Effect of Mindfulness Meditation on Craving among the Drug Addicts

Thesis

Submitted for Partial Fulfilment of the Master Degree in Psychiatric Mental Health Nursing

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Introduction

Drug addiction is a chronically relapsing disorder that has been characterized by compulsion to seek and take the drug, loss of control in limiting intake, and emergence of a negative emotional state (e.g.,

dysphoria, anxiety, irritability) reflecting a motivational withdrawal syndrome when access to the drug is prevented ***(Candice and Shelby, 2016).***

National research of drug addiction reported that the percentage of addict patients is 20.6 %. It is the highest Percentage in Egypt with the comparison of previous surveys. So, it is a big challenge to face this disease (Drug Addiction) with a hard effort to prevent many problems which are results of this disease such as: physical, psychological, social, and crime problems ***(Egyptian National Survey, 2015).*** More over ***World Health Organization (WHO) (2015)*** estimated that at least 15.3 million persons have drug use disorders.

Drug dependence is accompanied with craving. Drug craving is considered as a key concept in relapse, drug abuse, and recurrence. Craving is regarded synonymous with ask for, impulses, desires, need or compulsion to drug abuse. Craving is a self-conscious experience of desire to use drugs ***(Franken et al., 2000).***

Most drug addicts, during their addiction, struggle with drug rehabilitation; however, after a while, they relapse and continue their drug abuse. Dealing with addicts' mental problems including restoration of self-esteem, self-confidence, responsibility, and social and familial issues is directly correlated with drug rehabilitation ***(Ali Madadi, 2005).***

Among new methods of drug treatment, especially psychological treatments, integrating mindfulness mediation techniques (mindfulness) with traditional cognitive behavioral therapies can be mentioned, the combination of which is referred to as the third wave of behavioral therapy ***(Kabat-Zinn, 1982).***

Empirical studies have examined the construct of mindfulness for almost 40 years, and a conceptual definition of mindfulness has been

continuously revised and clarified over this period. What we currently term mindfulness in the area of contemplative science, and the corresponding techniques of its cultivation, stem from East retrospective psychological practices, specifically Buddhist psychology, which made reference to the concept over 2,500 years ago ***(Shapiro, 2009).***

Many philosophical and contemplative traditions teach that "living in the moment" increases happiness. However, the default mode of humans appears to be that of mind-wandering, which correlates with unhappiness, and with activation of a network of brain areas associated with self-referential processing ***(Brewer, Worhunsky and Gray et al., 2011).***

While "Meditation" can be considered a general term covering a wide range of practices that expand awareness or encourage self-discovery, "Mindfulness" is defined as a state of consciousness characterized by attention to the present experience with open curiosity nonjudgmentally. Mindfulness can be cultivated through explicit practices, such as meditation or yoga or t'ai chi, or even through creative processes in the arts or walking in nature. It can also be enhanced less explicitly by adopting a generally mindful approach to life. The principles and techniques of mindfulness can be applied to any moment in the day e.g. eating, driving, showering, etc. ***(Smalley and Winston, 2010).***

Considering the effectiveness of mindfulness-based therapies in decreasing physical and psychological disorders, it seems that this therapy is effective in alleviating some symptoms of the relapse of opioid abuse. Examples of these new approaches are Mindfulness-Based Relapse Prevention (MBRP) ***(Bowen et al., 2019)*** and Mindfulness-Based Cognitive Therapy (MBCT) to prevent recurrence of depression and drug abuse ***(Witkiewitz et al., 2005).***

When prevention trainings are combined with mindfulness, they can bring relative success and affect injecting drug users' judgment and aversion. Drug craving is the most powerful predicator of relapse among other predicators (even comorbidity with disorders such as anxiety and depression) and mindfulness can significantly decrease negative effects of craving ***(Leigh et al., 2005).***

The current study is of the few studies in Egypt that discussed this new approach (technique), so it is important to evaluate this type of contemplative practices and its impact with drug addicts and how help them to deal with ideas of craving which is the most important reason of relapsing.

Aim of the Study

This study aims to assess the effect of practicing mindfulness meditation on craving with drug addicts.

Chapter I: Drug Addiction

In this chapter we will discuss the drug addiction disease, definition, its effect, drug addiction in Egypt, and the nursing role with drug addicts.

1.1 Definition of drug addiction:

There are many different ways to describe addiction. The three most common descriptions are amoral failing, a disease, or a behavioral disorder. Throughout history, addiction has been seen as amoral failing; people become addicts because they lack good values. Today addiction is classified as a disease; people become addicts because they have a genetic predisposition to use substances inappropriately to deal with life problems. Others see addiction as a behavioral disorder; people become addicts because they engage in behaviors that eventually become habituated and unresponsive to conscious control. This control leads to profoundly problematic consequences ***(Taite and Scharff, 2014).***

An authoritative definition of drug addiction as propounded by the WHO is that it is a state of periodic and chronic intoxication detrimental to the individual and to society, produced by the repeated consumption of a drug (natural or synthetic). Its characteristics include: (1) An

overpowering desire or need (compulsion) to continue taking the drug and to obtain it by any means; (2) A tendency to increase the dose; (3) A psychic (psychological) and sometimes a physical dependence on the effects of the drug ***(Ploscowe, 2014).***

The American Psychiatric Association 2012 (APA)'s definition of substance use disorder (SUD) requires a patient to meet at least two of the eleven criteria listed in DSM-5. Tolerance and physical dependence reflect physiological adaptation to the effects of a drug, whereas the remaining criteria define uncontrollable drug consumption.

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 behaviors, which may or may not include alcohol and other drug use, supplant healthy, self-care related behaviors. 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 behavioral

response to external cues, in turn triggering craving and/or engagement in addictive behaviors ***(American Society of Addiction Medicine, 2011)***.

1.2 What is a psychoactive and addictive drug?

Psychoactive substances are substances that, when taken in or administered into one's system, affect mental processes, e.g. cognition or affect. This term and its equivalent, psychotropic drug, are the most neutral and descriptive term for the whole class of substances, licit and illicit, of interest to drug policy. 'Psychoactive' does not necessarily imply dependence-producing, and in common parlance, the term is often left unstated, as in 'drug use' or 'substance abuse' (**WHO 2018).**

According to ***Watershed Australian Council on Health Care Standards (ACHS) (2016)***, Psycho-active drugs may be divided into four categories:

Depressants: Drugs that decrease alertness by slowing down the activity of the central nervous system (e.g. heroin, alcohol and analgesics).

Stimulants: Drugs that increase the body's state of arousal by increasing the activity of the brain (e.g. caffeine, nicotine and amphetamines).

Hallucinogens: Drugs that alter perception and can cause hallucinations, such as seeing or hearing something that is not there.

Other: Some drugs fall into the 'other' category, as they may have properties of more than one of the above categories (e.g. cannabis has depressive, hallucinogenic and some stimulant properties).

Since the use of different substances is influenced and affected by many variables, it can be difficult to categorize risk factors as well as draw conclusions between one specific variable and the outcome. Nevertheless, there are a number of identified risk factors which have been shown to be associated with the use of different types of substances among adolescents, and it appears that exposure to multiple risk factors has a cumulative effect. Moreover, one risk factor is rarely associated with use of only one substance. There seems to be a generalized risk of using different substances and these substances appears to share some fundamental risk factors ***(Palmer et al., 2009).***

Research suggests that some of the population is genetically_predisposed to develop an alcohol or drug addiction. Studies indicate that people identified as being addicted lack adequate production of the brain chemicals dopamine and serotonin. When the person is introduced to

alcohol/other drug use, they report feeling normal for the first time. These outside stimulants take the place of innate brain chemicals that might be depleted or lower than normal ***(Lincoln, 2011).***

There are also several factors in the environment which contribute to a person developing alcohol or drug addiction. Availability and accessibility of mind-altering drugs are two strong environmental factors.

A psychological factor focuses on a person's psychological needs. The person uses alcohol or drugs to self-medicate emotional voids, such as sadness, loneliness and depression ***(Lincoln, 2011).***

There is no reliable way to predict who will develop an alcohol or drug addiction. There is no typical personality or set of physical attributes. There are also many health care professionals who are susceptible to developing an addiction. Individuals do not necessarily become addicted to a certain substance. However, they can become addicted to the feeling it produces and will seek out the same or similar substance to get the same feeling ***(Lincoln, 2011).***

Addiction is a primary disease. It has specific symptoms and is not to be confused with stress, poor relationships, or unmanageable work demands. Addiction

is progressive and, if left untreated, the symptoms of the disorder will worsen. Addiction is a chronic relapsing disorder and it cannot be cured. Like many other disorders, the symptoms of addiction can be temporarily stopped, but without significant lifestyle changes and continued recovery maintenance, the symptoms will reoccur ***(Lincoln, 2011).***

Addiction can be fatal. Many alcohol or drug overdoses, deaths by accidents, and suicides involve an individual with an addictive behavior. Additionally, long-term use of alcohol or drugs can affect certain body systems or organs and lead to illness and death ***(Lincoln, 2011).***

Historically, the abuse of tobacco, alcohol and illicit drugs has been perceived primarily as a problem of men. Despite this perception, however, numerous recent studies demonstrate that substance abuse severely impacts the wellbeing of women as well ***(Wetherington and Roman, 1998; USDHHS, 1998, 2000, 2001; Lex, 2000)***. In fact, substance abuse is the leading preventable cause of women's morbidity and mortality, accounting for 200.000 premature deaths each year ***(Wetherington and Roman, 1998)***. Women who use drugs and experience their negative consequences typically initiated their drug use during adolescence ***(Johnson and Gerstein 1998; Wetherington and Roman 1998)***. Accordingly,

efforts to prevent drug use and drug-related problems among women should begin with an accurate understanding of drug use among girls.

Drugs contain chemicals that tap into the brain's communication system and disrupt the way nerve cells normally send, receive, and process information. There are at least two ways that drugs cause this disruption, firstly by imitating the brain's natural chemical messengers, and secondly by over stimulating the "reward circuit" of the brain. Some drugs (e.g., marijuana and heroin) have a similar structure to chemical messengers called neurotransmitters, which are naturally produced by the brain. This similarity allows the drugs to "fool" the brain's receptors and activate nerve cells to send abnormal messages ***(Koob and Le Moal, 2001).***

Other drugs, such as cocaine or methamphetamines, can cause the nerve cells to release abnormally large amounts of natural neurotransmitters (mainly dopamine) or to prevent the normal recycling of these brain chemicals, which is needed to shut off the signaling between neurons. The result is a brain awash in dopamine, a neurotransmitter present in brain regions that control movement, emotion, motivation, and feelings of pleasure. The overstimulation of this reward system, which normally responds to natural behaviors linked to survival such as eating, spending time

with loved ones, etc., produces euphoric effects in response to these psychoactive drugs. This reaction sets in motion a reinforcing pattern that "teaches" people to repeat this rewarding behavior of abusing drugs ***(Wikipedia, 2016)*.**

1.3 The effect of drug addiction:

As a person continues to abuse drugs, the brain adapts to the overwhelming surges in dopamine by producing less dopamine or by reducing the number of dopamine receptors in the reward circuit. The result is a lessening dopamine's impact on the reward circuit, which reduces the abuser's ability to enjoy not only the drugs, but also other events in life that previously brought pleasure. This decrease compels the addicted person to keep abusing drugs in an attempt to bring the dopamine function back to normal, but now larger amounts of the drug are required to achieve the same dopamine high, an effect known as tolerance (***National Institute on Drug Abuse, 2012).***

Long-term abuse causes changes in other brain chemical systems and circuits as well. Glutamate is a neurotransmitter that influences the reward circuit and the ability to learn. When the optimal concentration of glutamate is altered by drug abuse, the brain attempts to compensate, which can impair cognitive functions. Brain imaging studies of drug-addicted individuals show changes

in areas of the brain that are critical to judgment, decision making, learning and memory, and behavior control. Together, these changes can drive an abuser to seek out and take drugs compulsively despite adverse, even devastating consequences, hence the nature of addiction ***(National Drug Intelligence Center, 2011).***

The negative impact of addiction to alcohol, nicotine, drugs or even caffeine can be as follows:

A- On the individual:

People who use drugs experience a wide array of physical effects other than those expected. The excitement of a cocaine high, for instance, is followed by a "crash": a period of anxiety, fatigue, depression, and an acute desire for more cocaine to alleviate the feelings of this crash. Marijuana and alcohol interfere with motor control, and as a result, are factors in many automobile accidents. Users of marijuana and hallucinogenic drugs may experience flashbacks and unwanted recurrences of the drug's effects weeks or months after use. Sudden abstinence from certain drugs results in withdrawal symptoms. For example, heroin withdrawal can cause vomiting, muscle cramps, convulsions, and delirium ***(Drug Abuse, 2016).***

With the continued use of a physically addictive drug, tolerance develops; i.e. constantly increasing