Mental Health and Addiction Research

Review Article

Addiction – a brain disorder or a spiritual disorder

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Abstract

There are countless theories that strive to explain why people start using substances and continue abusing substances despite the "measurable" consequences to the self and the other. In a very real sense, drugs do not bring about addiction, rather, the individual abuses or becomes addicted to drugs because what he or she believes to gain from it. This article will deal with the question of whether addictions are a brain disorder as suggested by the disease model or a disease of the Human Spirit as proposed by the spiritual model of addiction.

Introduction

The use of psychoactive substances has occurred since ancient times and is the subject of a fairly well documented social history [1,2]. Archaeologists now believe that by the time modern humans emerged from Africa circa 100,000 Before Common Era (BCE) they knew which fruits and tubers would ferment at certain times of the year to provide a naturally occurring cocktail or two [2]. There are indications that cannabis was used as early as 4000 B.C. in Central Asia and north-western China, with written evidence going back to 2700 B.C. in the pharmacopeia of Emperor Chen Nong. It then gradually spread across the globe, to India (some 1500 B.C., also mentioned in Altharva Veda, one of four holy books about 1400 B.C.), the Near and Middle East (some 900 B.C.), Europe (some 800 B.C.), various parts of South-East Asia (2nd century A.D.), Africa (as of the 11th century A.D.) to the Americas (19th century) and the rest of the world [3].

This brief social history alludes that the use of psychoactive substances is older than or at least as old as the practice of organized religion by mankind. In many instances both religion and addiction have much in common. At the heart of both religion and addiction is belief in something other than self…for the Christian, it is Christ, for the Muslim it is Allah, for the Jew it is Jehovah, for the Buddhist, Buddha and for the Addict it is Drug of Choice. According to Barber, addicts are really looking for something akin to the great hereafter and they flirt with death to find it as they think that they can escape from this world by artificial means [4]. In a very real sense, addicts will shoot, snort, pop or smoke substances in an effort to leave their pain behind and find their refuge in a pill.

Both religion and addiction have many followers and adherents as can be seen from number of disciples. By way of example, according to the Pew Research Center, Christianity was by far the world's largest religion, with an estimated 2.2 billion adherents, nearly a third (31%) of all 6.9 billion people on Earth. Islam was second, with 1.6 billion adherents, or 23% of the global population.

Globally, it is estimated that in 2012, between 162 million and 324 million people, corresponding to between 3.5 per cent and 7.0 per cent of the world population aged 15-64, had used an illicit drug — mainly a substance belonging to the cannabis, opioid, cocaine or amphetamine-type stimulants group — at least once in the previous year. In the United States, results from the 2007 National Survey on Drug Use and Health showed that 19.9 million Americans (or 8% of the population aged 12 or older) used illegal drugs in the month prior to the survey. In a more recent National Institute on Drug Abuse (NIDA) survey [5], some 37 percent of the research population reported using one or more illicit substances in their lifetimes; 13 percent had used illicit substances in the past year, and 6 percent had used them in the month of the survey.

There are countless theories that strive to explain why people start using substances and continue abusing substances despite the "measurable" consequences to the self and the other. In a very real sense, drugs do not bring about addiction, rather, the individual abuses or becomes addicted to drugs because what he or she believes to gain from it.

The most popular view among addiction specialists is that an addict's drug-seeking behavior is the direct result of some physiological change in their brain, caused by chronic use of the drug [3]. The Disease View states that there is some "normal" process of motivation in the brain and that this process is somehow changed or perverted by brain damage or adaptation caused by chronic drug use. On this theory of addiction, the addict is no longer rational; she uses drugs as a result of a fundamentally non-voluntary process. Alan Leshner [3,6] is the most wellknown proponent of this version of the disease view. Leshner [6], feels that a core concept that has been evolving with scientific advances over the past decade or more is that drug addiction is a brain disease that develops over time as a result of the initially voluntary behaviour of using drugs [3]. The consequence is virtually uncontrollable compulsive drug craving, seeking, and use that interferes with, if not destroys, an individual's functioning in the family and in society [7].

Perhaps the oldest view of addiction among mental health professionals and philosophers has held that some part of an addict

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wishes to abstain, but their will is not strong enough to overcome an immediate desire toward temptation. On this view, addicts lose "control" over their actions. Most versions of the moral view characterize addiction as a battle in which an addict's wish for abstinence seeks to gain control over his behavior. In a sermon given to the American Congress in 1827, Lyman Beecher *et al.* [8] put it thus:

Conscience thunders, remorse goads, and as the gulf opens before him, he recoils and trembles, and weeps and prays, and resolves and promises and reforms, and "seeks it yet again"; again resolves and weeps and prays, and "seeks it yet again." Wretched man, he has placed himself in the hands of a giant who never pities and never relaxes his iron gripe. He may struggle, but he is in chains. He may cry for release, but it comes not; and Lost! Lost! May be inscribed upon the door-posts of his dwelling.

From the above we see that addiction can also be viewed as resting on a spiritual flaw within the individual who could be seen as being on a spiritual search. By way of example, the authors of the book *Narcotics Anonymous* cite three elements that compose addiction: (a) a compulsive use of chemicals, (b) an obsession with further chemical use, and (c) a spiritual disease that is expressed through a total selfcenteredness on the part of the individual [2]. According to Thomas Merton the individual cannot achieve happiness though any form of compulsive behaviour, rather it is only through entering into a relationship other than 'self' that the answer to man's spiritual search is found. However, if the relationship that one enters into is not with others, but with a chemical, could this lead to what the founders of Alcoholic Anonymous (AA) suggested, a "disease' of the human spirit?

Addicted to chemicals – What does it mean?

Most social work practitioners, counsellors and other professionals would easily respond to the question what it means to be addicted to chemicals by rapidly citing an in vogue "what is" definition of addiction, for example:

Addiction is widely viewed as a chronic, relapsing, neurobiological disease characterized by compulsive use of drugs or alcohol [9,10].

Asked and answered…not really as defining addiction does not explain why people become addicted, or in the words of Karl Menninger; "*what is behind the symptom*?". The reason for this is that definitions by nature provide

"labels" of social, natural and other phenomena that we stick on "stuff and things" to help us as a starting point for finding what ultimately fits us. Much like walking into a clothing store looking for the label on a dress or piece of clothing that will suit us best. Why could we just not grab any piece of clothing from the rack? It's because different manufacturers have different sizing standards. Medicine, psychology, psychiatry, chemistry, physiology, law, political science, sociology, biology and even traditional medicine have all manufactured different sizing standards of what it means to be addicted to chemicals.

Explaining addiction to chemicals is a complex and many times divisive issue. Part of the challenge is that there is no single definitive explanation of addiction to alcohol and drugs that would readily fit everyone. This is partially due to the fact that there are many disciplines and professions – manufacturers, if you will, that attempt to fit a label on why people abuse chemicals.

By way of example, Biologists would explain addiction as an inborn predisposition that some mammals exhibit to seek out compounds, such as the fruit from marula trees that have fallen to the ground and fermented that can alter the user's perceptions of the world. Humans share this urge with other mammals in that we constantly find ways to alter our perspective of the reality around us [3].

Wilkinson *et al.* [11] talk about this predisposition to seek out compounds that will alter our awareness in their work, and state:

Drugs are fascinating because they change our awareness. The basic reason people take drugs is to vary their conscious experience. Of course there are many ways to alter consciousness, such as listening to music, dancing, exercising, day dreaming ... and participating in religious rituals. The list is probably endless, and ... suggests that changing consciousness is something people like to do [12].

Behavioural scientists generally regard drug addiction as a behavioural disorder that results when drug reinforcers assume control over a substantial portion of an individual's behavioural repertoire [13]. Behaviourists would typically provide evidence of specific societal-environmental conditions that play a role in the development of drug abuse. They usually define addiction in humans as a change over time from occasional drug taking to more "compulsive" drug taking, and a "loss of control" over the amount of drug taken. Addiction is further viewed as a chronic disorder that persists as a sustained susceptibility to relapse ("craving") even if an individual has abstained from drug use for an extended period of time. In the following narrative we clearly see the role that chemicals play within the social context to facilitate social bonding and a sense of interpersonal connectedness to the group;

When you watch, you follow, you know? When somebody do things, see them and you follow their example. They drink, well, you drink too! You get in there with them, they share you 'hey, come on, come on here, drink here!' And you drink. That's it. The grog get hold of you [14].

Psychiatrists and clinical psychologists attend more to the individual characteristics of the drug abuser, and consider how other cognitive co-morbidities, such as anxiety or depression, contribute to the development and maintenance of drug abuse and addiction. Pharmacologists tend to focus on the drugs themselves, studying their mechanisms of action and attempting to develop potential drug antagonists that might be useful in the treatment of drug abuse. Here, the predominant view is that someone is abusing a drug because the compound in question is able to induce a sense of pleasure or perhaps even intense euphoria that is important to the person [3].

Behavioural pharmacologists explain addiction by looking for evidence to the aetiology and control of drug abuse in the effects of drugs on the behaviour of humans or animals under controlled experimental conditions. On an individual level, substances might allow the individual to express forbidden impulses, cope with emotional pain – a form of self-medication, experience euphoria and pleasure, or to escape negative emotional states such as depression and posttraumatic stress disorder.

What does it mean to be addicted to chemicals? Many times the answer as seen from the above lays in the eye of the beholder or in this case the profession/al explaining the phenomena. "*In the final analyses*", says Doweiko, "*a diagnosis of a Substance Use Disorder reflects the professional opinion of one individual*" [2].

The complexity of the subject of illicit substance use is succinctly framed by George Vaillant who more than a generation ago suggested that; "*it is not who is drinking but who is watching*" that defines whether a given person is alcohol dependent [15]. One such watchdog is the American Psychiatric Association (APA) [16,17]. The American Psychological Association is the largest scientific and professional organization representing psychology in the United States, with

more than 122,500 researchers, educators, clinicians, consultants and students as its members.

According to the DSM-5 [17], the so-called APA bible of mental disorders, regardless of the particular substance, the diagnosis of a substance use disorder is based upon a pathological set of behaviours related to the use of that substance. These behaviours fall into four main categories, namely; (1) impaired control, (2) social impairment, (3) risky use, and (4) pharmacological indicators (tolerance and withdrawal).

Impaired control may be evidenced in several different ways, for example, using for longer periods of time than intended, or using larger amounts than intended. This could be coupled with wanting to reduce use, but ultimately being unsuccessful doing so. Impaired control is also evidenced by spending excessive amount of time getting/using/recovering from the drug use. Lastly, a person with impaired control may suffer from cravings that are so intense it is difficult to think about anything else. Addiction is repeated involvement with a substance or activity, despite the substantial harm it now causes, because that involvement was (and may continue to be) pleasurable and/or valuable. *Social impairment* is one type of substantial harm (or consequence) caused by the repeated use of a substance or an activity [18].

Risky use is the failure to refrain from using the substance despite the harm it causes. Addiction may be indicated when someone repeatedly uses substances in physically dangerous situations. For instance, using alcohol or other drugs while operating machinery or driving a car. Some people continue to use addictive substances even though they are aware it is causing or worsening physical and psychological problems. An example is the person who continues to smoke cigarettes despite having a respiratory disorder such as asthma [11].

Tolerance occurs when people need to increase the amount of a substance to achieve the same desired effect. Stated differently, it is when someone experiences less of an effect using the same amount. The "desired effect" might be the desire to avoid withdrawal symptoms. On the other hand, it may be the desire to get high. People experience tolerance differently; for example, people vary in their sensitivities to different substances. Specific drugs will vary in terms of how quickly tolerance develops and the dose needed for tolerance to develop.

Withdrawal is the body's response to the abrupt cessation of a drug, once the body has developed a tolerance to it. The resulting cluster of (very unpleasant and sometimes fatal) symptoms is specific to each drug. We discuss these specific symptoms in each substance category. Although withdrawal is very unpleasant, it does not usually require medical assistance. However, withdrawal from some drugs can be fatal. Therefore, consult with a medical professional before attempting to stop drug use after a period of heavy and continuous use. This will ensure that quitting is as safe and comfortable as possible.

But what about recreational drugs that do not lead to chronic, relapsing brain disorders, compulsive and uncontrollable drug craving and negative health and social consequences? Drugs like cocaine, heroin and marijuana produce other effects, including "positive" ones, which have nothing to do with "abuse and addiction".

Marijuana [19] has been smoked for its medicinal properties for centuries. Preclinical, clinical, and anecdotal reports suggest numerous potential medical uses for marijuana [20]. Although the indications for some conditions (for example, HIV wasting and chemotherapy-induced nausea and vomiting) have been well documented, less information is available about other potential medical uses. Additional research is needed to clarify marijuana's therapeutic properties and determine standard and optimal doses and routes of delivery. Unfortunately, research expansion has been hindered by a complicated federal approval process, limited availability of research-grade marijuana, and the debate over legalization.

Substances like marijuana are also used by some for deeply spiritual experiences. Culturally entrenched with the Rastafari movement since it began in the 1930s, marijuana – or ganja, as it's more commonly called by Rasta's – is considered sacred and is often referred to as the wisdom weed or holy herb. Rasta's believe that the Tree of Life mentioned in the Bible is the marijuana plant and that several other biblical passages further promote its use, such as "Thou shalt eat the herb of the field" [21], "Eat every herb of the land" and "The herb is the healing of the nations".

This use the above categorical, symptom-based diagnosis to define addiction is derived from the disease model which would imply that substance use disorders are best understood as analogues with physical diseases. As such the classification of substance use disorders would demand careful observation of visible symptoms instead of inferences based on as yet "unproven" causal theories. The underlying principle of symptom-based diagnoses is that empirical research will eventually demonstrate the organic and biochemical origins of substance use disorders in the human species.

The symptomatic reductionist approach to explaining addiction offered by proponents of the disease model is problematic. Karl Menninger, a leading dynamic psychiatrist in the 60's, argued that separating individual mental disorders into discrete categories with unique symptom characteristics—scientific medicine's modus operandi—is a mistake. Instead, according to Menninger all mental disorders should be viewed as "reducible to one basic psychosocial process: the failure of the suffering individual to adapt to his or her environment. Adaptive failure can range from minor (neurotic) to major (psychotic) severity, but the process is not discontinuous and the illnesses, therefore, are not discrete". Rather than diagnosing the symptoms of substance use disorders, social work practioners should explain how the individual's failure to adapt came about and its meaning to the patient.

Spirituality and addiction

The word "addiction" is derived from a Latin term for "enslaved by" or "bound to." Anyone who has struggled to overcome an addiction—or has tried to help someone else to do so—understands why. It is important to understand the nature of spirituality and its relationship to addiction. We've seen that it is commonly accepted that substance use disorder is a process whereby the drug progressively displaces previous priorities, relationships and values, and becomes the central concern of a person's life. When viewed through the lens of religion, many times addiction could be seen as a modern analogue of idolatry.

Idolatry is the worship of an idol or a physical object as a representation of a god. In all the Abrahamic religions idolatry is strongly forbidden, although views as to what constitutes idolatry differ within and between them. In other religions the use of idols is accepted. Which images, ideas, and objects constitute idolatry is often a matter of considerable contention. Behaviour considered idolatrous or potentially idolatrous may include the creation of any type of image of the deity, or of other figures of religious significance such as prophets, saints, and clergy, the creation of images of any person or animal at all, and the use of religious symbols, or secular ones. In addition, Christian

theologians have extended the concept to include giving undue importance to other aspects of religion or to non-religious aspects of life in general, with no involvement of images specifically.

Several studies support a relationship between spirituality and positive outcomes in substance use disorders. Moreover, religiousness and spirituality may protect against disease indirectly by association with a healthy lifestyle. The association between moderation and control in alcohol or drug use and religiousness is well established. Highly religious people are consistently less likely to abuse drugs or alcohol than less religious people. The most important, and best studied, source of knowledge on spiritual experiences in recovery is derived from studied on participation in 12-step programs such as Alcoholics Anonymous (AA) [22-24]. The earliest A.A. members discovered that some kind of spirituality—some kind of sense of the reality of some "beyond"—was essential to their sobriety but that another aspect of that same spirituality was the acceptance that they did not have all the answers, even about "the spiritual," especially about "the spiritual."

People's lives are made through both subjective and objective transactions between inner and outer realities that are constantly developing processes rather than static structures [25]. A person is not an isolated individual but an everchanging "self-social unity", both an object of the prevailing social order and a subject able to move beyond it [26]. People construct themselves out of social experiences, including the dynamics of class, race, and gender. Such factors may be associated with negative self-understanding related to prejudice and limited opportunity. The personal self is injured by the social world. Self-love requires transcending this injury. Spiritual traditions and practices provide ways to experience self beyond self-hatred, but such practices do not eliminate the external causes of self-loathing.

Spirituality would view substance abuse as a condition that needs liberation (release from domination by a foreign power such as a substance, a psychological condition, or a social order), a process that requires both a change in consciousness and a change in circumstance.

In 'Healing the Split', John Nelson [27] writes,

'First spirit, then soul then mind were rejected by modern psychology and psychiatry, with the disastrous result that men and women were nothing more than sophisticated bundles of material atoms in vaguely animate bodies. Thus our modern 'science of the soul', almost from the start has been a science merely of the physical and bodily components of the entire human being – a reductionistic cultural catastrophe of the first magnitude…transpersonal psychology has reintroduced the dimensions of soul and spirit'

If we only focus on the physical organism or more specifically the brain – addiction is easy to explain and treat. The introduction of addictive substances or behavior to the brain triggers devastating chain reaction of chemical and biological transformations: dopamine floods the system, producing a euphoric feeling that also prevents the body from absorbing the serotonin necessary to modify emotional response. The body is also unable to find proper rest, which prevents their memories from the normal "download" process that occurs during sleep and creates a sort of amnesia. The physical response to drugs in the system is as unsettling as the mental and emotional reactions; the brain displays actual craters in its surface, while brain activity slowly plummets over time.

Although addiction has genetic, epigenetic, and environmental influences, it cannot be solely defined by any of these approaches. Do people with addictions have free will? Or are they, while using, virtual automatons with no control over their behavior? This is the fundamental question that divides those who see addiction as a sign of an irrationally "hijacked" and "diseased" brain—and those who see it as some type of choice.

For a long time substance abuse was seen as synonymous for physical dependence characterized by increasing drug tolerance and onset physical withdrawal symptoms. Withdrawal symptoms are not seen with all drugs of abuse but, if they occur, can include intense and erratic changes in body temperature, fever, sweating, tremors, sneezing, chills, increased pulls rate, tachycardia, spontaneous orgasm, depression, anxiety, paranoia, panic disorder and delusions. Theorists of the disease model of addiction argue that those physiological signs of addiction are critical indicators that addictions are biological entities and medical problems. As a result, the primary goal of treatment was detoxification, reducing or relieving withdrawal symptoms while helping the addicted individual adjust to living without drug use.

Grof *et al.* [28,29] suggest that "all addicts experience an internal loss, a spiritual bankruptcy or soul sickness that cuts them off from the world around them". They enter the soul's dark night and wrestle with the demons of fear, loneliness, insanity and death that are so common in spiritual crisis. Thus begins a search, a longing, a thirst and a hunger for spiritual re-connection and identity.

If we only see the addiction as something to get rid of, to fix or to cure, we are reducing clients to their symptoms. Susie Orbach [30] writes, "we don't produce symptoms unless we have no other route to express distress…if we remove it without exploration, we usually produce a symptom switch". Therefore as social workers we need to search for the value, meaning and purpose hidden within the addiction.

To understand addiction, social workers need to know more than that someone has taken a drug that he likes. They need to know about the rest of his life, about his social support, his history of mental illness, education, employment, as well as his values and sense of meaning and purpose. Social workers also need to know the dose of the drug and the setting where he takes it. We need to know his age and how his culture views behavior related to that drug and something about the level of stress and trauma he experienced as a child.

Addiction is a brain disease

A core concept evolving with scientific advances over the past decade is that drug addiction is a brain disease that develops over time as a result of the initially voluntary behavior of using drugs [31]

At the end of the decade of the brain, the study of neural mechanisms has come to dominate the study of addiction. Whereas attention was once on somatic withdrawal symptoms and liver enzymes, it has turned to reward circuitry in the brain and to neuroadaptations in that circuitry that can change sensitivity to addictive drugs and that, it is hoped, can explain the compulsive dimension of drug seeking in addicts. The focus on brain mechanisms of reward and addiction began with the discoveries of brain reward circuitry in the 1950s and of opioid receptors and endogenous opioid receptors and peptides in the 1970s. Brain mechanisms have now become a major focus of addiction research, and addiction research has become a major focus of modern neuroscience.

The Disease Model of addiction seeks to explain the development of addiction and individual differences in susceptibility to and recovery from it. It proposes that addiction fits the definition of a medical disorder. It involves an abnormality of structure or function in the CNS

that results in impairment. It can be diagnosed using standard criteria and in principle it can be treated.

The brain registers all pleasures in the same way, whether they originate with a psychoactive drug, a monetary reward, a sexual encounter, or a satisfying meal. In the brain, pleasure has a distinct signature: the release of the neurotransmitter dopamine in the nucleus accumbens, a cluster of nerve cells lying underneath the cerebral cortex. Dopamine release in the nucleus accumbens is so consistently tied with pleasure that neuroscientists refer to the region as the brain's pleasure center.

All drugs of abuse, from nicotine to heroin, cause a particularly powerful surge of dopamine in the nucleus accumbens. The likelihood that the use of a drug or participation in a rewarding activity will lead to addiction is directly linked to the speed with which it promotes dopamine release, the intensity of that release, and the reliability of that release.

Even taking the same drug through different methods of administration can influence how likely it is to lead to addiction. Smoking a drug or injecting it intravenously, as opposed to swallowing it as a pill, for example, generally produces a faster, stronger dopamine signal and is more likely to lead to drug misuse.

Scientists once believed that the experience of pleasure alone was enough to prompt people to continue seeking an addictive substance or activity. But more recent research suggests that the situation is more complicated. Dopamine not only contributes to the experience of pleasure, but also plays a role in learning and memory—two key elements in the transition from liking something to becoming addicted to it. According to the current theory about addiction, dopamine interacts with another neurotransmitter, glutamate, to take over the brain's system of rewardrelated learning. This system has an important role in sustaining life because it links activities needed for human survival (such as eating and sex) with pleasure and reward. The reward circuit in the brain includes areas involved with motivation and memory as well as with pleasure. Addictive substances and behaviors stimulate the same circuit—and then overload it.

Repeated exposure to an addictive substance or behavior causes nerve cells in the nucleus accumbens and the prefrontal cortex (the area of the brain involved in planning and executing tasks) to communicate in a way that couples liking something with wanting it, in turn driving us to go after it. That is, this process motivates us to take action to seek out the source of pleasure.

Over time, the brain adapts in a way that actually makes the sought-after substance or activity less pleasurable. In nature, rewards usually come only with time and effort. Addictive drugs and behaviors provide a shortcut, flooding the brain with dopamine and other neurotransmitters. Our brains do not have an easy way to withstand the onslaught. Addictive drugs, for example, can release two to 10 times the amount of dopamine that natural rewards do, and they do it more quickly and more reliably. In a person who becomes addicted, brain receptors become overwhelmed. The brain responds by producing less dopamine or eliminating dopamine receptors—an adaptation similar to turning the volume down on a loudspeaker when noise becomes too loud.

As a result of these adaptations, dopamine has less impact on the brain's reward center. People who develop an addiction typically find that, in time, the desired substance no longer gives them as much pleasure. They have to take more of it to obtain the same dopamine "high" because their brains have adapted—an effect known as tolerance. At this point, compulsion takes over. The pleasure associated with an addictive drug or behavior subsides—and yet the memory of the desired effect and the need to recreate it (the wanting) persists. It's as though the normal machinery of motivation is no longer functioning.

The learning process mentioned earlier also comes into play. The hippocampus and the amygdala store information about environmental cues associated with the desired substance, so that it can be located again. These memories help create a conditioned response—intense craving—whenever the person encounters those environmental cues. Cravings contribute not only to addiction but to relapse after a hard-won sobriety. A person addicted to heroin may be in danger of relapse when he sees a hypodermic needle, for example, while another person might start to drink again after seeing a bottle of whiskey. Conditioned learning helps explain why people who develop an addiction risk relapse even after years of abstinence.

Addiction is a spiritual disease

Some theorists have suggested that substance addictions are spiritual illness, a condition resulting from a spiritual void in one's life or from a search for connectedness. For chemically dependent people, drugs become their counterfeit god [32]. Therefore, addicts may be unconsciously seeking to fulfil their spiritual need with drugs. Psychiatrist M. Scott Peck author of The Road Less Travelled offers one of the best descriptions of addiction as a disease of the spirit:

At birth, humans become separated from Source, from God. We are all aware of our separation, but some of us are more sensitive to it than others. We sensitive souls feel emptiness, a longing, what many of us refer to as "a hole in my soul." We sense that something is missing but don't know what it is. We long for relief from the aching void inside ... but we're confused about what will ease our existential dis-ease.

In Western Judeo-Christian cultures, spiritual models typically presume a God with supernatural powers. This God is seen as one who governs, guides, directs, or intervenes on behalf of human beings. Spiritual models assume addiction occurs because of a separation from God. Moral causes of addiction presume there is a "correct" morality based on a particular set of values. Deviation from those values results in addiction. It is important to note that moral codes reflect the value system of a particular culture. Therefore, the "correct" moral code will vary from one culture to the next.

According to the spiritual model, a disconnection from God or a Higher Power causes addiction. This separation causes people's suffering because they fail to live according to God's will or direction. Therefore, recovery consists of establishing or re-establishing a connection with God or a Higher Power. The most prominent example of the spiritual approach is Alcoholics Anonymous (AA) and other 12-step groups. Participants practice 12-steps. These 12-steps help people restore their spiritual connection with a higher power. There are also "faith-based" approaches that arise from specific religious orientations. Prayer, meditation, and counselling with spiritual advisors are techniques associated with this model.

The 12-step program of recovery as formulated by its founders uses a 3-pronged approach: unity (fellowship, traditions and principles of the program), service (chairing meetings, qualifying, setting up the meeting space), and recovery ("working" the 12-step program). The recovery program is a set of suggested strategies that are based on a spiritual foundation whereby the individual is encouraged to rely on an external power greater than him/herself (Higher Power that many choose to

call God), although no religious affiliation or belief is a requirement for 12-step membership. In fact, the AA founders specifically address this issue in one of the early chapters of the Big Book ("We agnostics," AA World services) and the few empirical investigations of the association between religiosity and 12-step participation have found that extent of religious beliefs does not appear to affect the benefits derived from 12-step participation.

Meeting attendance is the most popular and the most researched form of 12-step participation. Members attend meetings to share "their experiences, strength and hope" in an accepting environment; new members gain hope and coping strategies from more experienced "old-timers" and more experienced members come to "keep it green" (i.e., to remember their past experiences with drug use by listening to new members). Fellowship with other recovering persons is one of the cornerstones of 12-step recovery and is credited by recovering individuals as a critical source of support [33].

Overall, 12-step affiliation is a multifaceted process, combining cognitive, behavioral, social and spiritual components. It provides exposure to similar status persons (peers) as well as to the organization's ideology about these persons and their problems. This exposure is believed to lead to certain social and cognitive changes among members that, in time affect their behavior and well-being.

Conclusion

The terminology for discussing drug taking and its effects on society presents us with a "terminological minefield". The term "addiction" is often commonly used. Many dislike this term because it can convey physical forces that compel the individual to be out of control, and can imply a predetermined individual condition, divorced from the environment. Images of alcohol, with decisions about what to do about this drug, are "profoundly coloured by value-laden perceptions of many kinds." An agreed, succinct definition of what constitutes "an addict" still eludes us. Such labels, it is argued, marginalise and stigmatise some people who use, separating them from the rest of society, thus removing any need for examination of what is deemed acceptable substance use patterns.

Responses to drug and alcohol problems draw from a wide range of expertise. Knowledge is required from various fields: Medicine, Psychology, Pharmacy, Sociology, Education, Economics and Political Science are among the foremost. Different professional perspectives and conceptual frameworks imply different interventions, and consequently different policy emphases. Adherents from different disciplines 'religiously' defend the perception of the profession they belong to. Two of the most significant influences in the field of substance addiction were highlighted in this paper; the Disease View and Spiritual Model of addiction.

Proponents of the spiritual model of addictions suggest that the substance use disorders rest in part upon a spiritual flaw or weakness within the individual. In the words of Barber; "addicts are really looking for something akin to the great hereafter and they flirt with death to find it as they think that they can escape from this world by artificial means". Spirituality would view substance abuse as a condition that needs liberation (release from domination by a foreign power such as a substance, a psychological condition, or a social order), a process that requires both a change in consciousness and a change in circumstance. With the rise of the humanities and science, man's search for meaning or the divine spark has been supplanted by a new paradigm; "Science has replaced Religion as the ultimate arbiter of Truth". Implied in this paradigm is only that which is open to scientific enquiry is worthy of research and practice, and thus man's search for the divine spark and subsequent loss of meaning due to addiction will forever remain steeped in mysticism and popular Spiritism.

The Disease Model of addiction seeks to explain the development of addiction and individual differences in susceptibility to and recovery from it. It proposes that addiction fits the definition of a medical disorder. It involves an abnormality of structure or function in the CNS that results in impairment. It can be diagnosed using standard criteria and in principle it can be treated. There are two significant reasons why the brain disease theory of addiction is improbable:

Firstly, a disease involves physiological malfunction, the "proof" of brain changes shows no malfunction of the brain. These changes are indeed a normal part of how the brain works – not only in substance use, but in anything that we practice doing or thinking intensively. Brain changes occur as a matter of everyday life; the brain can be changed by the choice to think or behave differently; and the type of changes we're talking about are not permanent.

Secondly, the very evidence used to demonstrate that addicts' behavior is caused by brain changes also demonstrates that they change their behavior while their brain is changed, without a real medical intervention such as medication targeting the brain or surgical intervention in the brain – and that their brain changes back to normal after they volitionally change their behavior for a prolonged period of time

In a true disease, some part of the body is in a state of abnormal physiological functioning, and this causes the undesirable symptoms. In the case of cancer, it would be mutated cells which we point to as evidence of a physiological abnormality, in diabetes we can point to low insulin production or cells which fail to use insulin properly as the physiological abnormality which create the harmful symptoms.

If a person has either of these diseases, they cannot directly choose to stop their symptoms or directly choose to stop the abnormal physiological functioning which creates the symptoms. They can only choose to stop the physiological abnormality indirectly, by the application of medical treatment, and in the case of diabetes, dietetic measures may also indirectly halt the symptoms as well (but such measures are not a cure so much as a lifestyle adjustment necessitated by permanent physiological malfunction).

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