AOTA Evidence Briefs
Substance-Use Disorders

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

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Effects of integrated inpatient treatment may be influenced by personal characteristics, immediate outcomes of treatment, and environmental support after discharge

Herman, S. E., et al. (2000). Longitudinal effects of integrated treatment on alcohol use for persons with serious mental illness and substance use disorders. *Journal of Behavioral Health Services & Research*, *27*, 286–302.

Level: IA3b

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

Why research this topic?

Programs for treating people with a diagnosis of both serious mental illness and substance use disorders generally involve hybrid or integrated services. Integrated means that both the person's mental illness and substance use disorders are addressed concurrently by the treatment team, and are explored with the client as to how they affect one another. "These programs emphasize the need to recognize stages of treatment and the importance of persuasion and engagement" (p. 286). Studies of the effectiveness of inpatient programs of this type have produced mixed results. Several studies have investigated the direct effects of treatment on long-term outcomes. However, they have not looked at the moderating effects of personal characteristics (e.g., age, diagnosis, and psychiatric history) on long-term outcomes or at the mediating effects of immediate outcomes (e.g., motivation for sobriety) and environmental characteristics (e.g., social support for sobriety) on long-term outcomes.

What did the researchers do?

Herman et al. (2000), variously of the Department of Community Health (Lansing, Michigan), Michigan State University (Lansing), the University of Michigan (Ann Arbor), and the University of North Carolina at Chapel Hill, designed a study to assess the effects of integrated inpatient treatment on alcohol use over 18 months. They recruited 485 participants from people admitted over a 12-month period to a state psychiatric hospital serving a large urban area in the Midwest. All met criteria for mental illness and substance abuse. Of the 485, 429 (88.5%) had at least one interview after their discharge from treatment. The findings reported in the article are based on these 429. Three hundred seventeen of them were men, and 112 were women. About 77% were Black, about 23% White. Their average age was 33.2 years.

The researchers randomly assigned the participants within gender and order of enrollment to the hospital's Mental Health Chemical Dependence (MHCD) program or its standard short-term treatment wards (**control group**) (see *Glossary*) in a ratio of 2:1. The MHCD group participated in a five-stage program, the stages not necessarily sequential for each person: (1) stabilization of acute symptoms; (2) engagement in treatment (a method of drawing in the client by raising their interest and motivation so as to increase their potential commitment toward change), plus provision of educational lectures, Alcoholics Anonymous (AA) or Narcotics Anonymous (NA) groups, family education sessions, and gender-specific support groups; (3) persuasion and raising of awareness, through lectures on addiction, the physio-

logical effects of drugs, and more; (4) active treatment, involving 1 hour of individual therapy per week, 1 hour of group therapy per day (5 hours per week), and attendance at two AA or NA meetings per week; and (5) discharge planning, focused on prevention of relapse. The MHCD group members stayed in the hospital an average of 51.4 days.

The control group participated in a five-stage program: (1) stabilization of acute symptoms; (2) engagement in treatment; (3) active treatment, involving a half hour of individual therapy per week and 1 hour of group therapy per week; and (4) discharge planning, also focused on prevention of relapse. The control group members stayed in the hospital an average of 31.1 days.

The researchers were interested in the following outcome areas: *days of alcohol use*, *use of informal self-help groups (e.g., AA or NA) in the previous 30 days*, *incarceration in the previous 30 days*, *support for sobriety*, *family involvement in treatment*, *diagnosis*, *future intentions to stay sober*, and *future intentions to use self-help*. (The Addiction Severity Index was the major tool used for data collection.) All the measures were taken in interviews during participants' first week in the study, 4 weeks later or at discharge (whichever came first), and then variously at 2, 6, 10, 14, and 18 months after discharge.

What did the researchers find?

At 2 months after discharge, the MHCD group had **significantly** (see *Glossary*) reduced its days of alcohol use (from 4.71 days per month to 2.54). Factors that significantly reduced alcohol use were having a diagnosis of schizophrenia, having stronger intentions to stay sober, and (not quite significantly) having family involvement in inpatient treatment. A factor that significantly increased alcohol use was having a diagnosis of alcohol dependence or abuse.

The rate of alcohol use for both groups from admission to 2 months after discharge declined by .74 days per month. "MHCD treatment further accelerated the decline . . ., as did strong intentions to go to self-help and high levels of family involvement in treatment" (p. 297).

The rate from 2 months after discharge to the end of the study declined by 1.01 days. The latter rate did **not** reach **significance** (see *Glossary*), however.

Three other factors affected the rate of alcohol use: attendance at meetings of self-help groups, incarceration, and support for sobriety.

What do the findings mean?

For therapists and other providers, the findings suggest that the effects of inpatient integrated treatment are influenced by personal characteristics, immediate outcomes of treatment, and environmental support after discharge, including social support, family support, and self-help groups. Motivation to change is an important variable.

What are the study's limitations?

The study has three limitations. First, it relied heavily on self-report. Corroboration would have strengthened confidence in the data on alcohol use. Second, there was inadequate control for the differences between the two programs. Third, the MHCD group's longer length of stay may have explained the difference between the two groups. The researchers could not rule out this possibility.

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 (like 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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