# AOTA Evidence Briefs
## Substance-Use Disorders

**A product of the American Occupational Therapy Association's Evidence-Based Literature Review Project*


**SU 4**

## Drug abusers with antisocial personality disorder may respond to behavioral treatments

Brooner, R. K., Kidorf, M., King, V. L., & Stoller, K. (1998). Preliminary evidence of good treatment response in antisocial drug abusers. *Drug and Alcohol Dependence*, *49*, 249–260.

**Level: IA1a**

Randomized control trial, 20 or more participants per condition, high internal validity, high external validity

### Why research this topic?

"Antisocial personality disorder" is "a chronic debilitating syndrome which confers substantial risk of harm to self and others" (p. 249). Among drug abusers the proportion of people with antisocial personality disorder is far higher than the proportion of such people in the general population. Evidence suggests that conventional verbal therapies (e.g., psychotherapy) are not very effective in treating this kind of drug abuser. Interest thus has turned to behavioral treatments.

### What did the researchers do?

Brooner, Kidorf, King, and Stoller (1998), of Johns Hopkins University (Baltimore), designed a study to test the effectiveness of a highly structured program of contingency management for antisocial users of opioids who were participating in a program offering methadone as a substitute drug. "Contingency management" involves providing positive consequences for certain desired behaviors, negative consequences for certain undesired behaviors. An "opioid" is a substance with the characteristics of drugs derived from opium but not actually derived from it. The researchers drew the participants for their study from patients at the Southeast Baltimore Treatment Program. To participate, patients had to meet the criteria of the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed. rev.) for opioid dependence and antisocial personality disorder. At the time of reporting, the researchers had recruited 43 participants (of a targeted 100). They randomly assigned the participants to an experimental group or a control group. Three participants immediately withdrew on learning that they had been assigned to the **control group** (see *Glossary*). Of the remaining 40, 32 were men, 8 women. Their average age was 38 years. Fifty percent were Black, and 50% White. Eight of the 40 failed to complete 3 months of treatment, 6 from the experimental group, 2 from the control group.

The two groups were each scheduled for 6 months of treatment. For both groups, treatment involved 30- to 40-minute counseling sessions focused on problem-solving techniques that would help the participants lessen their use of drugs, comply with clinic rules and regulations, and earn rewards.

The experimental group "followed a structured behavioral protocol designed to provide rapid delivery of positive consequences for abstinence. . .and counseling attendance and negative consequences for drug use or missed counseling sessions" (p. 252). The participants began treatment at Step 0, which involved a daily dose of 55 milligrams of methadone and two individual counseling sessions per week. At 2-week intervals, they either moved up a step (to + 1 and later to + 2, + 3, or + 4), stayed at the same step, or moved down a step (to – 1 and later to – 2, – 3, or – 4)

depending on how many of their urine specimens tested negative for drugs and how many counseling sessions they had attended. Positive consequences offered at higher numbered steps included take-home doses (doses taken at home) of methadone, choice of a higher or lower dosage (+ or – 10 milligrams), choice of time for the dose, and choice of number of counseling sessions to attend (1–3). Negative consequences ensuing at lower-numbered steps included no control over time of the dose, more required counseling sessions, and reduction of the dose.

The control group also began treatment on a dose of 55 milligrams of methadone and two counseling sessions per week. There were no changes in the latter feature throughout the study. Changes in dosage were possible over time and were considered every 2 weeks but were always determined by the clinic staff. The staff used some positive and negative incentives, but the incentives were not as predictable or as closely connected to certain behaviors as those in the treatment condition.

The outcome areas of interest were *drug use* (as measured by the Addiction Severity Index and urinalyses) and *attendance at scheduled counseling sessions* (as measured by the number of sessions attended). The Addiction Severity Index is a structured interview that assesses the severity of a person's drug problem in seven areas: alcohol use, drug use, medical, legal, employment, family/social, and psychiatric. Assessments of drug use using this index were made on admission to the study, at the end of a 4-week baseline period (before the beginning of randomized care), and at 30-day intervals across the study. Urine specimens were provided weekly by a random selection of participants. Attendance was determined at each session.

## What did the researchers find?

**Significant** (see *Glossary*) differences were present between groups in the employment area of the Addiction Severity index, favoring the experimental group. Further, from baseline to the three-month follow-up, the experimental group showed **no significant** (see *Glossary*) change in the severity of their drug use problem, whereas the control group showed a significantly higher score (indicating a more severe problem).

There were no significant differences between the two groups in urinalysis results or attendance at counseling sessions. Both groups produced good outcomes.

## What do the findings mean?

For therapists and other providers, the findings suggest that drug users with antisocial personality disorder respond to behavioral treatments. Both the experimental group and the control group "responded reasonably well to treatment" (p. 256). There was no convincing evidence that the experimental treatment was more effective than the control treatment.

## What are the study's limitations?

The study's primary limitation is the small size of the sample ($n$ = 40) at the 3-month ($n$ = 32) point of data collection. Eight participants withdrew before they had completed 3 months of care, 2 from the control group, and 6 from the experimental group. The withdrawal is a concern because the reasons for withdrawal reflected drug use on the part of participants. Those who withdrew were performing poorly; this may skew the results from the experimental condition, although, as noted above, both experimental and control treatment seemed to have some good results from the interventions.

A second limitation, perhaps related to the first, was that the researchers provided a safety net for participants who did poorly in the study, in the form of a transfer to routine care in the clinic (about 10 hours per week) after 3 months. The existence of this alternative may have elicited avoidance behavior by participants who did not want to have increased amounts of weekly counseling.

Another limitation was the lack of a comparison group of drug users who did not have antisocial personality disorder.

## GLOSSARY

**control group**—A group that received special attention similar to that which the treatment group received but did not receive the treatment.

**nonsignificant or no significance**—A statistical term that refers to study findings that are likely to be due to chance differences between the groups rather than to other factors (e.g., the treatment of interest). A nonsignificant result is not generalizable outside the study. Like significance, a nonsignificant result does not indicate the clinical

effect. Often studies will show nonsignificant results, yet the treatment group's mean will be better than the control group's. This is usually referred to as a trend in the right direction. Because significance is closely determined by sample size, nonsignificant results would often become significant if the sample size were increased.

**significance (or significant)**—A statistical term that refers to the probability that the results obtained in the study are not due to chance but to some other factor (e.g., the treatment of interest). A significant result is likely to be generalizable to populations outside the study.

Significance should not be confused with *clinical effect.* A study can be statistically significant without having a very large clinical effect on the sample. For example, a study that examines the effect of a treatment on a client's ability to walk may report that the participants in the treatment group were able to walk significantly longer distances than those in the control group. However, after reading the study one may find that the treatment group was able to walk, on average, 6 feet, whereas the control group was able to walk, on average, 5 feet. Although the outcome may be statistically significant, a clinician may not feel that a 1-foot increase will make his or her client functional.

■ Terminology used in this document is based on two systems of classification current at the time the evidence-based literature reviews were completed: *Uniform Terminology for Occupational Therapy Practice—Third Edition* (AOTA, 1994) and *International Classification of Functioning, Disability and Health (ICIDH-2)* (World Health Organization [WHO], 1999). More recently, the *Uniform Terminology* document was replaced by *Occupational Therapy Practice Framework: Domain and Process* (AOTA, 2002), and modifications to *ICIDH-2* were finalized in the *International Classification of Functioning, Disability and Health* (WHO, 2001).

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For more information about the Evidence-Based Literature Review Project, contact the Practice Department at the American Occupational Therapy Association, 301-652-6611, x 2040.