


# Simplifying Addiction

Mark Mohan Kaggwa 

Department of Psychiatry, Faculty of  
Medicine, Mbarara University of Science  
and Technology, Mbarara, Uganda

**Abstract:** Addiction disorders/substance use disorders (SUD) are on the rise. However, many mental health care providers have never experienced SUD themselves, leading to higher chances of poor patient care through stigma, judgement, and the misunderstanding of patients. An alternative approach to understanding patients with addictive behaviors using a comparison of sex is discussed in this paper. Since most health care providers will have experienced sex, this analog can help mental health workers with no lived experience of SUD better understand their patients. This can help reduce stigma, misunderstanding, countertransference feeling, and the judgment of patients, thereby leading to better patient care.

**Keywords:** addiction, sex, substance use disorder, neurobiology of addiction, sex neurobiology, opinion, mental health providers

## Introduction

Addictive behaviors (primarily alcohol consumption, tobacco smoking, and unsanctioned psychoactive drug use) are a major contributor to the global burden of morbidity and premature death.<sup>1</sup> Addictive behaviors impose a high economic burden on society through health-care costs, social costs, cost related to public safety and crime (although many addicts are not criminals), and lost productivity.<sup>2</sup> It is essential to have readily available clinicians to manage these behaviors at global, national, and regional levels to reduce this burden through empathy and a proper understanding of patient needs. However, most clinicians who work with addicts have never been addicts themselves and therefore learn about addiction from a textbook or research articles. This can lead to misunderstandings about addictive behaviors, causing patients to prefer assistance from former/recovering addicts (most with no formal training in mental health) as opposed to mental health professionals. Individuals without lived experience tend to over generalize addictive behaviors, believing addiction is a simple concept that can be left with just mere choice and have myth about addiction as described by Griffiths et al (2018).<sup>3</sup> These beliefs lead to complications, such as misdiagnosis and not addressing actual patients concerns, stigma, and countertransference – an emotional reaction of the analysis to the patient's contribution, for example, a clinician advises other than listening to patients' experience or inappropriate clinician disclosure of personal experience or clinician having no boundaries with the patients.<sup>4-6</sup> Health providers who have never experienced SUD should have an alternative lived experience to understanding addiction. To bridge this gap, this article offers a comparison of sex with addictive behaviors to give light to clinicians who have never experienced SUD to understand their patients better, since nearly all clinicians have enjoyed the

Correspondence: Mark Mohan Kaggwa  
Email [markmohan@gmail.com](mailto:markmohan@gmail.com)

natural gift of sex. Sex and addiction to substances have similarities, such as triggers, urges, and euphoria, to mention but a few.

In this article, the emphasis is on sex and not sex addiction, and while sex is a positive experience for many, this is not always the case. Some individuals have very mixed or even traumatic experiences with sex and so would not necessarily have the same reported experience in this article.

## Similarities Between Sex and Addiction to Substances

If one does not have sexual intercourse for a prolonged period, they can start to feel like they need to have such experiences. This also applies to individuals who are addicted to substances, and is called a compulsive want/craving/urge for the substance.<sup>7,8</sup> Also, if an individual had sex or a romantic encounter with a song in the background, when they listen to that song later, they may think back to and desire this encounter. This is very similar to “triggers” or reward craving experienced by individuals who use substances.<sup>8,9</sup> Addicts can be triggered to use substances even when they encounter seemingly harmless stimuli, such as a song that was playing in the background during a prior episode of substance use, because of associations and conditioned responses. The classical conditioning model by Ivan Pavlov explains these learning phenomena of association using the concepts of unconditioned stimuli (substance/romantic encounter), conditioned stimuli (song), and the conditioned response (urge).<sup>10</sup> After the separation of the substance use and the urge, the conditioned stimuli (eg, song[s]) become the new trigger for the response.<sup>11,12</sup> This conditioning is diverse with emotional aspects, such as sadness or happiness, among others, and it has also been witnessed when people see others use addictive substances – mediated via the insula cortex of the brain.<sup>8,13</sup> Similar automatic responses can be triggered when seeing others in a romantic relationship or sexually arousing movies or images.<sup>14</sup>

Individuals experiencing addiction will likely continue to use substances despite numerous serious effects, such as withdrawal phenomena, blackouts, suicidality, sexual dysfunction, seizures, traumatic motor accidents, mental health symptoms like mania or psychosis, and other challenges.<sup>7,8,15,16</sup> Similarly, individuals who engage in sexual encounters are doing so despite being aware of dangers, such as encountering sexually transmitted

diseases for those with multiple partners or unwanted pregnancy.<sup>17,18</sup> Among teenagers who, despite their parents and society being against their involvement in sexual exploration, go on to continue having sex. Also, there is a seeking behavior with respect to both sex and addiction, people can sometimes travel from part of the globe to another to get sex or substances. With both sex and SUD, the need for satisfaction can be so strong that when one is no longer having to engage in the behaviour (eg, men with erectile dysfunction), they develop depression, anxiety, and stress.<sup>19,20</sup> Due to the high level of pleasure elicited by these activities, their deprivation causes a psychological need, characterized by psychological symptoms.

Like sex, addiction is often secretive and difficult to explain to others in terms of the joy that one can experience when engaging in these activities. The feeling can perhaps only be better understood by individuals who enjoy the same activity, such as married people (with respect to sex) or fellow cannabis users (with respect to substance use). This is why so many addicts feel comfort amongst each other, such as through alcoholics anonymous and narcotic anonymous groups, a key factor to success in many addicts’ recovery journeys.<sup>21</sup> The secrets in the activities are not only during the joy/good experience but also present during the problems. This is also seen among individuals with sexual dysfunction, to the extent that their spouses pretend on many occasions that these sexual problems do not exist. Individuals with addiction rarely talk about their mental health experiences during withdrawal; even when the family knows that, they have a member with an addiction problem, it is usually kept a secret. By relating different substances to different sexual behaviours, some behaviours are considered more dangerous/evil/unholy, while others loved and protected. One addict may see other users as very sick, thinking they do not need help themselves. This brings out an element of denial. For example, cannabis and heroin are usually seen as worse addictions than cigarettes. This level of stigma exists among non-vaginal sex or gay populations.<sup>22</sup>

## Neurobiology of Similarities Between Sex and Substance Addiction

Many brain areas implicated in sexual desire and pleasure intercept with those involved in addiction. These include: the ventral striatum (the nucleus accumbens), the

amygdala (emotional memory of the sexual encounter), the anterior cingulate cortex, and the orbitofrontal cortex.<sup>11,23</sup> A common interplay in all these areas is through the mesocorticolimbic dopamine activity, a pathway implicated in the reward system of the brain.<sup>23</sup> Both substances and sex enhance the production of dopamine in the nucleus accumbens, which creates a positive reinforcement to desire the act or use.<sup>11,23</sup> The mesocorticolimbic dopamine is the main link between addiction and sex. The effect of dopamine sexual encounters may lead to some needing or craving for the reward more than culturally accepted, hence leading to sexual addiction.

Cravings (ie, the desire for a previously experienced effect), a component of the preoccupation or anticipation stage of addiction cycle, are also experienced by both individuals involved with sex and addicts. In the same way that cravings can motivate some people to engage in sex-seeking behaviours after abstaining for a long period of time, they can also cause addicts to relapse into substance abuse.<sup>8,24</sup> Failure to obtain the desired need leads to preoccupation with the behaviour, to the extent that some individuals end up masturbating in the case of sex or smoking less desired drugs such as cigarettes, yet they opt for marijuana in the case of SUD. Individuals remain in a state of anticipating access to the substance and for sex they anticipate the time they get the opportunity to meet their loved ones. This whole process is under the influence of glutamate from the prefrontal cortex to the mesocortical dopamine neurons in the ventral tegmental area, exerting excitatory control over dopamine in the prefrontal cortex.<sup>8</sup> This makes the prefrontal cortex a controller of conditioned behaviours and maintaining self-control, such as inappropriate requests for sex in public or the uncontrolled use of substances for addiction. Unfortunately, in addiction, this pathway has a significant degree of dysregulation of the key afferent projections from the prefrontal cortex and insula, mediated by glutamate, to the basal ganglia and extended amygdala, leading to continuous stimulation of mesocorticolimbic dopamine production.<sup>8,11,23</sup>

## Conclusions and Suggested Practice

With multiple similarities between sex and addiction at the psychological and neurobiological levels, mental health professionals who have no lived experience of addiction can reflect on their sexual lives and their attachment to sex as one strategy for developing a more empathetic view of their patients and helping them on the road to recovery.

This will contribute to improving patient care through reducing countertransference, stigma, and the judgment of patients. To better understand the effectiveness of this approach, empirical follow-up studies are recommended.

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