Enhancing (motivation for change) In treatment of addiction

Essay

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List of abbreviations

ASAM : American Society of Addiction Medicine.

BSCT : behavioral self-control training.

CBT : cognitive behavioral therapy.

FMRI : functional magnetic resonance imaging.

MI : Motivational interviewing.

MRI : Magnetic resonance imaging.

MRC : Medical Research Council.

NA : Narcotic anonymous.

NAc : Nucleus accumbens.

OFC : Orbitofrontal cortex.

PFC : Prefrontal cortex.

SO : significant others.

UFT : unilateral family therapy.

VTA : Ventral tegmental area.

WHO : World Health Organization.

Introduction

In substance abuse treatment, clients' motivation to change has often been the focus of clinical interest and frustration. Motivation has been described as a prerequisite for treatment, without which the clinician can do little. Similarly, lack of motivation has been used to explain the failure of individuals to begin, continue, comply with, and succeed in treatment **(Miller, 1985).** Until recently, motivation was viewed as a static trait or disposition that a client either did or did not have. If a client was not motivated for change, this was viewed as the client's fault. A client who seemed amenable to clinical advice or accepted the label of "alcoholic" or "drug addict" was considered to be motivated, whereas one who resisted a diagnosis or refused to adhere to the proffered treatment was deemed unmotivated. Furthermore, motivation was often viewed as the client's responsibility, not the clinician's **(Miller & Rollnick, 2002).**

It has been recognized for many years, mainly on the basis of work with animals, that the VTA is the

structure that send reward signals out through the rest of the brain **(Bozarth, 2003)**.

Reward system integrates four main computational activities: (i) learning environmental cues that predict reward, (ii) learning comparative values of rewards, (iii) focusing attention on cues that predict rewards, and (iv) motivating the system to act on the basis of these cues **(Berridge, 2007).**

The framework for linking individual change to a new view of motivation stems from what has been termed a phenomenological theory of psychology, most familiarly expressed in the writings of Carl Rogers. In this humanistic view, an individual's experience of the core inner self is the most important element for personal change and growth. In this context, motivation is redefined as purposeful, intentional, and positive, directed toward the best interests of the self. More specifically, motivation is the probability that a person will enter into, continue, and adhere to a specific change strategy **(Wheeler et al., 2008).**

Consequently, motivation is accessible and can be modified or enhanced at many points in the change process. Clients may not have to "hit bottom" or experience terrible, irreparable consequences of their behaviors to become aware of the need for change. Clinicians and others can access and enhance a person's motivation to change well before extensive damage is done to health, relationships, reputation, or self-image **(Miller et al., 2003).**

Research has shown that motivation-enhancing approaches are associated with greater participation in treatment and positive treatment outcomes. Such outcomes include reductions in consumption, increased abstinence rates, social adjustment, and successful referrals to treatment **(Kurz, 2007).**

The way the clinician, interact with clients has a crucial impact on how they respond and whether treatment is successful. A direct comparison of counselor styles suggested that a confrontational and directive approach may precipitate more immediate client resistance and, ultimately, poorer outcomes than a client-

centered, supportive, and empathic style that uses reflective listening and gentle persuasion **(Gaume et al., 2008).**

According to Prochaska the stages of change can be visualized as a wheel with six stages, the first is precontemplation in which substance-using persons are partly or completely unaware that a problem exists, the second is contemplation in which these individuals become aware that a problem exists, they begin think there may be reasons to change, the third is preparation in which more specific planning for change are done, the fourth is action in which they choose a strategy for change and begin to pursue it, the fifth stage is maintenance in which they work to sustain sobriety and prevent recurrence, the sixth is recurrence in which relapse occurs **(Prochaska & DiClemente, 1984).**

Linking the new view of motivation, the strategies found to enhance it, and the stages of change model, along with an understanding of what causes change, can create an innovative approach to helping substance-using clients. To consider change, individuals at the

precontemplation stage must have their awareness raised. To resolve their ambivalence, clients in the contemplation stage require help choosing positive change over their current situation. Clients in the preparation stage need help identifying potential change strategies and choosing the most appropriate one for their circumstances. Clients in the action stage need help to carry out and comply with the change strategies. During the maintenance stage, clients may have to develop new skills for maintaining recovery and a lifestyle without substance use **(Miller & Rollnick, 2002).**

Motivational interviewing is a technique in which you become a helper in the change process and express acceptance of your client. It is a way to interact with substance-using clients. Motivational interviewing builds on Carl Rogers' optimistic and humanistic theories about people's capabilities for exercising free choice and changing through a process of self-actualization. The therapeutic relationship is a democratic partnership. Essentially, motivational interviewing activates the capability for beneficial change that everyone possesses **(Miller & Rollnick, 2002).**

Motivational interviewing is a useful clinical intervention and appears to be an effective, efficient, and adaptive therapeutic style worthy of further development, application, and research **(Bill et al., 2006).**

Brief motivational interventions for substance-using individuals are applied most often outside traditional treatment settings, where clients are not seeking help for a substance abuse disorder but have come, for example, to seek medical attention, to pick up a welfare check, or to respond to a court summons. They have been tried with success **(Heather, 2005).**

Rationale of the work

According to **(World drug report 2007)** from United nations, office on drugs and crime, the prevalence of Opiates abuse in Egypt is 0.2% of population(nearly 140000 persons), the prevalence of Cannabis abuse in Egypt is 5.2% of population(nearly 3640000 persons), and the prevalence of Amphetamines abuse in Egypt is 0.5% of population (nearly 350000 persons).

Substance abuse disorder has bad effects on all aspects of life of the patient and his family; also, it has bad economic and social effects on the country.

Low motivation for treatment from substance abuse is a main problem. Therefore, it is important to highlight possible effects of enhancing motivation interventions in substance abuse treatment and discuss the available methods of intervention, as it will improve the outcome of treatment.

Aim of the work

1) To give operational view about change process and motivation.

2) To provide the practical methods used to enhance motivation to change in substance abuse disorder.

3) To provide practical methods in brief motivational interventions.

4) To provide questions we want their answers in future researches.

5) To provide an overview about anatomy and physiology related to human motivation.

Methodology (Procedure)

- In order to fulfill the aim of the work, a review of all available studies on "Enhancing motivation in treatment of addiction" will be done, and computerized searches of the literatures will be performed.
- The obtained findings will be categorized into different categories.
- These findings will be discussed.
- Following these steps, recommendations for further studies, and how we can help those patients will be generated.

Chapter 1: Anatomy and physiology related to human motivation

Scientists' efforts to discover the relation between human motivation and brain functions has started from 1950s. Olds and Milner (1954) first identified brain sites where direct electrical stimulation is reinforcing. Laboratory animals will lever press at high rates (> 6,000 times per hour) to obtain brief stimulation pulses to certain brain regions. The reinforcement from direct electrical activation of this reward substrate is more potent than other rewards, such as food or water **(Olds & Milner, 1954).**

The potency of this electrical stimulation is most dramatically illustrated in a classic experiment where the subjects suffered self-imposed starvation when forced to make a choice between obtaining food and water or electrical brain stimulation. A second distinguishing feature of reward from electrical brain stimulation is the lack of satiation; animals generally respond continuously, taking only brief breaks from lever pressing to obtain the electrical stimulation. These two features (i.e., super-potent reward and lack of satiation) are important characteristics of direct

activation of brain reward mechanisms **(Routtenberg & Lindy, 1965).**

Initial work suggested that a number of brain regions could produce rewarding effects, but many of these seemingly diverse stimulation sites were quickly linked through a common neural pathway—the medial forebrain bundle **(Olds, 1977).** Although it is true that activation of other brain systems can produce rewarding effects, activation of the medial forebrain bundle as it courses through the lateral hypothalamus to the ventral tegmentum produces the most robust rewarding effects, and several neurotransmitters may be involved in the rewarding effects from various electrode placements, but dopamine appears to be the neurotransmitter essential for reward from activation of the medial forebrain bundle system **(Fibiger & Phillips, 1979).**

The neuroanatomical elements of rewarding stimulation have been identified using electrophysiological and neurochemical techniques. Electrical stimulation activates a descending component