



AOTA Evidence Briefs

Substance-Use Disorders

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

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Cognitive-behavioral therapy and 12-step facilitation may be treatments of choice when rapid reduction of alcohol consumption and alcohol-related consequences is important

Project MATCH Research Group. (1998). Matching alcoholism treatments to client heterogeneity: Treatment main effects and matching effects on drinking during treatment. *Journal of Studies on Alcohol*, 59, 631–639.

Level: IA1a

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

Why research this topic?

A 1990 review of research on outcomes of treatment for alcoholism suggested that rather than ask whether treatment works at all or which kind of treatment works best, researchers should investigate which kinds of treatments work best for individuals with certain characteristics and needs.

What did the researchers do?

Under the auspices of the National Institute on Alcohol Abuse and Alcoholism, the Project MATCH Research Group (1998) initiated Project MATCH (Matching Alcoholism Treatment to Client Heterogeneity), a study to assess the benefits of matching people with alcohol dependence to three treatments according to various personal attributes. The project involved two parallel studies: one of outpatients and one of patients receiving aftercare after inpatient or day hospital treatment.

For the outpatient arm of the study, the researchers recruited participants through five clinical research units located in Albuquerque; Buffalo; Farmington, Connecticut; Milwaukee; and West Haven, Connecticut. They conducted a screening interview with 2,193 potential participants. Of these, 49 declined to participate, and another 1,192 were ineligible. The resulting sample was 952, of whom 688 were men and 264 women. Their average age was 38.9 years.

For the aftercare arm of the study, the researchers recruited participants through five clinical research units located in Charleston, South Carolina; Houston; Milwaukee; Providence, Rhode Island; and Seattle. They conducted the screening interview with 2,288 potential participants. Of these, 410 declined to participate, and 1,104 were ineligible. The resulting sample was 774, of whom 619 were men and 155 women. Their average age was 41.9 years.

The researchers then randomly assigned the participants in each arm of the study to one of three treatments, all selected for their potential match with participants' characteristics: cognitive-behavioral coping skills therapy (CBT), motivational enhancement therapy (MET), and 12-step facilitation (TSF). Therapists delivered the treatments individually over 12 weeks, CBT and TSF once a week for 1 hour at a time, MET in the 1st, 2nd, 6th, and 12th weeks, also for 1 hour at a time.

CBT was "derived from social learning principles." It "focused on overcoming skills deficits and increasing the client's ability to cope with high-risk situations that commonly precipitate relapse" (p. 632). MET was "based on principles of motivational psychology . . . [and] focused on the individuals' own coping resources as well as those available in the

social environment to help clients initiate change” (p. 632). TSF was “an attempt to ‘facilitate’ a commitment to AA [Alcoholics Anonymous].” Its goal “was to help the individual incorporate the belief system of AA and eventually become an active participant in AA meetings.” It emphasized “the first 3 [of 12] recovery steps of AA” (p. 632).

The researchers hypothesized that the following kinds of personal attributes would interact differently with the treatments to affect outcomes:

- Alcohol involvement (as measured by the Alcohol Use Inventory)
- Cognitive impairment (as measured by Trails A and B of the Shipley Institute of Living Scale, and the Symbol-Digit Modalities)
- Conceptual level (as measured by the Paragraph Completion Method)
- Gender
- Meaning seeking (as measured by the Purpose in Life Scale and the Seeking of Noetic Goals test)
- Motivation (as measured by a subset of URICA [University of Rhode Island Change Assessment])
- Psychiatric severity (as measured by the Psychiatric Severity composite score of the Addiction Severity Index)
- “Sociopathy” (antisocial behavior) (as measured by the Socialization Scale of the California Psychological Inventory)
- Support for drinking (as measured by the Important People and Activities Instrument)
- “Typology” (predisposition to alcohol dependence combined with actual severity of negative outcomes associated with alcohol use) (as indicated by a composite score derived from 5 instruments).

The outcome areas of interest were *percentage of days abstinent* (a measure of drinking frequency) and *average number of drinks per drinking day* (a measure of drinking severity) (both as measured by Form 90, “an interview procedure combining calendar memory cues from time-line follow-back methodology and drinking pattern estimation procedures from the Comprehensive Drinker Profile”—Project MATCH Research Group, 1997, p. 11). Measures were taken, variously across the instruments, before the study began, after treatment ended (3 months), and at 6, 9, 12, and 15 months after the study began. This article focuses on the assessments *at the end of treatment*.

The researchers also were interested in seven secondary measures of outcome, all representing participants’ functioning in areas of clinical importance: alcohol consequences (as measured by the Drinker Inventory of Consequences); *depression* (as measured by the Beck Depression Inventory); *psychological problems* (as measured by the Psychiatric scale of the Addiction Severity Inventory); *social behavior* (as measured by the Social Behavior scale of the Psychosocial Functioning Inventory); *percentage of days paid for work* (obtained from the Form 90 interview); *liver functioning* (as indicated by analysis of liver enzymes); and a *composite outcome measure* (where clients were classified as being abstinent, having moderate drinking without recurrent problems, as drinking heavily, or as drinking heavily with recurrent problems).

What did the researchers find?

In regard to the primary outcome measures, among the outpatient participants regardless of site and time, the CBT and TSF groups abstained from drinking **significantly** (see *Glossary*) more often than the MET group—on average, 2 fewer days per month. (These outcomes were not maintained at follow-up, however.) Additionally, starting at week 9, those receiving CBT drank significantly fewer drinks per drinking day than those receiving MET—an average of 1 less drink per day.

Contrasts between the treatment groups also were present by outpatient site: At three of the five sites, the CBT and TSF groups had a significantly higher percentage of days abstinent than the MET group.

Among the aftercare participants regardless of site, the CBT group abstained from drinking significantly more often than the TSF group during Weeks 8–11, and the MET group abstained significantly more often than the TSF group during Weeks 2–4.

Contrasts among the aftercare sites also were evident: The overall rate of abstinence varied significantly.

Regarding the secondary outcome measures, the CBT and TSF groups in the outpatient arm reported significantly fewer alcohol consequences than the MET group. Additionally, the CBT group in the aftercare arm reported significantly fewer paid work days than the TSF group.

On the composite score, significant differences among treatment groups were found in the outpatient arm when the percentage of abstinent members was contrasted with the percentages drank moderately, drank heavily or had recurrent problems, and drank heavily and had recurrent problems: CBT had 12% more and TSF 13% more members than MET in the abstinent or moderate categories.

What do the findings mean?

For therapists and other providers, the findings suggest that CBT and TSF are the treatments of choice when rapid reduction of alcohol consumption and alcohol-related consequences is important. Alternatively, providers might redesign MET to be delivered in 30-minute weekly sessions for 12 weeks.

The failure to find any differences among treatments in the aftercare arm may have been because the participants in the aftercare group already had received intensive inpatient or day treatment on entering the study. Further, they began the study after a period of abstinence, so they may have focused on prevention of relapse. The participants in the outpatient group, on the other hand, were trying to establish abstinence.

What are the study's limitations?

The study has no threats to internal validity.

Reference

Project MATCH Research Group. (1997). Matching alcoholism treatments to client heterogeneity: Project MATCH posttreatment drinking outcomes. *Journal of Studies on Alcohol*, 58, 7–29.

GLOSSARY

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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