

## Physical and Psychiatric Morbidities with Illicit Drug Use

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Illicit drug use and related physical and psychiatric morbidities have become serious public health issues worldwide [1]. The estimated global burden of illicit drug use was reported to have increased rapidly between 1990 and 2010. There were twenty million Disability-Adjusted Life Years (DALYs) in 2010 and 0.8% of all-cause DALYs globally were attributed directly to illicit drug use [2]. Therefore, it is important to understand the negative impacts of the physical and psychiatric co morbidities that accompany illicit drug use.

### Illicit Drug Use and Physical Morbidity

Numerous physical co morbidities associated with illicit drug use have been reported. These range from poisoning and physical trauma to organic injuries of emphysematous bullae form, reduced lung function and cardiovascular pathology [3-5]. Blood-borne infections, including the Human Immunodeficiency Virus (HIV) and Hepatitis C Virus (HCV), have been demonstrated to be spread largely among Injected Drug Users (IDUs), and were responsible for the most morbidity and mortality in this group [6,7]. Co-infection of HIV and HCV was frequently observed in IDUs, mainly because of the similar manners of transmission and at-risk behaviors, and may deteriorate immune system functioning and facilitate viral replication of HIV and HCV [6,8]. In Taiwan, the co-infection rate of HIV and HCV has been reported to be more than 90% [9,10]. Risky injection behaviors have been reported to be associated with infections of HIV, HCV and syphilis, but not with HBV infections. The duration of heroin use and the age of the IDUs were correlated with HCV and HBV infections, respectively [11]. The association of longer heroin use and increased HCV infection may be explained by morphine acting as a positive regulator for HCV replicon expression in the hepatocytes of humans [12]. Older heroin users who have not participated in Taiwan's HBV vaccination program initiated in 1984, had a greater hazard ratio of HBV infection.

### Illicit Drug Use and Psychiatric Morbidity

Aside from physical morbidities, more than half (53%) of illicit drug use has been reported to be co morbid with psychiatric illnesses. Illicit drug users with co morbid psychiatric illnesses were reported to have a poorer prognosis than those without co morbid psychiatric illnesses [13,14]. The psychiatric morbidities included anxiety disorder, depressive disorder, antisocial personality, bipolar disorder and schizophrenia [15,16]. Furthermore, drug-induced psychotic and mood disorders (DIP; DIM) and suicidal behaviors can lead to mental health problems among illicit drug users. A cross-sectional study in Taiwan reported that continuous use of methamphetamine and poly-substance use were associated independently with DIP [17]. Unemployment and poly-substance use were correlated with DIM. Female gender and premorbid mood disorder may be predictors of suicidal behavior [17]. The effects of methamphetamine in stimulating dopamine release in the brain and increasing dopamine concentration in the synapses may be the mechanism that explains the higher risk of DIP after increasing methamphetamine use [18]. However, a family history of schizophrenia in first-degree relatives was reported to contribute to the higher risk of developing DIP and the longer duration of DIP [19]. Moreover, poly-substance users may be more vulnerable to developing DIP or DIM due to the higher prevalence of poor support system, joblessness, childhood trauma and cognitive dysfunction [20,21].

### Conclusions

Illicit drug users are vulnerable for developing physical and psychiatric illnesses, which are related to poorer outcomes and greater mortality. Therefore, strategies for reducing the incidence and prevalence of illicit drug use and providing integrated treatment for physical and psychiatric illnesses need to be incorporated in a comprehensive public health program.

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