

Section VI

Treatment

Treatment of Methamphetamine Abuse — Lack of Evidence for the Efficacy of Any of the Models Currently in Use

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Traditional treatment programs based on the Minnesota Model (28-day in-patient treatment) have been shown to be ineffective for the treatment of stimulant addiction. Both the National Institute of Drug Abuse (NIDA) and the Center for Substance Abuse Treatment (CSAT) have sponsored research into the efficacy of treatments for methamphetamine (MA) abuse. A third program that has been put forward as a potentially useful model for the treatment of MA abuse is the Haight Ashbury Outpatient Model. Although the program that is currently receiving the greatest national attention, the Matrix Model, has been shown to be promising, none of these models has been effectively evaluated for its efficacy for the treatment of MA abuse.

NIDA Treatment Guidelines

NIDA has published treatment guidelines for stimulant abusers that have been empirically tested and their efficacy validated. However, these manuals were developed and tested on a population of cocaine users. A recent report (Rawson, et al., 2000) identified a variety of differences between MA and cocaine users. MA users report more daily use of marijuana and hallucinogens, more headaches, depression, suicidal thoughts, and hallucinations than cocaine users. Further, MA users report spending less money on stimulants, using less drugs, consuming less alcohol, needing less treatment for co-morbid alcohol use, and, perhaps most importantly, a “significantly shorter length of longest abstinence prior to treatment entry” than do cocaine users. Moreover, MA users report more family problems, more friends who use drugs,

and more sex associated with drug use than do cocaine users. Because of these differences, we cannot assume that treatment strategies that work for cocaine users will also work to reduce or eliminate substance use in MA users. Empirical evaluation of the efficacy of this and other models for the treatment of MA use is needed.

Matrix Model of Outpatient Treatment

The Matrix Model of Outpatient Treatment is a 16-week manualized, intensive, nonresidential, directive, non-confrontational, psychosocial approach that was originally developed in response to the cocaine outbreak of the 1980s. The foundation of the model comes from the cognitive behavioral principles and goals. The fundamentals of the model have been recently summarized (Obert et al., 2000). A short summary of that paper appears below.

The goals of the treatment are to stop the drug use, to explore issues regarding addiction and relapse, to educate the family about addiction, to familiarize the individual with the self-help programs available, and to randomly monitor individuals weekly by urine analysis.

Basic Elements of the Matrix Model

To the practitioner of this model the fundamentals of effective treatment are engagement and retention, structure, information, relapse prevention, family involvement, self-help involvement, and urine tests. Engagement and retention are related to the success of the therapist in developing a positive, supportive nurturing relationship, which is fundamental to the success of the treatment. Such a warm environment keeps the patients engaged.

The structural component of the model is comprised of time planning in the early stages of recovery. By helping the addict learn to plan and schedule, the therapist can reduce any open time where the patient could relapse. This activity can be performed individually or in a group setting and is taught as a skill.

The MA user frequently encounters a period of confused emotional affect. Uncontrolled emotions can include paranoia, psychosis, depression, anger, and fear. Information about the emotions and physical states that the client experiences is helpful during the first stages of the treatment. Using standardized psychoeducational lectures the Matrix Model imparts simple, straightforward information about emotion in the early stages of treatment. This information becomes more complex and complete in later phases of treatment.

Relapse prevention entails techniques that teach the individual to recognize situations that may lead to drug use, as well as the coping strategies to

effectively deal with those situations. The Matrix Model utilizes the experiences of recovering co-leaders to help patients “struggling with relapse issues.”

In the Matrix Model families are involved in treatment. Family can both enhance and interfere with the treatment process (Kaufman, 1992). By teaching the family members about addiction and recovery a practitioner can maximize the benefits that the family brings to treatment and minimize the negatives. The Matrix Model also includes topics designed to familiarize clients with the possible benefits of self-help involvement. Patients are encouraged to utilize community-based programs, such as Narcotics Anonymous (NA) and Alcoholics Anonymous (AA) group meetings. Weekly random urine analysis is important to provide proof of sobriety, and positive tests are viewed as indicators for altering the treatment plan.

Components of the Matrix Model

Treatment components of the Matrix Model consist of individual sessions, early recovery groups, relapse prevention groups, family education sessions, 12-step meetings, social support groups, relapse analysis, and urine testing. There are three 45-minute individual sessions with a therapist. These sessions are used to set goals and verify that they are being met. These sessions can also be combined with other activities such as the inclusion of a family member. Extra sessions can be provided if necessary to deal with crisis intervention or treatment planning.

To reduce expenses, small early recovery groups take the place of holding a significant number of individual counseling sessions. The early recovery groups take place in the first month of treatment. These groups are primarily educational and include the following topics: cognitive tools to reduce craving, time scheduling, discontinuation of any secondary substances, and connecting patients with other community support groups.

Relapse prevention group meetings take place at the beginning and end of each week for the full 16-week program. The goal of these open sessions is to teach the recovering person how to maintain sobriety. These groups are topic centered and always positive. In addition, 12-week family education sessions are presented in a group setting and include slide presentations, videotapes, panels, and group discussion. Topics include neurobiology, conditioning, medical effects of stimulants, and how family relationships are affected by drugs. On-site 12-step meetings are used to ease clients into attending outside meetings on their own initiative.

During their last month of treatment, after completing the family education sessions, the patients attend social support groups. These groups are less structured than the other groups discussed above. They are designed to enable patients to establish relationships with nondrug users. Topics covered are tailored to the specific needs of the individuals in the groups.

Urine tests are done randomly each week, and relapse analysis is provided for patients who relapse. This exercise is designed to evaluate the events that led up to the relapse.

Evidence of the Effectiveness of the Matrix Model

The Matrix Model has been evaluated in five studies over a 15-year period. The first of these evaluations (Rawson et al., 1986) was a quasi-experimental study performed on 83 cocaine abusers. Patients were allowed to select one of three possible treatments. These were self-help groups, 28-day inpatient treatment, or the Matrix Model. Patients who selected the Matrix Model were significantly more likely, measured 8 months after treatment, to recover than the other two groups and significantly more likely to remain in treatment than those who chose the self-help group.

On the surface, this study appears to provide evidence of the effectiveness of the Matrix Model. However, three serious flaws exist in this study. The first is that by its nature a quasi-experimental design is fundamentally flawed. True experimental designs require random assignment of participants into groups. By allowing participants to self-select their group assignment, the researchers in this case confounded the effectiveness of the procedure and the predispositions of the patients. It is impossible to know if a preexisting experience/behavior or something else caused the patients to select one form of treatment over another. Thus, it is impossible to tell if this preexisting condition caused an increased likelihood of recovery. The second flaw is not really a flaw, but a problem with generalizability. This evaluation was conducted on the efficacy of treatment on cocaine abuse, not MA abuse. As we noted above, there are enough differences between cocaine and MA abusers to be suspicious of the effectiveness of a treatment of one that has been evaluated on the other. The third flaw has to do with generalizability as well. Although the Matrix Model in its current form is a 16-week program, the patients treated in the 1986 study received as much as 26 weeks of treatment.

A second study (Rawson et al., 1991), evaluated a larger group of cocaine users. This study was conducted on subjects who received 6 months of treatment. Appropriate scientific controls were still lacking. This study continued to show a high level of efficacy for the Matrix Model for treating cocaine addicts, but no data were collected on MA addicts.

A third study (Rawson et al., 1995) on 100 multiethnic cocaine-dependent subjects was appropriately controlled. These subjects were randomly assigned to either a 6-month Matrix Model group or an “other available community resource group.” In this study the Matrix Model participants fared no better than their counterparts who entered a random treatment program. Both groups showed improvement. The authors concluded that the inability of the Matrix Model to yield significantly better results than

other forms of treatment was the result of the highly variable treatment experiences of the control participants. From these data it is just as viable to conclude that the Matrix Model is no better than other, traditional methods of treatment.

A fourth study (Huber et al., 1997) used archival data to compare the treatment outcomes of patients who reported MA as their drug of choice with patients who reported cocaine as their drug of choice. All patients received the Matrix Model. There were no significant differences between MA-using and cocaine-using patients. This suggests that the Matrix Model is just as good for treating MA addiction as it is for treating cocaine addiction. But since there have been no empirical studies that support the efficacy of the Matrix Model for treatment of cocaine addiction, it is difficult to accept the Matrix Model for use in the treatment of MA addiction.

Although a number of studies are under way to try to elucidate the effectiveness of the Matrix Model in treating MA addiction (e.g., Galloway et al., 2000), no outcome measures have as yet been reported.

Haight Ashbury Outpatient Model

The Haight Ashbury Model (Inaba and Cohen, 1990) was taken from the Haight Ashbury Drug Detoxification, Rehabilitation and Aftercare Project. This organization has been involved in psychoactive drug treatment and education since 1967. The model consists of four stages, each characterized by an assessment and plan to be developed for that stage. Although the components of this model are based on sound empirical evidence for the effective treatment of substance abuse, the model itself has not been evaluated for its efficacy in the treatment of MA abuse.

The first stage is detoxification, which lasts for the first 3 to 7 days. During stage 1 individuals are assessed to determine whether they need hospitalization, and to determine if they are an emotional risk to harm themselves or others. Further, a physical exam is used to identify any medical emergencies caused by the stimulant abuse. Finally, individuals are assessed for dual diagnosis, and to determine their social and environmental needs. The assessment is followed by a commitment from the client to remain abstinent. Daily outpatient interactions, either group or individual counseling, are scheduled.

The Haight Ashbury model relies heavily on pharmacological mechanisms. If psychosis or speed toxicity is present then haloperdol or other neuroleptic drugs can be used to block the excessive dopamine and catecholamine toxicity. Antidepressant drugs can be prescribed if depression is present. Desipramine (Norparamine), trazadone (Desyrel), and fluoxetine (Prozac) are all typically used as antidepressants. The initial craving is treated

with bromocriptine and amantadine (dopamine agonists). Amino acid precursors (e.g., Renew or Tropicamine) that can lead to increased levels of the neurotransmitters dopamine, serotonin, adrenalin, noradrenalin, and acetylcholine can also be prescribed.

The second stage of the model, initial abstinence, begins with the first week of the treatment episode and may continue for as long as 3 months. The patient is assessed for dual diagnosis, to fully evaluate any medical needs, to review social and environmental problems and needs, and to identify environmental triggers that may pose a problem for the client.

Abstinence is contracted for 3 months. During this time the patient is required to go to 90 12-step meetings. A structured daily activity plan is developed. A life journal or log of events is maintained. A sober support network is developed. A recovery “sponsor” is found. A personal history of the client’s addiction is developed. The client begins this stage with daily meetings with his or her counselor. By the end of the period the client is expected to meet with the counselor three times per week. The client with a dual diagnosis begins psychiatric intervention. The client is taught to identify and to avoid triggers.

Further, during this stage a strategy is developed to address drug cravings. Activities to address this issue may include exercise, proper eating, 12-step meetings, working, meditation, hot or cold baths, or networking with other recovering addicts. Desensitization strategies or deconditioning techniques are used to dispel drug craving in response to triggers.

The third stage, sobriety, usually lasts 3 months to 18 months, and longer in some cases. At this stage psychological and social variables are assessed. Vocational or educational needs of the client are established. The client’s recognition of the addiction and recovery processes is assessed. The client’s ability to accept the concept of lifelong abstinence from all drugs of abuse is also assessed.

After the third stage assessments are performed, the client must develop plans for a lifetime of sobriety. During this time the client will progressively decrease contact with the program, moving from weekly to monthly visits. Concurrent with a progressive decrease in program visits the client is expected to increase his or her attendance at 12-step meetings.

During stage three clients are required to write a personal history that identifies the effect of drug abuse on their own life and the lives of others. This history includes a list of personal shortcomings, and a list of the people who have been hurt by the user’s addiction. The recovering person is instructed to think about how to make restitution to the people who have been hurt. This “history” is then reviewed by others, and input given. This is followed by the development of a list of all of the positive achievements that the individual has made during the recovery process. The completed

story is then shared with support groups, counselors, friends, and relatives. Issues from stage two are then revisited before the client moves on to stage four.

Stage four is recovery. This step lasts a lifetime. Continual self-assessments are performed. Plans for abstinence are made. The client must periodically reaffirm his or her decision for lifetime sobriety. The client must also reaffirm that he or she has no interest in drugs and is not questioning the decision to remain drug free. The client will eventually disengage with program services but will continue various recovery support groups.

Conclusions

Although there are a variety of models that have been proposed for the treatment of MA addiction, none has been adequately supported with empirical evidence. All these models have a high level of face validity. That is, they all look good on the surface, but the lack of evidence for their usefulness is troubling. Large sums of public and private monies have been put into developing these models. We must begin to demand outcome measures that support their usefulness.

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