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Care at the Crossroads: Navigating the HIV, HCV, and Substance Abuse Syndemic

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Abstract

For patients with both HIV/HCV coinfection and substance addiction, multidisciplinary teams can facilitate coordination of care and improve clinical outcomes. Such teams should include HIV/HCV treatment providers, mental health specialists, case managers, social workers, and substance abuse counselors.

J.B. is a 64-year-old man with tired eyes and a broad, toothless smile. In the clinic, he pulls out a crumpled paper bag containing his “salvage” highly active antiretroviral therapy (HAART) regimen. Despite last month’s prescription date, the bottles remain suspiciously full. J.B. has just moved from another state where fragmented care and chronic nonadherence resulted in serial hospital admissions. After the last hospital stay, he moved in with his daughter, who helps to coordinate his care. She presents a folded stack of papers from his last discharge with a summary listing “congestive heart failure, renal failure, cirrhosis, untreated hepatitis C virus (HCV), depression, medication nonadherence, and poly-substance abuse, among a litany of other problems. He denies any ongoing drug or alcohol use, but his daughter’s exasperated expression suggests otherwise. The patient remembers seeing an HIV doctor, heart specialist, kidney doctor, liver doctor, and generalist, but can only remember 1 of their names.

Within minutes, it becomes obvious that J.B.’s multiple medical problems are working together to drag his health into an ever-greater state of entropy. His destructive coaffliction with HIV, HCV, illicit substance use, and mental illness exemplifies the syndemic nature of these conditions.

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"Syndemic" is an anthropologic term describing 2 or more conditions that not only coexist, but actually affect each other, leading to worse outcomes than what is seen with either condition alone. In the case of HIV, comorbid substance use has been linked to increased high-risk sexual behavior, nonadherence to medication, and an overall more rapid viral progression.[1–3] HIV/HCV coinfection results in a more rapid progression of chronic liver disease.[4] Mental illness has been linked with poor HAART adherence and has been considered by some to be a relative contraindication to the most widely used interferon-based HCV treatment regimens.[2,5]

At the intersection of syndemic conditions lies the opportunity for synergistic care. In order to successfully navigate the syndemic of HIV, HCV, and substance use, practitioners must meet patients at the crossroads of these conditions. Multidisciplinary care teams involving HIV/HCV coinfection treatment providers, mental health specialists, case managers, social workers, and substance abuse counselors can facilitate complex patient care coordination and improve clinical outcomes.[6]

This article outlines key attributes of an integrated, comprehensive care program for people living with HIV/AIDS affected by the syndemic conditions of HCV, mental illness, and/or substance abuse. First, special consideration must be given to testing for HIV and HCV and linkage to treatment for these conditions, as patients with comorbid substance use or mental illness are at higher risk for falling out of care. Early treatment initiation with fixed-dose combination pills improves adherence and thereby reduces risk of disease [**progression?**], development of resistance, and transmission to others in these particularly high-risk populations. HIV treatment always takes priority over HCV treatment; however, once the HIV infection is under control, tailored HIV/HCV coinfection treatment should be offered to eligible patients. With mental health and addiction counseling, patients who were previously deemed too psychosocially "high-risk" for HCV treatment may indeed be appropriate candidates for therapy, particularly with the evolving interferon-free regimens. Finally, given the high prevalence of both self-admitted and occult substance use in this population, screening, counseling, and pharmacologic treatment for illicit substance use should be embedded into all HIV integrated care programs.

IMPORTANCE OF RAPID LINKAGE TO CARE AND TREATMENT

The most important aspects of care for individuals with HIV are the same for both substance users and nonsubstance users: early diagnosis, rapid linkage to care, retention in care, and initiation of HAART. However, many substance users are socially marginalized and are particularly vulnerable to missed opportunities for screening and fall out of care. The disparity of access to care among substance users is well documented worldwide.[7–10] Negative biases surrounding substance use plague the medical community and adversely affect systems and practice in terms of the availability of HIV testing, treatment, and support. The importance of early screening and repeat testing at regular intervals cannot be overemphasized in this population, which is at increased risk due to drug use and associated high-risk behaviors.[11–13] Innovative approaches to HIV testing outside of traditional clinical settings, for example at needle exchange programs, pharmacies, mobile testing sites, and in the criminal justice setting, may reach a greater proportion of this population.[14–16] Early

identification of infected individuals decreases the risk of ongoing transmission to both sexual and needle-sharing partners.

Substance users, particularly injection drug users, are more likely than other risk groups to not be successfully linked to care following testing.[17–18] Providers' preconceptions that substance users will be nonadherent and that ongoing substance use will undermine any provided treatment or care contribute to this disparity.[19] Conversely, patients may be reluctant to fully engage in care for fear of policing or judgment for ongoing substance use. However, studies have shown that successful linkage and engagement in care is possible in this population, especially when substance abuse treatment services are combined with conventional HIV care.[6,20] Multidisciplinary care centers where individuals can access medical care, social work services, case management, and substance use treatment are particularly effective for this population.

Once successfully engaged in care, the early initiation of HAART is of paramount importance. The fear that antiretoviral resistance will develop based on assumed non-adherence contributes to the delay in offering HAART to substance users.[21] Assumptions of nonadherence among substance users are unfounded biases, as rates of developing drug resistance among injection drug users are no greater than in other populations.[22,23] With the new "treatment as prevention" approach to HAART initiation, early treatment may not only improve the health of substance users, but may also decrease the risk of transmission to others within this particularly high-risk population.[24]

HIV AND HEPATITIS COINFECTION

In the United States, approximately 30% of HIV-infected individuals test positive for HCV.[25] However, the prevalence of HIV/HCV coinfection rises to 50% to 90% among injection drug users.[26] Nonetheless, few substance users receive HCV treatment. Poor medication adherence, exacerbation of syndemic psychiatric illness, and drug-drug interactions with simultaneous opioid substitution therapy are some of the potential challenges that HIV-infected drug users face when considering HCV treatment.[27]

Patients with both HIV and HCV infections would benefit the most from dual viral treatment, as coinfection is associated with accelerated progression to end-stage liver disease, hepatocellular carcinoma, and death.[28] Antiretroviral therapy for the treatment of HIV is the first target for effective management of coinfection because HIV has significant mortality risk in the immediate future compared with the chronic nature of HCV. Prompt initiation of HAART is paramount to caring for those with HCV/HIV, as immune reconstitution due to HAART in the setting of coinfection occurs more slowly.[29] HCV/HIV coinfection also leads to earlier progression to liver fibrosis, but early initiation of HAART in this setting results in a survival benefit in terms of liver-related mortality.[28,30,31]

However, the adverse impact of HIV on the natural history of HCV is not fully relieved by antiretroviral treatment alone.[32,33] New direct-acting antiviral agents have revolutionized HCV treatment by increasing the rates of HCV eradication in both monoinfected and HIV coinfected individuals.[34,35] HCV-specific protease inhibitors stelaprevir or boceprevir, in

combination with pegylated interferon plus ribavirin, are now standard of care for patients infected with both HCV genotype 1 and HIV.

Successful HCV treatment has been achieved in HCV monoinfected drug users with active illicit drug use.[36,37] Although data in coinfected patients are limited, there is no evidence to suggest that HCV treatment response will be any different in this population. However, integrated models of addiction, psychiatric, HIV, and HCV therapies are crucial to optimize treatment response in drug users.[38] Simpler, shorter, and less toxic treatments, including interferon alpha–free regimens, will be available in the near future. An opportunity to eradicate HCV in all HIV-infected individuals who inject illicit drugs is approaching.

TREATING THE ADDICTIONS ALONG WITH THE VIRUS

In order to successfully treat HIV and HCV coinfection, providers must simultaneously address the addictions faced by these individuals. Simultaneous, rather than staged, treatment of syndemic conditions is critical, because waiting is not an option in HIV care and prevention. The dangerous substances used by people living with HIV include tobacco (probably the most dangerous) and alcohol. Among the illicit substances used there is a wide spectrum, including amphetamines, cocaine, marijuana, opiates, and others. In the United States, cocaine and amphetamines are the most prevalent illicit substances used among HIV-infected individuals.[39] Because no pharmacologic treatments are available to treat these addictions, nonpharmacologic options such as 12-step programs, outpatient behavioral modification programs, community-based rehabilitation networks, and support groups are essential components to comprehensive care for those with HIV and drug addiction.

In addition, the use of toxicology tests to screen and monitor on a regular basis for occult use can help guide the need for further referral and treatment. This is true of all patients with either prior or current use, as some of them may be receiving opiates or benzodiazepines for treatment but still using other substances, such as cocaine, concurrently.

Opiate addiction remains in a separate class because of both its clinical characteristics and the existence of effective pharmacologic therapy. Opiate addiction is characterized by regular use that leads to the development of tolerance (ie, more drug is needed to achieve the same effect) and a withdrawal syndrome, a progressively painful condition that occurs as soon as the drug's effect begins to wear off. Furthermore, using too high a dose of opiates, especially in combination with other central nervous system depressants or after tolerance is reduced (such as after interruption in regular use due to hospitalization, incarceration, or drug treatment programs), may lead to overdose and death. Pharmacologic therapy for opiate addiction with agonist (eg, methadone), partial agonist (eg, buprenorphine), or antagonist (ie, naltrexone) therapies has been shown to be highly effective.[40–43] Having treatment for addiction closely coordinated with, and ideally located near, HIV care optimizes both addiction and medical outcomes.

CONCLUSION

Successful treatment for an HIV-infected individual with substance use cannot be compartmentalized. Rather, care must be part of an integrated system treating HIV infection

and addiction as syndemic diseases. Practitioners need to decrease the stigma associated with addiction in order to meet these marginalized patients at the intersection of multiple syndemic disease processes and guide them towards engagement in integrated, comprehensive care.

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Table

Key aspects of an integrated HIV, HCV, and substance abuse treatment program

HIV testing in nontraditional venues (eg, needle exchange programs, pharmacies, mobile testing sites, and criminal justice settings)
Repeat testing for active substance users
Coordinated, proactive linkage to multidisciplinary care centers
Early HAART initiation rather than treatment delay for fear of nonadherence
HIV/HCV coinfection treatment with new agents
Integrated pharmacologic and psychiatric treatment for comorbid substance use
Use of toxicology tests on a regular basis to monitor and help guide substance abuse referrals and treatment

Abbreviations: HAART, highly active antiretroviral therapy; HCV, hepatitis C virus.