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Chapter 13

Evidence-Based Psychotherapy for Substance Use Disorder



Jan Luiz Leonardi, Dan Josua, and Cainã Gomes

Introduction

In the early 1990s, Division 12 of the *American Psychological Association* (APA) set up a task force to define and identify empirically supported psychological treatments (Chambless 1993). Two criteria were used: (1) the intervention should be thoroughly described in a manual as a requirement for procedure standardization (the independent variable in question), thus enabling therapists to replicate processes and findings and (2) the intervention should have its efficacy supported by experimental evidence, which could stem from at least two randomized clinical trials or a set of single case trials¹ (Chambless and Ollendick 2001; Task Force on Promotion and Dissemination of Psychological Procedures 1995).

The first Division 12 task force report, published in 1995, listed 18 empirically sustained treatments and received several updates through the following years (e.g., Chambless et al. 1998). More recently, however, Division 12 has replaced the assessment of clinical or single case trials with systematic, meta-analysis reviews (Tolin et al. 2015), a rigorous method used to synthesize the results of clinical research. Currently, researchers and practitioners may refer to the list of empirically supported treatments, their respective manuals, the clinical research on which they are based, the meta-analyses, and training information at www.div12.org/psychological-treatments.

After a long struggle between diverse theoretical, conceptual, methodological, and practical perspectives on empirically sustained treatments (Leonardi and Meyer 2015), the American Psychological Association (APA 2006) defined the concept of *evidence-based practice in psychology* as an individualized clinical

¹For a brief explanation on different methods in psychotherapy research, see Leonardi (2017).

decision-making process that occurs through the integration of the best available evidence (i.e., integrated therapeutic procedures that have provenly produced positive outcomes and minimized negative ones) with clinical expertise (i.e., ability to formulate the case, apply techniques, monitor progress, establish therapeutic relationships, etc.) in the context of patients' characteristics, culture, and preferences (i.e., their objectives, values, beliefs, setting, and clinical status). From this perspective, the three elements of the definition—empirical evidence, professional repertoire, and patient's idiosyncrasies—are fundamental in clinical decision-making, so that a therapy that fails to consider the interrelationship between all three components cannot be seen as evidence-based practice in psychology.

In this sense, to conduct evidence-based psychotherapy for substance use disorder, practitioners must take into account available, empirically supported treatments (i.e., the best available evidence), required therapeutic skills (i.e., clinical expertise), and patients' idiosyncrasies.

This chapter thus aims to present an overview of psychological interventions with greater evidence of effectiveness for substance use disorder, outline the main clinical skills required for therapists to treat this population, and point out important considerations regarding treatments and patients' idiosyncrasies.

Empirically Sustained Treatments

Data from randomized clinical trials and systematic reviews of the meta-analysis literature revealed that the psychological interventions with the greatest evidence of effectiveness are motivational interviewing, motivational enhancement therapy, community reinforcement approach, contingency management, and couple behavioral therapy (Blonigen et al. 2015; Dutra et al. 2008; Klimas et al. 2018; Martin and Rehm 2012). Such treatments are briefly presented below, but the interested reader can find a detailed description in their respective manuals.

Motivational Interviewing

More than a *sui generis* therapeutic approach, motivational interviewing (MI) is regarded as a way to understand human communication and manage this dialog to favor positive behavioral changes. In the words of its creators:

MI is a collaborative, goal-oriented style of communication with particular attention to the language of change. It is designed to strengthen personal motivation for and commitment to a specific goal by eliciting and exploring the person's own reasons for change within an atmosphere of acceptance and compassion (Miller and Rollnick 2012, p. 29).

In other words, MI is a dialog conduction method inspired by the tradition of Carl Rogers' *Person-Centered Psychology*, but also aimed at committing to the

change of well-established behavior (e.g., reducing or zeroing alcohol intake) (Miller and Rollnick 2012). This proposal is based on a philosophical conception that emphasizes the importance of ensuring an intrinsic motivation for treatment, i.e., departing from patients' self-attributed relevant reasons.

Thus, as opposed to a traditional approach for treating SUD—which often sets problematic character traits as these patients' motivations to seek treatment—MI understands that the difficulties in care are often due to the very way these patients are received in the therapeutic setting. For this reason, MI proposes that instead of bombarding patients with information about the risks of alcohol abuse, for instance, the therapist actively listens as means to help clients articulate how (and if) alcohol proved harmful in their lives. After all, MI assumes that treatment difficulties do not stem from ignorance about the harms of addictive behavior, but from an ambivalence between the inclination to change and the desire to remain engaged in problem behavior.

It may seem obvious in retrospect, but one's motivation to stop smoking, to name one example, does not depend on knowledge about the damage cigarettes cause to the lung. Conversely, they struggle to give up on the effects brought by cigarettes (e.g., the anxiolytic effect of nicotine) even when aware of all the risks offered by smoking. MI addresses such dilemma with a reasonably simple proposition: practitioners must provide a space that favors clients themselves to speak and recognize the reasons for abandoning their addiction.

A therapist with qualified MI training must then operate four basic strategies: (1) open questions, (2) affirmations, (3) reflective listening, and (4) summary reflections (aka OARS). Such strategies must be performed at a 2:1 ratio—that is, two uses of either affirmation, reflective listening, or summary reflection per open question addressed to the patient (Miller and Rollnick 2012).

Open questions are designed to lead patients to engage in more elaborate answers than simply “yes” or “no.” For example, “why did you decide to seek therapy?” as opposed to “did you come to treat your substance abuse?” Statements are a direct, simple remark that communicates a quality of the client, such as “you showed courage.” Summaries are a therapist's attempt to simplify a longer, more complex chunk of the patient's speech. The conclusion of summaries must focus on change talk (Miller and Rollnick 2012)—as successfully demonstrated in a series of studies that evaluated the effect of the conclusion on narrative perception (cf. Kahneman 2011).

Lastly, perhaps the most important MI strategy is the use of precise summary reflections—affirmative sentences that recapitulate or paraphrase the patient's speech to both to demonstrate understanding and emphasize important details of communication. Summary reflections are a fundamental tool to demonstrate that the client is being heard and that their conception matters for the treatment. In effective summary reflections, a trained MI practitioner usually reiterates a speech section that describes the patient's change, thereby emphasizing such event (Miller and Rollnick 2012).

To date, these principles have been evaluated in more than 200 randomized clinical trials that have demonstrated their efficacy for a variety of psychopathologies, especially those related to substance and alcohol abuse with mild to strong effects

(Blonigen et al. 2015; Miller and Rollnick 2012). A meta-analysis by the *Cochrane Collaboration* reviewed 59 studies that followed more than 13,000 patients with addiction or alcoholism disorders who underwent MI treatment. Data showed strong results in post-intervention and weaker results in medium and long-term follow-up (Smedslund et al. 2011). An additional review study with smokers suggests that MI is especially effective if performed in long sessions (over 20 min) with a total of at least two intervention days; however, the heterogeneity of these studies calls for a careful interpretation of results (Lai et al. 2010).

Motivational Enhancement Therapy

Motivational enhancement therapy (MET) is a systematic, brief (around 4 sessions), MI-based intervention for patients with alcohol and drug addiction problems (Blonigen et al. 2015; Miller et al. 1992). At MATCH—a multi-center project funded by the US *National Institute of Mental Health*—MET was evaluated and compared to longer duration interventions (12 sessions of cognitive-behavioral therapy or 12 sessions of *12-step* programs, such as *alcoholics anonymous*) with approximately 1700 alcohol abusers (Project MATCH Research Group 1998). All interventions obtained similar results, which suggests that shorter MET interventions have comparable outcomes to more robust programs. Similar findings were obtained in another study conducted in the United Kingdom (UKATT Research Team 2005).

Following the precepts of MI, MET is a structured way to ensure that patients have intrinsic motivation and argue in favor of positive behavioral changes. In sum, it consists of a non-confrontational model of intervention that, comparable to MI, has demonstrated efficacy in various randomized clinical trials (Miller et al. 1992).

Community Reinforcement Approach

The *community reinforcement approach* (CRA) is a behavioral treatment package aimed at reducing substance abuse. The term CRA was coined in the 1970s by behavioral psychologist Nathan Azrin, although a treatment manual for alcohol abuse was only assembled in the mid-1990s (Hunt and Azrin 1973; Meyers and Smith 1995).

Since then, several literature reviews have placed CRA among the most well documented, effective treatment methods for alcoholism. Patients showed greater treatment adherence, greater pharmacological compliance, lower unemployment rates, enhanced social skills, and longer abstinence periods (Finney and Monahan 1996; Meyers et al. 2011).

Based on the concept of operant behavior (Skinner 1991)—that subsequent events can retroact and alter the likelihood of future behavior occurrences—the

authors of CRA sought to understand substance use behavior through functional analysis. In short, it consists of identifying dependent (or contingent) relations between an individual's responses, the context in which they occur (antecedent conditions) and their effects in the world (subsequent conditions) (for more details, see Toscano et al. 2019). Once the individual is aware of risk contexts, they can implement problem-solving strategies aiming at relapse prevention.

One CRA technique involves behavioral experiments of abstinence. Given that complete abstinence may be unattainable—thereby leading to therapy dropouts—the therapist encourages short periods of abstinence. For example, once the patient reaches a 2-day abstinence period, the therapist must value the achievement and encourage longer periods.

CRA also evaluates patients' levels of satisfaction in different life aspects. This facilitates goal-setting to produce reinforcers that compete with the effects of substance use. In addition, often through *role-plays*, therapist and patient also practice communication training (e.g., refusal to drink) and problem-solving skills.

Two additional critical components of CRA are the *Work Club* and the *Fun Club*. Patients receive professional counseling to find sources of income and job satisfaction, which range from seeking skills improvement courses to curriculum development and preparation for job interviews. They are also offered leisure opportunities that wean them from substance abuse. The presence of a new social context promotes reinforcement of alternative behaviors towards a healthier life.

The last noteworthy component of CRA is relationship counseling. Patients commonly have a social environment that has been affected by excessive consumption of alcohol or other drugs. As patients jeopardize relationships due to substance use, they may start approaching other users. Because the desire for social connection can and must be met, a close, non-user is commonly included in the treatment (often the patient's spouse).

CRA programs use a version of the *Happiness Scale* for couples (Meyers and Smith 1995) and each member of the dyad requests a minor change from their partner. Aided by the therapist, the couple practices communication and problem-solving. Finally, the therapist presents the *Daily Reminder to Be Nice* chart (Meyers and Smith 1995) as means foster kind gestures that may have faded over time in the relationship.

CRA has already been adapted to include family members in the treatment course (*Community Reinforcement and Family Training*, CRAFT) and to address substance abuse in adolescents (*Adolescent-Community Reinforcement Approach*, A-CRA).

Contingency Management

Contingency management (CM) arises from the same theoretical perspective as CRA: the environment plays a fundamental role in the acquisition and maintenance of substance consumption. However, instead of alternative behaviors, CM seeks to reinforce incompatible ones (Higgins and Petry 1999).

In summary, the treatment consists of monitoring the patient's abstinence through frequent testing (e.g., urine test) and applying different consequences depending on the result. Thus, if the patient tests negative for a drug, they are allowed access to tangible reinforcers (e.g., money, clothes, movie tickets, etc.). If positive, the reinforcer is retained.

Some versions of CM use vouchers that progressively increase the reinforcement value upon each desired test result. For instance, the three first negative test results are rewarded with a R\$10, R\$20, and R\$40 voucher, respectively, so that after three consecutive desired results, the patient earns a sum of R\$70. This aims at presenting consequences for abstinence in a progressive way, thereby avoiding relapses.

Most CM surveys follow a 12-week schedule. Despite its simplicity, CM has demonstrated effective treatment results for various substance use disorders such as cocaine, heroin, alcohol, methamphetamine, marijuana, and tobacco (Lussier et al. 2006; Prendergast et al. 2006). However, a recent meta-analysis (Sayegh et al. 2017) that reviewed follow-up data revealed that CM fails to sustain intervention effects for periods longer than 3 months. Therefore, the question arises whether CM should be used as a stand-alone evidence-based intervention or accompanied by others.

Behavioral Couple Therapy

Behavioral couple therapy (BCT) is an intervention for individuals with alcohol and other drug use disorders and their spouses, who play a central role during treatment. BCT is based on the premise that couples with troubled relationships can unintentionally create contingencies that reinforce substance use. Conversely, intimate partners can play an important role in strengthening abstinence. Another assumption is that positive intimate relationships are an essential source of motivation to change problem behaviors; therefore, reducing relationship-related suffering can lower the risk of relapse. Throughout the treatment, patients learn that the relationship with their partner can be both part of the problem and the solution.

The treatment program consists of about 2 h of evaluation to aid planning, followed by 12–20 weekly therapy sessions with their partner. BCT is recommended for couples who have been together for at least 1 year in which only one party has been involved with alcoholism and/or drug abuse. BCT is ill-advised for couples with a recent history of domestic violence or judicial restraining measures.

The BCT therapist works to encourage the partner's support when the patient presents an effort towards a lifestyle change. Once all parties are aware of the behaviors that contribute to maintaining the problem, a behavior modification contract is made. This jointly made contract consists of a commitment both parties make to lower the rate of undesired behaviors (e.g., verbal assaults, threats) and increase desired ones (e.g., attending a support group). A commitment of recovery is also of critical importance on BCT: the patient states their sobriety daily and declares their intention to remain abstinent, while the spouse expresses support for their efforts.

BCT also strives to increase positive couple interactions through activities and assignments designed to strengthen emotional bonding, such as engaging in a mutually enjoyable activity (e.g., cooking class) or simply manifesting kindnesses and affection towards their partner. In addition, the treatment involves fostering communication and problem-solving: the therapist highlights the importance of mutual speaking and listening, teaches the couple to check understanding of their partner's remarks, teaches direct and clear communication of emotions, and negotiation skills for compromising. At the end of the treatment, a continued recovery plan is made to improve relapse prevention skills. In session, all parties commit to discussing, writing, and rehearsing the plan. This prepares patients, for instance, for a situation in which their partner arrives home drunk. BCT encourages the therapist to maintain sporadic (and increasingly spaced) contact with patients to monitor progress and assess the need for further sessions.

BCT is shown to be more effective for patients who abused alcohol or other drugs when compared to other individual modality treatments (Powers et al. 2008). Post-intervention results indicated lower substance use, happier relationships, lower rates of domestic violence, fewer marital separations, and better functioning children (Epstein and McCrady 1998; Fals-Stewart et al. 2001; Kelley and Fals-Stewart 2002; O'Farrell and Fals-Stewart 2000; Winters et al. 2002).

Clinical Expertise

Clinical expertise consists of different therapists' competencies, such as diagnostic evaluation, case formulation, identification of target behaviors, planning and implementing interventions, monitoring progress, measuring outcomes, interpersonal skills, establishing therapeutic bond, understanding individual and cultural differences, communicating with other professionals, and obtaining and applying the best available evidence for each particular case. Although thoroughly addressing such topics exceeds the scope of the present chapter—especially as other chapters here will do so—we highlight essential clinical expertise in the context of substance use disorder.

Firstly, the aforementioned empirically sustained treatments emphasize the importance of a solid therapeutic alliance. It consists of the emotional bond and collaborative relationship between patient and therapist, which includes agreement on the objectives of the intervention. Meier et al. (2005) reviewed articles in English published between 1985 and 2005 on the relation between therapeutic alliance and treatment outcomes for substance use. Although studies vary in methodological terms (type of intervention, time of data collection, type of measurement, etc.), the review concluded that building an effective therapeutic alliance early in the intervention is a predictor of efficacy, lowering the rate of both drug use and treatment dropouts.

However, whether the therapeutic alliance in fact plays a causal role is unclear as the authors only present correlational results between the quality of the alliance and

the improvement of the clinical picture (Kazdin 2005). Therefore, a stronger therapeutic alliance may contribute to a decrease in substance use or vice versa.

Another extremely important component of clinical expertise in the treatment of substance use disorder is the therapist's interpersonal style. Several studies (Najavits and Weiss 1994; Najavits et al. 2000) have identified that more empathetic, less confrontational therapists with well-developed social skills tend to have better results with chemical dependents. Notably, conducting treatment with more empathy and less confrontation is the essence of MI—described previously.

In addition, as in any other clinical condition, effective treatment of substance use disorder requires gathering detailed information, formulating the case, and identifying target behaviors. Therefore, practitioners must resort to several tools, namely: clinical interviews (history of substance use; history of treatment; triggers for substance use; rules and beliefs; environmental factors; behavioral deficits; motivation for change; among others), behavioral assessment (e.g., substance use during treatment, self-monitoring diaries, behavioral observation by the therapist and/or other people), and self-reported scales (e.g., *Alcohol, Smoking and Substance Involvement Screening Test*, ASSIST; *Dependency Severity Scale*, *Addiction Severity Index*, ASI; *Drug Use Screening Inventory*, DUSI). Self-monitoring diaries, behavioral observation, and self-reported scales are especially useful to measure the patient's condition pre- and post-intervention and thus assess the effectiveness of treatment.

Finally, in addition to mastering theory and practice of the chosen empirically supported treatment, the therapist must be willing to stay up to date with clinical research in evidence-based psychotherapy, adapting his practice according to new evidence.

Patient Idiosyncrasies

Finally, therapists must evaluate clients' particularities when considering different empirically sustained treatments for substance use disorders. For example, Rosenblum et al. (2005) point out that patients with a more severe clinical status respond better to CBT, making this modality of intervention more appropriate for patients who struggle to describe feelings. However, CBT requires a substantial cognitive capacity from the patient; therefore, patients with lowered intellectual capacities may not benefit from this program (Maude-Griffin et al. 1998; Smith and McCrady 1991).

Conversely, patients who present less severe substance use disorder and already have coping mechanisms prior to the beginning of treatment seem to obtain better results within less structured intervention models (Gottheil et al. 2002). In addition, patients with weaker social support seem to benefit more from interventions that strengthen their social relations—the findings of Azrin et al. (1982) support this assumption.

More recent studies with alcohol users found significant effects when analyzing the style of interaction between therapist and client (Karno and Longabaugh 2005a, b; Karno et al. 2009). Specifically, patients who were more reactive and prone to anger had worse results when seen by more directive therapists. Admittedly, a patient with oppositional characteristics benefits less from direct instructions. These findings were replicated in a sample of patients being treated for methamphetamine use (Karno et al. 2012).

In summary, these studies—although preliminary—show a growing concern to ensure that not only the treatment offered is empirically sustained, but also that the choice of intervention and the manner in which the therapeutic process is conducted are appropriate to the particularities of the patient. In general, these studies have confirmed a rather logical assumption: more disorganized patients (e.g., patients with depression and low neurophysiological functioning) benefit most from well-structured interventions (Granholtm et al. 2011), whereas patients with oppositional and anger tendencies benefit from interventions more focused on promoting motivation, such as MI.

Future research on evidence-based psychotherapy should certainly focus on better integrating patients' idiosyncrasies into empirically sustained treatments, since disregarding their goals, values, context, and clinical status may put any intervention attempt at risk.

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