from one's partner, and STI and pregnancy experiences or fears. The information gained from this investigation can be used to improve survey measures of secondary abstinence motivations in African-American young women. Further, insight can also be used to develop and refine HIV/STI interventions for this population.

Introduction

It has been well-documented that African-American females are at increased risk for sexually transmitted infections (STI), including HIV. In 2007, African-American women were 22 times more likely to be diagnosed with AIDS (CDC, 2009a). Further, African-American females continue to have the highest rates of Chlamydia and gonorrhea (CDC, 2009b). This raises concern because gonorrhea and chlamydial infections are co-factors that increase the risk of HIV infection in females (Cohen, 1998; Galvin & Cohen, 2004). Additionally, treatment of STIs among African-Americans has been less than optimal (CDC, 2007), and untreated STIs can result in serious health consequences, including pelvic inflammatory disease, ectopic pregnancy, chronic pelvic pain, and infertility (Roberts & Kennedy, 2006). Thus, reducing the risk of STIs, including HIV, among African-American women and girls has become a public health priority.

An important strategy that may fill a gap in reducing risk of infection in this population is secondary abstinence. Secondary abstinence is a term used to describe choosing to refrain from sexual activity following sexual debut. Although nearly half of American youth are sexually experienced before graduating from high school (CDC, 2005), a national survey found 60 percent wish they had waited (National Campaign to Prevent Teen Pregnancy, 2007); and some decide to abstain from further sexual activity. However, little is known about secondary abstinence. Although some researchers have examined secondary abstinence among adolescents (Haglund, 2008; Loewenson, Ireland & Resnick, 2004; Paradise, Cote, Minsky, Lourenco & Howland, 2001), college students

(Rasberry & Goodson, 2009) as well as adult women (Nettleman, Ingersoll & Ceperich, 2006), these studies represent a small fraction of research on abstinence.

Findings from a few investigations have provided insight about motivations for abstaining after sexual debut. In a predominately African-American sample of 197 young women ages 14-25 (mean= 18.2 yrs) receiving services at a clinic, 13 percent of participants reported lifetime sexual experience but no sex in the past 3 months (Paradise et al., 2001). Participants indicated one or more reasons for either having or not having sex on a self-administered questionnaire. The two most common reasons given by respondents who were sexually experienced but not currently sexually active were “tried it; decided it was wrong for me now” (25%) and “waiting until I am married or living with my partner” (37.5%).

African-American adolescent females participating in an intervention to promote periodic secondary abstinence as a risk reduction strategy reported similar motivations for abstinence (Haglund, 2008). This pilot study included a quantitative survey and in-depth interviews with 17 of 33 participants (mean = 16 yrs) recruited from two alternative schools serving economically disadvantaged youth with poor academic achievement. Survey findings showed avoiding STDs and AIDS and not wanting to have sex were consistently cited between baseline and 7-month follow-up assessment as key reasons for abstinence. Thematic analysis of interview data revealed STI prevention as a reason for abstinence but also showed participants were motivated to prevent repeat pregnancies and as a way to show respect for oneself.

An investigation of a predominately white sample of high school students where approximately 8% were classified as secondary abstainers yielded similar results

(Loewenson et al., 2004). Fear of STIs, fear of pregnancy and no longer wanting to have sex were identified as reasons for secondary abstinence.

Although reasons identified in investigations among those with sexual experience, such as fear of STIs or pregnancy or waiting until a relationship has progressed to a certain point, are similar to those of primary abstainers (Bassett, Mowat, Ferriter, Perry, Hutchinson et al., 2002; Blinn-Pike, 1999; Haglund, 2006; Loewenson et al., 2004; Morrison-Beedy, Carey, Cote-Arsenault, Siebold-Simpson & Robinson, 2008), reasons associated with past sexual experiences are unique to sexually experienced adolescents. Therefore, efforts to uncover additional motivations among sexually experienced adolescents are warranted.

Additionally, the scope of the findings from previous research may be limited by the quantitative approaches used in most of the investigations. For example, one of the aforementioned studies focused mainly on fear of adverse consequences and normative beliefs about adolescent sex (Loewenson et al., 2004) while the other focused on personal values (Paradise et al., 2001). There may be other salient reasons for secondary abstinence, such as aspects of one's relationship, which have not been identified by a forced choice survey format where response options are limited to those generated by the researchers and were likely based on knowledge of primary abstinence. Although surveys are important for identifying motivations for secondary abstinence, qualitative methodology provides means for both improving the breadth of responses included in survey research as well as providing depth of understanding of these motivations directly from the experiences of secondary abstainers.

Given that abstinence is the only 100% effective way to prevent STIs, secondary abstinence could prove to be a valuable strategy for reducing ethnic/racial HIV/STI disparities. Thus, understanding secondary abstinence among African-American females is of particular importance. Moreover, since motivation is a component of theoretical frameworks that may be used to intervene in this population, such as the Information-Motivation-Behavior skills model (Fisher & Fisher, 1992), an in-depth understanding of secondary abstinence motivations is needed. Therefore the purpose of this study is to explore motivations for secondary abstinence from the perspectives of sexually experienced African-American young women.

Methods

A qualitative investigation was conducted to identify and understand motivations for secondary abstinence among African-American young women. Grounded theory (Glaser & Strauss, 1967), an inductive approach that consists of systematic data collection and analysis techniques, lends itself to the discovery of motivations for secondary abstinence by allowing motivations to originate from the data instead of being determined a priori. Therefore, this approach was the most suitable given the aims of the study.

Participants

Participants were 20 sexually experienced African-American females ages 18 to 23 who had participated in a 36-month HIV-risk reduction intervention study. Young women were approached following completion of their final follow-up assessment. Each was informed about the purposes of the qualitative addendum and invited to be screened for eligibility. Purposive sampling was employed to ensure only young women with

interest in practicing abstinence were included in the study. Interest in practicing abstinence was established by asking young women to classify themselves as very, somewhat, or not at all interested in abstaining. In addition to interest in secondary abstinence, young women had to be 18 years old or older and willing to complete a 45 to 60-minute face-to-face interview to be eligible for the study. All interviews were audio-recorded. Respondents provided written consent prior to their interview. Upon completion of the interview each received \$25 compensation for their time. All study procedures were approved by Emory University's IRB.

Data Collection

In-depth interviews were conducted with eligible participants upon completion of their final assessment or at a time more convenient for the respondent. Respondents were asked a series of open-ended questions about their experiences with sex and abstinence as well as reasons for their interest in secondary abstinence. A semi-structured interview format was used because it provided a uniform set of topics to discuss with each participant but allowed flexibility in probing and phrasing of questions (Patton, 2002). Participants were probed about their thoughts, feelings, and decision-making processes as well as interactions with their partners, peers and significant others to capture contextual aspects that provide a better understanding of their behavior.

Data Analysis

Audio recordings were transcribed verbatim and checked for accuracy. The coding process was guided by a constructivist grounded theory approach as described by Strauss & Corbin (1998). Open coding consisted of a line-by-line examination of each transcript to increase confidence that the codes were grounded in the interview data.

Transcripts were read again and codes that appeared frequently were used to code larger segments of text. Categories, such as “sexual health concerns,” and subcategories, such as “got STI” and “pregnancy fears,” were developed during this process. Relationships between categories and subcategories were identified and refined through axial and selective coding. For example, a relationship between “got STI” and “partner infidelity” was identified and then further developed to reveal a pattern among young women of being motivated to abstain after being infected by a partner who was unfaithful. Additionally, to assess the trustworthiness of the coding, the PI developed a code list from the first six interview transcripts and the interviewer notes. A second researcher independently coded the same six interviews and compared code lists with the PI. The discussion resulted in the addition of one code to capture focusing on the future as a motivating factor. The revised code list was used to code subsequent interview transcripts. Revisions made during the remainder of the data collection and analysis process were minimal.

Since memoing is an integral part of grounded theory, this technique was also utilized in each stage of coding (Charmaz 2006; Strauss & Corbin, 1998). Early memos captured insights about potentially significant codes which informed subsequent data collection and analysis by highlighting key issues that needed further exploration. Advanced memos, which are more analytic and permit comparisons between categories or concepts, respondents, or study findings, and the literature (Charmaz, 2006), were also developed during axial and selective coding. These memos expounded on proposed relationships between categories, explored underlying beliefs and assumptions about sex

and abstinence shared by respondents, and were used to determine which motivations for secondary abstinence had not previously been included in the published literature.

Results

There were many reasons underlying young African-American women's interest in abstaining from sex for various periods of time following sexual debut. Young women discussed a wide range of motivations for secondary abstinence including physical, psychological, emotional and spiritual reasons. Further, motivations appeared to be personal, relational and social in nature. Three primary categories of motivations emerged: relationship or partner-related motivations, STI and pregnancy, and life improvement. Each category is described in turn below.

Relationship or Partner-related Motivations

To date, relationship-related motivations have received little attention in the secondary abstinence literature. However, the most frequently discussed motivations for secondary abstinence were those pertaining to experiences with males. All were specifically related to a young woman's relationship with her partner (or potential partner) except for violence, which included male family members or other acquaintances. The main categories for partner-related motivations were mistreatment by males, relationship status, and access.

Mistreatment. Being mistreated by males was the most common partner-related motivation. Young women commonly referred to themselves as being "tired" of mistreatment from males. The mistreatment described by these young women encompassed negative experiences such as feeling used for sex, infidelity, and violence.

Used for sex. Nearly half of the respondents cited feeling “used” for sex as a motivation for secondary abstinence. Many young women made comments such as, “*That’s all a man want is sex*” and “*... boys only look for, like, sex. That’s – to me, that’s the main reason boys date girls: for sex.*” A 22-year-old single mother who had become abstinent after a series of unhealthy relationships said,

You thinking that that guy actually loves you and care about you and he really don’t, and all he wants is a little piece of your – your goodies.

Feeling used for sex led to a sense of frustration and a desire to stop having sex.

Comments from one 18-year-old woman captured the sentiment of many:

I’m really, like, fed up with everything and the whole sex situation, ’cause then everywhere I go and every boy I meet, it’s all about sex... why it gotta be sex? It’s not fair if I don’t have it [sex] I ain’t gotta deal with it.

Consequently, three respondents said they consider abstinence, at least in part, as a way to test their romantic partner’s motives. A young woman who recalled two, year-long periods of abstinence said,

I try to test my relationships out to see how long these guys can go without having sex, just to see if they would do it. And if they will do it for me that lets me know they care for me and they like me a lot.

Infidelity. Proven or suspected partner infidelity also had a detrimental effect on young women’s relationships, inspiring secondary abstinence. Seven young women explained that discovering their partner had been unfaithful or even suspecting a partner of having sex with other women created distrust in their relationship that resulted in a

desire to abstain. A 22-year-old college student recalled trying to continue having sex with her boyfriend after she found out he had sex with someone else:

...me and him start messing around with each other again, and then I just realized that I couldn't do it anymore, because it's like he probably still cheating, messing around with other girls, so I just stopped. Yeah, it was after, like, the whole drama of trying to forgive and forget, and I was like, "I can't do this no more.

A young mother of a two-year-old explained that she was no longer willing to add a sex to her romantic relationships since the negative emotional impact of her child's father cheating on her was amplified because of their sexual involvement:

I'm abstinent because I don't wanna go through the emotional distress that I went through ...it's like I know for a fact that it's because of sex. Like, sex emotionally bonds a person with a person.

Feelings of betrayal may be difficult to overcome and can influence whether one desires to become sexually involved in future relationships.

Violence. Emotional or physical abuse from a family member, romantic partner, or acquaintance fueled the desire to abstain for one-fourth (n =5) of the respondents. A 21-year-old woman recalled an incident with a guy she was dating that led to her becoming abstinent for more than a year:

I was talking to this guy. And he just lashed out on me... I'm telling you, I didn't make him mad, or anything. But he just beat on me and beat on me – that's why I got this across my neck right here... it just changed my whole mind, and I just was like, you know what? Hey, I'm gonna be abstinent.

Three others described a rape or sexual assault, two of whom were raped by their sister's husband or boyfriend. Experiences of violence are important motivations for some young women and should be included in investigations of secondary abstinence motivations.

Relationship status. Sexual involvement beyond the confines of a serious relationship played an important motivational role for most respondents. Sixteen young women said one reason they were motivated to abstain was because they were not married ($n = 9$) or in a committed relationship ($n = 7$). Relationship status as a motivation to abstain from sex is interesting because this motivation could be the result of underlying social or religious beliefs.

For some young women the underlying motivation to avoid sex outside of more serious relationships may be the result of social pressures. Concerns about how their sexual behavior may be perceived by others were mentioned by many of the young women but not directly cited by respondents as motivational factors. Nearly half of the young women who said that a desire to wait until married or in a committed relationship motivated them to abstain expressed negative views of women who had casual sex partners or what they believed to be a lot of partners at some point during their interview. Young women sought to distance themselves from being viewed as a certain "type" of girl. Respondents made statements such as, "*...men talk a lot, and I didn't want to be the type of girl that's already out there having sex with a whole bunch of different sexual partners*" and "*I don't wanna be considered a slut from sleeping around with all these men.*" In essence it appeared the underlying motivation for these young women was to protect their reputation.

Additionally, of the nine young women motivated to abstain because they were not married, three spoke of beliefs about God's displeasure with their sexual involvement as a strong underlying reason to abstain until they were married. Although a few of the other young women made reference to doing things the "right" way, they did not overtly reference religious beliefs.

Access. Two young women's motivation for abstaining was their partner's absence. One young woman and her partner mutually agreed to abstain while he was serving in the military. Another was abstaining because her partner was away at college. Separation from one's partner may also serve as motivation for secondary abstinence for those in committed relationships.

STIs and Pregnancy

Similar to previous studies (Loewenson et al., 2004; Paradise et al., 2001), STIs and unintended pregnancy were key motivators for secondary abstinence. For all but four of the respondents, negative experiences with and/or the fear of contracting STIs or becoming pregnant served as catalysts for abstaining or desiring to abstain from sex.

STIs. STI experiences or fears were a significant motivation for eleven young women. Seven young women had previously contracted STIs and discussed the physical effects of having an STI but also spoke about how it took a mental or emotional toll on them as well. A 22-year-old woman recalled her first herpes outbreak at age 16 saying,

The first outbreak was the most serious one. And I was so sore – that was real. I couldn't walk, I couldn't sit down. So I came to the doctor, and they told me that it was herpes. So I was depressed for like a month. Like I couldn't think right, couldn't eat right, couldn't sleep right.

For some young women it appeared the circumstances surrounding the STI acquisition created additional stress. For four of the seven young women, finding out they had an infection made them aware that their boyfriends had been unfaithful. Negative feelings about getting an STI were intensified by feelings of betrayal. A 19-year-old woman was forced to have a fallopian tube removed as a result of an STI she contracted from her boyfriend that went untreated. She described how this situation created a desire to abstain:

Well, my ex-boyfriend, um, I didn't know he was messing around on me. And we was together for like four years. And he end up giving me something that messed up my inside, which made me lose a tube. So that made me really open my eyes up and like really stop all my sexual activities with him and men period... I didn't want to have sex after that or have sex with someone who would just not tell me about that that's going on with their body.

Another 22-year-old woman made similar comments about being infected by her previous partner,

I had got tested and something came up. I was just like, 'OK, this is not cool. I'm not having sex with nobody else but this guy, and then I get something back.' And that just opened my eyes to just really cooling out, like, just stay low key.

Two sisters who had been abstinent for a few months were not in monogamous relationships when they were infected. However, they too described feeling a sort of betrayal. Each young woman explained that although she did not expect to be the only sexual partner she trusted her partner(s) to use condoms with other partners or get tested

regularly and treated if necessary, but he did not. As a result, both said frustration from repeated infections led them to practice abstinence.

Additionally, some of the respondents mentioned that the fear of acquiring an STI made them recognize the benefits of abstinence. Notably, a few spoke about the seriousness of incurable diseases, namely HIV/AIDS, often in terms of life and death. A 20-year-old woman who expressed concern for limiting her number of lifetime partners and had no history of STIs conveyed a strong fear of contracting HIV because her close friend had been infected at age 15:

When my friend got her virginity broke, it's, like, me and her, we were messing with two brothers. But the other brother, he had HIV and her virginity got broke. She got it right then and there.

She repeatedly referred to her friend's experience during her interview and went on to discuss her perception of the impact acquiring HIV is having on her friend's life:

She had sex one time. Now she – she ain't got nothing. She's sick, she – she dying slow...Never had sex before, but with that one man, and that one man messed her whole life, her whole life.

Two other respondents also referred to the gravity of becoming infected with HIV. One 22-year-old woman who spoke about her promiscuity in the past had come to realize the magnitude of the risks she had been taking:

People are catching too many STDs and it's too much AIDS going around. I'm not trying to die of the -- AIDS. I mean, not necessarily saying you gonna die when you have AIDS, but it's just, it's a – it's close, it's closer – it's close to death.

A 19-year-old young woman who had previously been infected with an STI made similar comments: “...*I just want to be safe. I don't want to catch AIDS or anything like that. I want – I don't want sex to be the cause of my death.*” It appears that HIV prevention messages have inspired some young African-American women to consider the severity of potential long-term consequences of sex.

Pregnancy. Negative pregnancy experiences can have a lasting effect on young women and serve as motivation for secondary abstinence. Three young women spoke of painful pregnancies or delivery experiences that sparked interest in abstaining from sex. An 18-year-old mother of one was fearful of becoming pregnant again following an ectopic pregnancy that nearly resulted in her death.

However, over half of the respondents, eight of whom already had children, expressed a desire to delay future pregnancies as one reason for becoming abstinent. For most, this motivation was related to wanting to create a better life for themselves before having their first child or before having additional children. A 19-year-old woman who had already had one child said,

I didn't want to get pregnant yet. Because I have a five-year deadline that I'm trying to meet, stay in school, get a job, make sure I'm settled for the next child.

Another 18-year-old mother of a toddler shared the same sentiment saying,

I don't want no more babies 'cause I already got one, and having two and about to go to college, that's not gonna work. I'll never finish. I'll just chill until I graduate college, get a job, and I'll have another baby and have sex again.

Securing a better life often included starting or completing additional schooling, improving living situation or current employment status, getting married, or starting a committed relationship with a special person.

Life Improvement

More than half of the young women referred to their desire to improve their current situation and their future. This, in turn, led to exploring secondary abstinence as an option. Some young women believed sex was the root cause of some undesirable life circumstances that somehow interfered with them reaching their full potential in life. In many ways sex had become a distraction and continuing sexual activity was no longer worth it when they weighed the possible physical, psychological, emotional, spiritual, and social pitfalls of being sexually active at this point in their lives. An 18-year-old woman who recounted the role sex played in her rocky, 5-year relationship with her child's father noted:

Now that I'm older, it's not really that serious over sex...it make you get unfocused. Now I'm going to Job Corps. Like, when I finish, I'm a go to college, and if I'm not focused on a boy and stuff like that, it'll keep me motivated... I'll strive for higher stuff. Because when it's all over, like – I look at it – when it's all over, he'll still be there, or sex still gonna be there.

Young women's thoughts about what constituted a better life varied. One 22-year-old mother who was eight months pregnant with her second child described what she wanted her life to be like:

I mean, right now I just want to, like, just enjoy my life and, you know, go to school and get everything right for me and my kids. And, like, sex is,

like, not even – it's beyond last on my mind, because that would just be destruction.

Another young woman's idea of improving her life was turning her attention back to God:

I'm really into my religion. And like God just taught me that I can't put no man before him, and I'm not doing the right thing throughout – with my life.

She shared how she had started doing Christian devotionals and praying each day to strengthen her relationship with God.

Restoring a positive self-image was a step toward a better life for a few young women who had experienced mistreatment from men in their lives. A 19-year-old woman who admitted occasionally having sex in exchange for money spoke about becoming the person she once was:

I mean, sex just change a female's whole mindset...It's like when I was a virgin, I can see the person that I was when I was clean. And I can see the person that I am now, and it's just like I want to be that person that I was. I do. But I can't help the person that I've become because I've let life – you know, I've lived my life, so it's just like I have to ask for better for the future.

Another young woman believed secondary abstinence would be a step toward improving her self-image. When reflecting on how badly she had been treated by men she had sex with, a primary motivation for her abstinence, she commented, "...if I became abstinence, maybe I can – I can actually be true to myself and respect myself more."

She spoke about being in a new relationship in which she was practicing secondary abstinence in order to establish a strong, non-sexual foundation for her relationship.

Discussion

The purpose of this study was to increase the breadth and depth of understanding concerning motivations for practicing secondary abstinence based on the perspectives of young African-American women who were abstaining from sex, had abstained in the past, or were motivated to do so for the first time. Findings can help researchers improve instruments used to measure motivation by capturing a wider range of motivations as well as refine existing response options used in previous studies. Refining measurement tools is a necessary step toward understanding why sexually experienced African-American young women may choose to abstain because the measures researchers use dictate which analyses can be conducted and, in turn, the inferences that can be made. Moreover, this information informs the development of interventions to promote secondary abstinence as a pregnancy and disease prevention strategy.

Accounts of sexually experienced African-American young women in this study revealed key motivators for secondary abstinence, primarily in regards to those pertaining to one's relationship with partners or other men, which have not yet been included in published quantitative survey research. Knowledge gained about relationship or partner-related motivation should be used to expand the range of motivations assessed in secondary abstinence research. Mistreatment by men was discussed most frequently, warranting its inclusion in measures. Quantitative researchers should consider measuring various the types of mistreatment identified in this study separately in order to investigate the impact of each. For example, a young woman's belief that she is being or has been

used for sex was one form of mistreatment discussed as a salient motivation for secondary abstinence. Although most young women described sex as a way to give or receive love, many learned during the course of a sexual relationship that their reasons for having sex or expectations for the direction of the relationship were different from those of their male partner. As a result, young women felt used and reconsidered their involvement in sex. Infidelity was another form of mistreatment discussed by young women, should be assessed as well. Negative emotional and psychological effects of experiencing partner's infidelity, which were discussed by about one-third of the sample, may influence a young woman's decision to eliminate the sexual dimension of her relationship with her current partner as well as whether to become sexually involved in future relationships. Thus, items assessing experiences with infidelity should also be incorporated in instruments measuring motivations for secondary abstinence. Lastly, since violence from a male partner or acquaintance was also discussed by a quarter of the participants, this form of mistreatment should also be included when assessing secondary abstinence motivations. Participants' accounts also suggest it is necessary to include both experiences of sexual violence and non-sexual violence as each may lead one to desire abstinence.

Relationship status was another salient relationship-related factor that should be incorporated in instruments used in future quantitative studies since the majority of the young women mentioned being unmarried or not in a committed relationship as a motivation for secondary abstinence. Further, since comments by young women imply this desire may be driven by social or religious beliefs, perhaps it is worthwhile to incorporate these underlying motivations as well. For example, some young women

spoke about wanting to abstain from sex while they are unmarried because of religious beliefs while others referred only to doing things the “right” way. Doing things the “right” way could reflect a more conservative but non-religious view of sex or may have been used to convey religious values by those who were not comfortable discussing religious beliefs with the interviewer. Although the desire to delay future sexual activity until marriage and the role of religious beliefs have both been measured separately in a previous study (Paradise et al., 2001), it could be useful to provide more specific options for “waiting until marriage” (i.e. “waiting until married because of my religious beliefs”) that incorporate underlying motivation.

Additionally, it may be advantageous to measure desire to wait until “married” and “in a committed relationship” separately as there could be a differential relationship with STI risk. For example, a young woman may be involved in two “committed” relationships and have two sex partners over a period of two years. On the other hand a young woman who is practicing abstinence until marriage would theoretically have no partners during that time unless she marries. This could influence STI risk since resuming sexual activity provides some possibility of STI exposure and those in serious or committed relationships may be less likely to use condoms (Macaluso, Demand, Artz & Hook, 2000, Morrison-Beady, Carey & Lewis, 2002).

Finally, although access to one’s sexual partner was not discussed frequently it should be included in instruments to ensure a more complete range of options. In the survey created by Paradise and colleagues (2001) which included an “other” option, one young woman indicated her partner was away. Such information is valuable in studies where motivations may be used to categorize secondary abstainers. For example,

researchers may choose not to categorize those who are abstinent because of circumstances instead of by choice as secondary abstainers.

Improvements in measurement are important because they have implications for the development of interventions. Since the knowledge derived from survey research is often used to shape intervention approaches (i.e. intervene with dyads instead of individuals) and content (i.e. build self-efficacy), it is important to give careful consideration to the quality of the measures employed in survey research. For example, experiences shared by respondents suggest it may be beneficial to delve deeper into the motivational role of STIs. Findings indicate that a “fear of STIs” response option may be too broad. Some young women referred to getting diseases you “can’t get rid of.” A few referred specifically to HIV avoidance as motivation for abstinence. Despite condoms offering protection from exposure to HIV when used correctly and consistently, any possibility of becoming infected seemed too great a risk. Such comments were not made regarding curable STIs. Perhaps a “fear of incurable STIs” or “fear of HIV/AIDS” option may be more appropriate. Thus, our measurement of STI motivations must include more precise response options.

Additionally, researchers should inquire about different dimensions of the STI experience when measuring history of STIs as a motivating factor. Assessing the psychological experience of having an STI in addition to physical aspects would allow researchers to evaluate the motivational power of each. Perhaps physical pain, which may be relieved with medication, provides short-term motivation whereas psychological distress, which may be more difficult and take longer to overcome, may be a more powerful motivator. Knowing which aspects of an STI experience are the most

compelling is vital because it can inform the development of intervention content. For example, instead of focusing primarily on pictures portraying painful sores on infected body parts, discussion of consequences of STIs could explore the psychosocial aspects as well. This may be achieved through activities where participants receive STI acquisition scenarios and discuss what they would think and how they would feel given the circumstances surrounding their infection, or what they have thought and felt if they had an STI in the past, as well as ways it could affect their relationship with their partner, for instance. Similarly, the primary focus may shift from STIs if that does not provide strong motivation for young African-American women to become or remain abstinent. If relationship concerns are most salient for young women, devoting more attention to potential psychological or emotional pitfalls of sexual involvement would be advisable.

Another example is the desire to improve one's life circumstances, which was discussed by more than half of the respondents. Although the desire to make short-term and long-term improvements in one's life typically was not mentioned as a primary motivator, it was spoken of as a constant and sustaining underlying motivation in relation to other motivators. For example, for many young women the desire to delay first or subsequent pregnancies was rarely due to the demands of motherhood. Instead the desire was linked to creating a better life for her and existing and future children. This finding is also consistent with findings from a study with African-American adolescent females that revealed protection of future goals and aspirations as a motivation for primary abstinence (Morrison-Beedy et al., 2008). Inclusion of this factor could be critical for understanding the maintenance of secondary abstinence. Such information would be valuable when developing interventions as relevant motivations could be integrated into discussions and

activities. For instance, young women may identify or create short- and long-term goals for their lives and discuss ways that having sex or abstaining from sex could help or hinder them from achieving these goals. Creating direct links between young women's personal aspirations and their behavior may be an effective way to motivate interested young women to begin or continue practicing secondary abstinence.

Incorporating motivations in intervention materials that are most meaningful for the population may result in interventions that are more relevant and potentially more effective at increasing abstinence and, in turn, decreasing the risk of STIs. The same principle could be applied to other, less structured health promotion initiatives such as educational campaigns. Thus, our efforts to reduce HIV/STI disparities for African-American young women and girls may be impacted by how well we measure motivations for secondary abstinence.

Health practitioners could benefit from improved measures since motivations can be integrated into screening tools used to assess patient needs. For example, a young woman whose motivation for secondary abstinence is psychological abuse from her partner or a sexual assault could be identified and referred for counseling. As a result, a young woman may receive treatment for a mental health need that may have gone undetected.

It is important to note there were some limitations of our study. First, the sample included young women who had participated in an HIV prevention intervention study. Consequently, heightened awareness about and concern for acquiring HIV or other STIs that emerged in the interviews may be inflated. Also, although the PI's role as a member of the intervention study staff aided recruitment and building rapport in the interviews, it

is possible the PI's affiliation with the study biased the information provided by respondents. Young women may have been inclined to provide responses they believed the interviewer would view favorably. Second, data collection and analysis were conducted primarily by the PI. Although steps were taken to increase confidence in validity of the findings, such as transcribing audio recordings verbatim and conducting a validity check of the codebook with an independent researcher, some bias may have been introduced. Finally, as with any qualitative investigation, the findings from this study may not extend beyond the study sample. However, the experiences of these young women provided insight about potential motivations for secondary abstinence that could be examined quantitatively to determine whether they are relevant for other African-American young women and girls, and possibly other populations.

Research on secondary abstinence is in its infancy. It is important to begin thinking early about how to construct secondary abstinence measures that will gather information which will aid researchers, practitioners and other health professionals encourage healthy behaviors that reduce the prevalence of HIV and STIs among young African-American women and girls. The studies on secondary abstainers' motivations that are available (Haglund, 2008; Loewenson et al., 2004; Paradise et al., 2001) have provided a solid foundation upon which to build. However, more research is needed to understand secondary abstinence and its role in improving health. Future studies should focus on developing sound, broad-based measures to assess secondary abstinence motivations for young African-American women and girls and evaluating the psychometric properties of these instruments. Researchers should also incorporate knowledge gained from this investigation into measures administered to and evaluated in

other populations. By improving measurement in secondary abstinence research we can improve our ability to provide sexual health education that meets the needs of populations at-risk for HIV/STIs.

References

- Bassett, R.L., Mowat, G., Ferriter, T., Perry, M., Hutchinson, E., Campbell, J. et al. (2002). Why do Christian college students abstain from premarital sexual intercourse? *Journal of Psychology & Christianity*, 21(2), 121-132.
- Blinn-Pike, L. (1999). Why abstinent adolescents report that they have not had sex: Understanding sexually resilient youth. *Family Relations*, 48(3), 295-301.
- CDC. (2005). Youth Risk Behavior Surveillance—United States, 2005. *Morbidity & Mortality Weekly Report 2006*, 55(SS-5), 1–108.
- CDC, Division of STD Prevention. (2007). Report of the consultation to address STD disparities in African-American communities. Retrieved from <http://www.cdc.gov/std/general/STDHealthDisparitiesConsultationJune2007.pdf>
- CDC. (2009a). *HIV/AIDS among African Americans*. Atlanta, GA: Centers for Disease Control and Prevention.
- CDC. (2009b). *Sexually transmitted diseases in the United States, 2008. National Surveillance data for chlamydia, gonorrhea and syphilis*. Atlanta, GA: Centers for Disease Control and Prevention.
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Thousand Oaks, CA: Sage Publications.
- Cohen, M. S. (1998). Sexually transmitted diseases enhance HIV transmission: no longer a hypothesis. *Lancet* 351(S3), 5-7.
- Fisher, J.D., & Fisher, W.A. (1992). Changing AIDS-risk behavior. *Psychological Bulletin*, 111(3), 455 – 474.

- Galvin, S. R., & Cohen, M. S. (2004). The role of sexually transmitted diseases in HIV transmission. *Nature Reviews Microbiology*, 2(1), 33-42.
- Glaser, B.G., & Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago, IL: Aldine Publishing.
- Haglund, K. (2006). Understanding sexual abstinence in African-American teens. *American Journal of Maternal & Child Nursing*, 31(2), 86-92.
- Haglund, K. (2008). Reducing sexual risk with the practice of periodic secondary abstinence. *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, 37, 647-656.
- Loewenson, P.R., Ireland, M., & Resnick, M.D. (2004). Primary and secondary abstinence in high school students. *Journal of Adolescent Health*, 34, 209-215.
- Macaluso, M., Demand, M. J., Artz, L. M., & Hook, E. W. (2000). Partner type and condom use. *AIDS*, 14, 537-546.
- Morrison-Beedy, D., Carey, M.P., Cote-Arsenault, D., Seibold-Simpson, S., & Robinson, K.A. (2008). Understanding sexual abstinence in urban adolescent girls. *Journal of Obstetric, Gynecological & Neonatal Nursing*, 37, 185 – 195.
- Morrison-Beedy, D., Carey, M. P., & Lewis, B. P. (2002). Modeling condom-use stage of change in low-income, single, urban women. *Research in Nursing & Health*, 25, 122-134.
- National Campaign to Prevent Teen Pregnancy. (May 2007). *Science says: American opinion on teen pregnancy and related issues 2007, No. 31*. Washington, DC: The National Campaign to Prevent Teen Pregnancy.

- Nettleman, M., Ingersoll, K.S., Ceperich, S.D. (2006). Characteristics of adult women who abstain from sexual intercourse. *Journal of Family Planning and Reproductive Health Care*, 32(1), 23-24.
- Paradise, J.E., Cote, J., Minsky, S., Lourenco, A., & Howland, J. (2001). Personal values and sexual decision-making among virginal and sexually experienced urban adolescent girls. *Journal of Adolescent Health*, 28, 404-409.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods*, 3rd ed. Thousand Oaks, CA: Sage Publications.
- Rasberry, C.N. (2006). *A qualitative and quantitative exploration of secondary sexual abstinence among a sample of Texas A&M University undergraduates* (Unpublished doctoral dissertation). Texas A&M University, College Station, TX.
- Rasberry, C.N., & Goodson, P. (2009). Predictors of secondary abstinence in U.S. college undergraduates. *Archives of Sexual Behavior*, 38, 74–86.
- Roberts, S., & Kennedy, B. (2006). Why are young college women not using condoms? Their perceived risk, drug use, and developmental vulnerability may provide important clues to sexual risk. *Archives of Psychiatric Nursing*, 20(1), 32-40.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed). Thousand Oaks, CA: Sage Publications.

CHAPTER 3:

Understanding the Dissonance between African-American Females' Interest in Practicing Secondary Abstinence and Continued Sexual Activity

Abstract

Reducing disparities in HIV/STI rates for African-American adolescent females is a public health priority. Although some young women reduce their risk by choosing to abstain from sex for various periods of time following sexual debut, a practice known as secondary abstinence, others who desire to abstain find it difficult to do so. Thus, the purpose of this study was to identify personal and contextual barriers that explain the dissonance between interest in secondary abstinence and continued sexual activity. In-depth interviews were conducted with 20 sexually-experienced African-American adolescent females, ages 18-23, who had completed an HIV-risk reduction program and expressed interest in secondary abstinence. Respondents identified individual-level barriers, such as thinking about sex and substance use, as challenges to becoming or remaining abstinent. However, partner-related barriers such as imbalances in sexual decision-making power, and situational barriers, such as being alone with a partner presented the greatest challenges for young women. Contextual factors play a vital role in understanding young women's sexual behavior. Researchers and health professionals should help equip young women to identify and overcome both personal and environmental challenges to practicing secondary abstinence. Findings from this study can be used to strengthen the abstinence component of HIV prevention programs designed to reduce HIV/STI rates among young African-American females.

Introduction

Sexually transmitted infections (STIs), including HIV, pose a significant threat to the health and well-being of African-American females. Disparities in rates of HIV/AIDS and STIs are striking. For example, AIDS diagnoses rates were 22 times higher for African-American women compared to White women in 2007 (CDC, 2009a). Additionally, African-American women between the ages of 15 and 24, lead in gonorrhea and chlamydial infections (CDC, 2009b). The current epidemiological state makes prevention efforts targeting African-American females a public health priority.

A number of risk reduction interventions for African-American women and girls have been effective in reducing risky sexual behaviors, such as unprotected vaginal sex, as well as STI rates among participants (Crepaz, Marshall, Aupont, Jacobs, Mizuno, Kay et al., 2009). A few, interventions including SISTA (DiClemente, Wingood et al., 1995), SiLHE (DiClemente et al., 2004), HORIZONS (DiClemente, 2009), Enhanced Negotiation (Sterk, Theall & Elifson, 2003), and Sister to Sister (Jemmott, Jemmott & O'Leary, 2007) among others, have even been endorsed by the CDC as effective, evidence-based behavioral interventions and widely disseminated in the U.S. (AED Center on AIDS and Community Health, 2009). These interventions have empowered many African-American women and girls to practice safer sex; however, there may be an unmet need regarding a prevention strategy that has garnered little research attention – secondary abstinence.

Secondary abstinence is defined as choosing to refrain from sexual activity after sexual debut. Promoting secondary abstinence may be a valuable mechanism for reducing disparities since African-American females reduce, at least temporarily, their

risk of HIV/STI acquisition during periods when they are not sexually active. A few quantitative studies have been conducted to identify correlates of practicing secondary abstinence. In a recent longitudinal investigation with a predominately African-American, clinic-based sample of sexually experienced adolescent females (N= 122), personal attitude toward abstinence was consistently the strongest predictor of sexual behavior over time (Akers, Gold, Bost, Adimora, Orr & Fortenberry, 2011). Perception of friends' beliefs about sexual behavior was also significant but to a lesser degree (OR personal= 5.32; OR peer = 1.96).

Similarly, in a predominantly white sample of college students (N= 1133), positive personal attitudes toward abstinence and positive subjective norms about abstinence predicted secondary abstinence (Rasberry & Goodson, 2009). Having stronger religious involvement, commitment and beliefs, and having previous negative sexual experiences, including negative feelings about their experiences or negative effects of sex on their relationship, also predicted secondary abstinence. Participation in abstinence education decreased the likelihood of abstaining following sexual debut.

Nettleman and colleagues (2006) found adult women who voluntarily practiced abstinence for at least 6 months were older than sexually active women and less likely to have health insurance, report being physically abused in the previous year or have used illicit drugs during the previous 6 months (Nettleman, Ingersoll, Ceperich, 2006). Participants were 1801 women, ages 18 to 44, recruited from several different venues in three states including clinics serving low-income women, residential alcohol and drug treatment facilities. The sample also included women recently incarcerated at a large jail. Although only one of the aforementioned studies focused on African-American young

women, findings from these studies provide a foundation for understanding secondary abstinence in this population.

Researchers have begun identifying correlates of secondary abstinence yet barriers that hinder the practice of secondary abstinence remain virtually unexplored. In Raspberry & Goodson's (2009) study, those with higher self-efficacy to remain abstinent perceived fewer barriers to secondary abstinence. Barriers included both individual factors, such as alcohol use and physical attraction, and contextual factors, such as involvement in a serious relationship, privacy from parents, and normative beliefs about sex. Secondary abstainers reported more barriers to remaining abstinent than primary abstainers. Additionally, findings from a qualitative study with 14 African-American females who were abstinent (mean = 16.4 yrs) suggested sexual pressure from their romantic partner or other males, as well as peer pressure from sexually active females made abstinence a challenge (Haglund, 2006). This study targeted African-American adolescent females but included only two with sexual experience.

Focusing exclusively on those who have successfully adopted secondary abstinence and devoting little attention to barriers limits our understanding about those who remain at risk. Obstacles that may prevent sexually experienced adolescent females from abstaining from sex must be identified to adequately equip African-American adolescent females who are motivated to abstain. For example, in a clinic-based sample of sexually experienced African-American adolescent females participating in an HIV-risk reduction intervention, approximately 21 percent of participants reported being very interested in becoming abstinent at baseline assessment (Bradley & DiClemente, 2010). Despite interest, only 7 percent of those who completed a 6-month follow-up assessment had not

engaged in vaginal intercourse since baseline. There was no information available describing the reasons for discordance between adolescents' interest and their subsequent actions. However, it is clear that some young women who are motivated to abstain from sex do not practice secondary abstinence. As with other health behaviors such as eating healthy foods or quitting smoking, some interested in secondary abstinence may experience challenges that make translating interest into action difficult.

To date, there have been no published studies in the literature that examine the dissonance between interest in secondary abstinence and continued sexual activity among African-American young adult women at risk for HIV/STIs. However, to strengthen existing interventions or develop new interventions that equip those who desire to abstain it is necessary to gain insight about barriers that may impede the practice of secondary abstinence as a risk-reduction strategy. Since little is known in this area, using a qualitative approach can facilitate the identification of a range of barriers and provide an in-depth understanding of how they function. Further, since previous research has highlighted the importance of considering context in which sexual decision-making and behavior take place this study employs a social ecological perspective to organize and interpret findings to provide a more complete picture (DiClemente, Salazar, Crosby et al., 2007; Henrich, Brookmeyer, Shrier et al., 2006; Small & Luster, 1994). Thus, the purpose of this qualitative study is to illuminate challenges faced by sexually experienced African-American young women that may prevent them from practicing secondary abstinence. The research question that guided the investigation was as follows: What barriers within oneself and in one's physical and/or social environment make it difficult

for sexually experienced African-American young women who desire to become or remain abstinent to do so?

Methods

Qualitative inquiry is the most suitable approach for identifying and understanding barriers that may impede secondary abstinence among African-American young women at increased risk for HIV/STIs. Grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1998), an inductive approach that consists of systematic data collection and analysis techniques, lends itself to the discovery of barriers that may hinder the practice of secondary abstinence (both within oneself and in one's physical and/or social environment) by allowing the barriers to originate from the data instead of being determined a priori.

Participants

Participants were 20 sexually experienced African-American females ages 18 to 23 who had participated in a 36-month HIV-risk reduction intervention study. Young women were approached following completion of their final follow-up assessment. Each was informed about the purposes of the qualitative addendum and invited to be screened for eligibility. Purposive sampling was employed to ensure only young women with interest in practicing abstinence were included in the study. Interest in practicing abstinence was established by asking young women to classify themselves as very, somewhat, or not at all interested in abstaining. In addition to interest in secondary abstinence, young women had to be 18 years or older and willing to complete a 45 to 60 minute face-to-face interview to be eligible for the study. All interviews were audio-recorded. Respondents provided written consent prior to their interview. Upon

completion of the interview each received \$25 compensation for their time. All study procedures were approved by Emory University's IRB.

Data Collection

In-depth interviews were conducted with eligible participants upon completion of their final assessment or at a time more convenient for the respondent. Respondents were asked a series of open-ended questions about their experiences with sex and abstinence as well as reasons for being interested in secondary abstinence. A semi-structured interview format was used because it provided a uniform set of topics to discuss with each participant but allowed flexibility in probing and phrasing of questions (Patton, 2002). Participants were probed about their thoughts, feelings, and decision-making processes as well as interactions with their partners, peers and significant others to capture contextual aspects that provide a better understanding of their behavior.

Data Analysis

Audio recordings were transcribed verbatim and checked for accuracy. The coding process was guided by a grounded theory approach as described by Strauss & Corbin (1998). Open coding consisted of a line-by-line examination of each transcript to increase confidence that the codes were grounded in the interview data. Transcripts were read again and codes that occurred frequently were used to code larger segments of text. Categories, such as "relationship barriers," and subcategories, such as "decision-making power" and "partner response" were developed during this process. Relationships between categories and subcategories were identified and refined through axial and selective coding. For example, analysis revealed ways that refusing sexual advances could be impacted by a young woman's sexual decision-making power, which may vary

based on partner characteristics or financial dependence on her partner for instance. Additionally, to assess the trustworthiness of the coding, the PI developed a code list from the first six interview transcripts and the interviewer notes. A second researcher independently coded the same six interviews and compared code lists with the PI. The discussion resulted in the creation of a separate code to capture sexual situations as a barrier. The revised list was used to code subsequent interview transcripts. Revisions made during remainder of the data collection and analysis process were minimal.

Memoing, a technique used to document ideas and insights during data collection and analysis, is an integral part of grounded theory and was utilized in each stage of coding (Charmaz 2006; Strauss & Corbin, 1998). Early memos captured insights about potentially significant codes which informed subsequent data collection and analysis by highlighting key issues that needed further exploration. Advanced memos, which are more analytic and permit comparisons between categories or concepts, respondents, or study findings and the literature for instance (Charmaz, 2006), were also developed during axial and selective coding. These memos expounded on proposed relationships between categories recorded in early memos or discovered later in the coding process, explored underlying beliefs and assumptions about sex and abstinence by the researcher and respondents, and were used to identify which motivations for secondary abstinence had not previously been included in the published literature.

Results

Sample Description

The median age of the participants in this study was 20.5 years. Eight participants were high school students. Twelve participants had complete high school, 6 of whom

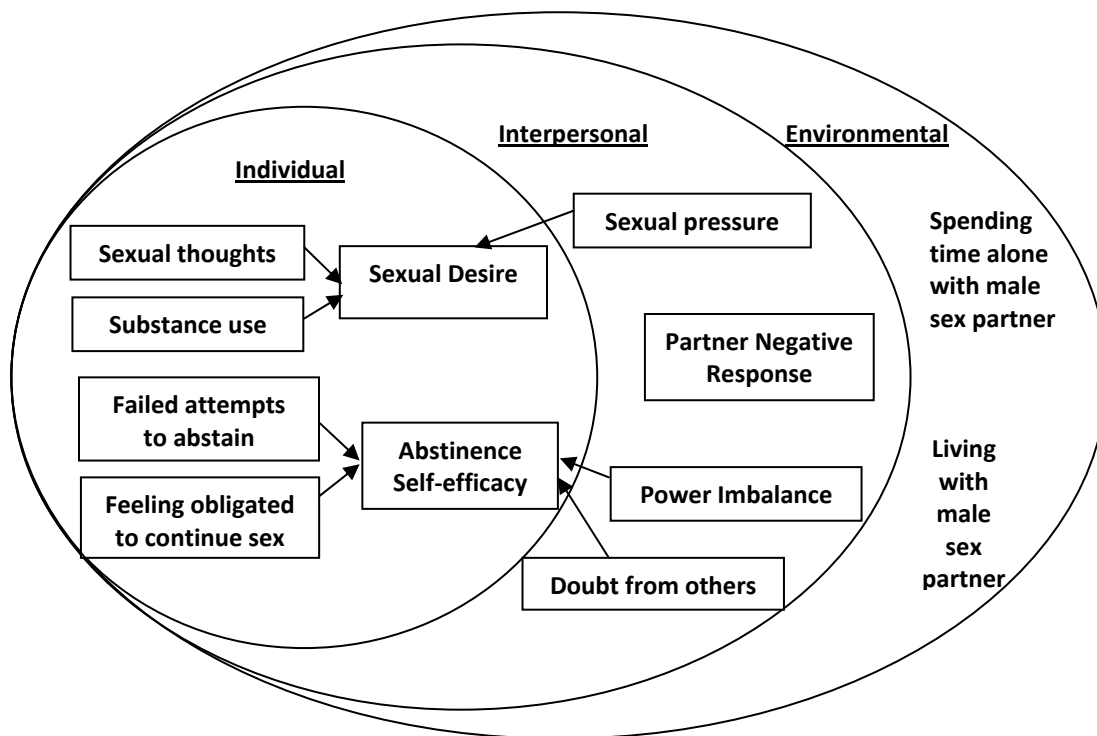
were in college. Nine young women were mothers, most of whom ($n=7$) had only one child. The median age of initiation of sex was 15 years.

Eleven participants self-identified as secondary abstainers. Length of abstinence at the time of the interview ranged from approximately four weeks to one year. Thirteen young women had boyfriends, 6 of whom were secondary abstainers. Two were in a romantic relationship with a male they did not formally classify as a boyfriend. One had only a casual sexual partner with whom she was not involved romantically. Six young women who remained sexually active (75%) believed abstinence may negatively impact their relationship. Four reported there were not in a relationship.

Barriers to Practicing Secondary Abstinence

At the core of practicing secondary abstinence lie two important tasks: situational avoidance and sex refusal. One must be able to avoid situations that provide opportunities for sex and refuse sexual advances when in sexual situations. However, young women motivated to abstain from sex may face obstacles that hinder them from doing so. African-American females who were interested in secondary abstinence but remained sexually active and those practicing secondary abstinence at the time of the interviews shared their experiences and described barriers within themselves and in their physical and social environments that made it difficult to become or remain abstinent (See Figure 1).

Figure 1. Model of barriers that impede the practice of secondary abstinence



The sections that follow discuss the central tasks of sex refusal and situational avoidance and the challenges associated with each.

Sex Refusal. Sex refusal refers to both initial refusal and subsequent refusal of sexual advances, both within a single situation and across time. For example, sexual advances from a young woman's male sex partner may persist during one encounter or through repeated attempts to initiate sex during the course of the relationship. Further, as young women move in and out of relationships over time it may also be necessary to refuse sex with new partners. Whether young women are able to withstand sexual pressure within situations and over time may depend on several key factors within the individual, such as sexual desire, thinking about sex, and substance use. However, aspects of a young woman's relationship with her male sex partner, including her beliefs

about his interest in and response to abstaining from sex, her confidence in refusing sex, and her sexual decision-making power can play an important role as well. Each barrier is described in turn below.

Individual-level barriers. All respondents discussed factors within themselves that made it difficult to abstain from sex.

Desire. Several young women said “the urge” to have sex, also referred to as feeling “hot,” made becoming or remaining abstinent difficult. Resisting the urge to have sex can be a challenge for young women who have become accustomed to having sex, especially those who have been sexually active for a long time. A 22 year-old woman who had been sexually active since age 13 said,

I've been having sex for a while, so it seem like sex is something that I need.

You know, how it – like a certain amount of time I can feel like I need sex.

Like I'm hot more often or I feel the need for sex a lot.

Similarly, a 23 year-old college student who began having sex regularly at 19 but decided four months prior to her interview to become abstinent until she was in a committed relationship explained how sexual desires contributed to her failed attempts to abstain in the past:

I would say it to myself, like, “Okay, I'm gonna practice abstinence.” And then, I don't know, I kinda really enjoy sex. So it's like it's kinda hard for me not to have sex on a consistent basis.

Thinking about sex. Most young women believed that sexual desire was intensified by thinking about sex, the most frequently discussed individual-level barrier. Some young women explained that fond memories of emotional or physical pleasure

from sex with certain past partners can contribute to their sexual desire, making it harder to resist sex with them. A 21 year-old woman, sexually active since 12 years old, who wanted to abstain because of her involvement in several unhealthy, sometimes abusive relationships but continued a sexual relationship with a casual partner, commented on how sexual memories can heighten arousal: *“I already know what they feel like, I already know what they do– it might just turn me on just thinking back to the times we had.”*

Thinking about sex may be an important barrier because managing sexual urges by shifting attention away from sexual thoughts was a common strategy among currently secondary abstainers as well as those who remained sexually active but had successful periods of abstinence in the past. For example, a 19 year-old woman who had been abstaining in her new relationship for several months said, *“I try to occupy my time with something else so I won’t always have to think of sex.”* A 22 year-old woman who was sexually active but had abstained twice in the past for periods of self-reflection that lasted approximately a year each time offered her thoughts about her past successes:

I feel like as a female, you should be stronger than to let some dude just caress you and then get you all in the mood. Like, I try to be strong and just stay busy and focus on other things.

Three secondary abstainers explained how they managed sexual urges and would continue to do so in the future by shifting their attention from sexual thoughts to other things they enjoyed doing:

I keep myself busy. You know, like, I might clean up. I listen to music. I play cards... I keep myself motivated to not think about, you know, sex or whatever. (22 year-old, abstinent 1 year)

I'd probably go run or something, like, you know, something to take my mind off that [sex]. I'd just about go do an activity or something like that. I'd probably go outside, mess with some people like go play basketball, mess with folks, jone, something to take my mind off that, go watch TV.

(19 year-old mother of 2, abstinent 7 months)

I plan on to be working. I got a, um, diet plan, so I'll be exercising a lot. I already do – but, um, play with my child, interact with my child a lot, you know. Mostly keep my mind off of sex. So I'll be interacting with a lot of other stuff that don't have to do with sex. (18 year-old mother, abstinent 2 months)

However, keeping one's mind off of sex can be a formidable task for young women who are constantly exposed to images, conversations, and other stimuli that trigger sexual thoughts. A 19 year-old woman who was having sex with her new boyfriend but wanted to become abstinent until she was married discussed the difficulty of avoiding sexual thoughts in a highly sexualized culture:

Like if you wasn't never hearing about it [sex] or never seeing it, you'd probably never worry about it. Out of sight, out of mind. But if you always seeing it and always hearing it, it's always gonna come up.

Most (15) respondents believed that one cannot overcome sexual temptation if they are unable to shift their focus away from sex.

Substance use. Substance use also contributed to “feeling hot.” Several of the respondents talked about alcohol and drugs creating or intensifying sexual desire. For example, a 19 year-old woman believed when people smoke marijuana it “starts messing

with their hormones.” Another 20 year-old woman commented, “*I think it [alcohol] make, it arouse you, and make you feel like you might want it [sex].*” Only an 18 year-old student studying healthcare in a job training program suggested substance use has a detrimental effect on sexual decision-making (i.e. impaired judgment) by “mess[ing] up your whole mind state.”

However, more than half of the respondents believed substance use has little or no impact on arousal or sexual decision-making, and is often used as an excuse for having sex. Further, young women who thought substance had some effect were not concerned about substance use hindering their abstinence. Those who were already abstinent said they avoid substance use so it does not present a problem. An 18 year-old woman who had been abstinent for a few months and was in a new relationship explained that she avoids drinking alcohol around guys saying, “*It’s like a sex-drive to me. It makes me wanna have sex. I would know not to do that.*” A 22 year-old woman who had been abstinent for a year offered similar remarks:

I mean, when you’re under the influence of doing anything that is tempting to make you wanna have sex...why would you put yourself in that situation to drink and to, you know, go on having sex...So I wouldn’t drink or smoke, basically.

Another 22 year-old woman who was still sexually active at the time of her interview also explained she planned avoid substance use when she became abstinent.

Therefore, it appears young women must be able to avoid substance use if they perceive it to be a barrier and occupy themselves with non-sexual thoughts and activities to successfully practice secondary abstinence.

Individual- and interpersonal (relational) level barriers. Barriers such as a young woman's perception of her partner's interest in and response to abstaining, her confidence in her ability to refuse sex, and her sexual decision-making power presented a much greater challenge than sexual desire.

Perception of male sex partner's interest in and response to abstinence. There was a prevailing belief among the majority of the respondents that most men would not be interested in abstinence. As a 19 year-old mother of two said of her children's father with whom she lived, "...I don't ever think it'd [abstinence] ever cross his mind 'cause, you know, men, they – they at they peak now." Several young women expressed strong beliefs that sex is a main priority for males. Respondents made comments such as, "All a man want is sex" and "Every guy that I encountered have sex on they mind...That's just a guy. In fact, sex is gonna be on they mind when they born 'til they die." Nearly half believed a man may have sex with someone else if the woman he has a relationship with is abstinent. A remark by a 21 year-old woman who continued a sexual relationship with a casual partner conveyed this sentiment: "It's just the simple fact that sex plays a big part in a man's life. And it's like if you're not giving it to him he will find it somewhere else."

For many respondents, the idea that their partners may cheat if they abstain was reinforced by males in their lives. For example, a 22 year-old college student who had abstained for a year twice before shared her intent to become abstinent again with her brother who responded, "They're gonna leave since you're not giving it up." In some cases the belief that male partners may respond negatively was based on past experience. Most young women who spoke about sharing their desire to abstain with current or past

partners said their partners did not respond positively. For example, the same 22 year-old college student whose brother was unsupportive also shared the conversation she had with her boyfriend:

I told him that I want – that I was thinking about not having sex for a while, and of course, as a dude that’s sexually active, he’s like, “You can’t be serious. Really?” and I’m like, “Yeah. I just want to try it out”...He was like, “Are you serious? That is so rude. Why would you do that to me?”

Another 18 year-old woman who had been in a relationship with her partner off-and-on for several years also recalled her partner’s response to ceasing sex:

I said to him, “What if we couldn’t have sex no more? Would you – would you still be with me?” And he told me no, cause I couldn’t have sex no more... It upset me a lot, because it’s not always about sex in a relationship.

While secondary abstainers shared experiences of both supportive and unsupportive responses, sexually active young women who shared their desire to abstain with a current or past partner did not discuss any experiences where their partner responded to abstinence positively.

How a young woman believes her partner will respond can be critical. By choosing abstinence she may risk losing her relationship with her partner. For example, an 18 year-old woman who had been abstinent for a few months and was abstaining with her new boyfriend recalled how her ex-boyfriend ended their relationship when she told him they could not have sex anymore after contracting STIs from him repeatedly:

I was upset, because I didn’t see a reason for him to be mad... If anything, he should have been happy, ’cause it’s not like I said I wanted to break up

with him. I just said I didn't wanna have sex with him no more, and he took that upon himself, but he took it upon- since we couldn't have sex, that I don't know. Guess we couldn't be together.

Some young women who believe their partners would end the relationship or have sex with someone else if they abstained may find it hard to do so. If a young woman is invested in her relationship and desires to preserve it because of her feelings for her partner, anticipating a negative reaction from him carries a lot of weight. Three young women spoke openly about continuing sex in order to keep a past or current partner. For example, a sexually active young woman who was 18 years old spoke about continuing to have sex with the father of her children after she no longer wanted to saying,

I guess 'cuz I been with him so long...I don't know if I was afraid to tell him no – that he'll leave me or – I don't know. I don't even know why. Just everything he asked I was just down for it.

Most respondents were hesitant to directly identify concern for losing their partner as a barrier, perhaps because of the disempowering nature of the predicament. However, the accounts of young women interested but not practicing secondary abstinence revealed a pattern of concern for losing a relationship they were invested in if they remove sex. All but one of the respondents interested in becoming abstinent were involved in relationships in which they were invested. Most of these respondents believed abstinence could negatively impact their relationship with their current or future partners; primarily that he may have sex with someone else. Respondents continued sexual involvement likely indicates they do not want to risk losing their relationship by removing sex from it. Although a more widespread and salient concern among those who

were still sexually active, it should be noted that a few secondary abstainers also acknowledged the loss of current or future romantic partners who do not support their decision could make remaining abstinent difficult.

Confidence in ability to refuse sex. Past relationship experiences can influence a young woman's perception of her ability to refuse sex. Three respondents recalled having set-backs after deciding to become abstinent. A 19 year-old woman who began having sex at age 15 was motivated to abstain until marriage because of her spiritual beliefs as well as a desire to restore her self-image, which was damaged during a series of unhealthy relationships. She had tried unsuccessfully to abstain before and said the following while reflecting on disappointment from her most recent failed attempt:

Like I said stuff happens and, you know, females don't usually keep their word at – when they say they're gonna do something, we usually be slipping up sometimes...I believe that like men plays a very weak part of a female... I just believe that because my mother fell weak for my dad, and I see – that's what I just see in the world.

This young woman attributed her inability to resist sexual advances to a seductive power men possess. Unsuccessful attempts to abstain likely reinforced her belief.

Instances where a young woman does not resist sexual pressure may diminish her confidence in her ability to refuse sexual advances in the future. Conversely, having experiences where she resists sexual temptation may help build or rebuild confidence that she can abstain. For example, a 19 year-old secondary abstainer spoke about her thoughts right after she had broken her commitment to abstain in a past relationship: *"I was like 'Man, I said I was going to be abstinent, but I guess I can't do it. I guess it is*

something I can't do. It wasn't meant for me to become abstinent, I guess.'" However, at the time of her interview she had been abstinent for several months in a relationship where she and her partner had mutually agreed to abstain and no longer held this belief.

A few young women also discussed how sexual expectations from partners with whom they had previously had sex can make it difficult to refuse sex. Some partners may attempt to convince the young woman that a standard has been set in their relationship, making it unfair in a sense to alter that dimension of their relationship. A 21 year-old woman who described herself as "somewhat abstinent" because she had recently succumbed to sexual pressure from a guy she was dating after being abstinent for a year struggled with this issue:

I feel like for us to have already done it and for me to say, "Um, you know what? I don't want to have sex anymore. I think we should wait until we're in a relationship." It's like, "Okay your belief was that this amount of months ago, so why does it change now?" Kind of like, we had sex once, why would we go to be abstinent?

If a young woman feels obligated to continue having sex for the remainder of the relationship, it will be impossible for her to practice abstinence. Challenges that arise because of sexual history are worth noting in regards to secondary abstinence as it is a unique barrier for sexually experienced young women.

Sexual decision-making power. A young woman's sexual decision-making power is also key. Imbalances in relationship power that favor the male make it extremely difficult, if not impossible, for a young woman to abstain. Although most respondents believed they controlled or had equal power in sexual decision-making, two

young women interested in becoming abstinent but still sexually active spoke about their respective partner's control of sexual decision-making. An 18 year-old woman said of her long-time partner, *"he want it his way, he bossy really, in – in sex. If I say I don't wanna give him none, he gonna go crazy (laughter)."* Another who had abstained before for approximately a year each time but encountered many challenges with her current partner shared her frustration with the power imbalance:

He – it's like, he's one of them guys where he's, like, domineering...when we talking about sex it's like we don't really talk about it. It's like either I say we're not doing it and then he's like, "OK, whatever." Then it happens. It's like he has more control of me – not me but the situation, and I hate that.

Although none of the young women in this study reported involvement in a physically abusive relationship at the time of the interview, physical abuse likely presents similar challenges.

Relationship characteristics related to sexual decision-making power. The age of a young woman's partner can also contribute to power imbalances. For example, a 22 year-old woman interested in becoming abstinent until she is married as a result of being mistreated in her sexual relationships reflected on past relationships with older males:

I always dated older guys. So I feel like that was a big flaw, like me dealing with older guys like – and I'm a younger – I was younger. Like, they really like they got me. Like I listen to anything they say. I do anything they do.

Additionally, financial dependence can create power inequities. Six respondents discussed involvement in relationships where they felt an unspoken sexual obligation to a current or past partner because of his financial support, two of whom were very interested

in becoming abstinent but unable to do so because of their financial dependence. A 21 year-old woman who had cut ties with all of her other partners in preparation to become abstinent explained that she was unable to end her relationship with a married man with whom she has sex occasionally because of her financial situation:

... I want to be abstinent. But I'm just like, I got so much going on, and I need so much at this time and he really helps me out. I don't think that I could just tell him no right now. Until I'm just on track, where I need to be – like, I have a job, but I mean, like – I need more, I need more financially. You know what I'm saying? And then I would just be able to tell him, hey, we, we good. We can be friends, but right now I need him. In a sense.

In essence, when a young woman is financially dependent on her partner she must choose between her desire to abstain and her financial comfort or livelihood. Thus, financial dependence can become an insurmountable obstacle.

Stories shared by respondents suggest that aspects of one's current and past relationships may contribute in a number of ways to difficulties encountered when trying to practice abstinence. If a young woman becomes discouraged by past failed attempts to abstain, feels she must continue having sex in her relationship out of obligation or fear that she may lose the relationship, or lacks sexual decision-making power then practicing abstinence may seem daunting. Those who are able to remove such barriers may be more successful in their attempts to abstain.

Situational Avoidance. Avoiding sexual situations plays a vital role in practicing secondary abstinence as well. Young women believed being in sexual situations posed the greatest threat to practicing secondary abstinence. Seventeen respondents discussed

the risks associated with spending time alone with males in private settings. The danger of sexual situations is that they provide the environment in which individual- and interpersonal-level barriers operate. For example, pressure from a partner is typically applied in the context of a private situation versus with a group of people in a public place. As a 23 year-old college student who had been abstinent for four months and was in a new relationship said, “... *I just try to avoid the alone times, like because if we're together in an alone setting, then it's going to be pressured more.*” Consequently these “alone times” will increase opportunities to be tempted to have sex, increasing opportunities for refusal failures.

Three young women also discussed how living with or in close proximity to a partner complicated efforts to abstain by creating regular opportunities for sex. A 20 year-old mother of two who was very interested in becoming abstinent spoke about the increased sexual possibility because she lives with her children’s father saying, “... *you live with a person, then you gotta have access to each other every night.*” Similarly, another recalled the challenges during past attempts to abstain that arose from living in a co-ed dorm in college: “*You already live extra-close to a lot of men. You might even live in the same building. You might be across, across the building, if you're not in the co-ed dorm... it's kind of hard.*”

Moreover, sexual situations may alter the power of barriers as they interact with each other. For example, several young women discussed feeling “hot” at times but believed they could control natural sexual urges. Many said although they may desire sex they don’t “need” it and are able to deal with sexual thoughts or feelings by doing something else to take their mind off of sex. However, in a sexual situation the threat of

a manageable, internal obstacle such as feeling “hot” is heightened when combined with sexual pressure from her partner. One respondent discussed how combating sexual urges becomes much more difficult when she finds herself in sexual situations with the father of her child: *“He’ll, you know, like, kiss on me and stuff like that, and then it makes you weak. So when you weak you just falls into having sex.”*

Both young women who were abstaining as well as those who were interested but had not yet become abstinent repeatedly spoke about the importance of avoiding sexual situations when possible if one intends to abstain. Those who were abstinent at the time of the interview or had abstained in the past contributed much of their success to setting up environmental safeguards. Six young women described strategies such as not spending time at their home or someone else’s or going out with other people or couples for example. Other young women explained that they implement boundaries, such as not allowing sex-related activities to progress beyond a certain point if they are unable to avoid situations with sexual possibility or choose not to do so. For example, one young woman who had abstained for nearly a year said she is careful about kissing due to expectations that may arise:

*...might as well just keep it to a minimum and they feel like okay once –
I mean I just – they feel like once they’ve got in kissing they could do more
then make you want to change your mind about it.*

Another who had been abstinent for two months spoke about setting and enforcing limits when spending the night with her male friend:

He always wanna come over and spend the night and start rubbing and touching, and he be doing okay until he started doing all that. Then I'll be like, 'OK. It's time to be - me to take you home,' 'cause I'm just – I don't be with it.

Consequently, an inability to avoid situations with sexual possibility or implement safeguards within those situations poses a serious threat to practicing secondary abstinence.

Discussion

Experiences shared by sexually experienced African-American young women interested in becoming or remaining abstinent provided insight about the dissonance between interest in adopting secondary abstinence and their actual practice of secondary abstinence. Sexual desire was believed to be heightened by thinking about sex, the most commonly mentioned internal barrier, and substance use, only discussed by seven respondents. A young woman's perception of her partner's interest in abstinence also played a key role. Most young women who remained sexually active believed her partner would respond negatively to abstaining, several of whom had experienced negative responses when they proposed abstinence. Additionally, respondents' perceptions about their ability to abstain revealed several challenges. Young women's confidence in being able to refuse sex was hindered by imbalanced sexual decision-making power in the relationship, which was related to financial dependence and having an older partner, as well as past failed attempts to abstain. Finally, being in situations with sexual possibility was the most frequently discussed external barrier among respondents.

Findings from this study revealed several considerations for researchers and health professionals who serve this population:

First, although secondary abstainers and those who remained sexually active discussed many of the same barriers, secondary abstainers appeared more equipped to overcome those barriers. For instance, all respondents believed most men would not be interested in abstaining, some of whom had experienced or anticipated a negative response from a partner in regards to abstinence. However, secondary abstainers followed through with their decision. Thus, sexually active young woman may benefit from learning strategies to cope with negative reactions from partners or others. Similarly, the majority of the respondents referred to being in sexual situations as a major hindrance to being abstinent. Secondary abstainers, however, described strategies for avoiding or limiting time spent alone or boundaries they created to prevent them from progressing to sex. Therefore, another way to enhance the abstinence component of interventions could be teaching young woman how to avoid sexual situations or navigate situations should she find herself in one.

Also, similar to research on risky sexual behaviors, such as failure to use condoms (Wingood & DiClemente, 1998; Pulerwitz, Gortmaker & DeJong, 2000; Bowleg, Lucas & Tschann, 2004), having little or no sexual-decision making power can be detrimental to the practice of secondary abstinence. In both abstinence-promoting and comprehensive interventions, young women should be made aware of the potential impact of power imbalances. Making young women aware of the pitfalls of dating older men and becoming financially dependent on a partner as well as equipping them to escape from controlling or abusive relationships is essential.

Next, sexually experienced young women may have unique challenges not faced by primary abstainers that make practicing abstinence more difficult. Young women's accounts exposed how negative thoughts about past failed attempts to abstain can provide a source of discouragement, diminishing refusal self-efficacy. Pleasant memories about sex with someone can also make it more difficult to resist subsequent sexual opportunities. Further, for some there may be an unspoken expectation of sex after initiating sex with a male partner. Although the expectation is not usually discussed, there is an understanding that because she engaged in sex she is obligated to continue at least for the duration of the relationship, and even after the formal relationship ends in some instances. Each of these challenges can make trying to abstain more complicated.

This insight should be used to better address the needs of secondary abstainers in intervention efforts. To equip those interested in secondary abstinence it may be necessary for researchers and other health professionals to correct misperceptions from partners or others that one is obligated to continue having sex after they have started or to help those who have experienced set-backs find productive ways to process negative thoughts about past failed attempts. Additionally, efforts to promote abstinence may benefit from exploring perceptions about male sexuality and sexual behavior. For many young women, anticipating a negative response from their male partner was rooted in a widely accepted view that sex is the main priority in men's lives and the aim of relationships with women. The hyper-sexualized image of males portrayed in television, movies, music and other media impacts how women (and men) view and understand male sexuality. Consequently, this can influence young women's behavior. If males need sex then asking one's partner to abstain in a relationship is unreasonable. Therefore, in

addition to challenging the accuracy of pop-culture images of women in interventions with women and girls, it may also be beneficial to address stereotypes about male sexuality. Further, increased inclusion of males in sexual health and behavior research may help to correct any misperceptions as well.

It is important to acknowledge some limitations of this study. First, although the PI's role as a member of the intervention study staff aided recruitment and building rapport in the interviews, it is possible the PI's affiliation with the study biased the information provided by respondents. Young women may have been inclined to provide responses they believed the interviewer would view favorably. Second, data collection and analysis were conducted primarily by the PI. Although steps were taken to increase confidence in validity of the findings, such as transcribing audio recordings verbatim and conducting a validity check of the codebook with an independent researcher, some bias may have been introduced. Finally, as with any qualitative investigation, the findings from this study may not extend beyond the study sample. However, the experiences of these young women provided insight about potential barriers for secondary abstinence that could be examined quantitatively to determine whether they are relevant for other African-American young women and girls, and possibly other populations.

Findings from this investigation can be used to tailor the abstinence components of abstinence-promoting or comprehensive interventions that include sexually experienced African-American young women in an effort to better address their needs. Insight may also be useful for strengthening interventions used in other populations as well. By empowering sexually experienced African-American young women to close the gap between their interest in and practice of secondary abstinence, researchers and health

professionals may also take a step toward closing the gap in HIV/STI rates between these young women and other groups.

References

- AED Center on AIDS and Community Health. (2009). Diffusion of effective behavioral interventions project. Retrieved September 4, 2010 from <http://www.effectiveinterventions.org/en/home.aspx>
- Akers, A.Y., Gold., M.A., Bost, J.E., Adimora, A.A., Orr, D.P., & Fortenberry, J.D. (2011). Variation in sexual behaviors in a cohort of adolescent females: The role of personal, perceived peer, and perceived family attitudes. *Journal of Adolescent Health, 48*, 87–93.
- Bradley, E. (2010). [AFIYA 36-month HIV prevention study]. Unpublished raw data.
- CDC. (2009a). *HIV/AIDS among African Americans*. Atlanta, GA: Centers for Disease Control and Prevention.
- CDC. (2009b). *Sexually transmitted diseases in the United States, 2008. National Surveillance data for chlamydia, gonorrhea and syphilis*. Atlanta, GA: Centers for Disease Control and Prevention.
- Crepaz, N., Marshall, K. J., Aupont, L.W., Jacobs, E.D., Mizuno, Y., Kay, L. S. et al. (2009). The efficacy of HIV/STI behavioral interventions for African American females in the United States: A meta-analysis. *American Journal of Public Health, 99(11)*, 2069-2078.
- Crosby, R.A., DiClemente, R.J., Wingood, G.M., Salazar, L.F., Head, S., Rose, E., Sales, J.M. (2008). Sexual agency versus relational factors: a study of condom use antecedents among high-risk young African American women. *Sexual Health, 5(1)*, 41-47.

- DiClemente, R.J., Salazar, L.F., & Crosby, R. A. (2007). A review of STD/HIV preventive interventions for adolescents: sustaining effects using an ecological approach. *Journal of Pediatric Psychology, 32*, 888-906.
- DiClemente, R.J., & Wingood, G.M. (1995). A randomized controlled trial of an HIV sexual risk reduction intervention for young African-American women. *Journal of the American Medical Association, 274 (16)*,1271-1276.
- DiClemente, R.J., Wingood, G.M., Harrington, K.F., Lang, D.L., Davies, S.L., Hook, E.W. 3rd et al. (2004). Efficacy of an HIV prevention intervention for African American adolescent girls: a randomized controlled trial. *Journal of the American Medical Association, 292(2)*, 171-179.
- DiClemente, R.J. , Wingood, G.M., Rose, E. S., Sales, J.M., Lang, D.L. et al. (2009). Efficacy of a sexually transmitted disease/human immunodeficiency virus sexual risk-reduction intervention for African-American adolescent females seeking sexual health services. *Archives of Pediatric & Adolescent Medicine, 63(12)*, 1112-1121.
- Haglund, K. (2006). Understanding sexual abstinence in African-American teens. *American Journal of Maternal & Child Nursing, 31(2)*, 86-92.
- Henrich, C.C., Brookmeyer, K.A., Shrier, L.A., et al. (2006). Supportive relationships and sexual risk behavior in adolescence: an ecological-transactional approach. *Journal of Pediatric Psychology, 31*, 286-297.
- Jemmott, L.S., Jemmott, J.B., & O'Leary, A. (2007). Effects on sexual risk behavior and STD rate of brief HIV/STD prevention interventions for African American women in primary settings. *American Journal of Public Health, 97(6)*, 1-7.

- Loewenson, P.R., Ireland, M., & Resnick, M.D. (2004). Primary and secondary abstinence in high school students. *Journal of Adolescent Health, 34*, 209-215.
- Nettleman, M., Ingersoll, K.S., Ceperich, S.D. (2006). Characteristics of adult women who abstain from sexual intercourse. *Journal of Family Planning & Reproductive Health Care, 32(1)*, 23-24.
- Paradise, J.E., Cote, J., Minsky, S., Lourenco, A., & Howland, J. (2001). Personal values and sexual decision-making among virginal and sexually experienced urban adolescent girls. *Journal of Adolescent Health, 28*, 404-409.
- Rasberry, C.N., & Goodson, P. (2009). Predictors of secondary abstinence in U.S. college undergraduates. *Archives of Sexual Behavior, 38*, 74–86.
- Small, S.A., & Luster, T. (1994). Adolescent sexual activity: An ecological, risk-factor approach. *Journal of Marriage & Family, 56*, 181-192.
- Sterk, C. E., Theall, K.P., & Elifson, K.W. (2003). Effectiveness of a risk reduction intervention among African-American women who use crack cocaine. *AIDS Education and Prevention, 15(1)*, 15-32.

CHAPTER 4:

Closing the Gap: Exploring Barriers that Impede Secondary Abstinence among Sexually Experienced African-American Females

Abstract

HIV/STI rates remain high among African-American adolescent females. Periods of secondary abstinence may reduce risk of infection. Some interested in abstaining may experience challenges that make it difficult for them to do so. Thus, the purpose of this study was to examine the dissonance between interest in secondary abstinence and continued sexual activity. A sequential logistic regression was conducted to examine individual-level and interpersonal-level barriers to secondary abstinence. Analyses utilized baseline data collected from 701 African-American female adolescents, ages 14 – 20, prior to participation in a randomized trial of an HIV prevention intervention. After controlling for interest in secondary abstinence, adolescents who reported thinking about sex often, were older, and had lower abstinence self-efficacy were significantly less likely to report abstaining for two or more consecutive months. In the model including interpersonal-level factors, adolescent females who had less relationship power were also less likely to report periods of abstinence. African-American adolescent females interested in secondary abstinence must be equipped to overcome personal and partner-related obstacles, many of which are amenable to change. Addressing power imbalances that hinder adolescent females from adopting desired sexual health practices should be a main priority. Findings also highlight the importance of considering context of adolescent females' sexual behavior when providing education and services for this population.

Introduction

Sexually active adolescents and young adults are at increased risk for STIs (CDC, 2007). It has been estimated that approximately half will acquire an STI by age 25 (Kaiser Family Foundation, 2006). However, African-American females are especially vulnerable. The CDC reports African-American females, ages 15 to 19, have the highest rates of gonorrhea in any age, racial or ethnic group (CDC, 2009). Moreover, in a recent study that identified one in four adolescent females in the United States as having an STI, nearly half of the African-American female participants had at least one STI (Forhan, Gottlieb, Sternberg, Xu, Datta, Berman & Markowitz, 2008). High rates of infection raise concern because gonorrhea and chlamydia infections are co-factors that increase the risk of HIV infection in females (Cohen, 1998; Galvin & Cohen, 2004). Consequently, elevated STI rates may contribute to disparities in rates of HIV/AIDS. African-Americans accounted for 55 percent of HIV diagnoses among people ages 13-24 in 2003 (CDC, 2005c) and 68 percent of new AIDS cases among people ages 13-19 in 2007 (Kaiser Family Foundation, 2009).

Many African-American females (45%) are sexually experienced by age 19 (Abma, Martinez & Copen, 2010). However, some sexually experienced adolescents and young adults may choose to refrain from sexual activity for various periods of time, a practice known as secondary abstinence. Periods during which African-American females do not have sex are significant since they temporarily reduce the risk of HIV/STI acquisition. However, most research attention has been devoted to examining sexual activity, resulting in gaps in knowledge regarding abstinence, especially among those with sexual experience (Hyra, DeMar & Haley, 2009). Researchers have identified

factors associated with sexual inactivity among virgins including conservative attitudes about sex, religious beliefs and involvement, believing pregnancy would negatively impact their lives, perceiving positive peer norms about abstinence and higher quality relationships with parents (Hyra, DeMar & Haley, 2009). Studies that investigated secondary abstinence showed positive personal attitudes about abstinence and subjective norms regarding abstinence (Raspberry & Goodson, 2009; Akers, Gold, Bost, Adimora, Orr, & Fortenberry, 2011) and strong religious involvement, commitment and beliefs (Raspberry & Goodson, 2009) predicted abstinence. Although findings from these studies were similar to studies of primary abstinence, in Raspberry and colleagues' 2009 study, having previous negative sexual experiences, including negative feelings about their experiences or negative effects of sex on their relationship, also predicted secondary abstinence.

Some sexually experienced African-American females interested in practicing secondary abstinence may be unable to do so. A recent qualitative study investigated barriers to practicing abstinence among sexually experienced African-American females who had completed an HIV-risk reduction intervention (Bradley, 2011). The researchers adopted a social ecological perspective to gain a more complete understanding by examining both personal and contextual factors that may influence abstinence and sexual behavior (DiClemente, Salazar, Crosby et al., 2007; Henrich, Brookmeyer, Shrier et al., 2006; Small & Luster, 1994). In-depth interviews were conducted with 20 African-American females, ages 18-23, who expressed interest in secondary abstinence. The researchers identified individual-level barriers including sexual pleasure, thinking about sex, and substance use as challenges to becoming or remaining abstinent. However,

interpersonal-level barriers, such as imbalances in sexual decision-making power, and situational barriers, being alone with a partner for example, presented the greatest challenges for young women.

Qualitative investigation is useful for enhancing depth of understanding about the dissonance between interest in abstinence and actual behavior because the researchers used the experiences of young women who faced barriers to abstaining to identify challenges rather than generating them a priori (Strauss & Corbin, 1998). However, limitations of this study include the small sample size and non-probability techniques used to obtain the sample may not generalize beyond the participants interviewed. Therefore, the goal of this quantitative study was to extend this research by exploring the utility of barriers identified in the qualitative study as well as previous research on primary and secondary abstinence in a large sample of African-American females at risk for HIV/STIs.

Methods

Participants

Participants were 701 African-American adolescent females, ages 14-20, enrolled in a randomized controlled trial evaluating an HIV risk-reduction intervention.

Adolescents were recruited from three clinics in Atlanta, Georgia providing sexual health services for free or on a sliding scale: Planned Parenthood clinic (n = 247), a county health department STD clinic (n = 373), and a hospital-based teen clinic (n = 81).

Adolescents were approached in the clinic waiting room by a female recruiter who provided an overview of the study and invited them to be screened for eligibility.

Eligibility criteria were as follows: self-identified as African-American, were 14 to 20

years old, and reported having vaginal sex without a condom at least once in the past 6 months. Adolescents were not eligible for the study if they were married, pregnant, or attempting to become pregnant. Written informed consent was obtained for all participants. Emory University's Institutional Review Board approved all study protocols.

Procedures

Baseline data were collected from 2005 to 2007. Prior to being randomized to a condition, participants completed a 60-minute survey administered via audio computer assisted self-interview (ACASI). ACASI technology was utilized to address potential literacy issues (Schroder, Carey & Venable, 2003) and reduce social desirability bias in reporting of sensitive information (Ghanem, Hulton, Zenilman, Zimba, & Erbelding, 2005). Survey items included demographics, sexual history, alcohol and drug use, attitudes and outcome expectancies, psychosocial variables, HIV/STD knowledge, and peer norms. Participants received \$75 compensation for upon completion of the baseline survey and intervention workshop.

Measures

Outcome Measure

Secondary abstinence was determined based on participants' responses to two questions. Adolescents were asked, "In the past 6 months, was there a time period when you didn't have sex for two or more months in a row?" They were asked to respond either yes (1) or no (0). Fifty-nine percent (n = 410) of respondents answered yes and were asked to select a reason for not having sex for 2 or more months. Response options included partner availability (not having a partner, partner being away), temporary

concerns (being sick, being upset with partner), pregnancy, and desire (participant or partner did not want to have sex). An “other” option allowed participants to provide additional reasons. The researchers were interested in periods of intentional abstinence so responses indicating situational abstinence (i.e. “I didn’t have a partner” or “My partner was away”) were recoded as no (0).

Individual-level Measures

Interest in secondary abstinence. Interest in abstinence was assessed by asking participants to select the statement that best described their level of interest. Response choices were as follows: “I am very interested in becoming abstinent;” “I am somewhat interested in becoming abstinent;” “I am not at all interested in becoming abstinent.” Participants were classified as very interested (1) or other (0).

Sexual pleasure. Three items were used to measure sexual pleasure. Respondents were asked how much physical, emotional, and relational pleasure they receive from sexual intercourse with their main partner. Response options were none, a little, moderate, and a great deal. For each item, sexual pleasure was dichotomized as a great deal or other. Next, four categories were created: moderate, a little, or none of each type of pleasure (0), one type of pleasure (1), two types of pleasure (2), physical, emotional and relational pleasure (3).

Thinking about sex. Thinking about sex was assessed using a single item, “Please think of a typical month in the last year. How often have you found yourself thinking about sex with interest or desire?” Responses were recoded as daily/weekly (1) or other (0).

Abstinence self-efficacy. Respondents' confidence in their ability to abstain from sex was assessed by asking, "What is the longest amount of time you can go without having sex?" Response options were one month, two months, three months, four months, five months, or six or more months. Responses were coded as less than 6 months (1) or 6 or more months (0).

Sex refusal self-efficacy. Self-efficacy for refusing sex was measured using seven items. Sample items included "How sure are you that you would be able to say no to having sex with someone you want to date again?" Response options were on a 4-point Likert scale: definitely can't say no (1) to definitely can say no (4). Possible scores ranged from 7 to 32, with higher scores reflecting greater refusal self-efficacy. The Cronbach's alpha, a measure of the scale's internal consistency, was 0.82.

Impulsivity. Impulsivity was assessed using a 15-item impulsivity scale (Zimmerman & Donohew, 1996). Possible scores range from 15 to 75, with higher scores indicating higher levels of impulsivity. Response options were never, rarely, sometimes, often, or always. Sample scale items include, "I like to do things as soon as I think about them" and "I act on the spur of the moment." Cronbach's alpha was 0.76.

Stress. Thirteen items, modified from the African-American Women's Stress Scale (Watts-Jones, 1990), measured perceived interpersonal stress. Questions assessed the amount of stress an individual feels in various interpersonal relationships. For each item, respondents rated the amount of stress caused using a 5-point Likert scale: does not apply (0) to extreme stress (5). Potential sources of interpersonal stress included "raising children" and "relationships with family members." Possible scores ranged from 0 to 65,

with higher scores reflecting higher levels of stress. Cronbach's alpha for this scale was 0.87.

Self-esteem. The 10-item Rosenberg Self-Esteem Scale (1965) was used to measure global self-esteem. Responses were on a 4-point Likert scale, where 1 indicated strong disagreement and 4 indicated strong agreement. Possible scores range from 10 to 40, where higher scores reflected higher levels of self-esteem. Cronbach's alpha was 0.86.

Depressive symptomatology. Depressive symptoms were assessed with the 8-item Center for Epidemiological Studies-Depression scale (Melchior, Huba, Brown & Reback, 1993). The CES-D assesses the presence of depressive symptoms in the past 7 days and has been shown to be a valid measure of depressive symptoms in African-Americans (Radloff, 1991). Cronbach's alpha was 0.91.

Interpersonal-level (Partner) Measures

Perception of partner's interest in abstinence. Perception of partner's interest in abstinence was assessed by asking participants to classify their male sexual partners as very (2), somewhat (1), or not at all (0) interested in becoming abstinent.

Partner age. Average age of sexual partners was determined using a single item: "In general how old are the people you have sex with?" Response options were 4 or more years younger, 2-4 years younger, about the same age, 2-4 years older, and 4 or more years older. Responses were recoded to create a dichotomous variable: 4 or more years older (1) and other (0).

Relationship power. Relationship power was assessed using a modified version of the relationship control subscale of the Sexual Relationship Power Scale (Pulerwitz,

Gortmaker, DeJong, 2000). The 9-item scale used in this study included items such as, “Most of the time we do what my partner wants to do.” Using a 4-point Likert scale, respondents indicated their level of agreement from strongly disagree (1) to strongly agree (4) with each statement. Scores ranged from 9 to 36, with higher scores indicating less relationship power. Cronbach’s alpha was 0.78.

Substance use. Sex while under the influence of drugs or alcohol was determined using 2 questions: “In the past 90 days, how many times did you have sex while high on alcohol or drugs?” and “In the past 90 days, how many times did you have sex while your partner was high on alcohol or drugs?” Respondents were classified as having sex under the influence if either or both partners were drunk or high during sex at least once in the past 90 days.

Interpersonal-level (Parents, peers, others)

Parent-adolescent communication scale (PACS). The PACS is composed of 5 items assessing adolescents’ frequency of communicating about sexually related topics with their parents (Sales, Milhausen, Wingood, DiClemente, Salazar & Crosby, 2008). Each item required a response based on a 4-point Likert-type scale: 1 (never) to 4 (often). Sample items included, “In the last six months, how often have you and your parent(s) talked about sex?” Higher values indicated more frequent parent-adolescent communication. Cronbach’s alpha was 0.91.

Social support. Perceived social support was assessed with a 12-item scale (Zimet et al. 1988). Sample scale items include, “My family really tries to help me” and “I can count on my friends when things go wrong.” Responses were coded so that higher scores reflected higher levels of perceived social support. Cronbach’s alpha was 0.90.

Peer Norms. Perception of peer norms supporting abstinence was measured by asking participants how many of their peers believe “it’s okay to be abstinent, which is choosing not to have sex.” Response options were none, few, some, most, and all.

Demographic Measures

Participants provided their age, the last grade completed in school, and who they lived with at the time of the assessment.

Data Analysis

Baseline data were used for statistical analyses. Descriptive statistics were generated to summarize demographic characteristics and prevalence of secondary abstinence in the sample. The primary outcome for the study was intentional sexual abstinence for two or more consecutive months. Bivariate relationships between abstinence and independent variables or covariates were assessed using Chi-square and independent samples *t* tests. Variables that were significantly associated with secondary abstinence were analyzed using sequential logistic regression. Sequential logic regression allowed the researchers to specify the order of variable entry to examine whether interpersonal-level variables uniquely contributed to understanding the dissonance between secondary abstinence interest and sexual behavior beyond individual-level factors (Tabachnick & Fidell, 2007). Individual-level variables were entered in Step 1, followed by partner-specific interpersonal-level variables in Step 2 and interpersonal variables external to the relationship with their partner in Step 3. Models were examined at each step for statistical significance. All analyses were conducted in PASW 18.

Results

Descriptive Analyses

The mean age of participants was 17.6 years ($SD = 1.67$). Most (60.9%) were high school students. More than one-third had graduated from high school (18.5%) or completed some college (16.3%). Most participants lived with a parent (58.5%) or another relative (12%). The majority (79.5%) reported being in a current relationship (mean [SD] length of relationship, 14.4 [14.9] months). One-third of the sample ($n = 234$) had intentionally abstained from sex for two or more consecutive months. Adolescents who had abstained (mean = 17.33 yrs) were slightly younger than those who had not (mean = 17.69 yrs). This difference was statistically significant ($p < .001$).

Bivariate Analyses

Relationships between secondary abstinence and individual-level or interpersonal-level factors are presented in Table 1. At the individual level, only factors directly related to sex were associated with abstinence. Fewer adolescents who received a great deal of pleasure or satisfaction from sex ($p < .05$), thought about sex daily or weekly ($p < .001$), and had low abstinence self-efficacy ($p < .001$) abstained for 2 or more consecutive months. Other psychosocial variables such as depression and interpersonal stress did not differ significantly between those who had abstained and those who continued having sex. At the interpersonal-level, participants' perception of their male partner's interest in abstinence was significantly related to continued sex ($p < .001$). Having less power in the relationship ($p < .001$) and reporting at least one instance of sex while she and/or her male partner were drunk or high ($p < .01$) were also associated with continued sex. Although adolescents who had not abstained reported less frequent communication with

parents about sex ($p < .05$), social support and perception of peer normative beliefs about abstinence were not associated with sexual behavior.

Multivariate Analyses

A sequential logistic regression examined the dissonance between interest in secondary abstinence and continued sexual activity. Individual- and interpersonal-level variables demonstrating statistical significance in bivariate analyses were included in the model. The model including only individual-level variables was significant and explained 12% of the variance ($X^2(7, N = 701) = 62.88, p < .001, \text{Nagelkerke } R^2 = .12$). After controlling for interest in secondary abstinence, thinking about sex often (OR = .54, 95% CI = .38, .75), receiving more pleasure from sex (OR = .67, 95% CI = .45, .99) and having lower abstinence self-efficacy (OR = .57, 95% CI = .40, .80) decreased the likelihood of reporting abstinence. Adolescents who thought about sex daily or weekly were 47% less likely to report abstinence. Also individuals who received a great deal of physical, emotional and relational pleasure from sex were 33% less likely to have abstained; those who were not confident they could abstain for at least 6 months were 43% less likely to have abstained. Being older also decreased the likelihood of abstinence, but only by 12% (OR = .88, 95% CI = .79, .97).

The model improved when interpersonal-level (partner) factors were added, explaining 16% of the variance ($X^2(11, N = 701) = 85.84, p < .001, \text{Nagelkerke } R^2 = .16$). Thinking about sex, sexual pleasure, abstinence self-efficacy and age remained significant, with only slight changes in odds ratio (OR = .62, .59, .59 and .87, respectively). Adolescents who believed their male sex partner would have some interest in abstinence were 65% more likely to report secondary abstinence than those believing

their partner had no interest (OR= 1.65, 95% CI= 1.14, 2.40). Having less relationship power decreased the likelihood of practicing secondary abstinence by 7% (OR = .93, 95% CI = .90, .97). However, substance use was not significant. The addition of communication with parents about sex in the third step did not significantly improve the model.

Discussion

In this study we examined the prevalence of secondary abstinence and the dissonance between interest in secondary abstinence and continued sexual activity among African-American adolescent females using findings from a previous qualitative study of barriers conducted with members of this population as well as the abstinence literature. One-third (33.4%) of the sample had intentionally abstained from sex for 2 or more consecutive months. Findings suggest individual and interpersonal barriers may prevent adolescents interested in abstaining from doing so. Those who thought about sex with desire daily or weekly, were older, or were not confident they could abstain longer than 6 months, and had less power in their relationships were less likely to report secondary abstinence.

Understanding discrepancies between interest in abstinence and actual behavior is important because researchers can use this knowledge to strengthen interventions for this population. In this investigation, most factors significantly related to secondary abstinence are amenable to change and could be targeted in interventions. For example, thinking about sex often was the most powerful predictor. However, adolescents interested in abstaining may not recognize the potential impact of entertaining sexual thoughts. For some, thinking about sex (daydreaming, fantasizing, etc.) may seem like a

safe alternative for someone who wants to abstain because there is no physical involvement. Yet frequently doing so may actually be a trigger. Consequently, cognitive distraction, a coping strategy commonly used by adolescents to deal with stressful situations (Zimmer-Gembeck & Skinner, 2011), may also help African-American adolescent females manage difficulty introduced by thinking about sex often. Therefore, discussing ways in which their thoughts may influence their behavior and teaching them to shift their attention to non-sexual thoughts may equip them to overcome a significant obstacle.

Abstinence self-efficacy was another powerful predictor. It has been suggested that self-efficacy (Bandura, 1977), or confidence in one's ability to perform a certain behavior, plays a vital role in performing health-related behaviors, including condom use for example (Casey, Timmerman, Allen, Krahn & Turkiewicz, 2009). A person who does not believe they can put a condom on correctly will be less likely to use one. Likewise, it is logical that adolescent females with lower confidence about abstaining from sex were less likely to abstain. Therefore, building an adolescent's confidence in her ability to become and remain abstinent should also be an intervention priority.

In a previous study with a predominately white sample of college students, secondary abstainers with higher abstinence self-efficacy had greater religious ties, perceived fewer barriers to abstaining and reported having to make fewer alterations to their environment to make it more conducive to abstinence (Rasberry & Goodson, 2009). Although the present investigation did not examine predictors of abstinence self-efficacy, findings from our qualitative study suggest one reason sexually experienced young women may lack confidence in their ability to abstain is past failed attempts (Bradley,

2011). Further, disparaging remarks from other significant people in their lives, such as partners or friends, about their ability to abstain since they have already initiated sexual activity may diminish self-confidence in being able to practice abstinence (Bradley, 2011). Thus, incorporating intervention activities that help adolescents examine past failed attempts to abstain and identify strategies that can be used to prevent failures from reoccurring may improve self-efficacy. Moreover, participants can learn how to cope with set-backs so they do not become demoralized if one should occur and be deterred from attempting to abstain from sex in the future. Additionally, health educators can address misconceptions about being sexually experienced. Perhaps including stories of sexually experienced young women and girls who are perceived as similar to participants and have practiced secondary abstinence could increase participants' confidence in their own ability to do so.

Finally, interventions can aim to increase adolescent females' power in their relationships. Inadequate relationship power is not a barrier unique to practicing abstinence as it also has been associated with nonuse of condoms (Bowleg, Lucas & Tschann, 2004; Crosby, DiClemente, Wingood, Salazar, Head, Rose & Sales, 2008; Teitelman, Ratcliffe, Morales-Aleman, & Sullivan, 2008). African-American adolescent females who lack power in their relationships may not be able to influence the outcome of sexual decisions, making it difficult or impossible to abstain from sex. As a result, it may be valuable to help adolescent women examine current and past relationships in interventions to identify factors that could contribute to power imbalances that prevent them from abstaining. However, activities should go beyond merely identifying imbalances to equipping young women to deal with them. For example, many HIV

prevention interventions teach female participants how to communicate their needs and desires to their partners in an assertive way (DiClemente et al., 1995; DiClemente et al., 2004; DiClemente, 2009; Kalichman, et al., 1996; Kelly et al., 1994; Sterk et al., 2002). Adolescent females must also learn coping strategies to prepare themselves for situations where their partner is not receptive.

Relationships that were not found to be significantly associated with abstinence in this study are also worth noting. Although peer normative beliefs about sex and abstinence have been identified as a significant factor in research on primary abstinence (Buhi & Goodson, 2007), believing most or all of one's peers held a negative view of abstinence was not related to practicing secondary abstinence.

This study is significant because it adds to our understanding of secondary abstinence, an understudied practice that could prove valuable for reducing HIV/STI disparities for African-American adolescent females. Barriers examined in this quantitative study were derived from a qualitative study that used a social ecological approach to identify secondary abstinence challenges. Thus, one strength of the study was the inclusion of factors identified by members of the study population through in-depth interviews. Further, we employed a conservative definition that included only intentional abstainers and excluded those whose reasons were situational (i.e. not having a partner or partner was away). Additionally, we utilized a large dataset to investigate potential relationships.

Study Limitations

There are limitations to the present study. First, data were collected from a homogenous sample of African-American adolescents recruited from sexual health

clinics. Thus, the findings may not generalize to sexually experienced adolescent females recruited through other venues, such as schools, or adolescents of different race/ethnicity. Also, since analyses were based on secondary data, a few factors of interest from the qualitative study (i.e. being in situations that provide opportunities for sex) were not assessed. Finally, the definition of secondary abstinence may be too liberal. In this study we used a CDC definition of two months. This may be too brief to assess any stability in abstinent behavior or too brief to realistically impact adolescents' risk for HIV/STIs. Unfortunately, there is no consensus definition of abstinence available. However, it is unclear how one would determine how long a person must refrain from sex to be considered abstinent. Given the aims of this study, even brief periods of abstinence may be significant in the short-term, though whether these short-term breaks in sexual activity translate into longer-term reductions in HIV/STI await prospective analyses.

Implications for Future Research

In light of the findings and study limitations, the researchers recommend further investigation of barriers to practicing secondary abstinence with more heterogeneous samples. It may be useful to oversample secondary abstainers. Also, the inclusion of male partners in future studies of secondary abstinence perceptions and behaviors will play a critical role in gaining a more complete understanding of females' sexual behavior. Further, studies should employ definitions that emphasize intentional abstinence when classifying secondary abstainers. Additionally, as knowledge about barriers to secondary abstinence increase, it will be necessary to refine existing instruments or develop new measures to accurately assess key constructs.

The prevalence of secondary abstinence in this sample of high-risk African-American adolescent females was considerable. The findings indicate secondary abstinence is desired by a sizeable proportion of sexually active adolescents. However, there are significant obstacles to adoption of secondary abstinence. Whether one is able to become and remain abstinent depends, in part, on acquiring relevant knowledge and skills, and building the confidence needed to translate knowledge into practice. Targeting key barriers to practicing secondary abstinence can help researchers create abstinence-promoting and comprehensive sex education interventions that are better suited to meet the needs of those who desire to abstain to protect themselves from HIV/STIs and pregnancy or for any other reason. In doing so, we can make strides toward decreasing HIV/STI rates among African-American adolescent females.

References

- Abma, J.C., Martinez, G.M., & Copen, C.E. (2010). *Teenagers in the United States: Sexual activity, contraceptive use, and childbearing, National Survey of Family Growth 2006–2008* (Vital Health Statistics Series 23 No. 3). Hyattsville, MD: National Center for Health Statistics.
- Akers, A.Y., Gold., M.A., Bost, J.E., Adimora, A.A., Orr, D.P., & Fortenberry, J.D. (2011). Variation in sexual behaviors in a cohort of adolescent females: The role of personal, perceived peer, and perceived family attitudes. *Journal of Adolescent Health, 48*, 87–93.
- Bandura. A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.
- Bradley, E. (2011). *Exploring secondary abstinence among African-American females at risk for HIV/STIs: A mixed-methods investigation* (Unpublished doctoral dissertation). Emory University, Atlanta, GA.
- Bowleg, L., Lucas, K.J., & Tschann, J.M. (2004). The ball was always in his court: An exploratory analysis of relationship scripts, sexual scripts, and condom use among African-American women. *Psychology of Women Quarterly, 28(1)*, 70-82.
- Buhi, E.R., & Goodson, P. (2007). Predictors of adolescent sexual behavior and intention: A theory-guided systematic review. *Journal of Adolescent Health, 40(1)*, 4-21.

- Casey, M.K., Timmerman, L., Allen, M., Krahn, S., & Turkiewicz, K.L. (2009). Response and self-efficacy of condom use: A meta-analysis of this important element of AIDS education and prevention. *Southern Communication Journal*, 74(1), 57-78.
- CDC. (2005c). *HIV prevention in the third decade*. Atlanta, GA: Centers for Disease Control and Prevention.
- CDC. (2007). *STD Surveillance, 2006. Special Focus Profiles – Adolescents and young adults*. Atlanta, GA: Centers for Disease Control and Prevention.
- CDC . (2009). Sexual and reproductive health of persons aged 10-24 years - United States, 2002—2007. *MMWR*, Vol. 58 / No. SS-6.
- Cohen, M. S. (1998). Sexually transmitted diseases enhance HIV transmission: no longer a hypothesis. *Lancet* 351(S3), 5-7.
- Crosby, R.A., DiClemente, R.J., Wingood, G.M., Salazar, L.F., Head, S., Rose, E. & Sales, J.M. (2008). Sexual agency versus relational factors: a study of condom use antecedents among high-risk young African American women. *Sexual Health*, 5(1), 41- 47.
- DiClemente, R.J., Salazar, L.F., & Crosby, R. A. (2007). A review of STD/HIV preventive interventions for adolescents: sustaining effects using an ecological approach. *Journal of Pediatric Psychology*, 32, 888-906.
- DiClemente, R.J., & Wingood, G.M. (1995). A randomized controlled trial of an HIV sexual risk reduction intervention for young African-American women. *Journal of the American Medical Association*, 274 (16), 1271- 1276.

- DiClemente, R.J., Wingood, G.M., Harrington KF, Lang D.L., Davies, S.L., Hook, E.W. 3rd et al. (2004). Efficacy of an HIV prevention intervention for African American adolescent girls: A randomized controlled trial. *Journal of the American Medical Association*, 292(2),171-179.
- DiClemente, R.J., Wingood, G.M., Rose, E. S., Sales, J.M., Lang, D.L. et al. (2009). Efficacy of a Sexually Transmitted Disease/Human Immunodeficiency Virus sexual risk-reduction intervention for African-American adolescent females seeking sexual health services. *Archives of Pediatric & Adolescent Medicine*, 63(12), 1112-1121.
- Forhan, S.E., Gottlieb, S.L., Sternberg, M.R., Xu, F., Datta, S.D., Berman, S. & Markowitz, L.E. (2008, March 13). Prevalence of sexually transmitted infections and bacterial vaginosis among female adolescents in the United States: Data from the National Health and Nutrition Examination Survey (NHANES) 2003-2004. Paper presented at the National STD Prevention Conference, Chicago, IL.
- Galvin, S. R., & Cohen, M. S. (2004). The role of sexually transmitted diseases in HIV transmission. *Nature Reviews Microbiology*, 2(1), 33-42.
- Ghanem, K.G., Hulton, H.E., Zenilman, J.M., Zimba, R., & Erbelding, E.J. (2005). Audio computer assisted self interview and face to face interview modes in assessing response bias among STD clinic patients. *Sexually Transmitted Infections*, 81 (5), 421-425.
- Henrich, C.C., Brookmeyer, K.A., Shrier, L.A., & Shahar, G. (2006). Supportive relationships and sexual risk behavior in adolescence: an ecological-transactional approach. *Journal of Pediatric Psychology*, 31, 286-297.

- Hyra, A. , DeMar, S., & Haley, A. (2009, August 7). *Who's not doing it and why: Predictors of virginity and reasons for abstinence*. Paper presented at the annual meeting of the American Sociological Association, San Francisco, CA. Retrieved from http://www.allacademic.com/meta/p308467_index.html
- Kaiser Family Foundation. (Sept 2006). *Sexual health statistics for teenagers and young adults in the United States*. Washington, DC: Henry J. Kaiser Family Foundation.
- Kaiser Family Foundation. (Sept 2009). *Black Americans and HIV/AIDS (HIV/AIDS policy fact sheet)*. Washington, DC: Henry J. Kaiser Family Foundation.
- Kalichman, S. C., Rompa, D., & Coley, B. (1996). Experimental component analysis of a behavioral HIV/AIDS prevention intervention for inner-city women. *Journal of Consulting & Clinical Psychology, 64*(4), 687-693.
- Kelly, J.A., Murphy, D.A., Washington, C.D., Wilson, T.S., Koob, J. J., Davis, D.R., Ledezma, G., & Davantes, B. (1994). The effects of HIV/AIDS intervention groups for high-risk women in urban clinics. *American Journal of Public Health, 84*(12), 1918-1922.
- Melchior, L.A., Huba, G.J., Brown. V.B., Reback, C.J. (1993). A short depression index for women. *Education and Psychological Measurement, 53*(4), 1117-1125.
- Radloff, L.S. (1991). The use of the Center for Epidemiologic Studies Depression Scale in adolescents and young adults. *Journal of Youth & Adolescence, 20*(2), 149-166.
- Rasberry, C.N., & Goodson, P. (2009). Predictors of secondary abstinence in U.S. college undergraduates. *Archives of Sexual Behavior, 38*, 74–86.
- Rosenberg, M. (1965). *Society and the Adolescent Self-Image*. Princeton, New Jersey: Princeton University Press.

- Sales, J. M., Milhausen, R. R., Wingood, G. M., DiClemente, R. J., Salazar, L. F., & Crosby, R. A. (2008). Validation of a parent-adolescent communication scale for use in STD/HIV prevention interventions. *Health Education and Behavior, 35*, 332-345.
- Schroeder, K.E., Carey, M.P., & Venable, P.A. (2003). Methodological challenges in research on sexual risk behavior: II. Accuracy of self-reports. *Annals of Behavioral Medicine, 26*, 104-123.
- Small S.A., & Luster T. (1994). Adolescent sexual activity: An ecological, risk-factor approach. *Journal of Marriage & the Family, 56*, 181-192.
- Sterk, C. E., Theall, K.P., & Elifson, K.W. (2003). Effectiveness of a risk reduction intervention among African-American women who use crack cocaine. *AIDS Education and Prevention, 15(1)*, 15-32.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*, 2nd ed. Thousand Oaks, CA: Sage Publications.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics*, 5th ed. Boston: Allyn and Bacon.
- Teitelman, A.M., Ratcliffe, S.J., Morales-Aleman, M.N., & Sullivan, C.M. (2008). Sexual relationship power, intimate partner violence, and condom use among minority urban girls. *Journal of Interpersonal Violence, 23 (12)*, 1694-1712.
- Watts-Jones, D. (1990). Toward a stress scale for African-American women. *Psychology of Women Quarterly, 14(2)*, 271-275.

- Zimmer-Gembeck, M.J., & Skinner, E.A. (2011). The development of coping across childhood and adolescence: An integrative review and critique of research. *International Journal of Behavioral Development, 35(1)*, 1-17.
- Zimet, G., Dahlem, N., Zimet, S. et al. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*, 30–41.
- Zimmerman, R., & Donohew, L. (1996). Sensation seeking, impulsive decision-making, and adolescent sexual behaviors. Paper presented at the American Public Health Association, New York.

Table 1. Bivariate relationships between secondary abstinence and individual- and interpersonal-level factors

	Abstained	Did Not Abstain	Test Stat	p-value
<i>Individual-level</i>				
Interest in abstinence ^a	71(30.3)	73(15.6)	20.67	<.001
Thinking about sex ^a	92(39.3)	270(57.8)	21.36	<.001
Sexual pleasure ^a	-----	----	9.61	.022
All 3 ^b	88(37.6)	221(47.3)		
2 of 3	28(12.0)	65(13.9)		
1 of 3	34(14.5)	61(13.1)		
None	84(35.9)	120(25.7)		
Abstinence self-efficacy ^a	79(33.8)	223(47.8)	12.44	<.001
Refusal self-efficacy ^c	24.82(3.3)	24.43(3.5)	-1.46	.145
Impulsivity ^c	38.89(8.5)	38.62(7.2)	-.445	.656
Self-esteem ^c	33.82(5.2)	33.97(5.0)	.362	.717
Stress ^c	30.71(14.1)	31.33(13.6)	.557	.577
<i>Interpersonal-level (Partner)</i>				
Perceived partner interest ^a	----	----	19.53	<.001
Not interested	121(51.7)	320(68.5)		
Somewhat interested	92(39.3)	114(24.4)		
Very interested	21(9.0)	33(7.1)		
Partner age ^a	33(14.1)	86(18.4)	2.06	.151
Relationship power ^c	15.09(4.52)	16.54(4.46)	4.06	<.001
Substance use ^a	95(40.6)	238(51.1)	6.85	.009
<i>Interpersonal-level (Others)</i>				
Parent-adolescent communication ^c	14.07(4.84)	13.08(5.05)	-2.47	.014
Social support ^c	35.96(6.16)	35.93(5.66)	-.06	.952
Perceived peer support for abstinence ^a	169(72.2)	349(74.7)	.509	.476

Note. a = frequency (%) presented, test statistic is chi-square; b= types of pleasure include physical, emotional and relational; c= mean (SD) presented, test statistic is t-test

Table 2. Odds ratios for barriers to practicing secondary abstinence

	Model 1		Model 2		Model 3	
Nagelkerke R²	.12, p <.001		.16, p <.001		.16, p <.001	
Predictors	OR (95% CI)	p	OR (95% CI)	p	OR (95% CI)	p
<i>Individual</i>						
Age	.88 (.79, .97)	.008	.88 (.79, .97)	.009	.88 (.79, .97)	.013
Interest in abstinence	2.16 (1.47, 3.19)	<.001	2.18 (1.44, 3.32)	<.001	2.17 (1.43, 3.29)	<.001
Thinking about sex	.54 (.38, .75)	<.001	.61 (.43, .87)	.006	.62 (.44, .88)	.008
Sexual pleasure ^a						
All 3	.67(.45, .99)	.047	.59(.40, .89)	.012	.59(.39, .89)	.011
2 of 3	.68(.39, 1.17)	.162	.61(.35, 1.07)	.084	.61(.35, 1.07)	.083
1 of 3	.96(.57, 1.63)	.883	.94(.55, 1.61)	.818	.94(.55, 1.61)	.828
Abstinence self-efficacy	.57 (.40, .80)	.001	.59 (.42, .84)	.003	.59 (.42, .84)	.003
<i>Interpersonal (Partner)</i>						
Perceived partner interest ^b						
Somewhat			1.65(1.14, 2.4)	.008	1.63(1.12, 2.37)	.010
Very			.99(.52, 1.89)	.965	.97(.50, 1.85)	.915
Relationship power			.93 (.90, .97)	.001	.93 (.90, .97)	.001
Substance use			.97 (.60, 1.38)	.859	.97 (.68, 1.38)	.856
<i>Interpersonal (Others)</i>						
Parent-adolescent communication					1.01 (.97, 1.05)	.626

Note. a= Reference group indicated moderate, little or no pleasure; types of pleasure include physical, emotional and relational
b= Reference group indicated partner is not interested in abstinence

CHAPTER 5:

Summary and Conclusions

Among young people, African-American females are disproportionately impacted by the HIV and STI epidemics. Secondary abstinence may prove valuable in our efforts to reduce incidence rates in this population that continues to experience the highest risk for infection (CDC, 2005; CDC, 2009; Forhan, Gottlieb, Sternberg, Xu, Datta, Berman & Markowitz, 2008; Kaiser Family Foundation, 2009). However, secondary abstinence has received little research attention in the literature which has focused mainly on those without sexual experience (Hyra, DeMar & Haley, 2009). Moreover, the few studies of secondary abstinence typically target those who are abstaining, resulting in gaps in our knowledge about those who are motivated to abstain but are not practicing secondary abstinence. Consequently, there is a dearth of information regarding those who are most vulnerable to HIV/STIs. Therefore, the purpose of this mixed-methods research was to begin addressing gaps in our understanding of this prevention strategy by exploring motivations for secondary abstinence and identifying barriers that may hinder motivated adolescent females from adopting secondary abstinence and abstinent females from continuing to abstain.

In the qualitative phase of this research, African-American adolescent females provided insight about their motivations for secondary abstinence (Chapter 2). A grounded theory approach was used to explore the experiences of 20 adolescent females, ages 18 – 23, who had recently completed an HIV prevention intervention. Analysis revealed a range of motivations for secondary abstinence. Also, young women provided multiple reasons for desiring to refrain from sex. The most frequently discussed

motivations for secondary abstinence were some form of mistreatment from males with whom they had a sexual relationship in most cases. Many young women discussed feeling as if they had been used by men for sex. Some young women also desired to remove sex from their relationships because of their partner's suspected or confirmed infidelity. For a few, mistreatment was experienced as emotional or physical abuse from a romantic partner; others had been raped or sexually assaulted by a family member or acquaintance. Additionally, the majority of the young women were motivated by social concerns or religious beliefs to abstain from sex until married or in a committed relationship. A few had committed to abstain while separated from their partner.

HIV/STIs and unintended pregnancy also provided substantial motivation for secondary abstinence. Nearly half of the young women discussed past STI experiences and fear of HIV/STI acquisition as important motivators. Painful pregnancy or delivery experiences and a desire to delay becoming pregnant were also reasons to abstain. An underlying motivation for many young women was improving their current and future life circumstances. As a result, they desired to avoid consequences of unhealthy sexual relationships, HIV/STIs, and unintended pregnancies which may deter them from achieving personal goals.

Findings from this qualitative inquiry broaden the range of known motivations for secondary abstinence and increase the depth of understanding about some sources of motivation. Several motivators, such as HIV/STI and pregnancy prevention, desiring to delay sex until married or in a committed relationship, and personal goal attainment were similar to those identified in previous research on primary and secondary abstinence (Bassett, Mowat, Ferriter, Perry, Hutchinson et al., 2002; Blinn-Pike, 1999; Haglund,

2006; Loewenson, Ireland & Resnick, 2004; Morrison-Beedy, Carey, Cote-Arsenault, Siebold-Simpson & Robinson, 2008). However, this investigation provided depth regarding HIV/STI and pregnancy prevention as motivating factors by examining STI acquisition and pregnancy or motherhood among young women who had actually experienced each. Moreover, relationship-related motivations (i.e. partner infidelity) were revealed that previously had not been identified in the literature. Improving our understanding of secondary abstinence motivations is essential. Knowledge gained can be used to refine measurement in survey research. In doing so, we strengthen the evidence base used to guide intervention development.

The qualitative phase of this research also permitted the in-depth exploration of the dissonance between interested in secondary abstinence and continued sex (Chapter 3). A social ecological perspective was adopted to identify factors from within an individual and in the environment that make it difficult for motivated adolescent females to become or remain abstinent. Sexual desire was a challenge for some young women who had become accustomed to satisfying sexual urges through intercourse. Those who had successfully abstained before believed thinking about sex often can enhance sexual desire, making it more difficult to resist sexual urges. Thinking about sex was the most frequently discussed individual-level barrier. Although young women were divided regarding the impact of drug and alcohol use, some young women believed substance use also served as a barrier by enhancing sexual desire.

However, interpersonal-level barriers presented a greater challenge. Believing one's partner would be opposed to abstaining and would likely end the relationship or have sex with someone else made refraining from sex a challenging endeavor. Although

this concern was shared by secondary abstainers to a lesser degree, it appeared to be a significant barrier for young women who were motivated to abstain but remained sexually active. Imbalances in sexual decision-making power that may be increased by having an older or more dominant partner or being financially dependent on a partner can also complicate efforts to abstain. Young women discussed ways that having sexual experience impacted their confidence in their ability to abstain as well. A few young women's abstinence self-efficacy was negatively impacted by previous failed attempts to refrain from sex or disparaging remarks from partners or significant others about her abstaining because of her previous sexual experience; others felt obligated to continue having sex because they had initiated sex with a partner.

Environmental barriers were the most salient because they created situations conducive to sex. For the majority of the young women, both abstinent and sexually active, living with or spending time alone with a partner was perceived as a significant threat to abstinence because this increased opportunities to be tempted to have sex. Further, being in a sexual situation made it harder to combat internal obstacles believed to be manageable (i.e. sexual desire) because in this context a young woman must also deal with sexual pressure from her partner.

Insight from this portion of the qualitative phase of the research is valuable because it provides a foundation for understanding barriers to secondary abstinence among those who are abstinent as well as those who are motivated to abstain but remain sexually active. The findings shed light on the influence exerted by male partners and suggest future research may benefit from including partners. Also, this study illuminated barriers, some of which were unique to those with sexual experience, that have not

previously been identified in the secondary abstinence literature. It is clear that sexually experienced young women must be equipped to identify and overcome both personal and environmental challenges to practicing abstinence. Knowledge gained from these findings can be used to strengthen the abstinence component of HIV prevention programs designed to reduce rates among African-American females.

In the quantitative phase of this research, barriers identified in the qualitative phase were investigated in a large population of African-American adolescent females (Chapter 4). Secondary data analyses were conducted using baseline data from 701 African-American adolescent females, ages 14 – 20, recruited from three reproductive health clinics to participate in an HIV prevention intervention study. Data were obtained prior to randomization and participation in the intervention. A sequential logistic regression analysis was utilized to examine the unique contribution of interpersonal-level barriers. One third (33.4%) of the sample had intentionally abstained for 2 or more consecutive months. After controlling for interest in secondary abstinence, results showed thinking about sex often, being older, and having lower abstinence self-efficacy were associated with continued sex. At the interpersonal-level, having less relationship power also decreased the likelihood of practicing secondary abstinence.

Results from this component of the research are also useful because they extend the qualitative research by highlighting which barriers were the strongest predictors of continued sex in a large population of African-American adolescent females. This information can provide additional guidance for intervention development for this population by helping determine how to prioritize barriers. Given time constraints and the wealth of information that can potentially be included in interventions, being able to

identify the most powerful barriers and tailor intervention content so they take precedence could enhance intervention effectiveness.

However, the limitations of this mixed-methods investigation should be noted. The study included a clinic-based sample of African-American adolescent females participating in a randomized controlled trial of an HIV prevention intervention in the southeastern region of the U.S. Thus, study findings may not generalize to adolescent females recruited from other locations (i.e. schools), other regions of the U.S., or those from other racial/ethnic groups. Further, findings from the qualitative phase of the research were based on a small, purposive sample of 20 young women who had successfully completed the intervention. There is no way to determine whether employing another sampling method may have yielded different results. Additionally, a prospective design would be better suited for exploring adoption and maintenance barriers. Results from the quantitative analyses should also be interpreted with caution. Analyses were based on secondary data obtained for the purpose of testing a comprehensive HIV prevention intervention. Thus, some of the barriers identified in the qualitative phase of this study could not be operationalized. Similarly, some variables were operationalized using a single item where measures with multiple items may have better assessed the construct. Also, the cross-sectional study design makes establishing causality inappropriate. Finally, although precautions were taken in each phase of the research, self-reporting of sensitive behaviors may have been subject to social desirability and recall bias.

Despite potential limitations, this exploratory investigation makes a unique contribution to strengthening our understanding of secondary abstinence by beginning to

address gaps in our understanding of this practice. First, study findings revealed several motivations for secondary abstinence were similar to those of primary abstainers, suggesting approaches from effective, theory-based interventions promoting abstinence among those without sexual experience may also be useful when targeting sexually experienced adolescents. However, since sexually experienced young women's motivations went beyond anticipated negative outcomes to include consequences of actual sexual experiences, findings also highlight the importance of tailoring approaches from such interventions to incorporate these unique motivations. Additionally, this study provided a contextual view of barriers to practicing secondary abstinence which researchers suggest is essential for gaining a more complete understanding of adolescent females' sexual behavior (DiClemente, Salazar, Crosby et al., 2007; Henrich, Brookmeyer, Shrier et al., 2006; Small & Luster, 1994). Further, this study included young women who were motivated to refrain from sex but had not yet adopted abstinence. Since many barriers identified were amenable to change these findings can also be used inform HIV/STI prevention intervention development.

A number of young women in this study were practicing secondary abstinence or had intentionally abstained in the past suggesting sustained or periodic secondary abstinence is a viable option for some adolescent females with high HIV/STI risk. However, the full potential of secondary abstinence may not be realized if approaches to teaching abstinence do not continue to improve. Abstinence, whether primary or secondary, is often treated as a prevention *message* but not as a prevention *strategy*. The “who,” “what,” and “why” of abstinence is commonly conveyed but the “how” has often been neglected. Addressing the “how” has been the key to the success of safer sex

interventions in increasing condom use. Thus, moving forward it will be vital for researchers to actively identify abstinence-specific barriers as well as knowledge and skills needed to address these barriers. In doing so, we can properly equip those motivated to abstain in an effort to reduce HIV/STI disparities among those extremely vulnerable to infection.

References

- Bassett, R.L., Mowat, G., Ferriter, T., Perry, M., Hutchinson, E., Campbell, J. et al. (2002). Why do Christian college students abstain from premarital sexual intercourse? *Journal of Psychology & Christianity*, 21(2), 121-132.
- CDC. (2005). *HIV prevention in the third decade*. Atlanta, GA: Centers for Disease Control and Prevention.
- CDC . (2009). Sexual and reproductive health of persons aged 10-24 years - United States, 2002—2007. *MMWR*, Vol. 58 / No. SS-6.
- DiClemente, R.J., Salazar, L.F., Crosby, R. A. et al. (2007). A review of STD/HIV preventive interventions for adolescents: sustaining effects using an ecological approach. *Journal of Pediatric Psychology*, 32, 888-906.
- Forhan, S.E., Gottlieb, S.L., Sternberg, M.R., Xu, F., Datta, S.D., Berman, S. & Markowitz, L.E. (2008, March 13). Prevalence of sexually transmitted infections and bacterial vaginosis among female adolescents in the United States: Data from the National Health and Nutrition Examination Survey (NHANES) 2003-2004. Paper presented at the National STD Prevention Conference, Chicago, IL.
- Haglund, K. (2006). Understanding sexual abstinence in African-American teens. *American Journal of Maternal & Child Nursing*, 31(2), 86-92.
- Henrich, C.C., Brookmeyer, K.A., Shrier, L.A., et al. (2006). Supportive relationships and sexual risk behavior in adolescence: an ecological-transactional approach. *Journal of Pediatric Psychology*, 31, 286-297.
- Hyra, A. , DeMar, S., & Haley, A. (2009, August 7). *Who's not doing it and why: Predictors of virginity and reasons for abstinence*. Paper presented at the annual

meeting of the American Sociological Association, San Francisco, CA. Retrieved from http://www.allacademic.com/meta/p308467_index.html

Kaiser Family Foundation. (Sept 2009). *Black Americans and HIV/AIDS (HIV/AIDS policy fact sheet)*. Washington, DC: Henry J. Kaiser Family Foundation.

Loewenson, P.R., Ireland, M., & Resnick, M.D. (2004). Primary and secondary abstinence in high school students. *Journal of Adolescent Health, 34*, 209-215.

Morrison-Beedy, D., Carey, M.P., Cote-Arsenault, D., Seibold-Simpson, S., & Robinson, K.A. (2008). Understanding sexual abstinence in urban adolescent girls. *Journal of Obstetric, Gynecological & Neonatal Nursing, 37*, 185 – 195.

Small, S.A., & Luster, T. (1994). Adolescent sexual activity: An ecological, risk-factor approach. *Journal of Marriage & Family, 56*, 181-192.