

Mental Health, Substance Use, HIV & HCV

Literature Review/Backgrounder

Glossary:

ARV: anti-retroviral

DAART: directly

administered anti-
retroviral therapy

DOT: directly observed
therapy

GP: general practitioner

HAART: Highly active
anti-retrovirals

HAD: HIV-associated
dementia

HCSUS: HIV Cost and
Service Utilization Study

HCV: hepatitis C virus

HIV: human
immunodeficiency virus

IDU: intravenous drug
use

MAT: medication-
assisted therapy

MSM: men who had sex
with men

PHA: Person Living with
HIV/AIDS

Introduction

This paper is to serve as a brief, and ongoing, overview of some of the research that has been conducted in the areas of Mental Health, Substance Use and HIV/HCV. It is by no means an exhaustive study, but should be viewed as more of a living document with which to add and expand to as new research comes up. It is important to note that much of the research described here was conducted outside of Canada; however, the face of HIV/HCV across the world is the same – it impacts our most vulnerable and marginalized populations: women, MSM, Aboriginal people, IDUs, those living in poverty, and those living in less wealthy nations. According to the UNAIDS report on the global HIV epidemic, in 2009 2.6 million people in the world were newly infected with HIV (UNAIDS, 16). According to the World Health Organization (WHO) there are between 130 and 170 million people in the world living with HCV, and more than 350,000 dying each year from HCV-related causes. (WHO, 2011) Within BC, while rates of HIV infection are, overall, on the decline, there are increasing rates in certain populations, including First Nation men, women, and IDUS. (BC Centre for Disease Control, 2009) In BC, HCV rates are some of the highest in the country, with almost 1100 cases reported in June 2010, more than one fifth of the national total of 5,237 (Public Health Agency Canada, 2010). All of these statistics go to show that HIV/HCV is still a public health issue in Canada and around the globe, and that there is still much work to be done in prevention and treatment.

Connections with HIV, HCV, Substance Use and Mental Health

Rates of HIV and HCV are high among IDUs, one of the driving forces behind the epidemic. Substance use in general, increases the risk of HIV and HCV transmission, but it can also increase the risk of complications from using the substance. For example, increased

alcohol consumption increases high risk activities and transmission risk. If you are also living with HIV and/or HCV, alcohol consumption will increase the negative impacts on your liver. With the onset of HAART (highly active antiretroviral therapy), AIDS-related mortality cases have been on the decline in

wealthier nations, however, cardiovascular mortality is increasing among PHAs. Cardiovascular decline is sped up with infection with HIV and/or HCV as well as the body's interaction with some anti-retrovirals (ARVs). (Freeman, Patel, Collins and Bertolote)

Hepatitis B (HBV) and HCV are prevalent among IDUS, especially PHAs. HIV/HCV co-infection is the most common, with 20% of all PHAs and 60 – 90% of PHAs using drugs. (Altice et al., 372). HBV is less common, with about 10% of PHAs worldwide co-infected (ranging from 5% in developed nations to 20% in regions of Asia and Africa). HIV itself accelerates HCV infection, with cirrhosis being shown in 21% of PHAs after 20 years of living with HCV, and 49% after 30 years (Freeman et al.).

Both HIV and HCV have underlying consequences, in addition to the symptoms of the illness. Both infections contribute to the development and acceleration of cardiovascular disease, neurocognitive impairment, insulin resistant and renal insufficiency. Further, many PHAs who are co-infected with HCV and HIV do not treat their HCV either due to cost, physician reluctance (due to being in an addiction), disease misinformation (HCV not harmful), or fears about the treatment. (Freeman et al.)

Many studies have shown the connection between HIV, HCV, substance use and mental health. The HIV Cost and Service Utilization Study (HCSUS) out of the US looked at nearly 3000 PHA participants across 8 locations throughout the country. Of those PHAs, nearly half had a mental disorder or drug dependence. Among participants it was noted that there were increased levels of mental health services as well as drug and alcohol services and support. It was unclear how well prepared service providers were to properly address the concerns of PHAs: 40% of PHAs self-reported of attending the general practitioner for emotional or personal concerns. Burnam et al. (2001) concern with that is the GPs are not necessarily mental health specialists, and so, less likely to provide the appropriate care. GPs often end up trying to meet the needs of PHAs requiring mental health, alcohol, or drug support, creating a higher burden. The flip side of that is that mental health providers may not have the background in HIV and HCV to properly treat an issue either, or, the PHA may not disclose their status to a mental health professional. (Burnam et al. 2001)

HCSUS further reported that 58% of PHAs with either moderate or severe depression used antidepressants. 46% of PHAs with frequent substance use issues have used substance use services, but not both mental health and substance use services despite being diagnosed with both substance use issues and a mental illness (Weaver et al., 2008, 450). Weaver et al. admit that those that are triply diagnosed are understudied and more needs to be known to get a true picture of this population, but mental health concerns are definitely an issue that needs to be addressed among PHAs. Out of 803 participants 69% were diagnosed with a mood disorder, 57% a personality disorder, and 27% an anxiety disorder. Among those with substance use issues, 47% were drug and alcohol dependent, 33% were drug dependent, 15% were alcohol dependent, and 5% misused drugs and/or alcohol, but were not dependent. When accessing services, 59% received mental health services, 37% of which received outpatient mental health services and 19% received mental health services at a hospital. 47% of participants received substance use services, none of which were through a mental health professional or hospital outpatient clinic; however, those with drug dependence were more likely to seek treatment

than those with alcohol dependence. Of those that were triply diagnosed, almost a third received no treatment for either mental health issues or substance use. (Hinkin, et al. 2002)

Rosenburg et al. (2001) looked specifically at the rates of HIV, HBV, and HCV among individuals with severe mental illness. Severe mental illness (SMI) was categorized as being a major mental illness, be chronic, and have a pervasive impairment of function. Examples include schizophrenia spectrum disorders, bipolar disorder, and major depression. Within the US, 2.6% of the population is living with a severe mental illness. Rosenburg et al. argue that SMI increases the risk of substance use issues, HIV, HCV and HBV. Between 1992 and 2000 HIV rates among those living with SMI increased from 5.2% to 22.9%, far below the general population (0.3% to 0.4%). Generally speaking, Rosenburg et al. argues, that those living with a SMI have increase rates of STIs and participate in higher risk behaviour such as intravenous drug use, multiple sex partners, high risk partners, and low condom usage.

Those people living with SMI in Rosenburg et al.'s research found the 42% were also living with a substance use issue, 3.1% were HIV+, 23.4% were HBV+, and 19.6% were HCV+. These rates were all connected to levels of poverty, risky environment, overall poor health and poor medical care. Rosenburg et al. argue that there needs to more efforts put towards prevention and screening of HIV, HBC and HCV among those living with SMI. Of those who were tested in the study, those that were HIV+ knew of their status, but those living with HCV did not, generally, know their status. Rosenburg et al. argue that guidelines for screening, testing, immunizing (HBV), and treating people with SMI need to be developed.

Whetten, Reif, Whetten and Murphy-McMillan (2008) conducted a study connecting historical trauma and HIV infections. Out of 357 PHAs, 45% had experienced sexual assault after 15 years of age, 80% of them two or more times. 32% of women and 47% of men had experiences sexual assault between the ages of 7 and 15 years of age, and 19% of women and 17% of men had experienced it prior to 6 years of age. Gay, bisexual, HIV+ men had the highest rates of abuse. More than 90% of participants had experienced a traumatic event in their life. Factors related to increased violence and abuse after HIV diagnosis included being of a younger age, living in poverty, and living with a substance use issue. Sexual abuse was further connected to increased levels of mental illness, especially anxiety, depressions, post-traumatic stress disorder (PSTD), and borderline personality disorder. Whetten et al. went further to say that trauma and abuse was also linked to poor adherence to HIV medication.

An article published in the Canadian Journal of Psychiatry in June 2011 looked at the increase of HIV rates in the Saskatoon Health Region (rates of 31.3 per 100,000 as opposed to 9.3 per 100,000 national average). The theory behind this work was that the increase in HIV infection rates was linked to undiagnosed depression in IDUs. A survey of 603 IDUs in the area showed that almost 82% had depressive symptoms and nearly 60% were severely depressed (Lemstra, Rogers, Thompson, Moraros, and Buckingham, 363). Further, there was a correlation between increases in depression and increases in high risk activity. Some of the risk indicators of depression included history of sexual assault, residential school, and poverty. IDUs faced many barriers to accessing care, including geographic distance to care, lack of transportation, discrimination from medical personnel who refused to provide direct care, shortages of mental health professionals, and inability to access treatment programs. For

those IDUs who were able to access care, a decrease in drug use led to a decrease in depression, presumably leading to a decrease in high risk activities. (Lemstra et al. 2011)

Mental Health and Substance Use: Impacts on Adherence

HIV and HCV are complex illnesses to manage; medications need to be taken on a regular basis, at times in multiple doses in one day, and side effects can, at times, feel like they are worse than the illness itself. This complex management can be exacerbated if people have comorbidities of a mental illness and/or substance use disorder. Weaver et al. (2008) feel that PHAs living with a co-occurring mental illness and substance use issue are the most vulnerable PHAs. These PHAs have more difficulty adhering to the medications, are at greater risk of unsafe behaviour, and have a lower quality of life than other PHAs. It is also difficult to manage the interactions between their drugs for HIV, psychiatric drugs, and illicit drugs and/or alcohol. These triply diagnosed, Weaver et al. argue, are a large proportion of PHAs (there is no mention in this article of those that also live with HCV, but it can be understood that this would further exacerbate drug interactions and managing illness).

Hinkin et al. (2002) recognize that cognitive impairment may be one possible cause for a lack of HIV medication adherence. The HIV virus can cause a range of cognitive impairment, from impacts on processing to dementia. HIV can impact memory, motor and psychomotor slowing, attention deficit, as well as executive dysfunction (affects planning and executing tasks), all of which have been repeatedly observed in PHAs. In a trial of 75 participants, Hinkin et al. report that 66% “simply forgot” (1945) to take their HIV medication. Further, cognitively impaired participants had lower adherence rates than those who were not: 74% compared to 84% (1946). Those with cognitive dysfunction were twice as likely to forget to take their medications, with memory and executive dysfunction appearing to be the most likely causes. Using pill counts, one method of testing for medication adherence, PHAs with executive dysfunction showed lower HAART (highly active anti-retroviral therapy) adherence. Participants also noted that complex medication regimens also made it difficult to remember to take their drugs, with those requiring daily doses three times a day being the most likely to be poor adherers. (Hinkin et al., 2002)

In a later study, Hinkin et al. (2004) looked into the issue of age, neurocognitive deficits and HIV medication adherence. They once again stated that “cognitively compromised patients on more complex medication regimes showed disproportionate difficulty in achieving adequate adherence” (520). Hinkin et al. acknowledge, however, that this needs to be further addressed with the changing demographic of PHAs, particularly, the rising HIV infections of middle-aged and older individuals, as well as PHAs who are living longer, and the continuing risk of substance use for HIV infection. Hinkin et al. found that those who were older (50+ years of age) had a better chance of adherence than those who were younger. However, Cournos, McKinnon and Wainberg (2005) note that the effect of HIV on the brain can increase as the illness advances, and can eventually manifest into HIV-associated dementia (HAD). Cournos et al. argue that those living with severe mental illness (schizophrenia, bipolar disorder) may be able to adhere as well as the general population to their medication given the fact that they are

used to taking other medications on a regular basis. Greater collaboration with mental health can aid in adherence support, an issue that is key since HAART requires 95% adherence – a rate not normal in most patients – and patient readiness is an important factor.

Whetten et al. argued that there is also a high rate of distrust among PHAs with the medical system, with certain populations, primarily minorities, feeling there is a conspiracy theory behind HIV/AIDS. This distrust is exacerbated with unequal access to care, stigma, discrimination, and poverty. The high levels of stigma along with continued misconceptions about HIV are linked to both mental health issues (depression, PTSD) and level of adherence – hiding taking medication so as not to be “outed” as being HIV+.

Where do we go from here?

In 2004 the World Health Organization (WHO) brought together a group of mental health professionals from around the world to look at what mental health services could be integrated into the WHO’s HIV/AIDS initiative “3 by 5” (treat 3 million by 2005). The group asked itself three questions: Why are mental health issues relevant to HIV/AIDS Programming? Do mental health interventions improve outcomes of PHAs? Are mental health interventions feasible? The first question returned five areas where mental health issues are relevant: cognitive impairment and dementia due to viral infection of the brain; depression and anxiety due to impact of infection on person’s life; alcohol and drug use; psychiatric side effects of ARV therapy; and social difficulties of PHAs, such as stigma and discrimination. The group also decided that mental health issues were closely related to the experiences of PHAs, and that in order to make mental health interventions possible front-line and primary health care providers would need to be utilized and enhanced. The group made three recommendations:

1. HIV/AIDS interventions must include mental health assessments and appropriate management
2. More support is needed of research on mental health and HIV/AIDS
3. More advocacy for role of mental health in HIV/AIDS treatment programs (Freeman, Patel, Collins, and Bertolote, 2005).

Cournos et al. argue that HIV prevention programs need to be a priority and that mental health treatment needs to be built into that programming, given that mental health issues are associated with greater risk of HIV transmission, poor disease prognosis, and poor adherence (especially on those with substance use issues and depression). Psychiatrists and mental health professionals (MHPs) can play multiple roles in HIV prevention and treatment, including diagnosing and treating psychiatric and substance use disorders, differential diagnoses and treatment of psychiatric disorders that co-occur with HIV infection, assisting with adherence to medical, psychiatric, and substance use treatment, and help in the management of psychosocial problems such as HIV disclosure, life adjustments to diagnosis, and access to other services.

With HIV still impacting vulnerable populations (IDUs, MSM, and sex workers), understanding the social relations that make prevention difficult - stigma, secrecy, and barriers to resources - is key. MHPs must

become a part of public health initiatives. Cournos et al. state that MHPs can bring prevention strategies specific to their disciplines, such as behaviour prevention and biopsychosocial approaches. Some of these approaches include strategies to reduce risk behaviour, pre and post-test counselling, support with disclosure of HIV status, and, if needed, end of life planning and care. These strategies are all best used when working with other service providers. Some of the models of behaviour change that MHPs use can help other service providers improve prevention strategies: What motivates people to engage in risky behaviour? What incentives are required so people do not engage in risky behaviours? What are the skills required to implement and maintain safer practices? Further, MHPs can help with detecting, understanding, and treating behavioural and psychiatric problems, which increase people's risk of contracting HIV, transmitting HIV, and having poor health outcomes. In Cournos et al.'s opinion, the HIV epidemic cannot be contained without mental health being integrated into prevention and treatment strategies.

Cournos et al. go beyond the prevention of HIV and look towards the role of MHPs in treatment. As was mentioned, earlier, many PHAs have suffered from trauma in their life, understanding the impacts of this trauma, assessing risk, and intervening are skills found in MHPs. HIV symptoms – fatigue, insomnia, sexual dysfunction, lypodystrophy – all decrease a PHAs quality of life. MHPs can provide treatment for these symptoms, or, if they cannot help, advocate for treatment where necessary.

MHPs are also valuable when looking at interaction of drugs, exacerbation of HIV symptoms, and neuropsychiatric manifestations of HIV (as mentioned earlier). Further, some medications can exacerbate mental health issues; interferon, for example, taken for HCV, can cause, or make worse, depression. Important principles that MHPs can add to treatment strategies include: i) understanding multiple comorbidities; ii) ruling out medical causes; iii) starting patients off on low doses of psychotropic medications and gauging for interactions with other medications; iv) checking drug interactions and overlapping toxicities between psychotropic drugs, ARVs, and other medications; and v) adherence support. (Cournos, et al.)

According to Altice et al. (2010), PHAs who use drugs have the worst clinical outcomes for three main reasons: they have decreased access to and use of health care systems, they have reduced prescriptions for ARVs, and they have a reduced adherence to ARVs. They argue that medication-assisted therapy enhances access to ARVs, improves retention in care, and decreases risk behaviour. Medication-assisted therapy (MAT) “uses clinician-prescribed agents to reduce the negative consequences of drug use” (368) and believe that the integration MAT in primary care settings, correctional facilities, needle exchanges, and safe injection sites, can help in the prevention and treatment of HIV and HCV. Altice et al. also argue that as more PHAs enrol in MAT it will be important to expand knowledge on drug interactions between MAT, ARVs, and medications to treat other comorbidities.

Altice et al. also list other interventions that can aid adherence strategies, using models applied to individuals taking other strict drug regimens. Some of these interventions include various forms of reminders, adherence counselling, contingency management, supervised therapy, MAT, and integrated health service delivery. Another suggestion in adherence strategies is an adaptation of DOT (directly observed therapy), DAART (directly administered anti-retroviral therapy).

Both UNAIDS and the WHO support further integration of MAT into health care services, feeling that MAT is essential to accessing care and improving adherence. According to Altice et al., MAT is cost effective, it increases ARV intake and improves retention and adherence to ARVs.

Whetten et al. also support an integrated approach to HIV prevention and treatment, including the development of trauma protocols for infectious disease providers. Some of these include:

- Assuming most patients have experienced trauma
- Be sensitive and try to avoid potential triggers
- Build trust: examine the patient with their clothes on, explaining everything being done, why it is being done, and encourage questions.
- Create a safe space

Whetten et al. go on to say that there needs to be universal access to mental health services, which would ultimately decrease treatment costs and increase health outcomes. Further, more research is required to understand the unmet mental health needs of PHAs.

Failure to understand and address the psychosocial factors that may influence medication adherence and risk behaviour among HIV-infected individuals may have ramifications for quality of life as well as morbidity and transmission of HIV (Whetten et al., 536)

Common themes throughout the literature show that mental health and substance use are connected to HIV and HCV infection rates. Access to mental health and substance use services are linked to better adherence to medication, better health outcomes, and better quality of life. Further, all of the literature advocates for an integration of care and especially, the incorporation of mental health professionals into HIV prevention and treatment programs.

Limitations

This document is a living document, and will continue to be added to as more information comes to light. One area that was not included at this time, but is no less important, is the impact that mental health, substance use, HIV, and HCV have on prison inmates, who face greater challenges in accessing care and maintaining adherence to medication. As well, most of the literature focussed on HIV, with little information on HCV. This will be another aspect that will be expanded on in the future.

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