International Nursing Review

Context of sexual risk behaviour among abused ethnic minority adolescent women

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CHAMPION J.D. (2011) Context of sexual risk behaviour among abused ethnic minority adolescent women. *International Nursing Review* **58**, 61–67

Background: Evidence suggests that multiple influences on sexual behaviour of adolescents exist, ranging from relationships with significant others including sexual or physical abuse and childhood molestation to substances used prior to sex and environmental circumstances such as sex work.
Purpose: This study aims to describe associations between childhood molestation and sexual risk behaviour.
Method: African American and Mexican American adolescent women aged 14–18 years ($n = 562$) with sexually transmitted infection (STI) or abuse histories and enrolled in a randomized controlled trial of behavioural interventions were interviewed via self-report concerning sexual risk behaviour, abuse and childhood molestation at study entry.
Results: Sexual (59%), physical (77%) and psychological (82%) abuse and childhood molestation (25%) were self-reported without differences by ethnicity. Adolescents reporting childhood molestation experienced more forms of sexual, physical and psychological abuse than others and higher incidences of STI. Fewer attended school; however, more had arrests, convictions, incarcerations and probations. Stressors including depression, running away, thoughts of death and suicide were highest for those reporting childhood molestation. Those reporting childhood molestation engaged in higher sexual risk behaviours than adolescents experiencing other forms of sexual or physical abuse (lifetime partners, bisexual relationships, anal and group sex, sex with friends with benefits, sex for money, concurrent partners, drug use including multiple substances, alcohol use and alcohol problems). These adolescents reported 'getting high' and having sex when out of control as reasons for sex with multiple partners.
Conclusion: Interventions for abused adolescent women necessitate a focus on associations between childhood molestation and a multiplicity of sexual risk behaviours for prevention of abuse, substance use and sex work, STI/human immunodeficiency virus (HIV) and sequelae.

Keywords: Abuse, Adolescent Women, Childhood Molestation, Drug Use, Sexual Risk Behaviours, STI/HIV

Introduction

Adolescence is a time of experimentation and trying out new behaviours that places their present and future health at risk (Centers for Disease Control and Prevention 2010). Nationally, half of all newly detected HIV infections occur in persons under the age of 25 years, many of whom were probably infected in adolescence. Studies indicate that adolescent women with a history of physical or sexual abuse are more likely than those without to engage in sexual risk behaviour (Champion et al. 2001a,b; Kenney et al. 1998; Lyon et al. 1995; Wingood & DiClemente 1998; Zierler et al. 1991) and perceive themselves at higher risk of HIV without reported differences in previous HIV

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Funded by a grant (1 R01 DA019180-01) from the National Institute of Drug Abuse.

testing (Champion et al. 2002, 2004b). Comparisons of sexual risk behaviour among adolescent women (aged 14–18 years) with sexually transmitted infection (STI) identified the highest behaviour to be for those with a history of sexual or physical abuse rather than those without. The sexual risk behaviours identified through these comparisons included substance use and sex work (Champion 2007; Champion et al. 2005).

Substance use has been identified as a risk factor associated with sex work and HIV (Bensley et al. 2000; Henk et al. 1996). Child abuse has also been associated with sex work and HIV in adulthood. A study of children (ages 0–11 years) with documented cases of abuse were followed into adulthood. Assessments for incidence of sex work and HIV were made at 29 and 41 years of age. A statistically significant association between history of child abuse and sex work and HIV was identified; the prevalence of HIV was twice that of controls. These findings provided prospective evidence that those experiencing child abuse are more likely to engage in sex work by young adulthood and test positive for HIV in middle adulthood (Tapert et al. 2001).

This evidence suggests that multiple influences on adolescent women's sexual behaviour exist including sexual or physical abuse that may increase the predisposition to sexual risk behaviours such as substance use and sex work. These behaviours may lead to adverse outcomes including HIV/STI. HIV prevention programmes have been found to reduce the risk of HIV and STI (Jemmott et al. 2008; Shrier et al. 2001) through culturally sensitive, cognitive–behavioural interventions to reduce sexual risk behaviour among adolescents. These findings confirm that theory-driven sexual risk reduction interventions are effective in reducing high-risk sexual behaviours. These interventions, however, did not document reductions among adolescent women with a history of sexual or physical abuse. Additional studies are required to explore interrelated factors that contribute to these sexual risk behaviours for prevention of HIV/STI and other sequelae among adolescent women with a history of sexual or physical abuse. A description of these behaviours among adolescent women with a history of childhood molestation is indicated to enhance intervention development for this group.

Purpose

The purpose of this manuscript was to describe sexual risk behaviour including substance use and sex work, among adolescent women with a history of STI and sexual or physical abuse. A secondary analysis of these behaviours was conducted to describe adolescents who reported a history of childhood molestation. These findings were compared with those experiencing other forms of sexual or physical abuse for ascertainment of differences between these groups. This information is intended to provide preliminary evidence for the design of cognitive–behavioural interventions concerning sexual health behaviour for adolescent women with STI and sexual or physical abuse including childhood molestation.

Methods

Institutional review boards (IRBs) at The University of Texas Health Science Center and the San Antonio Metropolitan Health District approved this study. All study-related medical care was provided at a dedicated research clinic in conjunction with the health district STI clinic. African American and Mexican American women with a history of STI or sexual or physical abuse seen in public health clinics were referred to our study for potential participation. Eligible, English-speaking (to maximize homogeneity across ethnic groups), reproductive-age women (13–18 years old), who could be contacted, were offered enrolment. Thirteen-year-olds were enrolled only at the request of the Health Department or guardians and after special IRB permission was obtained. Enrolment began in July 2006 and ended in February 2008. Participants were interviewed at initial study entry following informed consent. Research assistants administered detailed self-report questionnaires concerning demographics and psychosocial and situational factors including sexual and physical abuse and childhood molestation and sexual risk behaviour including substance use and sex work.

Theoretical framework

The theoretical framework for this study was the AIDS Risk Reduction Model (ARRM) (Catania et al. 1990). This model was adapted to guide overall research and questionnaire design (Shain et al. 1999, 2002, 2004). It builds on and integrates elements of several social psychological theories (Fishbein & Ajzen 1975; Fishbein et al. 1992), including the Health Belief Model, self-efficacy theory, decision-making models and diffusion theory. Its three stages are recognizing one's risk, making a commitment to reduce risk and carrying through with that commitment by seeking and enacting solutions. Passing from one stage to another requires knowledge to attain change. Social support is helpful at each stage. The model was adapted sequentially following extensive ethnographic fieldwork to focus on the target population of high-risk African American and Mexican American adolescent women (Champion 1999; Champion & Shain 1998; Champion et al. 1997, 2004b). Qualitative data were collected on the target population's risk perceptions, values and beliefs, knowledge and concerns about STI/AIDS, sexual behaviours, sexual communication, male–female relationships, and strategies to motivate commitment to behaviour change. Results

provided insight into how to encourage risk recognition, motivate change and identify barriers.

Instrumentation

Based on findings, questions were constructed to determine the configuration of psychosocial and situational factors associated with high sexual risk behaviour and related factors that contribute to substance use, sex work, STI/HIV acquisition and abuse occurrence. Questions related to a variety of demographic (i.e. income and education), psychosocial (i.e. stressors and running away from home, perceived susceptibility to STI/HIV, and attitudes towards various aspects of sexual behaviour) and situational (i.e. current pregnancy status, substance use, abuse history) factors directly or indirectly influencing sexual behaviour (e.g. number and type of partners and types of sexual activity) were constructed. These questions were constructed to identify which explanatory factors (whether these ultimately prove to be predictors or covariates) impact on sexual behaviour variables. There is evidence that social support has a buffering effect against the adverse effects stress may have on health outcomes among a variety of populations (Beitchman et al. 1992). Consequently, stressful life events, particularly without benefit of social support, may affect susceptibility to substance use, sex work, STI/HIV and abuse and are measured.

These variables were selected because of their relationship to risk behaviour as delineated in the ARRM and as identified through a previous adaptation of the ARRM for use among African American and Mexican American adolescents (Champion 1999; Champion & Shain 1998; Champion et al. 1997, 2004a; Shain et al. 1999). Most questions were created through previous work, while others were adapted from established investigators. Drug use is measured by a series of questions on current and historical use of specific illicit drugs including cocaine, crack, heroin, 'uppers', 'downers' and hallucinogens. Alcohol use is measured by a series of questions including number of drinks per week and per sitting. Frequency of condom use was assessed for each type of sexual act asked, with reference to each partner since the last interview. Contraception use was assessed for each type of contraception using the question 'ever' used for each type of contraceptive device. Stress is measured by a question on satisfaction with living arrangements and a 39-item modified life events screen (questions on whether a particular stressor occurred and if it caused stress). In previous works (Shain et al. 1999, 2002, 2004), factor analysis yielded five underlying dimensions of stress: basic material needs, partner problems, lack of emotional/financial support from others, pregnancy ambivalence and crime victimization. These factors can each, potentially, be used as additive scales (Cronbach's alpha >0.7 for each) or dichotomous screens (at least one item in a given dimension) and can be combined to create a multidimensional measure of stress.

Depression was measured with the Center for Epidemiologic Studies – Depression Scale (CES-D), which has been used extensively among minority groups with good reliability and adequate convergent and discriminant validity (Radloff 1977) (CES-D alpha = 0.88).

Sexual and physical abuse was assessed through self-report questions screening for physical, sexual and psychological abuse during childhood and adolescence. The Abuse Screen was developed specifically for use with this population and consists of 10 items (overall alpha 0.81) (Champion et al. 1997). Initial principal components factor analysis with varimax rotation produced two factors, a six-item sexual abuse factor (Cronbach's alpha 0.82) and a four-item combined physical and psychological abuse factor (alpha 0.62). Sexual abuse was assessed with six questions: 'Has anyone ever . . . (1) made you have sex when you didn't want to; (2) made you afraid to say no to sex; (3) knowingly hurt you during sex (4) made you have sex without a condom (5) had sex with you when you were high or out of control; and (6) forced you to do things you didn't want to by threatening to hurt you'. Physical abuse was assessed with two questions: 'Has anyone ever . . . (1) used a gun, knife or other weapon against you; and (2) hit you, held you down or tried to choke you?' Psychological abuse was assessed with two questions: 'Has anyone ever . . . (1) constantly criticized you and put you down; and (2) acted with extreme jealousy?' A history of childhood molestation was also assessed through self-report: 'Has anyone ever . . . sexually molested you?' These questions were constructed to assess the nature of physical, sexual and psychological abuse or childhood molestation in relationships among adolescent women. These sensitive sexual questions are framed in a way as non-threatening as possible. Difficulty was not encountered when eliciting this information. These questions have been modified over the past 15 years through conducting research with this population to progressively refine assessment of these factors.

Established procedures were followed to ensure consistency in training and inter-rater reliability. Each interviewer received extensive instructions and spent approximately 2 weeks observing interviews, and then was directly observed. For months afterwards, the principal investigator randomly chose interviews to review for completeness and internal consistency. All interviewers for the programme were women and were selected for the programme because they showed positive feelings about low-income minorities, were courteous and warm, and were comfortable with sexuality questions and discussion of abuse, substance use and STI/HIV. When a participant asked for

clarification of a question, the interviewers were trained to allow consistent clarification of each question.

Statistical analysis

The approach to the analysis process was to examine the data carefully to describe and understand relationships among variables before proceeding to more complex levels of multivariable statistical models to perform tests of effects. Analyses included contingency tables, *t*-tests and chi-square analyses to describe sexual and physical abuse, including childhood molestation, and sexual risk behaviour, including substance use and sex work, at study entry.

Results

The majority of women in the study had a history of abuse (87%), including sexual (52%), physical (67%) and psychological (71%). Childhood molestation was reported by 25% of all women. Of those reporting abuse, sexual (59%), physical (77%) and psychological (82%) abuse was described. Childhood molestation was self-reported by 29% of those describing any history of sexual abuse. No descriptive differences in history of abuse or childhood molestation were found by ethnicity.

Analyses, including contingency tables, *t*-tests and chi-square analyses, were subsequently used to describe sexual risk behaviour, including substance use and sex work for adolescents reporting childhood molestation. Comparisons were made with adolescents reporting sexual or physical or psychological abuse but with no history of childhood molestation.

Women who had a history of childhood molestation reported more physical (77.3% vs. 63.9%, $P = 0.002$) and psychological (92% vs. 64%, $P = 0.000$) abuse than those without. These women also experienced more forms of abuse including sexual, physical and psychological (see Table S1).

Socio-demographic comparisons were made among women by self-reports of physical, sexual and psychological violence and childhood molestation. The comparisons are described in Table S1 and include the following. Fewer women with a history of childhood molestation attended school yet self reported more arrests, convictions, incarcerations and probations than those without this history. Concerning sexual relationships, more women with a history of childhood molestation were currently involved with partners or were dating more than one person.

Stressors also appeared higher for women reporting childhood molestation as they had higher levels of depression, had ran away from home (66.7%), had thoughts of death (34%) and had attempted suicide (29.1%) more often than those without this history (see Table S1).

There were no differences among women by history of child molestation concerning previous STI/HIV testing (see Table S1). Those reporting child molestation history experienced a higher incidence of chlamydia. No differences were found for previous contraceptive use among groups of women (Table S1). Fewer women reporting childhood molestation had ever been pregnant; however, more of these women reported having sex for 1 year without using any birth control and not becoming pregnant. There were no differences among these groups in their reported use of condoms or birth control (Table S1).

Comparisons of the following sexual risk behaviours for women with reports of childhood molestation vs. those without are listed in Table S2. Overall, women reporting childhood molestation also reported higher sexual risk behaviours than those without this history. These behaviours included an earlier age at first sex, older age of male partner at first sex and more lifetime partners. These women also reported more bisexual relationships and participation in anal, oral and group sex. Women reporting childhood molestation reported significantly more sex with friends with benefits. Although not significant, they also reported more sex for money and sex to return favors than women without a history of childhood molestation (Table S2). Overall, significantly more women reporting childhood molestation reported a combination of sex for money or favors, or sex with friends with benefits.

Women reporting childhood molestation reported drug (89.4%) and alcohol (84.4%) use and cigarette smoking (88.7%) more often than others (Table S2). Significantly higher use of multiple drugs (2.57 vs. 1.89) was found among these women including marijuana (87.2%), cocaine (48.9%), ecstasy (19.1%), heroin (17%), methamphetamines (19.1%), benzodiazepine (45.5%) and inhalants (9.2%) (Table S2). These women also self-reported having an alcohol problem more often than those without a history of childhood molestation. Getting high and losing control were reported by women with childhood molestation as a reason for sex with multiple partners more often than for those without this history. These women also reported having sex when they did not know what was happening or were out of control more frequently.

Discussion

Previous studies (Champion 2007; Champion et al. 2004, 2005) found that among African American and Mexican American adolescent women with STI, those with a history of sexual or physical abuse had higher sexual risk behaviours including earlier age at first coitus, multiple sex partners, substance use, relationships with high-risk partners who used substances and self-perceptions as being at higher risk for HIV without reported differences in previous HIV testing. New study findings reported in this paper indicate that among African American and Mexican American adolescent women with a history of STI and sexual or

physical abuse, those with a history of childhood molestation engage in even higher sexual risk behaviours than those experiencing other forms of abuse. These findings contradict those of Joiner et al. (2007), who concluded in a retrospective study that childhood physical and sexual abuse should be seen as a greater risk factor than molestation.

Adolescents with a history of childhood molestation in this study had more relationships with friends with benefits with whom they had sex either for money or to return favors. Other sexual risk behaviours reported more frequently by these women included group and anal sex and bisexuality. Substance use was extremely high. Particularly evident was multiple drug use, including high levels of cocaine, benzodiazepine, heroin and ecstasy use, while many reported having a problem with alcohol. These behaviours may have contributed to recurrent abuse as relationships in the context of substance use can potentiate sexual or physical abuse. These contexts include sex for drugs or alcohol leading to sex when high or out of control, placing these adolescents at risk for STI/HIV acquisition.

Adolescents with a history of childhood molestation reported multiple experiences of sexual, physical and psychological abuse more often than other women in the study. Considering that sexual or physical abuse may occur within an environment that includes acquaintances, friends or relatives, it is important to note that cultural perspectives concerning sex role identification and traditional family structure can have an impact on abuse, affecting adolescent women's sexual risk behaviour (Costa et al. 1995; Goldner et al. 1990). A recent study identified a link between a mother's and a daughter's childhood sexual experience and adult substance use; a mother's childhood sexual experience and substance use was a strong predictor for a daughter's childhood sexual experience and adult substance use (Rojas et al. 2010).

Adolescents with a history of sexual or physical abuse may find themselves in situations where questions concerning the male partner's role concerning sexual behaviour may not be questioned (sex with substance use, sex work, transmission of STI). They may not have family support concerning changing of male partner's behaviour, as sex roles within their families of origin are often similar to those of their partner (Billy et al. 1994; Cavarano 1991). This family environment may provide a precedent for the high levels of school dropouts, arrests, depression and suicide attempts found among adolescent women who reported a history of sexual or physical abuse in this study. It is of great concern that women in this study who reported childhood molestation experienced even higher levels of each of these behaviours than those reporting other forms of sexual or physical abuse.

One of the most consistent findings in studies of adolescent risk behaviour is that problems are interrelated. Relationships described in this paper concerning sexual or physical abuse and childhood molestation, substance use, high-risk sexual behaviour and sex work are representative of these findings. These relationships are not inevitable, but are large enough and consistent enough to justify a focus on factors influencing the development of multiple risks and on interventions likely to reduce the numbers of adolescents with these problems. One way of gauging the importance of a focus on multi-risk adolescents is to look at the proportion of all risks for which they account. Findings indicate that adolescents with two or more risk behaviours (i.e. substance use and high-risk sexual behaviour) account for a majority of arrests or negative health outcomes related to these behaviours (Biglan & Cody 2003). Many negative health outcomes were experienced by women in this study including arrests, depression, substance use, suicidal ideation, sex work and STI, all of which occurred most frequently among those with a history of childhood molestation.

Implications for practice

Sweeping conclusions cannot be drawn from one investigation; however, these study findings highlight the need for preventive, family-oriented interventions on a community level that consider the broader needs of sexually or physically abused and molested adolescent women. The study results imply that developing such a strategy requires a better understanding of the complicated interactions among individual and environmental factors affecting these families. At a minimum, families at risk can be screened in health and human service settings and provided with necessary linkage with communities' resources for improving family health and well-being. Wehler et al. (2004) found that risk factors for child hunger included mothers' childhood molestation, and that the odds of hunger, although affected by resource constraints in low-income female-headed families, were also worsened by mothers' poor mental health. Conclusions were that eliminating hunger may thus require broader interventions than food programmes. Based on these findings, a recommendation would be to provide individual-level interventions through health and human services settings.

Individual-level interventions provided by multidisciplinary teams of health care professionals, including nurses, may consist of a combination of workshop sessions and both individual and support group interventions. Interventions may include STI/HIV transmission and contraception knowledge and information regarding psychosocial and physical effects of sexual or physical abuse or childhood molestation. This knowledge and information is intended to promote recognition that one is susceptible to contracting diseases, involvement in sex work, substance use and recurrent abuse as a consequence of sexual or physical abuse or childhood molestation. The interventions may

focus on effective steps that can be taken to prevent STI/HIV, substance use and abuse. These steps, presented in a manner to make partner relationships and sexual activity enjoyable (decreasing substance use), may promote healthy relationships. The interventions may focus on increasing levels of personal efficacy through modelling (i.e. negotiating safe sex, contraception, sex without substance use or multiple partners). Skills training, particularly sexual communication skills, social skills in meeting new partners and sexual skills (saying 'no' to unprotected sex, sex work or substance use and using condoms erotically so as to increase satisfaction), are indicated. Interventions for peer support for promotion of behaviour change are also indicated. These may be provided by having intervention members support one another and teaching them to mobilize support in their home environments.

These study findings indicate that sexually or physically abused adolescents, particularly those who have experienced childhood molestation, have high levels of psychological distress, including depression and suicidal ideation, that can adversely affect the efficacy of individual-level behavioural interventions. Therefore, individual and support group sessions entail a focus on processes, including psychosocial resilience and protective mechanisms (Rutter 1987). These individual and support group interventions may help the individual overcome psychological distress, substance use and psychological sequelae of childhood molestation and abuse, primarily depression, as well extricate herself from an abusive relationship and avoid future abusive relationships such as those encountered in sex work. Individual and support groups also entail a focus on the dynamics of abusive relationships, sex work, substance use and STI/HIV so that these adolescent women understand they are not 'bad', with sole responsibility for abuse. The sessions may also address interpersonal, problem-solving and decision-making skills to assist in coping more effectively with life, and support for and information on substance use treatment, job training, alternative employment opportunities and agencies that help adolescent women so that they can maximize their chances of extricating themselves from or avoid abusive relationships, substance use, sex work and STI/HIV. With individual counseling to provide the confidentiality necessary for disclosure of intimate concerns, and support group interventions to provide the social support often missing in disrupted lives, risk reduction may occur.

Conclusions

Interventions addressing a multiplicity of risk behaviours are needed for adolescent women with a history of physical and sexual abuse, particularly those with a history of childhood molestation and STI for prevention of sexual risk behaviour including substance use, sex work, STI/HIV and other sequelae of these risks. The identification of associations of sexual risk behaviours with sexual and physical abuse and childhood molestation has important implications for programmes designed for reduction in risk behaviour. If programmes focus on only one behaviour, they may be less likely to have a large impact. If programmes are to markedly reduce risk, in combination, they may need to address sexual risk behaviour in multiple domains. Many of the sexual risks may be the same ones associated with other behaviours. Given that multiple risk behaviours affect sexual risk taking, programmes that focus on multiple behaviours within each group on an individual and group basis may be the most effective. Nurses and other health care professionals involved in development and implementation of international STI/HIV community health interventions for vulnerable populations of adolescent women are compelled to address the multiplicity of behaviours associated with sexual risk to assure the possibility for success.

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Supporting information

Additional Supporting Information may be found in the online version of this article:

Table S1 Characteristics of adolescent women with and without a history of childhood molestation

Table S2 Sexual risk behaviour among adolescent women with and without a history of childhood molestation

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