



AOTA Evidence Briefs

Substance-Use Disorders

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

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Extended brief interventions are effective in reducing alcohol intake among women

Poikolainen, K. (1999). Effectiveness of brief interventions to reduce alcohol intake in primary health care populations: A meta-analysis. *Preventive Medicine, 28*, 503–509.

Level: I

Meta-analysis

Why research this topic?

Researchers have published several **meta-analyses** (see *Glossary*) of brief interventions as a preventive measure with heavy drinkers of alcohol (e.g., see Wilk, Jensen, & Havighurst, 1997). However, the meta-analyses had several weaknesses: failure to distinguish between truly brief interventions (those lasting 5–20 minutes) and extended ones (those involving several sessions), failure to limit the analysis to studies that randomly allocated participants to intervention and **control groups** (see *Glossary*), and pooling of diverse outcomes.

What did the researcher do?

Poikolainen (1999), of Järvenpää Addiction Hospital (Haarajoki, Finland) and the National Public Health Institute (Helsinki), conducted a meta-analysis of randomized clinical trials involving participants from general populations or the practices of family or general practitioners. He searched the following sources for articles published from 1966 to 1997: three computer databases (EMBASE, MEDLINE, and PsycLIT), the indexes of three major journals on alcoholism (*Addiction*, *Alcoholism*, and the *Journal of Studies of Alcohol*), and seven published reviews. He also searched the references section of articles retrieved. His criteria for inclusion were (1) samples drawn from the general population or from a population of family or general practitioner practices, (2) random assignment of participants to intervention and control groups, and (3) a follow-up period of 6–12 months.

The search identified seven studies, which contained 14 data sets. (A single study could have more than 1 data set—e.g., separate sets for men and women.) Across the seven studies, 2,546 people (gender not fully reported) participated. They ranged in age from 17 to 70 years (no mean reported). All had excessive alcohol intake or alcohol-related medical problems.

The researcher was interested in the following outcome areas: *average alcohol intake* (as measured by the CAGE) (CAGE is the mnemonic that represents the four questions used to identify an alcoholic and *activity of the liver enzyme γ* (the Greek letter gamma)-*glutamyltransferase* (GGT) (as indicated by a test of serum GGT).

What did the researchers find?

Extended brief interventions produced a **significant** (see *Glossary*) decrease in alcohol intake among women (an average of 51 grams per week—about 4 drinks). Their effects on men and on combined groups of men and women also were significant, but a lack of **statistical homogeneity** (see *Glossary*) among the studies made the finding less meaningful.

What do the findings mean?

For therapists and other providers, the findings suggest that extended brief interventions are effective in reducing alcohol intake among women in primary health care populations who drink excessively. More research is needed to determine the effects on men and on combined groups of men and women. Further, to enable more rigorous meta-analyses, researchers should report means and standard deviations for the principal outcome variables, at baseline and at follow-up. They also should develop standard criteria for excessive drinking.

What are the study's limitations?

Its limitations are the small number of data sets and methodological weaknesses in the studies examined. As presented in an earlier section, the meta-analyses had several weaknesses: failure to distinguish between truly brief interventions (those lasting 5–20 minutes) and extended ones (those involving several sessions), failure to limit the analysis to studies that randomly allocated participants to intervention and **control groups** (see *Glossary*), and pooling of diverse outcomes.

References

Wilk, A. I., Jensen, N.M., & Havighurst, T.C. (1997). Meta-analysis of randomized control trials addressing brief interventions in heavy alcohol drinkers. *Journal of General Internal Medicine*, *12*, 274-283.

GLOSSARY

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

meta-analyses—A specific subset of systematic review that statistically combines data from many studies to find a common effect. The meta-analysis' power comes from the ability to statistically digest many studies and emerge with a final assessment of their common effect.

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.

statistical homogeneity—A statistical test used to determine whether results from a set of independently performed studies on a particular question are similar enough to make statistical pooling valid. Are the apples sufficiently red and the oranges sufficiently green to be able to add them up and report the total number of "orpples"? As in other matters, statistical tests do not guarantee clinical relevance.

■ 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.

