Sexual Violence Against Women: Impact on High-Risk Health Behaviors and Reproductive Health

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Sexual violence against women is a prevalent problem (Tjaden & Thoennes, 2000) that may adversely affect many aspects of health. This paper will present a brief overview of research findings concerning the impact of sexual violence on females' high-risk health behaviors and reproductive health, focusing on studies of sexual assault or rape experienced primarily during adulthood. Given that most research on sexual violence experienced by adult women also includes adolescents in the samples (often those 14 years of age and older), the research presented here examines females in this wider age range. Research focused exclusively on sexual violence against children is not reviewed here, even though it is clear that such childhood victimization may have long-lasting negative effects on women's health. Furthermore, two of three women who experienced sexual victimization as children will be revictimized (Classen, Palesh, & Aggarwal, 2005). Therefore, childhood sexual abuse, in addition to being a risk factor for many health problems, is a significant risk factor for sexual revictimization (Coid et al., 2001). A discussion of sexual revictimization is important in its own right and thus beyond the scope of the discussion here. Nonetheless, we encourage readers to keep in mind that at least some of the adverse health effects of sexual violence may begin as a result of women's victimization as children, and that subsequent victimization may exacerbate women's health problems (Macy, 2007a).

Following the description of research studies concerning the impact of sexual violence on women's high-risk health behaviors and reproductive health, the scientific methods commonly used in these studies will be discussed, noting some strengths and limitations of these techniques. In addition, some of the implications of the research findings for practice and policy will be presented.

Numerous social and economic factors, such as poverty and lack of social support, and the many forms of discrimination (racism, sexism, homophobia, ableism, ageism, etc.) may influence women's experiences of sexual violence and how such violence affects women's health. However, given the brevity of this document, comprehensive discussion of these important social and economic factors is not possible. Nonetheless, readers should be aware of the important roles that sociocultural context and socioeconomic status play in women's experiences of sexual violence.

Sexual Violence and High-Risk Health Behaviors

Many studies have found that women who have experienced sexual violence are more likely than other women to engage in various types of high-risk health behaviors, including substance use and unsafe sexual behaviors.

Substance Use

Studies indicate that the use and abuse of substances is more likely among women who have experienced sexual violence during adulthood compared to women who have not experienced such violence (Gidycz, Orchowski, King, & Rich, 2008; Hankin et al., 1999; Irwin et al., 1995; Kaukinen & DeMaris, 2005; Skinner et al., 2000).

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Moreover, this association has been noted for all types of substances, including alcohol, illicit drugs and prescription drugs.

A few studies have asked if women's substance use began prior to sexual victimization or if the survivor began using substances as a result of sexual violence. One such study found that sexual assault survivors reported increased alcohol use after victimization, while a comparison group of traumatized car crash survivors reported decreased alcohol use after their traumatic event (Deliramich & Gray, 2008). A study of female body builders found that those who were rape survivors were more likely than the other women to use anabolic steroids, with the survivors initiating steroid use to enhance their defensive ability (Gruber & Pope, 1999). Research with women who were physically and sexually abused by their intimate partners (including previous or current spouses, common law partners, boyfriends or girlfriends) found that 10% of those who experienced one sexual assault by their partner reported beginning or increasing substance use after this violence, and 33% of those who experienced multiple sexual assaults by their partner reported beginning or increasing substance use after these assaults (McFarlane et al., 2005a).

Only a few studies have conducted longitudinal investigations that follow women over time to examine the timing of women's sexual assault experiences during adulthood in relation to their use of substances. One such study assessed a selected sample of 93 women, all of whom consumed at least 3-4 drinks per occasion at least once a week, had more than one male sex partner in the past year, and had sexual intercourse within the past month (Testa & Livingston, 2000). Following the women over time showed that those who used higher levels of alcohol at the initial assessment were more likely to experience some type of sexual aggression at follow-up, including unwanted sexual contact, sexual coercion, attempted rape, and rape. However, women who experienced sexual aggression at the initial assessment were not more likely to use higher levels of alcohol at follow-up. Thus, in this select sample of women, higher levels of alcohol use were predictive of later experiences of sexual aggression, but experiences of sexual aggression were not predictive of later increases in alcohol use.

These aforementioned findings of Testa and Livingston (2000) are not consistent with those of another longitudinal investigation, namely, the National Women's Study, which studied a representative sample of 3006 women (Kilpatrick, Acierno, Resnick, Saunders, & Best, 1997). This study found that women who were previously violently assaulted (including sexual or physical violence) showed later increases in both alcohol and drug use. Moreover, women's drug use (but not alcohol use) was associated with an increased likelihood of experiencing a violent assault later in life. This research is different from the other studies discussed here because it did not separately examine the impact of sexual violence disentangled from physical violence. It is reported here because there are so few methodologically rigorous studies of the timing of sexual violence and substance use/abuse among women.

In summary, research demonstrates a relationship between women's experiences of sexual violence during adulthood and their use and abuse of substances. Although studies suggest that substance use/abuse is a risk factor for sexual violence victimization, and although the experiences of sexual assault advocates and counselors indicate that sexual violence survivors may increase their use of substances in response to these traumatizing experiences, additional longitudinal research is needed to clearly understand the relationship and timing between women's experiences of sexual violence and their use and abuse of substances.

Unsafe Sexual Behaviors

Research has found that women who have experienced sexual violence during adulthood have an increased likelihood of engaging in unsafe sex practices, including having multiple sex partners (which increases their risk of acquiring a sexually transmitted infection), not negotiating condom use with sex partners, having sex with a man who is not using a condom, trading sex for money/drugs, and having sex with an HIV-infected partner. For

example, research with 540 female undergraduates found that those who experienced sexual assault at age 14 or older had a higher probability of having multiple sex partners during college than non-victimized women (Gidycz et al., 2008). A study of 165 African American women found that those who had been raped after age 15 had a lower probability of negotiating condom use with sex partners and had a higher probability of frequently engaging in sex with men who did not use condoms (Wingood & DiClemente, 1998). Another study found that women who had been raped in the past year had an increased likelihood of having traded sex for money/drugs and having had sex with an HIV-infected man during the past year (Irwin et al., 1995).

Few studies have examined the timing of women's experiences of sexual violence during adulthood and their engagement in high-risk sex behaviors. One study that did examine this timing asked women how their sexual behaviors had changed after being raped and found that 48% of the women reported engaging in sex "less frequently," 18% reported engaging in sex "more frequently" with more partners who used condoms, and 34% reported engaging in sex "much more frequently" with many more sexual partners who often did not use condoms (Campbell, Sefl, & Ahrens, 2004).

Sexual Violence and Reproductive Health

Studies have investigated how sexual violence experienced during adulthood affects women's reproductive health, including gynecologic injuries and symptoms, sexually transmitted infections, pregnancy, and gestation and pregnancy outcomes.

Gynecologic Injuries and Symptoms

Sexual violence survivors often experience gynecologic injuries and other kinds of gynecologic symptoms. A hospital-based investigation of female sexual assault survivors found that 20% evidenced genital-anal trauma (Sugar, Fine, & Eckert, 2004). Analysis of data from three randomly selected samples of more than 4,000 U.S. women found that those who had been sexually assaulted had higher probabilities of experiencing dysmenorrhea (severe pain during menstruation that limits women's activities), menorrhagia (excessive or prolonged menstrual bleeding), and sexual dysfunction (Golding, Wilsnack, & Learman, 1998).

Sexually Transmitted Infections

Female sexual violence survivors have been found to have an elevated prevalence of various types of sexually transmitted infections (STIs), including gonorrhea, chlamydia, syphilis, herpes simplex virus, human papillomavirus, and human immunodeficiency virus (Kalichman, Sikkema, DiFonzo, Luke, & Austin, 2002; McFarlane & Malecha, 2005; McFarlane et al., 2005a; Reynolds, Peipert, & Collins, 2000; Zierler, Witbeck, & Mayer, 1996). Such infections may lead to other extremely serious health problems, including pelvic inflammatory disease, chronic pelvic pain, infertility, cervical cancer, and AIDS.

Although sexual assault survivors often have STIs, it is challenging to estimate the extent to which these infections are the result of sexual violence (Reynolds et al., 2000). Such estimation is difficult because women's risk of infection varies by their susceptibility, the type of sexual assault experienced, and the organisms transmitted. Moreover, women are not always seen by health care providers immediately following the assault to allow timely STI screening, and women may not attend follow-up health care visits to allow for the detection of new STIs. One study found that 43% of female rape survivors seen within 72 hours of the incident had an STI acquired prior to the rape; approximately 20% of the women who were STI-negative at the initial exam had developed a rape-induced STI two weeks later (Jenny et al., 1990).

Pregnancy

Sexual violence may result in pregnancy. The National Women's Study estimated a national rape-related pregnancy rate of 5% per rape among females of reproductive age (Holmes, Resnick, Kilpatrick, & Best, 1996). Rape-induced pregnancy

may be increased among women sexually assaulted by intimate partners, with one investigation finding that 20% of 100 women who were sexually assaulted by their intimate partners reported such pregnancies (McFarlane et al., 2005b; McFarlane & Malecha, 2005).

Gestation and Pregnancy Outcomes

Although studies indicate that pregnant women may experience sexual violence, little research has examined how this violence affects gestation and pregnancy outcomes. One study found that 2% of sexual assault survivors were pregnant at the time of the assault, and although no spontaneous abortions or deliveries occurred within four weeks post-assault, many women delivered low birth weight infants (24%) and preterm infants (16%) (Satin, Hemsell, Stone, Theriot, & Wendel, 1991). Another study of women who had been pregnant during the past year found that 60% of the 30 women who miscarried experienced intimate partner sexual violence during the past year, compared to 27% of the 88 women who delivered live born infants (Moreland, Leskin, Block, Campbell, & Friedman, 2008).

Research Methods Used in These Studies

As can be seen from the studies highlighted here, a variety of research methods have been used to examine women's experiences of sexual violence in relation to their high-risk health behaviors and reproductive health. Some of the methodological strengths and limitations of these approaches will now be described.

Sexual Violence Assessments

The assessments of sexual violence used in the aforementioned studies have both strengths and weaknesses. One of the strengths is that most studies have assessed sexual violence using sophisticated psychometrically-sound assessment techniques comprised of multiple questions. Another of the strengths is that most assessments pose questions using specific behavioral terminology rather than using terms that may be interpreted differently by different persons. For example, a study might pose the question "Has anyone ever physically forced you to have unwanted intercourse?" instead of asking "Have you ever been raped?"

A common weakness of many of the assessments used in this body of research is that the assessments typically focus only on sexual assault and rape; therefore, less is known about the potential impact of other forms of sexual violence on women's health. In addition, most of the studies examined here assess sexual violence based solely on self-reported data from sexual violence survivors. Although women's self-reports often provide the best information researchers can gather concerning these experiences, exclusive reliance on such data may under-detect sexual violence since some women do not wish to disclose this information due to embarrassment, denial, shame, or concern about what will happen to themselves or their families. In addition, all research that relies on self-report may be affected by recall bias, especially when respondents are asked to recall events from the distant past. Finally, studies seldom gather detailed information on the contextual factors concerning the violent incident (e.g., sexual orientation, race, mental health status, socioeconomic status, violence severity, social relationship of the survivor and perpetrator, etc.) resulting in limited description of the social and situational context of sexual violence victimization.

Study Designs

Although all of the studies discussed here aim to understand how women's experiences of sexual violence affect their health, only a few of the studies use prospective longitudinal study designs that can truly determine the timing of sexual violence in relation to the health outcomes of interest. Some studies have gathered information on the timing of violence and health outcomes by asking women to recall when the violence first occurred and when the health symptoms first occurred. Such retrospective approaches are valuable, but they are limited in that they rely on the respondent's recall of the timing of events.

Samples

Many of the studies described here have limitations due to the sample populations. For example, although a few investigations have used sophisticated techniques to identify and study nationally-representative samples of women, most studies have been conducted with convenience samples recruited through health clinics, sexual violence survivor service agencies, or the media. Since women recruited by these methods may not be representative of all women, it is not possible to generalize the study findings from these select groups of women to the broader population of all women. Another generalizability concern is that many studies have a low response rate; therefore, it is unclear as to whether those who participate in the study are representative of all those who were invited to participate in the study (i.e., even though information is available about the experiences of those who volunteer to be in the study, their experiences may be different from those who do not volunteer to be in the study). Some studies include comparison groups of women who have not experienced sexual violence; however, many investigations focus exclusively on sexual violence survivors. Without a comparison group it is difficult to determine whether the effects seen among the violence survivors are truly attributable to sexual violence. Finally, many investigations in this area have small sample sizes, limiting the power of the statistical analyses to detect relationships among the study variables. Even when studies have large samples, the statistical power can be low if there are relatively few participants in the categories of greatest interest (e.g., sexual violence survivors with a particular outcome).

Statistical Analyses

Although all of the studies reviewed here used statistical methods, many studies used only descriptive measures (such as means, percentages, and correlations), accompanied by simple statistical tests (such as t-tests and chi-square tests). Such approaches are helpful, but they do not take into account potentially important confounding and modifying variables, which may result in erroneous conclusions about the question of interest.

Implications for Practice and Policy

Even though there are methodological limitations in much of the research on how women's experiences of sexual violence during adulthood impact their engagement in high-risk behaviors and their reproductive health, taken together, these research findings offer suggestions for both practice and policy.

Screen for Sexual Violence

Given the prevalence of sexual violence against women (Tjaden & Thoennes, 2000) and its ties to behavioral and reproductive health problems, health and human service professionals should be well-trained on how to appropriately and sensitively screen their clients for such violence so that any needed interventions may be put into place (Macy, 2007b; McFarlane & Malecha, 2005). For example, providers can facilitate a violence survivor's engagement in sexual assault survivor services through service referral. Such screenings are also necessary so that providers can adapt their exam techniques and health interventions to provide trauma-informed services that do not re-traumatize sexual violence survivors.

Appropriately trained providers are encouraged to ask patients and clients about their lifetime experiences of sexual violence using written questionnaires and face-to-face clinical interviews to facilitate disclosure concerning this sensitive topic. Sensitive and appropriate screening practices include: (1) placing an emphasis on the confidential nature of the information given to the provider; (2) offering a supportive response to any disclosure of sexual violence (e.g., "I am so sorry that this happened to you. No one should have to endure such a terrible experience"); (3) conducting an assessment for current safety to ensure that the survivor is not currently in a dangerous situation; and (4) offering follow-up support and providing appropriate referrals (e.g., referrals to local sexual assault advocacy services) (Levenson, 2007).

Provide Trauma-Informed Services

Health and human services professionals working in the areas of risky health behaviors and reproductive health are encouraged to offer trauma-informed services to clients who have experienced sexual violence. Although research concerning trauma-informed services is still limited, there is growing evidence for the efficacy of these service delivery strategies in the areas of mental health and substance abuse services (Harris & Fallot, 2001; Najavits, 2002). Elliott and colleagues (2005) developed a set of principles for providers who wish to offer trauma-informed mental health and substance abuse services, recommending that providers: (1) recognize that recovery from trauma is a primary goal for sexual violence survivors; (2) emphasize collaboration and partnership with survivors in their interventions, including their development of goals; (3) maximize survivors' choice and control over recovery; (4) respect survivors' needs for safety, respect and acceptance; (5) emphasize survivors' strengths; (6) minimize any possibility of re-traumatizing survivors in the delivery of services; and (7) provide interventions in a culturally competent manner.

Although these trauma-informed service principles were developed for use by mental health and substance abuse providers, other care providers may use these principles to guide their provision of trauma-informed care. Thus, all providers should strive to: (1) be respectful of their patients as survivors of sexual violence; (2) share information and offer treatment choices; (3) seek feedback from the survivor by informing her of each procedure before starting it and asking if she is "okay" to proceed to the next step, and allowing her to stop any procedure; and (4) allow enough time at the end of the appointment for questions (Schachter, Stalker, Teram, Lasiuk, & Danilkewich, 2008). In addition, providers and advocates are encouraged to: (1) educate survivors about how their experiences of sexual violence may affect how they feel about going to a health care provider (e.g., heightened anxiety, triggered traumatic memories); (2) enable survivors to choose a female or male provider depending on their comfort and preferences; (3) enable survivors to arrange their health care appointments early in the day to reduce their anxious feelings about the appointment throughout their day; (4) use culturally-informed service strategies and bilingual staff as appropriate; (5) have a health care office or clinic environment that is supportive (e.g., have posters about sexual violence on the walls, offer safety cards in exam rooms and bathrooms); and (6) provide a private place for screening (Schachter et al., 2008). In addition to trauma-informed care, survivors can also benefit from sexual assault advocacy services (Campbell, 2006). Thus, providers should develop collaborative working relationships with the sexual assault advocacy programs that serve their communities. Such collaborative relationships will help facilitate referral and service coordination so that survivors' needs are met.

Importance of Long-Term Advocacy Services for Survivors

Sexual assault advocacy services often begin by helping survivors address their needs in the immediate aftermath of the assault, including information and help with the collection of evidence, managing the legal process, and with the emotional consequences of the assault. Such services are critical for survivors' well-being. However, as the research highlighted in this report shows, sexual assault may have far-reaching consequences for women's health and well-being, including engaging in high-risk health behaviors and having reproductive health problems. Fortunately, best practices in sexual assault advocacy recommend that advocates continue to engage with and support survivors for as long as is necessary to help the survivor regain her well-being and health. Therefore, sexual assault advocates are encouraged to offer services aimed at promoting survivors' lifelong health and well-being and to develop collaborative relationships with physical and behavioral health care providers in their communities by offering sexual assault education/training to the providers and advocacy support to the providers' patients. Advocates have specialized knowledge and skills that can help ensure that survivors receive needed health care interventions, as well as the other services necessary to ensure survivors' well-being.

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In Brief:
Sexual Violence Against Women: Impact on High-Risk Health Behaviors and Reproductive Health

Sexual violence experienced during adulthood may impact women's behavioral health and reproductive health. Research has found that women who have experienced sexual violence during adulthood are more likely than other women to use and abuse substances, including alcohol, illicit drugs and prescription drugs. A few studies have shown that women report initiating or increasing substance use after experiencing sexual violence; however, longitudinal research in this area is needed to clearly document the relationship between sexual violence and substance use/abuse.

Adult female sexual violence survivors are more likely than other women to engage in unsafe sex practices, including having multiple sex partners, not negotiating condom use, having sex with men who do not use condoms, trading sex for money/drugs, and having sex with an HIV-infected partner. Theorists propose that the links between sexual violence and unsafe sex behaviors are due to the trauma of sexual victimization; however, longitudinal research on this topic would help to illuminate ties between sexual violence and unsafe sex behaviors.

Sexual violence survivors often experience gynecologic injuries and other types of gynecologic symptoms. These include genital-anal trauma, dysmenorrheal (severe pain during menstruation), menorrhagia (excessive/prolonged menstrual bleeding), and sexual dysfunction.

Female sexual assault survivors often have elevated levels of sexually transmitted infections (STIs), including gonorrhea, chlamydia, syphilis, herpes simplex virus, human papillomavirus, and human immunodeficiency virus. One study estimated that 20% of sexual assault survivors who did not have a STI prior to the rape developed a STI within 2 weeks after the assault.

Research estimates a U.S. national rape-related pregnancy rate of 5% per rape among females of reproductive age. Although it is clear that even pregnant women may be sexually assaulted, there is little research concerning how such assaults affect gestation and pregnancy outcomes.

In summary, research has established links between women's sexual assault experiences and their behavioral and reproductive health. More longitudinal research is needed to clearly document the timing of sexual violence victimization and these health outcomes. Moreover, since most studies in this area focus on small convenience samples of women (such as patients), more research is needed with nationally representative samples of women.

Despite the methodological limitations of this research, taken together, the results have implications for practice and policy. Given that many sexual violence survivors experience behavioral and reproductive health problems, care providers in these areas are encouraged to screen their clients/patients for sexual violence and to provide trauma-informed services to sexual violence survivors. Policy makers and funders are urged to promote collaborative efforts to implement survivor-centered services within the legal, advocacy, and health service sectors.

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