Australia has one of the highest levels of methamphetamine use in the world, and drug and alcohol clinicians have often found the treatment of methamphetamine dependence challenging. In the early 2000s, there was an increase in both community concerns about methamphetamine-related violence and in the number of people seeking treatment for their use of the drug.

Against this background, the three-year Methamphetamine Treatment Evaluation Study (MATES) was established. Its aim was to find the most effective community-based treatment models.

One finding of interest was the role of residential rehabilitation in treatment. The study found residential rehabilitation produced a large but time-limited reduction in methamphetamine use, with very few people showing long-term recovery. That is, results were initially glowing, showing large improvements among people attending residential rehabilitation clinics. However, these improvements did not appear to outlast rehabilitation, with longer-term outcomes not much different to what we saw when people didn’t go to treatment.

Specifically, for every 100 people entering residential rehabilitation, there was a gain of 33 people being continuously abstinent three months after starting treatment compared to methamphetamine users who did not go to treatment or who only received detoxification. This benefit fell to a gain of 14 people for every 100 treated having remained abstinent at one year after having started treatment, and six people at three years. Less stringent reductions in methamphetamine use (frequency of use and remission from dependence) yielded similar results.

These findings are challenging in many respects, but they have important implications for community-based drug treatment options. In this article, I explain how we arrived at these findings and their implications for providing drug treatment.

About the research

The findings mentioned above were derived from the Methamphetamine Treatment Evaluation Study (MATES). MATES is a prospective longitudinal cohort study of methamphetamine users who we tracked over three years, with follow-ups at three months after entry to the study, and again one and three years later.

Most of the cohort were recruited on entry to community-based drug treatment services in Brisbane and Sydney. Forty-one drug treatment agencies supported the project, and we have reported on data from clients recruited from residential rehabilitation facilities (n = 15) and detoxification units (n = 11). Unfortunately we received too few referrals from outpatient counselling services to report robust treatment outcomes for this mode of treatment.

The cohort also included a comparison group of methamphetamine users who were not receiving treatment, who were recruited from advertisements, needle and syringe programs and various other health and community services, and who screened for methamphetamine dependence, to ensure that they had similar levels of methamphetamine use to the treatment clients. We referred to this group as our quasi-control group.
We assessed levels of drug use, health and social functioning in treatment clients for the period immediately prior to their starting treatment, and then did follow-up assessments at three months, one year and three years after the clients had started treatment. We compared reductions in methamphetamine use that we saw among residential rehabilitation clients (n = 248) and detoxification clients (n = 112) to what we observed among the methamphetamine users who were not in treatment (n = 101).

In order to accurately compare treatment outcomes for the residential rehabilitation clients, detoxification clients and our quasi-control clients, we needed to account for any differences in the characteristics of these groups at the start of the study which might impact on their subsequent levels of drug use (e.g. severity of methamphetamine dependence, psychiatric comorbidity). To do this we used a novel statistical procedure called ‘inverse probability-of-treatment weighted estimators’. This method effectively matched the groups on a range of pre-treatment characteristics, including their level of methamphetamine use, polydrug use, motivation levels and psychiatric morbidity at the baseline assessment.

What we found

The first clear finding was that there was no difference in outcomes between the detoxification clients and our quasi-control group. This was true at each of the follow-ups, showing that methamphetamine users who attend detoxification do not do any better than methamphetamine users who did not receive treatment (from at least three months onward). Because there was no difference between the detoxification and the quasi-control clients, we combined these groups of clients to form a larger group, against which we compared the residential rehabilitation clients.

Residential rehabilitation clients, when compared to the quasi-control and detoxification clients combined, showed a large reduction in methamphetamine use three months after treatment. This reduction manifested as high rates of abstinence among the residential rehabilitation clients. Among residential clients, 53% had remained abstinent since starting treatment, compared to only 18% in the quasi-control and detoxification group. Once we adjusted these outcomes for differences in baseline (pre-treatment) characteristics, the level of continuous abstinence fell slightly in the residential rehabilitation group to 48%. Against the quasi-control and detoxification clients, this was a gain of 33%, or 33 in every 100 residential rehabilitation clients being continuously abstinent at three months. Similar results were seen for other patterns of use (i.e. dependence on methamphetamine and frequency of use), but the largest effect of residential rehabilitation was seen for abstinence.

Examining the outcomes for clients at one and three years showed that methamphetamine use patterns among residential rehabilitation clients tended to merge with that seen for the detoxification clients and the quasi-control group. The gains seen for residential rehabilitation were substantially diminished at one year, with the adjusted...
rate of continuous abstinence being 20% for residential rehabilitation clients (cf. 7% in the control group), or a gain of 13 people in every 100 residential rehabilitation clients remaining continuously abstinent. This fell further at three years to a gain of seven in every 100 residential rehabilitation clients remaining abstinent (adjusted rates of 12% vs. 7% continuous abstinence).

An interesting observation was that there was an overall reduction in methamphetamine use in the quasi-control and detoxification groups over time. This reduction occurred most conspicuously between the baseline interview and the first (three-month) follow-up interview, and was largely due to a reduction in the frequency of methamphetamine use.

What does this mean for community-based treatment?

One clear implication from our findings is that detoxification should be provided in tandem with ongoing treatment rather than as a stand-alone treatment option. Detoxification, when provided alone, did not reduce rates of methamphetamine use compared to no treatment. The vast majority of clients attending detoxification were highly motivated to reduce their methamphetamine use and reported that they wanted to achieve abstinence. While detoxification may be necessary to manage the withdrawal syndrome that occurs on cessation of methamphetamine use, clients seeking detoxification need to be informed that detoxification alone is unlikely to alter their methamphetamine use in the longer term, and they should be linked into other treatment options after they complete detoxification.

A second clear implication is that although residential rehabilitation produces very large improvements in the short term, particularly in terms of abstinence, it is unlikely to produce long-term reductions in methamphetamine use for the majority of clients. Therefore, while residential rehabilitation is beneficial as a means of temporarily alleviating the harms from heavy methamphetamine use, efforts need to be put into developing strategies that will produce more durable reductions in methamphetamine use. To this end, we noticed that very few clients attending residential rehabilitation received follow-up care. Follow-up care may assist clients in transferring their skills to a real-world situation, beyond the drug-free environment provided in residential rehabilitation, and reduce their risk of relapse.

Finally, there were strong reductions in methamphetamine use regardless of whether treatment was provided. In the context of our study, these are likely to be due to participating in the study itself, with clients undergoing an intensive interview and follow-up. However, these changes are likely to also reflect background shifts in the availability of methamphetamine, as there were reductions in the availability of crystalline methamphetamine during the study period, which were anecdotally reported by participants. To some extent, these shifts in methamphetamine use were also likely to reflect natural remission from methamphetamine use, either the natural ebb and flow in the cycle of use, or a maturation out of drug use as people age. Indeed, the point at which people are recruited into studies, particularly if they are recruited from health services, is likely to reflect a peak in the cycle of methamphetamine use, as they are seeking health support for this reason. The subsequent interviews are likely to reflect a more typical or naturalistic picture of this population. We also excluded participants who had received treatment in the month before the baseline interview, whereas a proportion of participants were in treatment at the time of follow-up, which would have reduced their relative levels of drug use.

Regardless of the reasons behind the apparent remission from methamphetamine use, these findings highlight the need to include quasi-control groups in observational treatment outcomes studies, as exposure to drug treatment is clearly not the only factor influencing levels of drug use. Uncontrolled before-after run the risk of attributing changes in drug use due to other extraneous factors to drug treatment itself, and in doing so may overestimate the benefits that we gain from drug treatment.

In closing, community-based residential rehabilitation alleviates heavy methamphetamine use in the short term, but there is much scope for improving treatment outcomes in the longer term. To do this we need a better understanding of what specific elements of treatment are necessary to facilitate long-lasting reductions in methamphetamine use. We also need to ensure that detoxification is provided in conjunction with other treatment modalities, and not as a stand-alone treatment, as it does little if anything to alter the natural trajectory of methamphetamine use. This research has also highlighted a need to better understand the environmental and contextual factors that impact on drug use over time (e.g. availability of drugs, maturation out of drug use), as these factors appear to have a substantial impact on drug use in their own right.

Reference


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