

Cognitive Behavioral Therapy for Substance Use Disorders:

A Comprehensive Review and Clinical Practice Recommendations

العلاج المعرفي السلوكي لاضطرابات تعاطي المواد المخدرة
مراجعة شاملة وتوصيات الممارسة الاكلينيكية

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ORCID: /	DOI: 10.46315/1714-013-002-034	

Received: 01/ 03/ 2024 Accepted: 31/ 05/ 2024 Published :16/ 06/ 2024

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Abstract :

This research paper aim to identify effective cognitive-behavioral therapy for Substance Use Disorders (SUDs) due to their alarming increase globally. The study methodology involved a comprehensive search in databases such as PubMed, Scopus, and PsychInfo for indexed therapies recommended by the American Psychological Association (APA) in their clinical practice guidelines. The results indicate that Motivational Interviewing, Cognitive Therapy, and Relapse Prevention are the most effective interventions for individuals struggling with addiction. Substance use disorders not only impact the individual's psychological well-being but also have broader psychosocial implications for society. The findings underscore the importance of implementing cognitive-behavioral therapies to address the rising prevalence of SUDs and enhance the overall performance of individuals across various levels. This research contributes valuable insights for practitioners and underscores the significance of evidence-based interventions in the treatment process.

Keywords: Substance Use Disorders (SUDs); Cognitive Behavioral Therapy (CBT); Clinical Practice Recommendations.

ملخص :

تهدف هذه الورقة العلمية إلى تحديد العلاج المعرفي السلوكي الفعالة لاضطرابات تعاطي المخدرات الذي يعرف تزايداً مقلقاً على المستوى العالمي. حيث شملت منهجية الدراسة بحثاً شاملاً في قواعد البيانات الرصينة لتحديد العلاجات التي أوصت بها جمعية علم النفس الأمريكية في إرشادات الممارسة السريرية الخاصة بها. أشارت النتائج إلى أن المقابلات التحفيزية والعلاج المعرفي والوقاية من الانتكاس هي التدخلات الأكثر فعالية لحالات الإدمان. فاضطرابات تعاطي المواد المخدرة لا يؤثر على الرفاه الذاتي للفرد، بل لها آثار نفسية واجتماعية على المجتمع. وتؤكد النتائج على أهمية تطبيق هذه التقنيات لمعالجة الانتشار المتزايد لاضطرابات تعاطي المخدرات وتعزيز الأداء العام للأفراد في مختلف المستويات. كلمات مفتاحية: اضطرابات تعاطي المخدرات؛ العلاج المعرفي السلوكي؛ توصيات الممارسة الاكلينيكية.

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1. Introduction:

In recent times, the global issue of drug abuse and psychotropic substance misuse has escalated, with a notable impact on African countries, including Algeria (WHO, 2014; Onaolapo, 2022). Numerous research endeavors have delved into examining this phenomenon from diverse perspectives, encompassing social, psychological, economic, and medical dimensions. The objective is to comprehend the factors and repercussions of drug addiction on individuals, their lives, and society at large, recognizing that individual health is intrinsic to societal well-being. The escalating challenges faced by young people have spurred the development of psychotherapies aimed at mitigating and alleviating the prevalence of drug addiction. Consequently, mental health has become a focal point for researchers seeking to identify crucial therapeutic strategies to effectively address the growing issue within the youth demographic. It is noteworthy that various psychological treatment have demonstrated success in treating addicts, such as cognitive-behavioral therapies that are recommended by Clinical practice guideline (Turner & Swearer Napolitano, 2010).

The American Psychiatric Association (APA) Practice Guidelines are not intended to be construed or to serve as a standard of medical care. Standards of medical care are determined on the basis of all clinical data available for an individual patient and are subject to change as scientific knowledge and technology advance and practice patterns evolve. These parameters of practice should be considered guidelines only. However, most of the research studies upon which these recommendations are based have indicated that Cognitive-Behavioral Therapy is effective in treating this disorder (Bruneau et al., 2018).

Social learning theories on the development and maintenance of drug use disorders serve as the foundation for cognitive behavioral therapy (CBT)(Beck, 2020). These treatments focus on two processes that are assumed to underlie substance abuse, maladaptive actions, including accepting offers to take drugs, and dysfunctional cognition, like the thoughts that substance use is totally uncontrollable. Common cognitive strategies involve identifying and confronting thoughts about substance use, recognizing seemingly irrelevant decisions that could culminate in high-risk situations, and exploring the benefits and drawbacks of continued substance use in order to strengthen the patient's resolve to stop using drugs (Alford et al., 1997). Behavioral techniques involve developing coping mechanisms for cravings, emergency preparedness, and relapse prevention. They are founded on a functional analysis of drug use, which entails evaluating substance use in relation to its antecedents and effects.

The primary objective of this review is to identify the latest advancements in cognitive-behavioral therapies recommended by the American Psychological Association (APA) clinical practice guidelines. In addressing the question of how cognitive-behavioral therapy (CBT) approaches have evolved to

tackle the complexities of substance use disorders, our focus lies in understanding the dynamic changes within CBT strategies.

2. Methods:

To identify effective CBT techniques for Substance Use Disorder, we conducted a comprehensive search across reputable databases, including PubMed, Scopus, and PsycINFO. Our focus was on identifying indexed therapies that align with recommendations from authoritative bodies such as the American Psychological Association (APA). The search strategy involved systematically exploring each database using specific keywords related to CBT, Substance Use Disorder, and various treatment techniques within cognitive-behavioral interventions.

3. Results :

From our meticulous search strategy across databases such as PubMed, Scopus, and PsycINFO, a comprehensive array of Cognitive-Behavioral Therapy (CBT) techniques for Substance Use Disorder (SUDs) emerged, catering to diverse therapeutic contexts, including individual, group, family, and couples settings. However, the efficacy of these techniques has not been without clinical challenges, a nuanced exploration of which forms a crucial aspect of our review. To delve into these challenges and comprehensively understand the therapeutic landscape, it is imperative to establish a foundation rooted in the Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria for diagnosing Substance Use Disorder (APA,2013).

3.1. The evolution of Substance Use Disorder from DSM-IV to DSM-5:

The decision on whether to maintain the distinct categories of abuse and dependency was pivotal (APA, 2013). According to DSM-IV, a diagnosis of dependence required meeting three or more criteria, while an abuse diagnosis was assigned when an individual did not meet any criteria (Gautam et al., 2017). DSM-IV established a hierarchy, prioritizing dependence over abuse, despite concerns about potential overlap (Morin et al., 2014). Despite this hierarchy, markers such as treatment usage, decreased functioning, consumption patterns, and comorbidity consistently demonstrated the excellent reliability and validity of the dependence diagnosis (APA, 2013; Hasin et al.,2013).

The evolution from DSM-IV to DSM-5 represents an advancement in understanding substance use disorders classifications (Hasin et al., 2013) . DSM-5 addresses the shortcomings of DSM-IV while building on its strengths (Osilla et al., 2009). A nuanced approach recognizing the intricate interaction of substance-related disorders is evident in the fundamental question of whether to maintain the distinction between abuse and dependence (Smedslund et al., 2011) . The ensuing analysis will explore how DSM-5 addresses these issues, enhancing our comprehension of

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substance use disorders more comprehensively (APA, 2013), this table illustrates the criteria for both substance abuse and dependence:

Table 1. Evolution of Substance Use Disorder Criteria: DSM-4 to DSM-5

Criteria	DSM-IV abuse		DSM-IV Dependence		DSM-5 Substance Use Disorders		
Hazardous use	x	≥1 Criterion	-	≥ 3 Criterion	x	≥ 2 Criterion	
Social and interpersonal problems associated with use	x		-		x		
Neglect of major role responsibilities due to use	x		-		x		
Legal issues related to substance use	x		-		-		
Withdrawal symptoms	-		x		x		
Tolerance to substances, requiring larger amounts or extended usage	-		x		x		
Repeated attempts to quit or control use	-		x		x		
Significant time spent engaging in substance use	-		x		x		
Physical or psychological problems linked to use	-		x		x		
Giving up activities in favor of substance use	-		x	x			
Intense craving	-		-	x			

for the substance						
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Source: (Hasin et al., 2013)

In the context of DSM-IV and DSM-5 criteria for these disorders, DSM-IV identified individuals meeting one or more abuse criteria within a 12-month period without a diagnosis of dependency, this criterion applied universally, excluding nicotine, for which DSM-IV lacked specific misuse criteria, in contrast, DSM-IV diagnosed those with three or more dependency criteria within a calendar year (APA, 2013), DSM-5 streamlined the criteria, introducing a new category for individuals meeting two or more criteria related to Substance Use Disorder within a year. Notably, withdrawal criteria, previously omitted for inhalant, cannabis, and hallucinogen disorders in DSM-IV, were incorporated in DSM-5, with cannabis withdrawal being a significant addition. This evolution in criteria reflects an enhanced diagnostic approach for substance use disorders, ensuring a more precise and comprehensive categorization (Windsor et al., 2015).

3.2. Theoretical Models of Substance Use Disorders (SUBS):

Many theories of addiction seek to explain the processes that underlie the behaviors that are seen in addicts. Preclinical data are frequently crucial to these ideas because they allow for the investigation of fundamental neurological systems in a manner that is not practical when using human participants (McHugh & Otto, 2010).

According to Negative Reinforcement (NR) model, which is one of the early theories to explain addictive behavior was negative reinforcement. The main idea is that using drugs lessens the symptoms of withdrawal distress. A more current An advanced illustration of this paradigm, which fits under the umbrella of the opponent process theory of emotional regulation, (Stellern et al., 2023).

The social learning hypothesis, an individual's role models, adults and peers, have substance-specific attitudes and actions that lead to drug use. According to Bandura (2013) modeling effects start with seeing and copying drug-specific actions, proceed with social reinforcement for substance use and expectations of good outcomes, and end with substance use and abuse. Essentially, this idea suggests that favorable norms and expectations around drugs, as well as family members and friends who use substances and set an example for others, are what lead to substance usage (Smith, 2021).

In the Inhibitory Control Dysfunction model, impulsivity is recognized as the central factor contributing to addiction. Studies have linked impulsivity to appetitive approach systems, deficits in learning related to drug use, and persistent behaviors. Consequently, models incorporating deficits in inhibitory control propose that individuals are more likely to attribute their drug usage to impulsivity or persistence (Ivanov et al., 2008).

These theories focuses on specific aspects of person-environment interactions, there exists a common ground among all CB approaches to therapeutic change. Despite variations in emphasis,

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these approaches share fundamental assumptions, irrespective of the particular behavior micro theory on which a set of procedures is based.

3.3. Cognitive Behavioral Therapies Recommended for Patients With Substance Use Disorders:

The cognitive model posits that substance use contributes to the persistence of distorted thoughts, making cognitive-behavioral therapy (CBT) an ideal approach to identify and modify these erroneous patterns of thinking and behaviors associated with addiction (Osilla et al., 2009). CBT has demonstrated efficacy in assisting individuals in reducing substance use by proactively addressing potential challenges, developing effective coping strategies, evaluating both positive and negative consequences of substance use, and recognizing situations that may lead to drug use (Beck, 1964). The underlying theoretical framework of CBT suggests that cognitive factors play a mediating role in all interactions between an individual and the demands of a situation, as well as in the individual's efforts to cope effectively (Chambless & Ollendick, 2001; Cuijpers et al., 2013).

Three fundamental theoretical principles should underpin CBT for addressing drug abuse, Motivational Interviewing (MI), Cognitive Therapy (CT), and Relapse Prevention (RP) these models aid patients in recognizing and modifying the thoughts and attitudes that drive them towards drug and alcohol use.

3.3.1. Motivational Interviewing (MI):

Developed in the 1980s by William Miller and Stephen Rollnick, Motivational Interviewing (MI) is a specialized approach aimed at addressing resistant patients, particularly those resistant to behavioral change (Miller & Rollnick, 2002; Miller & Rollnick, 2012) . MI is characterized as a collaborative conversational method, emphasizing the enhancement of an individual's motivation while respecting and supporting their autonomy for change. In this approach, motivation is viewed as a variable phenomenon capable of positively influencing behaviors (Oliviera, 2012).

The foundational concept of motivational interviewing lies in the belief that the responsibility for change rests with the patient, contingent on their performance. Guided by this principle, Miller & Rollnick (2002) outlined five fundamental principles for facilitating change, which are as follows:

Expressing Empathy, characterized by the capacity to comprehend others' feelings and perspectives without passing judgment, criticism, or blame, creates an atmosphere where patients feel understood and accepted. This sense of understanding and acceptance fosters self-liberation and encourages the envisioning of change (Stirman et al., 2010). The therapist's acceptance, a crucial aspect of forming a strong therapeutic alliance, contributes significantly to building the patient's esteem (Hofmann et al., 2012).

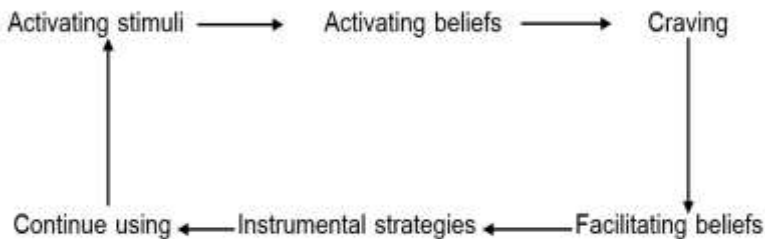
Fostering Self-Efficacy, This encompasses instilling hope and belief in the patient's capacity for implementation and change. The therapist works to boost the individual's confidence in their ability to confront tasks or challenges by nurturing a sense of possibility for change (Miller & Rollnick, 2002).

Motivational interviewing is a therapeutic approach aiding individuals in resolving ambivalence and progressing toward positive change, guided by principles that facilitate this transformative process.

3.3.2. Cognitive therapy:

Cognitive therapy, as formulated by Beck and colleagues in 1993, presents a tailored cognitive model designed for addressing substance abuse issues. This model posits that individuals grappling with substance abuse often hold intermediate beliefs related to themes such as lack of love, helplessness, hopelessness, and low frustration and boredom. These intermediate beliefs, termed as addictive beliefs, can be categorized to form a complex cognitive schema.

Fig.1 Beck's cognitive model explains the process of drug use:



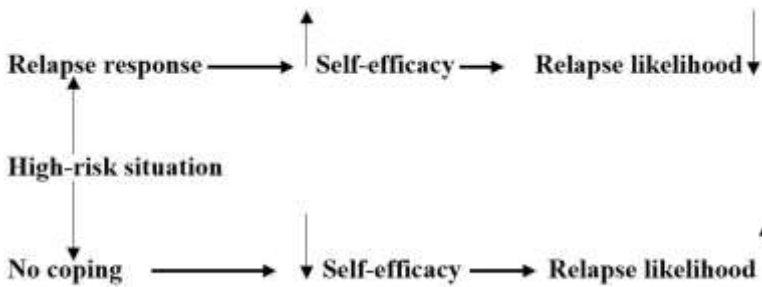
Source: (Beck, 2020)

The diagram below illustrates the activation of beliefs in the presence of specific stimuli, particularly those capable of triggering an individual's cravings and activating permissive beliefs, thereby sustaining continued consumption. Cognitive therapy encompasses engagement with various categories of beliefs, including primary, permissive, and core beliefs. The therapist's role involves introducing or reinforcing positive and realistic beliefs conducive to effective coping (Kolubinski et al., 2018). This process aids the patient in translating the strengthened, realistic thoughts into action regarding their challenges. Through the restructuring of thoughts, individuals gradually assume responsibility for issues and situations that were previously perceived as unbearable, leading them to resort to substance use as a coping mechanism in stressful or frustrating scenarios.

3.3.3. Relapse Prevention (RP):

The cognitive-behavioral model has underscored the significance of relapse within the framework of treatment intervention. Two primary factors are integral to understanding addiction within the relapse prevention framework. The first factor encompasses the behavioral determinants of addiction, including situational and environmental history, beliefs and expectations, individual history, and prior experiences of learning narcotic or stimulant substances. The second factor delves into the consequences of the behavior, aiming to comprehend the escalating effects that may intensify substance use and the adverse outcomes that could deter use (Marlatt & George, 1984). Additionally, understanding the personal relationships an individual encounters before, during, and after addiction, along with the social factors influencing the social learning of addictive behavior, is crucial.

Fig.2 Depiction of Attitudes in an Addicted Individual Confronted with the Risk of Relapse



Source : (Hendershot et al., 2011)

The diagram outlines two possible outcomes for individuals facing situations that may lead to relapse. Choosing the first path indicates the ability for abstinence and self-efficacy, particularly if the abstinence period has been long. Awareness of potential relapse consequences enhances the sense of control, fostering positive emotions (Prochaska et al., 1993). Opting for the second path, succumbing to relapse, suggests a lack of effective coping mechanisms or maintaining positive expectations about substance use, hindering a full understanding of the situation's severity. This increases the relapse likelihood, negatively impacting the individual and diminishing their self-efficacy.

4. Discussion:

Recognizing the importance of building a strong therapeutic relationship at the outset of treatment, cognitive-behavioral therapists have endeavored to integrate motivational interviewing into their approach. Motivational interviewing, designed to boost motivation for change in clients during the initial stages of change, is seamlessly combined with the inherently action-focused cognitive-behavioral-based approaches.

The underlying assumption driving this development in cognitive-behavioral approaches is that without a robust working alliance leading to high motivation for change, most, if not all, cognitive-behavioral approaches may prove ineffective. Cognitive-behavioral theories typically conceive treatment as having several essential tasks for successful outcomes (Magill et al., 2020). Similar to other psychosocial treatment approaches, the primary task, if required, is to detoxify the client from harmful or potentially life-threatening levels of substance use, aiming for temporary abstinence. It's worth noting that cognitive-behavioral theories typically do not mandate total abstinence as a precondition for treatment, nor is it deemed a necessary treatment goal for all clients. Following successful detoxification, the therapist is then tasked with conducting a comprehensive functional analysis of the client's substance use behavior(Beck, 2020).

The ultimate objective of cognitive-behavioral treatments is to help the client recognize and develop strategies for handling potential high-risk situations that may arise in the future. This goal aims to equip the client with the necessary skills to prevent relapse to substance use, a fundamental concept within cognitive-behavioral relapse prevention (Smith, 2021).

From a cognitive-behavioral perspective, the three fundamental treatment tasks—functional analysis, skills training, and relapse prevention—are achieved through both individual sessions with the client and collaborative efforts to actively modify environmental factors that could trigger or sustain substance use. This approach may involve encouraging clients to undertake substantial lifestyle changes, alter their daily routines, or adjust their interactions with family and friends based on the functional analysis, aiming to improve the client's ability to cope without resorting to drugs or alcohol.

5. Conclusion

Clinical practice guidelines strongly support the efficacy of CBT for substance use disorders. It encompasses a variety of behavioral therapies, such as cognitive therapy (CT), relapse prevention (RP), and motivational interviewing (MI). These therapies address various cognitive-behavioral issues, motivational hurdles, and operant learning. Demonstrating efficacy in randomized trials, they can be combined with each other or medication to improve outcomes. Despite variations, a conceptual model views SUDs as diseases rooted in learning processes propelled by the reinforcing effects of drugs. Challenges include determining the optimal combination of therapies and improving the diffusion of CBT in service contexts. Cutting-edge techniques, including combination strategies (DCS) and scalable modalities (computer-based programs), aim to increase treatment response rates and speed, facilitating the deployment of therapies outside of research contexts.

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