## Abstract

Injection Drug Use Among Women: Clinical Case and Review of Social determinants and Health Outcomes

### Introduction

Intravenous drug use (IVDU) carries a substantial burden on individuals, communities, and the healthcare system. Addiction is a chronic neuropsychological disorder with complex biological, psychological, and social components, no less legitimate than any other medical condition. However, negative biases often result in delayed diagnosis, inadequate treatment, and diminished quality of care for people with substance use disorders. These barriers not only worsen health outcomes but also perpetuate cycles of illness, social instability, and healthcare inequity.

### Case presentation

A 29-year-old female with a past medical history of intravenous drug use (IVDU) and multiple medical complications, including infective endocarditis with valvular abscess formation, tricuspid valve regurgitation, aortic root replacement in 2021, complete heart block requiring pacemaker implantation, and hepatitis C infection. Her medical course was further complicated by MSSA bacterial endocarditis, intracardiac abscess requiring tricuspid and mitral valve replacement, along with aortic root replacement. She eventually developed right-sided heart failure with diffuse anasarca and hypotension. Medical therapy alone was insufficient, and she became dependent on dobutamine for cardiac support. Due to frailty and lack of social support, she was not considered a candidate for advanced cardiac interventions or rehabilitation. She ultimately chose hospice care and died within hours of withdrawal of treatment.

She had begun using IV heroin as a teenager and experienced multiple relapses despite repeated attempts to quit. Notably, she had achieved four years of remission from IVDU while on suboxone during the later course of her illness. Her psychosocial history included multiple life stressors: the death of her father at a young age, the loss of a twin brother to opioid overdose, widowhood, and having a partner who was incarcerated. She had a psychiatric history of anxiety and depression (that was untreated through most of her life), multiple emergency visits after physical assault by a family member, brief incarceration, unstable housing, and relapses while caring for a newborn—leading to involvement of child protective services.

### Discussion

### Health implications in WWID

Injection drug use is associated with elevated risk for multiple infectious and non-infectious diseases. Women who inject drugs (WWID) demonstrate a slightly higher incidence of infective endocarditis (IE) as well as higher rates of HIV and hepatitis C virus (HCV) infection compared

with men who inject drugs , a disparity likely influenced by differences in social and behavioral factors (1). Urban-dwelling WWID with IE exhibit increased mortality relative to their rural counterparts. In addition, WWID experiences a greater burden of psychiatric comorbidities, including anxiety disorders, affective disorders, depression, and post-traumatic stress disorder (2). During pregnancy, IE does not appear to increase maternal mortality; however, it is associated with adverse maternal and fetal outcomes compared with pregnancies not complicated by IE. Furthermore, vertical transmission rates of HIV are higher among WWID. (3)

**Social determinants of health**

Women comprise approximately one-third of people who inject drugs (PWID) in the United States and Canada, yet they experience disproportionate adverse health outcomes that are driven by social determinants of health (3). Urban-dwelling women who inject drugs (WWID) face heightened risks from homelessness, gender-based violence, engagement in sex trade activities, and limited access to community support networks—factors associated with increased mortality, particularly in cases of infective endocarditis (IE) (2). Prior experiences of sexual or physical victimization, along with ongoing violence or fear of violence, can predispose women to substance use and influence patterns of drug injection. Compared with men, WWID are more likely to inject in the presence of others, often under the pressure of close personal relationships, and less likely to seek or access addiction treatment independently due to financial dependence, community norms, and legal concerns (3). Psychiatric comorbidities, including depression, anxiety, and post-traumatic stress disorder, are more prevalent among WWID and may further hinder engagement with harm reduction services (4). Among women in the sex trade, inconsistent condom use, high psychological distress, and experiences of sexual violence exacerbate vulnerability to HIV and other infections. Childcare responsibilities and fear of child welfare involvement are differential barriers for females not seeking substance use treatment(5). These disparities underscore the need for gender-responsive harm reduction, targeted social support, and improved access to care.

**Therapeutic interventions**

For physicians, effective care for women who use drugs begins with establishing a trusting, nonjudgmental relationship that facilitates open communication about substance use. Development of individualized addiction management strategies, such as referral to local substance use treatment programs, with methadone maintenance therapy, and harm reduction education aimed at decreasing risks of HIV, hepatitis C, and other complications. Physicians should also work to strengthen the patient’s personal support network, ensure continuity of care, and address comorbid medical and psychiatric conditions. Incorporating trauma-informed care into clinical practice can improve trust and enhance willingness to seek treatment. Additionally, providing care that considers maternal health and child well-being can improve long-term outcomes for both women and their families (2).

**References**


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