1-1-2016

Assessing the Prevalence of HIV, HBV, and HCV Infection Among People With Severe Mental Illness

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Citation Information

Goodkin, Karl. 2016. Assessing the Prevalence of HIV, HBV, and HCV Infection Among People With Severe Mental Illness. *The Lancet Psychiatry*. Vol.3(1). 4-6. https://doi.org/10.1016/S2215-0366(15)00569-6
PMID: 26772053 ISSN: 2215-0366

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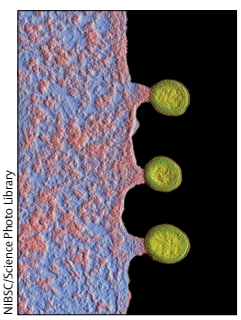

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This online publication has been corrected. The corrected version first appeared at thelancet.com/psychiatry on March 2, 2016

People with severe mental illness are at higher risk for HIV infection than the general population. Early studies in New York[1] suggested that the prevalence of HIV infection among people with severe mental illness was variable, depending on factors such as homelessness, treatment setting and status, specific psychotic diagnosis, dual diagnosis with substance use disorders, and sampling method (open *vs* anonymous). General population risk factors for HIV infection also have their expected effects in people with severe mental illness, including high-risk sexual activity (among men who have sex with men, heterosexuals, or injection drug users), injection drug use, ethnicity, gender, age, and viral load at time of exposure. Additional factors directly related to severe mental illness are cognitive impairment and psychotic symptoms that impede the planned use of precautions for risk in sexual activity and injection drug use, which present special difficulties to controlling HIV in this population.[2] Thus, the efficacy of antipsychotic treatment and adherence to treatment is relevant to the risk of blood-borne infections in people with severe mental illness.

In *The Lancet Psychiatry*, Elisabeth Hughes and colleagues[3] make a major contribution to this subject by examining the prevalences of HIV, hepatitis C virus, and hepatitis B virus infection simultaneously in patients with severe mental illness. They used a well-defined approach to identify relevant articles and to define the studies by specific conditions of testing (although "AIDS" could have been added as a search term and AIDSLine as a database). They included people aged older than 15 years, diagnosed with severe mental illness, and treated in a psychiatric setting. Studies in which prevalence data were obtained only from case notes, self-report, or the grey literature were excluded. They determined the eligibility of studies by a consensus strategy and used the Quality Assessment Tool for Systematic Reviews of Observational Studies[4] to assess study quality. Hughes and colleagues[3] modified the tool to show whether participants were clearly defined as having severe mental illness (yes or no), participation rate (>60%=1, ≤60%=0), whether control variables were used (controlled=1, only descriptive=0), and sample size (≥200 participants=1, <200 participants=0), although the effects of these modifications on reliability and validity are not known. They did a meta-analysis to calculate combined estimates and 95% CIs for each continent. Logistic regression was done to allow for the proportions being unable to have values less than 0, and random effects were assumed because there was clear clinical heterogeneity among the samples.

The 373 reports they found included 169 (45%) duplicates and they excluded 41 (11%) because the full-text was not available in English and 74 (20%) because they were deemed ineligible. With the addition of two papers from an updated search, the authors had 91 articles for assessment. This reduction might limit the generalisability of the findings. HIV infection had the largest sample size and was the subject of the most studies: 44 studies assessed HIV (21071 patients), 19 assessed hepatitis B virus (8163 patients), and 28 studies assessed hepatitis C virus (14888 patients). Most of the HIV and hepatitis C virus studies were from the USA, and few were from Europe, although the investigators attempted to control for continent. Ultimately, the most important unit for analysis here might be number of studies rather than the cumulative number of participants across studies.[5]

Most studies used convenience samples from in-patient psychiatric treatment settings; yet, the studies show that data from patients who are not in treatment are needed to best approximate the entire population of patients with severe mental illness.[1] It is also important to estimate the number of patients with severe mental illness who are dually diagnosed with substance use disorders to maximise generalisability, because blood-borne infections are much more common in this group.[6] Another issue not addressed by Hughes and colleagues[3] was the percentage of patients with dual and triple co-infections. Hepatitis C virus co-infection occurs in as many as 25% of patients with HIV in the USA.[7] Worldwide, 10% of patients with HIV are co-infected with hepatitis B virus,[8] with as many as 20% in southeast Asia. The exact number of patients co-infected with hepatitis B virus and hepatitis C virus is unknown; an estimated 9–30% of patients with chronic hepatitis B virus infection are co-infected with hepatitis C virus.[9]

Finally, triple infection has been reported in less than 1% of residents in Nairobi, Kenya,[10] and in as many as 12% of patients with HIV infection in central China.[11] Hence, assessing the proportion of patients with severe mental illness who have these co-infections would be of interest. For patients with HIV, a report of their CD4 cell count and Centers for Disease Control and Prevention clinical disease stage at the time of infection would be useful to gauge the chronicity of infection and relate it to the psychiatric and trauma history of these patients. The distribution of HIV risk factors in this subgroup would also be worthy of examination.

Hughes and colleagues[3] state that although 30–50% of patients with severe mental illness have substance use disorders, intravenous drug use in this population is rare. Yet, the primary route of transmission of hepatitis B virus and hepatitis C virus is by intravenous drug use (globally roughly 90% for hepatitis C virus), and intravenous drug use is a lesser but significant risk for HIV infection. More than 25% of homeless people with severe mental illness in one study reported the use of intravenous drugs at some time in their lives,[12] which is probably generally representative of the USA. Another factor that bears on estimates of the prevalence of these viral infections in people with severe mental illness is the percentage of homeless patients included in these studies. Although all the studies included patients characterised as having severe mental illness, the proportions of specific psychotic diagnoses in each sample varied, and the method of ensuring that patients had severe mental illness rather than simply being psychiatric in-patients was not presented. Furthermore, although the sensitivity analyses showed no effect of study quality on these prevalences, the lack of such an effect does not prove that study quality is irrelevant.

In conclusion, Hughes and colleagues' focus on the concomitant estimations of prevalence of HIV, hepatitis B virus, and hepatitis C virus infections in people with severe mental illness is an important first effort to examine the broader issue of this group's medical susceptibility. Future studies should examine the prevalence of co-infections of these three viruses, the relations between risk factors and contracting infection as well as the necessary controls needed in analyses for each of these infections. The generalisability of the risk factor distributions reported should be assessed separately against those of the entire population for each infection. A random sampling approach would be helpful in future studies of this population. Most importantly, it cannot be concluded that only typical viral risk factors apply to this population when the risk factors specific to patients with severe mental illness have not been taken into account (eg, cognitive impairment and psychotic symptom severity). Patients with severe mental illness often have chronic cognitive impairment, which can impede their adherence to antipsychotic medications, resulting in ongoing psychotic symptoms that prevent access to and implementation of precautions to prevent these infections. Future research should assess the contributions of these factors to the additional risk for these infections in patients with severe mental illness. Health providers in the USA should discuss sexual health and risk for blood-borne viral infections with patients who have severe mental illness and offer HIV testing to all patients aged 13–64 years at least once in their lifetime and offer hepatitis C virus testing once to all adults born between 1945 and 1965 (without previous ascertainment of risk factors for hepatitis C virus), as per guidelines of the Centers for Disease Control and Prevention; screening for hepatitis B virus should be offered only under specific circumstances (continuing risk should result in more frequent testing). Internationally, WHO sets screening guidelines for HIV, hepatitis B virus, and hepatitis C virus.

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I declare no competing interests.

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For the **CDC guidelines on HIV testing** see http://www.cdc.gov/hiv/testing/clinical

For the **CDC guidelines on hepatitis C virus testing** see http://www.cdc.gov/hepatitis/hcv/guidelinesc.htm

For the **CDC guidelines on hepatitis B virus testing** see http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5708a1.htm

For **WHO guidelines on HIV testing** see http://apps.who.int/iris/bitstream/10665/179870/1/9789241508926_eng.pdf?ua=1&ua=1

For **WHO guidelines on hepatitis B virus testing** see http://www.worldhepatitisalliance.org/sites/default/files/resources/documents/Hep%20B%20Guidelines.pdf

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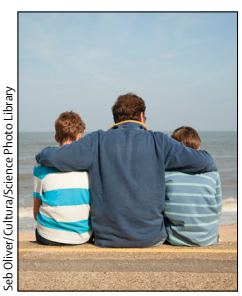
Proactive depression services needed for at-risk populations



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Published **Online**
December 1, 2015
http://dx.doi.org/10.1016/S2215-0366(15)00470-8

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Over the past decade the personal, family, societal, and global negative effects of depression have been unequivocally demonstrated.[1] Untreated depression is a major public health issue that affects both mental and physical health and many aspects of personal and public life, including relationships and educational outcomes. Despite the growing evidence base highlighting the need to reach populations at increased risk of developing depression and the importance of intervening in the adolescent period,[2–4] primary care and mental health services have remained poorly resourced and, therefore, predominantly reactive. The group most likely to receive treatment for depression are those able to seek services and engage with the treatment approaches on offer. Some subgroups are poorly represented, such as children,[5] who are dependent on adults to identify their needs, advocate for them, and enable them to access services. In most high-income countries, less than half of the children who need mental health services are actually seen;[5] these figures are considerably worse for low-income and middle-income settings.[6] It is therefore essential to address why the majority of children do not access services in a timely or consistent manner.[2]

In *The Lancet Psychiatry,* Stephan Collishaw and colleagues[7] present findings from a community sample of parents with recurrent depressive episodes studied over 4 years. They report on a small subsample of offspring who were more resilient than the others—only 53 (20%) of 262 study children (mostly adolescents) did not experience concerning psychological symptoms or had better than expected outcomes. They explore the possible explanations for these better outcomes and highlight some protective factors. The factors that bestow greatest protection include the presence of supportive co-parents, good quality social relationships, self-efficacy, and regular exercise.

This study highlights the combined role protective factors might have for adolescents at risk of depression as the offspring did better with increasing protective factors present. Further studies will hopefully conduct more detailed multidisciplinary enquiry of a greater range of protective factors investigating several domains (such as those within families, peer groups, schools, communities, and beyond). Multiple perspectives, including the voice of the young person, can only improve our understanding of the many potential influences at play. Focusing on protective factors adds an important dimension to preventive interventions. These findings, alongside other key studies, reinforce the importance of thinking about family-approaches to identifying and treating depression. For example, the data from STAR*D[8] highlighted how the treatment of maternal depression significantly improves the mental health outcomes of school-aged offspring. Patton and colleagues[4] showed the importance of early identification and treatment for adolescent depression, as good outcomes are more likely if the first episode of adolescent depression is identified early and treated.

Two important messages need to be emphasised. First, for those treating adults with a depressive disorder, an appreciation of the risk to any offspring must be acknowledged and addressed. In the study reported here,[7] most children with depressed parents had symptoms of concern. The majority of depression is managed in primary care settings, but a proportion are managed in secondary care and yet family-based approaches supporting carers and offspring are poorly studied and rarely available. The treating clinician might experience philosophical and practical barriers to identifying and including the highest risk family members within their treatment plan, yet some examples of family-focused care and family-friendly