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Evidence Based Psychosocial Intervention

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Abstract

In recent years, there has been significant progress and expansion on the development of evidence-based psychosocial treatments for substance abuse and dependence. A literature review was undertaken using the several electronic databases (PubMed, Cochrane Database of systemic reviews and specific journals, which pertain to psychosocial issues in addictive disorder and guidelines on this topic). Overall psychosocial interventions have been found to be effective. Some interventions, such as cognitive behavior therapy, motivational interviewing and relapse prevention, appear to be effective across many drugs of abuse. Psychological treatment is more effective when prescribed with substitute prescribing than when medication or psychological treatment is used alone, particularly for opiate users. The evidence base for psychological treatment needs to be expanded and should also include research on optimal combinations of psychological therapies and any particular matching effects, if any. Psychological interventions are an essential part of the treatment regimen and efforts should be made to integrate evidence-based interventions in all substance use disorder treatment programs.

Keywords: *Non-pharmacological interventions, psychosocial, substance use.*

1. Introduction

Problematic drug and alcohol users report problems in various areas including health, psychological and social problems. As in other areas of health-care, increasing attention is now being focused on providing evidence-based care for persons with substance use disorders and in this context there has been significant progress in the development and standardization of psychosocial treatments for substance use disorders. Psychosocial treatments are now considered essential components to any comprehensive substance use disorder treatment program. Recent research substantiates that psychosocial intervention for substance dependence can promote behavior change. The longer a patient is engaged in treatment the better his or her long-term prognosis will be. However, although rapid strides have been made in the development of effective psychosocial treatments, these have not been translated into routine practice in the clinical care.

2. Treatment Approaches

Psychosocial interventions for treatment of alcohol and drug problems cover a broad array of treatment interventions, which have varied theoretical backgrounds. They are aimed at eliciting changes in the patient's drug use behaviors well as other factors such as cognition and emotion using the interaction between therapist and patient.

A literature review was undertaken using several electronic databases (PubMed, Cochrane Database of systemic reviews and specific journals, which pertain to psychosocial issues in addictive disorders and guidelines on this topic). The evidence base cited consists of findings from either individual studies or meta-analyses of studies that largely were randomized controlled trials (RCT) in which individuals exposed to these psychosocial interventions had significantly better substance use outcomes either at the end of the treatment phase or at follow-up. Consensus exists that several psychosocial treatments or interventions for substance use disorders are "evidence-based." These include cognitive-behavioral therapy (CBT) (including relapse prevention (RP)), contingency management (CM), motivational enhancement/motivational interviewing (MI) and brief interventions (BIs) for alcohol and tobacco.

The main criterion of effectiveness is that a psychological therapy leads to either a reduction in, or abstinence from, that substance and improvements across a broad range of areas of functioning, which include physical health, psychological health, human immunodeficiency virus and hepatitis risk behaviors, interpersonal relationships, employment and criminal behavior.

Psychosocial interventions can be used in a variety of treatment settings either as stand-alone treatments or in combination with pharmacological intervention. They can be implemented individually or in groups and delivered by a range of health workers. Psychological treatments can be brief or intensive and specialized. Psychosocial treatments are considered to be the foundation of drug and alcohol treatment, especially for substances where pharmacological treatments have not been sufficiently evaluated.

3. Individual Psychosocial Interventions

3.1 Brief Opportunistic Intervention (BIs)

The effectiveness of brief opportunistic interventions has been established primarily for alcohol use problems, although they have been applied to patients using other substances as well. The aim of the intervention is to help the patient understand that their substance use is putting them at risk and to encourage them to reduce or give up their substance use. BIs can range from 5 min of brief advice to 15-30 min of brief counseling.

In general, BIs are targeted at problematic or risky substance use and are not intended to treat people with serious substance use problems/those who are addicted or dependent. However, patients with more serious dependence problems may be referred to a specialized drug treatment agency. Because of the brief nature of these interventions, they can be delivered opportunistically like when a patient presents in primary care, general hospital and so on, in both inpatient and outpatient settings by a range of specialist and generalist professionals who have been trained the use of these approaches.

BIs are also highly cost-effective. Significant effect at follow-up after BI is found for up to 2 years. Longer-term effects less evident and booster sessions may be required.

Evidence has only begun to emerge to support this for cannabis and amphetamine use, with effectiveness for other illicit drugs yet to be tested. People who misuse cannabis or stimulants, and are not in formal drug treatment, appear to

respond well to BIs both in terms of increased abstinence levels and reduced drug use. Ashton, in a review of BIs, suggested that such interventions are effective for people who are ambivalent about change but ineffective for people who are motivated to change and already receiving treatment.

BIs are also used in the treatment of tobacco dependence and have been found to enhance motivation and increase the likelihood of future quit attempts. There is evidence that MI is effective in increasing future quit attempt. Intensive counseling is especially effective and there is a strong dose-response relation between counseling intensity and quitting success. In general, more the intense the treatment intervention greater is the rate of abstinence. In addition, particular types of counseling strategies are especially effective: Practical counseling (problem solving/skills training approaches) and provision of intra-treatment social support are associated with significant increases in abstinence rates. In conclusion, BIs can be an effective first level of treatment offered to drug and alcohol clients and because of their low cost and cost-effectiveness, BIs are consistent with a public health treatment approach in substance use disorders.

3.2 Motivational Interviewing (MI)

MI helps people to explore and resolve their ambivalence about their substance use and begin to make positive behavioral and psychological changes. The principles of MI include expressing empathy through reflective listening, developing discrepancy between patients goals or values and their current behaviors, avoiding argument and direct confrontation, adjusting to client resistance and supporting self-efficacy and optimism.

Effectiveness of MI has been most widely studied in alcohol abusing and dependent populations: At least 32 trials show that MI effectively improves treatment adherence and drinking outcomes and the results from these show a small to medium effect size with variability across settings and providers. A meta-analysis of 22 studies reviewed the evidence for the efficacy of MI as a BI for excessive drinking and found that MI was an effective treatment modality for reducing hazardous alcohol consumption, particularly in the short-term (within the first 3 months of treatment). It was more effective with young people, in those with occasional heavy drinking pattern and low dependence, than with older drinkers or those with a more severe dependence. A Cochrane review in 2011 also concludes that MI can reduce the extent of drug abuse compared with no intervention. MI is also being viewed as being most effective when combined with other standard psychosocial interventions. Thus, MI may be offered both as a stand-alone treatment and in combination with other modalities.

3.3 Cognitive Behavior Therapy (CBT)

Cognitive behavioral interventions, also called CBT comprise an array of approaches based on the learning principles and theorize that behavior is influenced by cognitive processes. Standard CBT is a time-limited, structured psychological intervention, derived from a cognitive model of drug misuse. There is an emphasis on identifying and modifying irrational thoughts, managing negative mood and intervening after a lapse to prevent a full-blown relapse.

Typical cognitive strategies employed are recognizing and challenging dysfunctional thoughts about substances and recognizing seemingly irrelevant decisions that lead to a relapse. Typical behavioral strategies employed are coping with cravings for substances, cue exposure, promotion of non-drug related activities, CM, relaxation training, preparing for emergencies and coping with relapses. Other elements of CBT include social skills training (effective communication, refusal skills) and problem solving skills.

CBT is often rated as the most effective approach to treatment with a drug and alcohol population, and is accepted well by clients. Evidence for the efficacy of CBT exists for a range of substances including alcohol, cannabis, amphetamines, cocaine, heroin and injecting drug use.

3.4 Relapse Prevention (RP)

RP has been theorized to be a set of strategies to help the client maintain treatment gains rather than a specific intervention *per se*. It differs from standard CBT in the emphasis on training people who misuse drugs to develop skills to identify situations or states where they are most vulnerable to drug use, to avoid high-risk situations and to use cognitive and behavioral strategies to cope effectively with these situations. RP was originally designed as a maintenance program following the treatment of substance use disorders; although, it is also used as a stand-alone treatment program. An individual or group-based RP program should include identifying high-risk situations and triggers for craving, developing skills to manage cravings and other painful emotions without using substances, learning to cope with lapses and attaining a life-style balance. RP has now a considerable evidence-base in treatment of substance use disorders and helps in producing positive outcomes. RP is effective and can be enhanced by adding pharmacological treatment and there is good evidence that abstinence rates can be improved when psychosocial treatments such as RP, CBT and motivational enhancement therapy (MET) are combined with acamprosate and naltrexone.

3.5 Therapeutic Communities

Residential rehabilitation programs (sometimes called therapeutic communities) are usually long-term programs where people live and work in a community of other substance users, ex-users and professional staff. Programs can last anywhere between 1 and 24 months (or more). The aim of residential rehabilitation programs is to help people develop the skills and attitudes to make long-term changes toward an alcohol- and drug-free life-style. Programs usually include activities such as employment, education and skills training, life skills training (such as budgeting and cooking), counseling, group work, RP and a "re-entry" phase where people are helped return to their community.

The effectiveness data are sparse. The results of meta-analysis by Smith *et al*. of seven studies investigating the effectiveness of therapeutic communities for substance related disorders, including alcohol indicate that there is little evidence that residential rehabilitation programs are more effective than other residential treatments (such as community residence) in terms of treatment completion or drug use related outcomes or that one type of therapeutic community is better than another. One issue that affects treatment evaluation of residential rehabilitation programs is that treatment dropout is common. Patients who complete residential programs achieve better outcomes on drug misuse, crime, employment and other social functioning measures. It is unclear whether this relates to choice or motivation on the part of the service user or whether active retention in treatment achieves successful outcomes. To conclude, the use of therapeutic communities for treatment of substance use disorders does not have a strong evidence base.

3.6 Contingency Management (CM)

CM or voucher-based therapy is an evidence-based treatment intervention based on principles of behavior modification. This treatment approach is aimed at encouraging positive behavior by providing positive reinforcement when patient progresses toward treatment goals (e.g., no drug use) or by withholding the positive reinforcement or providing punitive measures when the patient engages in undesirable behavior (e.g., continued drug use, urine positive for substances). The positive reinforcement for behavior change often

includes vouchers, privileges, prizes or modest financial incentives that are of value to the patient.

There is a strong evidence that CM is an effective strategy in treatment substance use disorders, particularly, opioids, tobacco and polysubstance use. CM improves adherence to opiate substitution programs. However, it has not been used widely in clinical practice due to perceived high costs of provision of such interventions.

Several studies exist to support the effectiveness of CM in encouraging clients to comply with medications used to reduce/eliminate/maintain abstinence from alcohol. It has been found to improve medication compliance with disulfiram and encourage treatment attendance at a drug and alcohol service. However, it is difficult to operationalize CM for alcohol use disorders as it is difficult to reliably detect recent alcohol use as neither blood nor breath tests can detect use that occurred more than 12 h previously.

3.7 12-Step Approaches

A self-help group is any group that has the aim of providing support, practical help and care for group members who share a common problem. These are the basis of the self-help philosophy of Narcotics Anonymous and Alcoholics Anonymous (AA). This approach regards addiction as a relapsing illness with complete abstinence as the only treatment goal and is based on behavioral, spiritual and cognitive principles. As part of the process toward recovery, individuals must acknowledge to themselves (and another people) the harm substance use has caused to themselves and others, admit that they are powerless over drug use and surrender to a higher power for recovery.

3.8 Cue Exposure Treatment

Another behavioral approach, which has shown some promising results, is cue exposure treatment. In this approach, alcohol-dependent individuals are exposed to cues such as the sight and smell of a favorite drink, without actually consuming alcohol. There is clear evidence of reactivity to alcohol cues, including alcohol craving, which is related to the severity of alcohol dependence. However, this area awaits large-scale clinical or cost-effectiveness trials.

3.9 Alcohol Treatment Matching Studies

The largest treatment trial to date, Project MATCH had 1726 subjects with alcohol use disorders who were randomly allocated to MET, CBT or TSF. Results showed four sessions of MET to be as effective as 12 of either CBT or TSF. No major differences between groups were found at 1 year follow-up. The main outcome measures were the percentage of days/month that the client did not drink and the number of drinks they had in each drinking session. The results showed an increase in abstinence days from 20-30% to 80-90% and decrease in drinks per drinking day from 12-20 to 1-4. Although, a main aim of this project was to see which clients benefited from which therapy, such client "matches" did not emerge. It was hypothesized that more important than "matching" treatments to clients is the relationship between therapist and client.

MET was found to be briefer (four sessions) than the other therapies and just as effective in Project MATCH. Building on this suggestion, a rigorous multicenter UK Alcohol Treatment Trial compared 742 clients three sessions of MET, with eight sessions of social behavior and network therapy (SBNT). SBNT was developed specifically for trial on the basis of evidence that support from family and friends are helpful in overcoming alcohol problems. SBNT contains elements of family therapy, community reinforcement, RP and social skills training. Participants were randomly allocated to MET or SBNT. The results showed a decrease in alcohol consumption and problems, decreased dependence and increase in mental health quality-of-life. No

major difference in outcome measures was found between groups at 12 month follow-up.

3.10 COMBINE Study

The COMBINE study was designed to evaluate the efficacy or pharmacotherapy, behavioral therapy and their combinations for treatment of alcohol dependence and to evaluate placebo effect on the overall outcome. This large RCT involved 1383 patients with the diagnosis of alcohol dependence, recently abstinent from alcohol. No combination was more effective than naltrexone or combined behavioral intervention (CBI) in the presence of medical management. However, CBI alone was less effective (e.g., resulted in lower percent days abstinent) than medical management and placebo. The results of this study suggest that although CBI may reduce alcohol consumption, placebo pills and a meeting with a health care professional can have a stronger positive effect than CBI alone.

4. Special Population

4.1 Patients on Opioid Agonist Maintenance Therapies

Most studies have evaluated psychosocial treatments in the context of methadone maintenance, whose goal is the reduction of illicit drug use and its associated harms and risks. These therapies have been variable in their approach. CBT has been shown to reduce the illicit drug use among people on a methadone maintenance program, as well as other risk-taking behaviors (Teesson *et al*., 2000, Kessler) decreasing the psychosocial problems associated with heroin use (e.g., depression, risk taking, criminality, etc.). In addition, CBT and MI increase the effectiveness and adherence to methadone maintenance treatment (MMT).]

Intensive in-patient programs have been shown to be no more effective than weekly psychosocial treatment as an adjunct to MMT. There is robust evidence from US studies of the effectiveness of CM and community reinforcement approaches. There is some evidence that family treatment can produce additional benefits to individual treatment, especially in terms of adherence and of retention in treatment.

4.2 Adolescents

Family therapy for drug use has been found to be more effective than other treatments in engaging and retaining adolescents in treatment and reducing their drug use, but the data is less clear-cut with adults. In a Cochrane review of 17 studies evaluating four type of interventions: MI or BI, education or skills training, family interventions and muticomponent community interventions found a lack of evidence of included interventions.

4.3 Co-Morbid Psychiatric Disorders

Symptoms of psychiatric disorders such as depression, anxiety and psychosis are common in patients misusing drugs and/or alcohol. In addition, these psychiatric disorders increase the risk of substance misuse. Such patients are often the most challenging to engage and treat and their prognosis is frequently poor. Currently, the evidence base is very limited to guide management of co-morbidity.

4.4 Poly Drug Users

Family therapy remains a “promising” intervention with poly drug users, family interventions, community reinforcement and CM approaches have been shown to be superior to drugs counseling and 12-step approaches

5. Conclusion

Evidence on effectiveness of psychosocial interventions in substance use disorders is available. For substance misusing clients, any form of psychological treatment leads to better

treatment outcomes compared with no psychological treatment, but there is no general consensus that one form of psychological treatment is better than another. Some interventions, such as CBT, MI and RP, appear to be effective across many drugs of abuse. Psychological treatment is more effective when prescribed with substitute prescribing than when medication or psychological treatment is used alone, particularly for opiate users. Where no substitute prescribing treatments are available with substances such as cannabis and cocaine, there is evidence that psychological treatment alone can be effective in changing patients substance using the behavior.

6. Future Directions

The evidence base for psychological treatment needs to be expanded and should also include research on optimal combinations of psychological therapies and any particular matching effects, if any. There is a need for research on psychological interventions in special populations such as adolescents, poly drug misusers and in people with psychiatric co-morbidity. More research is needed on the intensity and duration of these interventions for people with more severe addiction problems.

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