

ADDICTIONS SERVICES

Women with Schizophrenia and Co-Occurring Substance Use Disorders: An Increased Risk for Violent Victimization and HIV

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ABSTRACT: Women with serious mental illnesses are at risk for victimization and HIV. Schizophrenia related neurocognitive and social competency deficits exacerbated by the effects of substance abuse may make women with schizophrenia particularly vulnerable. Information processing deficits may impair the ability to identify situations or interpersonal cues signaling danger, and make it difficult to remember and hence avoid, situations, people, or places previously proven dangerous. Social competency deficits interfere with the ability to form lasting relationships, negotiate out of dangerous situations, refuse unreasonable requests, and effectively problem solve. Given the potential increased vulnerability of this population to these negative outcomes, empirically based manualized preventive interventions are greatly needed.

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Drug and alcohol abuse by people with schizophrenia is extraordinarily common. An Epidemiological Catchment Area Study found that close to half of the patients diagnosed with schizophrenia have or have had an alcohol or illicit drug use disorder during their lifetime (Reiger, Farmer, Rae, Locke, Keith, Judd, & Goodwin, 1990). Research conducted in community mental health centers, particularly in the inner cities, reports even higher rates for both current and lifetime substance abuse (Ziedonis & Fisher, 1994). While people with schizophrenia suffer from the same negative social, economic, physical, and psychological outcomes linked with substance use as those without serious mental illnesses, they must also endure additional adverse outcomes. Substance use, even in small amounts, is correlated with symptom exacerbation, illness relapse, treatment non-compliance, and unstable housing (Osher, Drake, Noodsy, Teague, Hurlbut, Biesanz, & Beaudett 1994; Ziedonis & Fisher, 1994; Drake, Osher & Wallach, 1989). People with serious mental illnesses, the majority of whom have schizophrenia, have also been recently recognized as one of the highest groups for HIV risk (Cournos, 1997). This population is frequently subjected to violent victimization as well (Goodman, Rosenberg, Mueser & Drake, 1997).

While both men and women with schizophrenia are negatively impacted by substance abuse, the effects of substance abuse seem to strike women more severely. Research consistently demonstrates that women become intoxicated, addicted and develop substance related disorders sooner than men (Anglin & Fisher, 1993; Blume 1994; Lex, 1995; Lieber, 1993; Nixon, 1994; Schuckit, Anthenelli, Bucholz, & Hesselbrock, 1995). Studies also suggest that women who abuse substances are at greater risk for HIV and violent victimization. In response to this, there has been a push to develop more effective engagement, prevention, and treatment interventions for women who abuse substances (Califano, 1996; Center for Substance Abuse Treatment, 1994). However, one group of women substance abusers who have typically received very little research focus and about whom we know very little is women with schizophrenia and co-occurring substance use disorders. The difficulties linked with schizophrenia, such as cognitive deficits, poor social skills and social problem solving ability, combined with the negative consequences associated with substance abuse in women, may make this population particularly vulnerable. Consequently, it is the purpose of this paper to review the existing research which points clearly to the vulnerability of this mul-

tively handicapped population of substance abusing women to HIV and sexual and physical victimization.

Research investigating the prevalence of victimization and HIV in people with serious mental illnesses is reviewed first. A discussion of the evidence documenting the increased vulnerability of women who use substances to violence and HIV follows. How symptomatology, neurocognitive and social competency deficits unique to schizophrenia may be elevating the risk in this population of women beyond the level of risk experienced by women with other serious mental illnesses and women with substance use disorders only is also considered. Finally, suggestions for future areas of research are provided.

THE RISK FOR VIOLENT VICTIMIZATION AND HIV IN PEOPLE WITH SERIOUS MENTAL ILLNESSES

Researchers have only recently become aware that violence in the lives of women with serious mental illnesses is so common that its victims may simply view it as a part of daily living. While the lifetime rate of physical violence against women in the general community is reportedly between 21% to 34% (Browne, 1993), the prevalence rate for victimization is almost doubled that for women with serious mental illnesses. A review of inpatient and outpatient studies of women with serious mental illness found that between 42% and 64% of women reported adult physical abuse (Carmen, Ricker, & Mills, 1984; Cole, 1988; Herman, 1986; Jacobson, 1989). The wide range in prevalence across studies is attributable to methodological differences (e.g., chart reviews vs. in-depth interviews) and differing operational definitions of victimization. The figures for adult sexual abuse are just as alarming. Studies indicate that between 14% and 25% of adult women in the general community report having been raped (Koss, 1993). Once again, however, the prevalence rate for victimization is substantially higher in women with serious mental illnesses. Studies show between 21% and 38% of women with serious mental illnesses report having been sexually abused as an adult (Goodman, Dutton & Harris, 1995).

Despite the number of studies documenting the prevalence of victimization in people with serious mental illnesses, few studies, if any, compare prevalence rates across diagnostic groups. Given that the majority of people with serious mental illnesses have schizophrenia, this particular diagnostic group may be accounting for the high prevalence

rate. If this is the case, research needs to investigate what characteristics of schizophrenia may be contributing to increased risk so effective preventative interventions can be developed.

The risk for HIV in people with serious mental illnesses is also a growing public health concern. Research indicates that the infection rate for people with serious mental illnesses is 13 to 76 times greater than that in the general population (Carey, M., Carey, K., & Kalichman, 1997). The average seroprevalence rate of HIV in people with serious mental illness is 8.1%, with a range of 4% to 23% (Carey, M., Weinhardt, L., & Carey, K. 1995). In the general population, however, the average infection rate is 0.30% (Karon, Rosenberg, McQuillan, Khare, Gwinn, & Petersen, 1996; Rosenberg, 1995). Studies aimed at identifying the behaviors contributing to this increased HIV risk consistently demonstrate that people with serious mental illnesses regularly engage in a wide array of risky behaviors. For example, studies have found that between 4% and 10% of patients report having sex with intravenous drug users (Kelly, Murphy, Bahr, Brasfield, Davis, Hauth, Morgan, Stevenson, & Eilers, 1992; Cournos, Guido, Coomaraswamy, Meyer-Bahlburg, Sugden, & Horwath, 1994; Susser & Valencia, 1993; Kalichman, Kelly, Johnson, & Bulto, 1994), 17% acknowledge trading sex for drugs or money (McKinnon, Cournos, Sugden, Guido, & Herman, 1996), and 40% claim to have unprotected vaginal intercourse over the past year (Cournos, McKinnon, & Meyer-Bahlburg, 1993). Indeed, when compared to the general population, people with serious mental illnesses are 10 times more likely to report having injected drugs over their lifetime (14% vs. 1.4%) and twice as likely to report having more than one sexual partner in the past six months (30% vs. 17%; Cournos et al., 1993).

Recent research comparing HIV risk across different Axis I diagnostic groups provides preliminary data suggesting that people with schizophrenia are more likely to engage in certain risk behaviors. Specifically, people with schizophrenia, in comparison to other diagnostic groups, were significantly more likely to report having multiple partners (59% vs. 38%), to have traded sex (48% vs. 14%), and to have used drugs in conjunction with sexual interactions (51% vs. 22%; McKinnon et al., 1996). Because positive symptoms were not predictive of high-risk behaviors in this study, the authors conclude that there is nothing unique about the illness of schizophrenia that elevates risk. Instead, they argue that factors related to having a serious mental illness, such as poverty and drug dependence, are what increase the risk of this population. This study is limited, however, by the fact that there was

no measure of social competency and the Positive and Negative Syndrome Scale (Kay, Opler, & Fiszbein, 1990) was the only measure of cognitive functioning. This scale simply provides a relatively non-specific and subjective assessment of neurocognitive functioning. Given that deficits in neurocognitive functioning and social competency are what help differentiate schizophrenia from other serious mental illnesses it seems important to accurately determine if and how they contribute to HIV risk.

Finally, although there is no research specifically comparing the HIV risk of women with schizophrenia to the risk of women with other serious mental illnesses, there is enough indirect evidence to hypothesize that women with schizophrenia are more vulnerable. First, as mentioned previously, people with schizophrenia report engaging in certain high-risk behaviors more frequently than people with other serious mental illnesses. Second, research clearly shows that when women use substances, their risk for HIV is increased (Morokoff, Harlow, & Quina, 1995; Padian, Shiboski, & Jewell, 1990; Joe & Simpson, 1995).

THE RISK FOR VIOLENT VICTIMIZATION AND HIV IN WOMEN WHO USE SUBSTANCES

Research investigating the impact of substance abuse on women in the general population provides compelling evidence that their risk for not only HIV, but also for violent victimization is elevated. Women in drug abuse treatment programs typically report high rates of sexual and physical abuse. Evidence consistently indicates that about two thirds of the women entering substance abuse treatment have a history of sexual and/or physical abuse (Dunn, Ryna, & Dunn, 1994; Miller, Downs, & Testa, 1993; Paone, Chavkin, Willets, Friedmann, Deschenes, & Jarlis, 1992; Ladwig & Andersen, 1989; Resnick, Kilpatrick, Dansky-Sanders, & Best, 1993). Moreover, women in an outpatient substance abuse clinic were five times more likely than men to report sexual abuse (61% vs. 13%, respectively).

The risk of physical or sexual violent victimization for a woman is increased when the perpetrator of the assault has been drinking or when the victim herself has been drinking or has an alcohol problem. Early studies have demonstrated an increased risk for violence against women by intoxicated or alcoholic partners (Frieese & Schafer, 1985). More recently, however, researchers have begun to focus on women's

own drinking behavior and found increased violence from significant others when the women themselves were drinking or had a problem with alcohol (Miller, Downs, & Gondoli, 1989). In a study of spousal abuse among alcoholic and non-alcoholic women, alcoholic women were nine times more likely to be slapped by their husbands, five times more likely to be kicked or hit, five times more likely to be beaten, and four times more likely to have their lives threatened (Miller et al., 1989). Population surveys have demonstrated similar findings for relationship violence as well as for sexual assault and violent victimization in general (Amaro, Fried, Cavral, & Zuckerman, 1990; Kaufman, Kanto, & Asdigian, 1995). The possible explanations for this association between women's substance use and violence include the probability that men will perceive women who have been drinking as more sexually available and vulnerable to dominance (George, Gournic, & McAfee, 1988), and that the effects of the alcohol may make women less alert to the interpersonal cues that would customarily enable them to avoid or divert conflicts with partners as well as with other people (Wilsnack, 1995).

Violence is also closely associated with illicit drug use. A recent study exploring violence and trauma in inner city drug using women revealed that violent victimization was experienced by almost the entire sample (Fullilove & Fullilove, 1994). The experience of the violence was so traumatic that more than half of the sample reported symptoms consistent with Post Traumatic Stress Disorder. As mentioned previously, women's exposure to violence and trauma also occurs in the context of exchanging sex for drugs, particularly crack cocaine. Crack houses are centers of the sex trade, where women who are desperate for drugs trade sex to pay for their addiction (McCoy, Inciardi, Metsch, Pottieger, & Saum, 1995). These practices obviously place women substance abusers at greater risk for HIV as well.

Women are the fastest growing subgroup of AIDS cases (Erhardt, 1996). The proportion of AIDS cases among women aged 13 and older has increased steadily since 1983, tripling between 1985 and 1994 (Center for Disease Control & Prevention, 1995). In 1985, women accounted for only 7 percent of all new AIDS cases. In 1995, this figure more than doubled to 19 percent (U.S. Department of Health and Human Services, 1996). Among women diagnosed with AIDS, heterosexual transmission as the identified exposure source has more than doubled from 1983–1995, rising from 14 percent to 38 percent of cases (U.S. Department of Health and Human Services, 1996). For the majority of women (66%), heterosexual contact was with an at risk part-

ner (e.g., intravenous drug user) (Centers for Disease Control and Prevention, 1995).

Heterosexual women who abuse substances may be more susceptible to HIV than heterosexual men for three reasons: (1) the risk of contracting HIV from unprotected vaginal intercourse for a women with an HIV infected man has been found to be 12 times more likely than from an HIV infected woman to a man (Morokoff, Harlow, & Quina, 1995); (2) women are more likely to have an intravenous drug using partner with whom they have unprotected sex or share dirty needles or other injection equipment (Padian, Shiboski, & Jewell, 1990; Brown & Weissman, 1993; Castro, Valdiserri, & Curran, 1992; Edlin, Irwin, Farque, McCoy, Word, Yolanda, Inciardi, Bowser, Schilling, & Holmberg, 1994; Feucht, Stephens, & Roman, 1990; Mondanaro, 1987; Stephens, Feucht, & Gibbs, 1993) and (3) women are more likely to have unprotected sex with multiple partners to finance their addiction (Astemborski, Vlahov, Warren Solomon, & Nelson, 1994; Booth, 1994; Edlin et al., 1994; Freeman, Rodriguez, & French, 1994; Joe & Simpson, 1995; Kail, Watson, & Ray, 1995; Morokoff et al., 1995). Unfortunately, due to the nature of their mental illness, when women with schizophrenia use substances, their risk for victimization and contracting the HIV virus may be elevated to an even greater degree. In the next section of this paper, we explain how the neurocognitive, social skill, and problem solving deficits characteristic of schizophrenia may contribute to the vulnerability of this population of women substance abusers to sexual and physical victimization and the HIV virus.

RISK ENHANCING FACTORS IN WOMEN WITH SCHIZOPHRENIA AND CO-OCCURRING SUBSTANCE USE DISORDERS

Neurocognitive Deficits

People with schizophrenia suffer from numerous neurocognitive impairments (Green, 1996; Bellack & Blanchard, in press; Tracy, Josiasse, & Bellack, 1995) which potentially interfere with their ability to accurately evaluate risk or danger. They experience deficits in a host of specific information processing domains including diverse aspects of attention and memory and in executive functions necessary for initiating and carrying out higher order reasoning and problem solving processes. Evidence suggests that the source of many of these higher level

deficits may be a subtle neurodevelopmental anomaly that eventuates in a dysfunction of the dorsolateral prefrontal cortex (Weiberger, 1987). Deficits in attention may make it difficult for this population to focus on salient cues in the environment, which is necessary to identify situations or interpersonal cues signaling danger or increased vulnerability. Furthermore, memory impairments and problems with integrating previous experiences into ongoing processing may make it difficult for people with schizophrenia to remember and thus avoid situations, people or places that have proven dangerous in the past. This phenomenon, often described as "forgetting to remember" (Bellack & Blanchard, in press), results from the difficulty this population has with initiating cognitive and behavioral routines that are in their response repertoire. When people with schizophrenia use substances these neurocognitive impairments are substantially exacerbated.

Long term use of substances by people with schizophrenia, particularly alcohol abuse, is associated with increased neurocognitive impairments in abstract reasoning, learning, attention, and information processing, complex perceptual-motor abilities, and memory (Grant, 1987; Grant, Adams, & Reed, 1986; Parsons & Leber, 1981; Tarter & Edwards, 1985). Evidence suggests that these cognitive deficits persist despite months or even years of abstinence, which indicates possible irreversible neurological impairment (Brandt, Butters, Ryan, & Bayog, 1983; Fabian & Parsons, 1983; Parsons, Schaeffer, & Glenn, 1990; Ryan, Didario, Butters, & Adinolfi, 1980). Indeed, computed tomography, which provides three-dimensional images of structures within the body, has found enlarged brain ventricles and widened sulci in long-termed substance abusers indicating possible permanent structural brain damage (Jacobson, 1986; Mann, Batra, Gunther, & Schroth, 1992). While there is limited research available on the neurocognitive effect of non-alcoholic psychoactive substances, evidence suggests reason for concern (Reed & Grant, 1990). Poly-drug abuse has been demonstrated to be associated with neuropsychological impairment, especially in verbal and perceptual-motor abilities (Grant, Adams, Carlin, Rennick, Judd & Schoof, 1978), and electroencephalograph abnormalities (Grant & Judd, 1976). Studies also suggest that cocaine abuse is related to neurocognitive deficits (Herning, Glover, Koepl, Weddington, & Jaffe, 1990; O'Mally, & Gawin, 1990).

Finally, research demonstrates that women are more sensitive to substance related neurocognitive damage than their male counterparts (Acker, 1986; Glenn & Parsons, 1992). Despite the fact that women report *shorter* or *less* severe drinking histories than men, their

perceptual-motor skills, visual-spatial processes, learning/memory, and abstract problem solving are just as impaired. Consequently, the ability of women with schizophrenia who use substances to accurately and appropriately assess their risk for violence and HIV exposure may be particularly compromised.

Social Skill and Social Problem Solving Deficits

Social skill and problem solving deficits are another distinguishing characteristic of schizophrenia. These deficits potentially contribute to victimization and HIV risk by making it difficult to form long lasting relationships, negotiate out of dangerous situations, refuse unreasonable requests (e.g., to have sex without a condom, to share needles), and generate and implement effective solutions to rectify problem situations.

In a recent well controlled study of social problem solving, Bellack and colleagues found that people with schizophrenia consistently overestimated the effectiveness of poor solutions to problems enacted by others, their own solutions were less suited to the problem situation, were less capable of being implemented, and were less likely to work; and they were less able to implement effective problem solving strategies in conversations (Bellack, Sayers, & Meuser, 1990). People with schizophrenia have been previously shown to be unassertive and to have a variety of nonverbal and paralinguistic deficits (Morrison & Bellack, 1987). Bellack and colleagues have also demonstrated that people with schizophrenia are less persistent in defending their point of view and less able to negotiate solutions to conflicts.

As of yet there are no data comparing the social skills and problem solving ability of people with schizophrenia with no history of substance abuse to people with schizophrenia and co-occurring substance use disorders. We are, however, currently investigating this issue. One hypothesis suggested by the literature is that people with schizophrenia who use substances have better social skills than those who do not. This might parenthetically *increase* risk as they may be more able to access drugs and engage in sexual interactions. As discussed earlier, however, the neurocognitive impairments associated with schizophrenia and substance abuse may make it difficult to perceive danger. Furthermore, while social skills may be adequate enough to initiate and maintain conversations, problem-solving ability may not be sufficient enough to help prevent or escape from dangerous situations. Clearly, studies are needed to examine the relationship between sub-

stance abuse, social skills, problem solving ability, and the risk for victimization and HIV.

DIRECTIONS FOR FUTURE RESEARCH

There are many reasons why women with schizophrenia and co-occurring substance use disorders may be particularly vulnerable to HIV and victimization. When bombarded by internal stimuli, such as voices or paranoid delusions, they may appear preoccupied and perhaps disoriented. A confused or glazed look can also occur when they are overwhelmed by processing information from the world that surrounds them. Their non-verbal cues, body postures, and poor conversational skills often times convey insecurity and a lack of self-confidence. Add in a disheveled appearance and this population of women more than likely appear to be easy prey to potential assailants. Furthermore, years of experiencing stigma and social isolation may make this group of women eager to please individuals who give them attention and the promise of love and affection—regardless of how they are treated or what they are asked to do.

The context in which these women live also naturally elevates their risk. Typically, dually diagnosed women with schizophrenia live in impoverished, crime ridden, drug infested neighborhoods, which increases the probability of their exposure to HIV and victimization. Unstable housing and the lack of a safe place to be during the day only exacerbates the precariousness of their situation. Despite the fact, however, that intuition and existing research suggests that dually diagnosed women with schizophrenia may be especially vulnerable to negative outcomes, the research and clinical domains have paid little attention to them. Consequently, in order to help this multiply disadvantaged population of women, it is imperative that research be undertaken in this area. Information generated by future studies can then be used to guide the development of effective empirically based preventive interventions.

There are at least three domains that need to be explored by future studies: (1) differential risk; (2) contributing factors to risk; and (3) the context in which high-risk behaviors and victimization occur.

To effectively evaluate the differential vulnerability of this population of women to HIV and violent sexual and physical victimization, studies have to include informative diagnostic comparison groups. For example, a homogenous comparison group of substance abusing women

with major depression would enable researchers to determine the unique contribution of the neurocognitive and social skill deficits characteristic of schizophrenia to HIV risk and victimization. Another interesting, and perhaps necessary, comparison group would be substance abusing women with no history of serious and persistent mental illness. This control group would enable researchers to further isolate the effects of schizophrenia to risk above and beyond the contribution of substance abuse.

Once differential vulnerability of risk has been established, contributing factors need to be identified. As suggested in this paper, possible predictors of increased risk specific to schizophrenia are neurocognitive deficits in attention, memory, and in executive reasoning, as well as deficits in social competency. The predictive relationship between symptomatology and HIV risk and victimization also needs to be examined. Although in one recent study, positive symptoms were not predictive of HIV risk (McKinnon et al., 1996), this finding needs to be cross-validated with additional research. The potential protective factor of negative symptoms needs to be further validated as well. In other words, is the risk for violence and HIV less for people who experience more negative symptoms?

Other likely contributors to risk are poverty and substance abuse factors. Cournos and colleagues argue that simply having a serious mental illness may not be what increases risk for negative outcomes such as victimization or HIV. Rather, factors associated with serious mental illnesses, such as poverty, substance abuse, and even homelessness are what elevate vulnerability (Cournos, 1997). Furthermore, a recent 2-year longitudinal study of the relationship between violent assault and substance abuse in women revealed a vicious cycle in which illicit substance use increases the risk of future assault and future assault increases risk of subsequent substance use (Kilpatrick, Aciemo, Resnick, Saunders, & Best, 1997). Consequently, future studies need to include socioeconomic assessments, questions about housing stability, as well as substance use assessments which capture both the frequency, duration, and severity of use. A comparison group of women with substance abuse disorders and no history of serious mental illness would also be informative. This would maximize the possibility of detecting differences according to psychopathology and allow researchers to examine whether it is the psychopathology, poverty, or substance abuse (or some combination) which is related to HIV risk and victimization. Finally, the differential contribution of specific substances or categories of substances to risk would be useful. For exam-

ple, a recent study (Kilpatrick et al., 1997) found different patterns of results when considering the contribution of exclusive abuse of alcohol, a legal substance, versus marijuana and hard drugs, illegal substances, to victimization. This differential relationship needs to be validated for women with schizophrenia.

Contextual information about victimization experiences, HIV high-risk behaviors, and the events that precede them also need to be obtained. Such information would provide a better understanding of possible mechanisms by which poverty or substance use/abuse might increase risk. Routine activities theory (Laub, 1990) argues that victimization risk is directly related to a person's life-style and routine activities. If an individual's life-style and behavior increase the chances of coming into contact with potential perpetrators, then the probability of being assaulted is elevated. The purchase and use of illegal drugs obviously increases the chances that a woman will have contact with deviant individuals who may routinely sexually and physically victimize women (Kilpatrick et al., 1997). Research thus needs to determine if victimization occurs in the context of alcohol or drug use by either the assailant or victim as well as what percentage of assaults or high-risk behaviors occur in the context of an illicit drug purchase. Finally, the identification of the characteristics of the perpetrator would be helpful.

Living in the streets or in shelters may be another behavioral context that increases victimization risk and the propensity to engage in risky behaviors (e.g., trading sex for money). In one particularly eye-opening study, Goodman and colleagues found that the life-time risk for violent victimization for episodically homeless women with serious mental illness was so high (97%) that it could be considered a normative experience for this population (Goodman, Dutton, & Harris, 1995). Thus, an additional question is what proportion of assaults or high-risk behaviors occur when women spend nights in the streets or in shelters?

A final issue concerns prevention. Although information from the studies described above can be used to determine relevant content, research and common sense suggests that preventive interventions should involve both a didactic and a behavioral skill component to promote change. While a didactic segment will inform women *what* they are at risk for and *why*, a behavioral skill component will teach them *how* to increase their safety. A didactic curriculum, for example, should include information about what sexual and physical victimization entails (e.g., slapping, kicking, biting, or unwanted sexual touch-

ing or activity) as well as education about the AIDS virus and other sexually transmitted diseases and how they are contracted. Inclusion of this information is important because, as mentioned previously, research has demonstrated that victimization is so common in this population that many women view it as acceptable (Goodman et al., 1995). Furthermore, many people with serious mental illness hold false beliefs concerning HIV and its transmission (Kelly et al., 1992; Kalichman et al., 1994).

Women also need to be made aware of behaviors that may make them more vulnerable. Time needs to be spent helping these women identify environmental and interpersonal cues that signal danger as well. While discussing behavior that leads to increased risk, however, it is particularly important to make special efforts to avoid the tendency to blame the victim for being victimized. It needs to be made clear that the assailant, not the victim, is morally responsible for their violent behavior.

Preventive interventions, however, cannot simply stop at providing these women with facts. They need to be taught behavioral skills to increase their safety. Established literature on HIV prevention in people with serious mental illness clearly demonstrates that didactic training, while necessary, is not sufficient to promote reductions in HIV risk related behavioral change. In a review of the research literature on HIV prevention interventions, Kelly found that interventions that were successful in producing reductions in specific indicators of HIV risk, such as engaging in unprotected sex, included a behavioral skill component (Kelly, 1997). Typically the skills training in these interventions employed modeling, role-play rehearsal and other methods to teach condom use proficiency, sexual assertiveness to resist sexual coercion, and safer sex negotiation skills. A behavioral skills component would be especially important for people with schizophrenia because the presence of cognitive deficits makes it necessary for them to practice skills repeatedly in order to learn them (Mueser, Bellack, Douglas, & Wade, 1991; Mueser et al., 1992). Interestingly, many of the behavioral skill training elements used in successful HIV risk reduction interventions have been used successfully over the past 20 years in social skills training interventions aimed at improving social competency and social problem solving ability in people with serious mental illness (Smith, Bellack, & Liberman, 1996). An example of how a skills training model might be adapted as a HIV victimization preventive intervention is described below.

Training is conducted in a small group setting and consists of in-

structions, modeling by therapists, role-play rehearsal, feedback, and further role-play. Group members are requested to provide examples of situations in which they wanted to request that a partner use a condom or wanted to refuse sex. To further personalize each member's role-play, the specific context for the situation should be elicited, such as a name for the partner, where they are, and how the partner might react or what he might potentially say to the request for condom use. The therapist first provides some instruction and then models an effective response. She then invites the group member to role-play. Following the role play (which typically occurs with a group leader), positive feedback should be provided by the group leaders and members (e.g., I really like the way you let him know that using a condom protects him) as well as corrective feedback (e.g., it might be more effective to look him in the eye when you ask him to use a condom). Each group member role-plays his or her individual problem situation in turn. To obtain sufficient practice and to provide members the opportunity to incorporate feedback, individuals should each role-play each of their problem situations at least three times (Bellack, Mueser, Gingerich, & Agresta, 1997).

Victimization prevention is more complicated than HIV prevention simply because acting out previous situations in which the group member was victimized could be traumatizing. Consequently, to teach people how to assertively say no and/or escape dangerous situations, two or three standardized situations representing potential sexual coercion or physical abuse should be role-played. An example of such a situation might be the following: "It's Friday evening and a guy you met a few weeks ago has invited you over to his apartment. You enjoy his company, but you do not want to have sex with him. You are sitting on his couch talking, and he leans over and starts to kiss you on the neck. Through his words and actions, you can tell he's pushing to have sex." Although standardized situations may not be directly relevant to each member's experience, the lack of personalization makes it less likely that women will be re-victimized.

While our knowledge of the phenomena helps guide our adaptation of skills based interventions for HIV and victimization preventive interventions, a lack of understanding of the contributors of risk makes it difficult to determine which intervention strategies to emphasize. For example, do women with schizophrenia fail to perceive danger altogether (i.e., a social perception problem), or do they perceive danger but fail to protect themselves as a result of social skill and problem solving deficits, or is it a combination of both? Answering such ques-

tions empirically will help us maximize treatment effectiveness by effectively targeting the cause or precursor of risk.

CONCLUSION

There is no doubt that schizophrenia can cause great anguish in the people held in its grasp. As discussed in this paper, the complex psychopathology along with the numerous negative outcomes linked with the illness make schizophrenia particularly challenging and devastating. Unfortunately, there are multiple indicators suggesting that women with schizophrenia and co-occurring substance use disorders bear the additional burdens of an increased risk for violent victimization and HIV infection. Despite this potential increased vulnerability, however, women with schizophrenia and co-occurring substance use disorders have received little consideration. While initial work has begun with investigating and developing effective interventions for this population of women, it remains in its infancy. It is our hope that this paper will serve as a stimulus for both researchers and clinicians and generate increasing interest in this disadvantaged and under-served population of women.

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