AOTA Evidence Briefs
Substance-Use Disorders

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SU 16

Intervention directed at changing community policies and practices may reduce alcohol-related problems among teenagers

Wagenaar, A. C., Murray, D. M., & Toomey, T. L. (2000). Communities Mobilizing for Change on Alcohol (CMCA): Effects of a randomized trial on arrests and traffic crashes. *Addiction*, *95*, 209–217.

Level: IB3a

Randomized control trial, less than 20 participants per condition, low internal validity, high external validity

Why research this topic?

Consumption of alcohol is associated with traffic accidents and several health problems. Researchers, health care providers, and others have developed interventions to reduce the rate of drinking among young people and thereby to reduce the incidence of these accidents and problems among young people.

What did the researchers do?

Wagenaar, Murray, and Toomey (2000), all affiliated with the University of Minnesota (Minneapolis), participated as researchers in the Communities Mobilizing for Change on Alcohol (CMCA) project, which "developed, implemented and evaluated a community organizing intervention to change policies and practices of major community institutions to reduce youth access to alcohol" (p. 210). The intervention successfully changed commercial practices in the communities identified as the intervention group, "most notably reducing service of alcohol to underage youth" (p. 210). Wagenaar, Murray, and Toomey went on to look at the effects of the project on rates of alcohol-related problems among youth, such as arrests for disorderly conduct, driving under the influence of alcohol, and traffic crashes.

From a pool of 24 eligible school districts in Minnesota and Wisconsin, the project recruited 15 to participate. To be eligible, the districts had to draw their students from no more than three municipalities and have at least 200 students in the 9th grade. On average, the population of the communities that participated was 20,836. The researchers matched the 15 communities according to population size and presence of a college and then randomly assigned members of the matched sets to the intervention group or the **control group** (see *Glossary*).

For 2.5 years, community organizers worked with officials and agencies in the intervention group to change policies on youth's access to alcohol. Targets were merchants' policies and practices, media coverage of alcohol issues, and practices of law enforcement agencies.

In this article the researchers report on the following outcomes: *disorderly conduct* and *driving under the influence of alcohol* (both as reported in state records) and *traffic crashes producing injury* (also as reported in state records). The researchers analyzed data from 1987 through 1995, encompassing 6 years before the intervention to establish a baseline) and 3 years of the intervention. They made nine annual observations per community for the arrest measures and 36 quarterly observations per community for the crash measures. Further, they categorized the data by age groups: 15–17 years old, 18–20 years old, and 21 years and older.

What did the researchers find?

There were net declines during the intervention on all the arrest and crash measures in both the 15–17 and the 18–20 age group, but only the declines in the arrest measures during the intervention approached **significance** (see *Glossary*).

Among the 18- to 20-year-olds, during the intervention, those in the intervention group showed a more significant decline in arrests for driving under the influence than those in the control group. Among the 15- to 17-year-olds, a similar pattern occurred, approaching but **not significant** (see *Glossary*).

Among the 15- to 17-year-olds, a decline in disorderly conduct arrests in the intervention group during the intervention approached but did not reach significance, when compared with an increase among the control group.

What do the findings mean?

For therapists and other providers, the findings suggest that an intervention directed at changing community policies and practices can reduce alcohol-related problems among teenagers, especially the problem of driving under the influence of alcohol. It also may influence community norms, as evidenced by the declines in alcohol-related problems among 15- to 17-year-olds.

What are the study's limitations?

The study has several limitations. First, the low number of traffic crashes among teenagers per community diminished the study's statistical power. Second, the intervention period (2.5 years) may have been too short. Third, there may have been some spillover of intervention activities to control communities.

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.

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