

THE LATEST DEFINITION OF ADDICTION

The American Society of Addiction Medicine has released a new definition of addiction, highlighting that it is a chronic brain disorder and not simply a behavioural problem involving too much alcohol, drugs, gambling or sex. Four years of work with 80 experts opened the door to ASAM's first official position that outward behaviours are manifestations of an underlying disease.



When people see compulsive and damaging behaviours in friends or family members – or public figures such as celebrities or politicians – they often focus only on the substance use or behaviours as the problem. But these outward behaviours are manifestations of an underlying disease that involves various areas of the brain, according to the new definition by ASAM, the world's largest professional society of doctors – about 3,000 – dedicated to treating and preventing addiction.

“At its core, addiction isn't just a social problem or a moral problem or a criminal problem. It's a brain problem whose behaviours manifest in all these other areas,” said Dr Michael Miller, past president of ASAM, who oversaw the development of the new definition.

Research shows that the disease of addiction affects neurotransmission and interactions in the reward circuitry of the brain, leading to addictive behaviours that supplant healthy behaviours, while memories of previous experiences with food, sex, alcohol and other drugs trigger craving and renewal of addictive behaviours. Meanwhile, brain circuitry that governs impulse control and judgment is also altered in this disease.

This area of the brain is still developing during teenage years, which might be why early exposure to alcohol and drugs is related to greater likelihood of addiction later in life.

Do people with addiction have choice over antisocial and dangerous behaviours? “The disease creates distortions in thinking, feelings and perceptions, which drive people to behave in ways that are not understandable to others around them. Simply put, addiction is not a choice,” said Dr. Raju Hajela, past president of the Canadian Society of Addiction Medicine and chair of the ASAM committee on the new definition.

“Choice still plays an important role in getting help. A person with addiction must make choices for a healthier life in order to enter treatment and recovery. Because there is no pill which alone can cure addiction, choosing recovery over unhealthy behaviours is necessary,” he added.

SHORT DEFINITION OF ADDICTION.

Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviours.

Addiction is characterised by inability to consistently abstain, impairment in behavioural control, craving, diminished recognition of significant problems with one's behaviours and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death.

LONG DEFINITION OF ADDICTION.

Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Addiction affects neurotransmission and interactions within reward structures of the brain, including the nucleus accumbens, anterior cingulate cortex, basal forebrain and amygdala, such that motivational hierarchies are altered and addictive behaviours, which might or might not include alcohol and other drug use, supplant healthy, self-care related behaviours. Addiction also affects neurotransmission and interactions between cortical and hippocampal circuits and brain reward structures, such that the memory of previous exposures to rewards (such as food, sex, alcohol and other drugs) leads to a biological and behavioural response to external cues, in turn triggering craving and/or engagement in addictive behaviours.

The neurobiology of addiction encompasses more than the neurochemistry of reward. The frontal cortex of the brain and underlying white matter connections between the frontal cortex and circuits of reward, motivation and memory are fundamental in the manifestations of altered impulse control, altered judgment

and the dysfunctional pursuit of rewards (which is often experienced by the affected person as a desire to “be normal”) seen in addiction – despite cumulative adverse consequences from substance use and other addictive behaviours.

The frontal lobes are important in inhibiting impulsivity and assisting people to appropriately delay gratification. When people with addiction manifest problems in deferring gratification, there is a neurological locus of these problems in the frontal cortex. Frontal lobe morphology, connectivity and functioning are still maturing in adolescence and young adulthood, and early exposure to substance use is another significant factor in the development of addiction.

Genetic factors account for about half of the likelihood that an individual will develop addiction. Environmental factors interact with the person's biology and affect the extent to which genetic factors exert their influence. Resiliencies the individual acquires (through parenting or later life experiences) can affect the extent to which genetic predispositions lead to the behavioural and other manifestations of addiction. Culture also plays a role in how addiction becomes actualised in people with biological vulnerabilities to the development of addiction.

Other factors that can contribute to the appearance of addiction, leading to its characteristic biopsychosociospiritual manifestations, include:

- an underlying biological deficit in the function of reward circuits, such that drugs and behaviours which enhance reward function are preferred and sought as reinforcers;
- repeated engagement in drug use or other addictive behaviours, causing neuroadaptation in motivational circuitry leading to impaired control over further drug use or addictive behaviours;
- cognitive and affective distortions, which impair perceptions and compromise the ability to deal with feelings, resulting in significant self-deception;
- disruption of healthy social supports and problems in interpersonal relationships which impact development or impact of resiliencies;

- exposure to trauma or stressors that overwhelm an individual's coping abilities;
- distortion in meaning, purpose and values that guide attitudes, thinking and behaviour;
- distortions in a person's connection with self, with others and with the transcendent (referred to as God by many, the Higher Power by 12-steps groups, or higher consciousness by others); and
- presence of co-occurring psychiatric disorders in people who engage in substance use or other addictive behaviours.

Addiction is characterised by:

- inability to consistently abstain;
- impairment in behavioural control;
- craving; or increased “hunger” for drugs or rewarding experiences;
- diminished recognition of significant problems with one's behaviours and interpersonal relationships; and
- a dysfunctional emotional response.

The power of external cues to trigger craving and drug use, as well as increase frequency of other potentially addictive behaviours, is also a characteristic of addiction, with the hippocampus being important in memory of previous euphoric or dysphoric experiences, and with the amygdala important in having motivation concentrate on selecting behaviours linked to these experiences.

Some believe that the difference between those who have addiction, and those who do not, is the quantity or frequency of alcohol/drug use, engagement in addictive behaviours (such as gambling or spending), or exposure to other external rewards (such as food or sex). But a characteristic aspect of addiction is the qualitative way in which the individual responds to such exposures, stressors and environmental cues.

A particularly pathological aspect of the way that people with addiction pursue substance use or external rewards is that preoccupation with, obsession with and/or pursuit of rewards (eg, alcohol and other drug use) persist despite the accumulation of adverse consequences. These manifestations can occur compulsively or impulsively, as a reflection of impaired control.

Persistent risk and/or recurrence of relapse, after periods of abstinence, is another fundamental feature of addiction. This can be triggered by exposure to rewarding substances and behaviours, by exposure to environmental cues to use, and by exposure to emotional stressors that trigger heightened activity in brain stress circuits.

In addiction there is a significant impairment in executive functioning, which manifests in problems with perception, learning, impulse control, compulsivity and judgment. People with addiction often manifest a lower readiness to change their dysfunctional behaviours despite mounting concerns expressed by significant others in their lives; and display an apparent lack of appreciation of the magnitude of cumulative problems and complications.

The still-developing frontal lobes of adolescents might both compound these deficits in executive functioning and predispose youngsters to engage in “high risk” behaviours, including engaging in alcohol or other drug use.

The profound drive or craving to use substances or engage in apparently rewarding behaviours, seen in many patients with addiction, underscores the compulsive or avolitional aspect of this disease. This is the connection with “powerlessness” over addiction and “unmanageability” of life, as described in Step 1 of 12-step programmes.

Addiction is more than a behavioural disorder. Features of addiction include aspects of a person's behaviours, cognitions, emotions, and interactions with others, including a person's ability to relate to members of their family, of their community, to their own psychological state, and to things that transcend their daily experience.

Behavioural manifestations and complications of addiction, primarily due to impaired control, can include:

- Excessive use and/or engagement in addictive behaviours, at higher frequencies and/or quantities than the person intended, often associated with a persistent desire for and unsuccessful attempts at behavioural control;

- excessive time lost in substance use or recovering from the effects of substance use and/or engagement in addictive behaviours, with significant adverse impact on social and occupational functioning (eg, development of interpersonal relationship problems or neglect of responsibilities at home, school or work);

- continued use and/or engagement in addictive behaviours, despite persistent or recurrent physical or psychological problems which might have been caused or exacerbated by substance use and/or related addictive behaviours;
- narrowing of behavioural repertoire focusing on rewards that are part of addiction; and
- apparent lack of ability and/or readiness to take consistent, ameliorative action despite recognition of problems.

Cognitive changes in addiction can include:

- preoccupation with substance use;
- altered evaluations of the relative benefits and detriments associated with drugs or rewarding behaviours; and
- inaccurate belief that problems in life are attributable to other causes rather than being a predictable consequence of addiction.

Emotional changes can include:

- increased anxiety, dysphoria, emotional pain;
- increased sensitivity to stressors associated with the recruitment of brain stress systems, such that “things seem more stressful” as a result; and
- difficulty in identifying feelings, distinguishing between feelings and the bodily sensations of emotional arousal, and describing feelings to other people (sometimes referred to as alexithymia).

While anyone might “want” to get “high”, those with addiction feel a “need” to use the addictive substance or behaviour in order to try to resolve their dysphoric emotional state or their physiological symptoms of withdrawal. Persons with addiction compulsively use even though it might not make them feel good. Simply put, addiction is not a desired condition.

● For more details, go to www.asam.org/DefinitionofAddiction-LongVersion.html.

Images: Agh, Jan Melichar