HIV and Serious Mental Illness: Prevalence and Treatment Issues

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The Centers for Disease Control and Prevention (CDC) reported 57,806 new cases of AIDS in the United States in 1997. While this represents a reduction from the previous year, estimates still indicate that 0.6% of adult males and 0.1% of adult females are infected with HIV. The CDC also suggested, however, that these estimates of incidence and prevalence of HIV infections may be far too low due to poor rates of testing for serostatus among high risk groups. The availability of more effective treatments such as highly active anti-retroviral therapy (HAART) indicates that even as the incidence of new cases decreases, prevalence will not decrease proportionately since a reduction in mortality leaves a growing number of people infected with HIV. In addition, HAART is not uniformly available to those with HIV leaving open the possibility that those at highest risk may not receive the most intensive services. It is critical to continue to examine the pathogenesis of infection at the population level in order to combat its spread.

The argument has been made that individuals with schizophrenia and affective disorders, sometimes referred to as serious mental illnesses (SMI), are more likely than others to contract HIV and related diseases. Reviews of HIV risk as a consequence of schizophrenia suggest that this greater risk is a function of lower socioeconomic status, higher rates of substance use, homelessness, and risky sexual behavior including unprotected sex and commercial sex.

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This paper will review current research concerning the intersection of mental illness with HIV/AIDS as well as the associated treatment modalities and delivery issues.

Prevalence of SMI within HIV

The prevalence of psychiatric disorders has been found to be high among seropositive individuals. In a 1992 study of an inner city community, Myers and colleagues found a greater risk of psychiatric disorder among HIV-positive African-American males than those in the same community who were seronegative. By cross-referencing the New Jersey HIV/AIDS registry and Medicaid claims, Walkup and colleagues found that 5.7% of those on the registry had a diagnosis of schizophrenia, much higher than the national prevalence rate estimated to be 1%. In the same paper, they report that 6.8% of those on the registry received a diagnosis of major affective disorder for a total of 12.5% with a serious mental illness. Because this study relied exclusively on Medicaid claims (enrollees who had received some treatment), it was not possible to estimate the risk of having both serious mental illness and HIV compared to the Medicaid-enrolled population who may or may not have received treatment. Upwards of 12% of all Medicaid-eligible individuals treated for HIV/AIDS in Philadelphia were concurrently receiving services for a serious mental illness. A second study that crossed those claims with the Philadelphia AIDS Surveillance Registry revealed that upwards of 15% of HIV positive persons were receiving public mental health services for a serious mental illness through the public sector.

The prevalence of psychiatric disorders has also been found to be high among seropositive individuals. In a case-control comparison of HIV and general medical referrals, it was found that HIV-positive individuals were five times more likely to be referred for psychiatric services.

Prevalence of HIV within SMI

The argument has been made that SMI individuals are more likely than others to contract HIV. While no representative epidemiologic studies have been conducted to estimate seroprevalence of HIV in this population, several studies using convenience samples find alarmingly high rates of infection among those newly admitted to New York City inpatient facilities for SMI (5-8%), among homeless mentally ill men (19%), and among persons dually diagnosed with severe mental illness and substance abuse (23%). For individuals with SMI the attainment of balance in their behavior and healthy lifestyles may be difficult due to cognitive impairment, poor general health, insufficient social support systems, higher rates of substance abuse, homelessness and risky sexual behavior such as unprotected sex and commercial sex.

Despite a strong theoretical rationale, community prevalence estimates of HIV/AIDS among SMI-affected individuals are lacking, making it difficult to estimate the relative risk of HIV among those with SMI or the relative risk of SMI among HIV/AIDS patients. This lack of knowledge is
important for several reasons. If the prevalence of HIV is higher among those with SMI than it is among the rest of the population, then studies on the mechanisms through which this additional risk occurs and programs that seek to reduce this risk are needed. In addition, if a significant portion of those who are infected with HIV are also seriously mentally ill, then HIV/AIDS treatment programs must also contain a strong psychiatric component.

With few exceptions, studies that have examined the prevalence of seropositivity among people with psychiatric disorders have found rates higher than those expected in the general population. A convenience sample of 971 psychiatric inpatients found that 5.2% were seropositive. In a sample of 118 psychiatric inpatients with co-occurring psychiatric and substance dependence diagnoses, Silberstein and colleagues found 23% were seropositive. While a history of injecting drug use doubled the risk of seropositivity, a diagnosis of depression independently predicted seropositivity as well. In a sample of 62 psychiatric patients in a shelter for homeless men, 19% were found to be seropositive. At least five other studies with samples over 200 found seropositivity rates of between 5% and 7% in psychiatric populations.

In 2002, Blank, Mandell, Aiken and Hadley found that those with a diagnosis of SMI were about five times more likely to have received an HIV diagnosis than the general Medicaid population. This result persisted even after controlling for age, sex, race and length of time on welfare. While it may be that seropositivity precedes or is causally related to the development of a major affective disorder, especially major depression, it is also likely that schizophrenia and major affective disorders are risk factors for contracting HIV. These results were similar to those found in the study of New Jersey Medicaid claims. Walkup and colleagues estimate a treated prevalence of serious mental illness among those with HIV of SMI of 12.5% while Blank et al. found a treated prevalence of 12.3%, providing evidence for the robustness of the finding. Walkup and colleagues did not publish the percentage of HIV diagnoses among those with SMI and did not present a denominator of all Medicaid eligible individuals, so it is not possible to compare directly those rates and risks with the rates and risks presented in this study.

There are, however, distinct limitations to the study due to the bias in the estimates of risk of co-occurrence of HIV and SMI. It may be that individuals with both diagnoses are more likely to come into contact with the health system as a function of their co-occurring disorders. This form of bias is often referred to as hospital or Berkson’s bias. Berkson described this bias as arising from the fact that individuals with two conditions may seek treatment for either one, therefore increasing the probability that they will come into contact with the healthcare system and be diagnosed with the other condition. Therefore prevalence estimates of a second condition gleaned from a treated sample are likely to overrepresent both the second condition and the co-occurrence of the two conditions in the general population. A number of studies have found increased comorbidity in treated populations compared to untreated populations for both psychiatric disorders and physical health conditions.
Substance Abuse and Treatment

Recent work also shows that comorbid substance abuse is common among individuals with severe mental illness and they suffer serious adverse effects from it. The manner in which services are delivered to individuals with substance abuse and mental health illness may be linked to treatment retention rates and reduction in risk behaviors. Recent evidence indicates that separate services for individuals with co-occurring substance abuse and mental illness are less effective than treatment programs that integrate mental health and substance abuse.27 Findings from the ECA suggest that lifetime substance abuse disorders occur in 17% of the general population, 48% among persons with schizophrenia, and 56% of persons with bi-polar illness.28 A review of the literature concluded that between 25-35% of persons with SMI were current, active substance abusers.29 Evidence also shows that factors related to substance abuse in the general population such as being young, urban, male, single and poorly educated also are operative in developing SMI.30 It is also clear that any level of substance use compromises the effectiveness of mental health treatment.27 While these investigations are not able to shed any light on causal pathways between SMI and HIV infection, it is clear that SMI-affected individuals who also abuse substances are at increased risk for HIV infection. As such, research geared toward community implementation of HIV prevention interventions relevant to persons with SMI and substance abuse has great public health significance, since these individuals seem disproportionately vulnerable to HIV infection and subsequent transmission.

Treatment decisions

There is some evidence to suggest that clinicians may have a difficult time treating individuals who present with HIV/AIDS, substance abuse, and SMI. Clinicians trained in general mental health services may feel discomfort discussing sexual issues, particularly with SMI patients.31 Clinical concerns about adherence to treatment regimens for HIV, SMI and substance abuse may result in reductions in the scope and breadth of services offered to those who present with this particular constellation of comorbid conditions.32,33 In addition, inadequate training and insufficient funding may be leaving mental health professionals ill-equipped to handle the health related issues displayed by SMI clients who are at high risk for HIV/AIDS.34,35 There were no studies found that examined the impact of either HIV or SMI on help-seeking. However, one study did reveal that persons with alcoholism were more likely to seek treatment if they had co-occurring physical conditions.23 However, the presence of a physical condition did not increase the likelihood of receiving an alcohol-related diagnosis. Certainly, other studies suggest that the sensitivity of general health professionals to psychiatric disorders is limited.36,37 Furthermore, confidentiality constraints between physical and mental health settings as well as the limited resources available in mental health settings may preclude HIV testing in psychiatric treatment.
Comorbidity of HIV and SMI

There are several possible explanations for the strong associations between HIV infection and serious mental illness that are not mutually exclusive. Mental illness may be causally related to HIV infection. As suggested previously, those with serious mental illnesses may be more likely to engage in behaviors (primarily substance use and high-risk sexual behavior) that place them at high risk for contracting HIV. It is also possible that the social marginalization and stigma associated with serious mental illness place individuals with mental illness in proximity to others who engage in high-risk behaviors. This suggests that even if the behaviors of those with SMI are of no higher risk than others per se, they are engaging in those behaviors with a group that has a higher rate of seropositivity.

HIV infection may also produce its own brand of a serious mental illness. There is evidence that seropositive status, while related to recurrence of previously existing major affective disorders, can also be related to the onset of those mental disorders. There is also some evidence that HIV infection may trigger a psychotic episode and can contribute to first-onset schizophrenia; however these effects are small at best and could not account for the magnitude of the associations observed here.

Summary and Conclusion

The prevalence of HIV is much higher among those with a serious mental illness than among the general Medicaid population. It is quite likely that those with SMI engage in behaviors that put them at greater risk for HIV. It is also possible that as a result of cognitive and perceptual limitations and distortions caused by the disorder, those with SMI require different primary prevention strategies for reducing their risk of contracting HIV.

Other issues warrant exploration as well. If providers think that those with SMI are less likely to be treatment adherent, they may be less likely to prescribe a state-of-the-art treatment regimen such as HAART than those without SMI. At least one study has shown that those with psychiatric disorders are less likely to receive state-of-the-art treatment for physical conditions such as myocardial infarction. It is important to explore this issue in relation to HIV as well. There is no evidence that adherence to treatment for HIV is poorer among those with SMI than adherence in the rest of the population. In fact, in a comprehensive review, Cramer and Rosenheck argued that observed differences in treatment adherence between persons with and without SMI are small and may be due to measurement error. They conclude that improvements in methods for measuring adherence in psychiatric populations are needed in order to determine if true differences exist. There are no studies comparing adherence in psychiatric populations with co-occurring physical health conditions to non-psychiatric populations with those same physical conditions. Conversely, if treatment adherence is indeed poorer among those with SMI, it could lead to poorer outcomes and the development of treatment resistant strains of HIV in this population.

Of special note is the fact that over 12%
of those with an HIV diagnosis also had a diagnosis of schizophrenia or major affective disorder. This large proportion suggests that programs to help those with HIV manage the disease contain components that address psychiatric as well as physical concerns. It is especially important to establish open channels of communication between specialty mental health and general health care sectors to meet the joint needs of this population.

Finally, special consideration must be given to this population with co-occurring, but very different conditions. Case managers must be trained to address the often competing needs of HIV and SMI-affected individuals, especially in the management of two very complex drug regimens. Research should be conducted on the potential interactions of these therapies.

Regardless of the reasons for these findings, further studies are needed to determine the modes of transmission and the potentially unique needs of this population in reducing risk and improving treatment. The fields of public health and mental health are clearly at a crossroads as they attempt to create and implement new treatment strategies to keep up with the ever changing constellation of health issues related to HIV/AIDS. Coordination of services, education of health care professionals, as well as some social engineering to defuse the stigma associated with HIV/AIDS and SMI may well prove to be the linchpins to the successful control and monitoring of the current epidemic.

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