

Review: Brief interventions reduce drinking in patients not seeking treatment

Moyer A, Finney JW, Swearingen CE, Vergun P. Brief interventions for alcohol problems: a meta-analytic review of controlled investigations in treatment-seeking and non-treatment-seeking populations. *Addiction*. 2002 Mar;97:279-92.

QUESTION

In persons with alcohol problems, are brief interventions effective for reducing drinking?

DATA SOURCES

Studies were identified by searching {MEDLINE, PsycINFO, Dissertation Abstracts, and the Alcohol and Alcohol Problems Science Database (from the National Institute of Alcohol Abuse and Alcoholism)}* and by scanning citations in relevant studies.

STUDY SELECTION

Studies were selected if the intervention did not exceed 4 sessions and if > 1 group was evaluated (1 of which did not receive a brief intervention). Studies were excluded if they did not report results for alcohol-use disorders separately from other substance-use disorders or if the brief intervention aimed to discourage alcohol drinking in pregnant women.

DATA EXTRACTION

Data were extracted on participants, intervention, and outcomes (including alcohol consumption [quantity and time], abstinence, and drinking without problems). Drinking-related outcomes were aggregated, and effect sizes were calculated.

MAIN RESULTS

56 studies were included. 34 studies compared brief interventions with control conditions in persons who were not seeking

treatment; 79% of these studies excluded persons with alcohol dependence, heavy drinking, or previous treatment for alcohol problems. A benefit in the aggregate outcome was seen for brief interventions at ≤ 3 months (4 studies), > 3 to 6 months (11 studies), and > 6 to 12 months (23 studies), but the effect was not statistically significant at > 12 months (5 studies) (Table). 20 studies compared brief interventions with extended treatments in persons who were seeking treatment, and 50% of these studies excluded persons with alcohol dependence, heavy drinking, or previous treatment for alcohol problems. No difference in the aggregate outcome was seen between brief interventions

and extended treatment at any time point (Table).

CONCLUSIONS

In persons with alcohol problems who are not seeking treatment, brief interventions are better than no intervention for reducing drinking. In persons seeking treatment for alcohol problems, brief interventions do not differ from extended treatment for reducing drinking.

Source of funding: National Institute on Alcohol Abuse and Alcoholism.

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*Information provided by author.

Composite of all drinking-related outcomes for brief interventions for reducing alcohol drinking

Patient group	Comparison	Follow-up	Number of studies	Effect size (95% CI)
Not seeking treatment	Brief intervention vs control	≤ 3 mo	4	0.30 (0.08 to 0.52)†
		> 3 to 6 mo	11	0.14 (0.08 to 0.21)†
		> 6 to 12 mo	23	0.24 (0.18 to 0.30)†
		> 12 mo	5	0.13 (-0.01 to 0.26)†‡
Seeking treatment	Brief intervention vs extended treatment	≤ 3 mo	7	-0.03 (-0.22 to 0.17)‡
		> 3 to 6 mo	7	0.17 (-0.02 to 0.36)‡§
		> 6 to 12 mo	10	0.03 (-0.10 to 0.15)‡§
		> 12 mo	10	0.01 (-0.12 to 0.13)‡§

†Effect size favors brief intervention.

‡Not significant.

§Effect size favors extended treatment.

COMMENTARY

Brief interventions have consistently been found effective for alcohol-use problems and at-risk drinking behaviors (1, 2). However, application of these findings to primary care has been hampered by an absence of adequate cost-effectiveness data. The 2 studies by Moyer and Fleming and their colleagues add to our understanding of the treatment effects and costs.

In their meta-analysis, Moyer and colleagues take a conceptual step forward by grouping the brief intervention studies according to patient type: those who were opportunistically identified as having problem drinking behaviors and those who sought alcohol treatment. This distinction turned out to yield a clear difference in the size of the outcome effects seen in these 2 populations. The carefully done analyses and tables provide elegant and clear data on effect sizes and data homogeneity.

In Moyer and colleagues' analysis of the studies concerning patients not seeking treatment, a small-to-moderate treatment effect was observed after ≤ 4 provider contacts; this effect was equivalent to a 10% to 20% increase in the number of patients achieving a favorable response. This effect seems worthy at first glance, but is it significant

enough to warrant widespread implementation of the screening and intervention and commitment of new resources to augment existing health promotion activities? To address these concerns, relevant cost-effectiveness data are needed from multiple studies. Given the large number of competing care demands on primary care providers, we must prove that the rather modest 10% to 20% improvement rate translates into meaningful, clinical benefits.

To this end, the study by Fleming and colleagues provides some encouraging evidence that the cost-benefit ratio may justify the investment. The effectiveness of delivering the intervention in routine, daily practice seemed to save \$4.30 for every \$1 spent; however, the 95% CI of the cost-benefit ratio was wide, ranging from 0.6 to 8.0, and the *P* value was only 0.08. This favorable trend needs to be replicated in other large-scale studies to be convincing.

The cost of screening in the study by Fleming and colleagues represented 50% of the expense. If the prevalence of problem drinking is lower in a different study population, the percentage of resources going toward screening and away from intervention will be increased. The

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A brief intervention reduced alcohol drinking for up to 48 months in problem drinkers

Fleming MF, Mundt MP, French MT, et al. **Brief physician advice for problem drinkers: long-term efficacy and benefit-cost analysis.** *Alcohol Clin Exp Res.* 2002 Jan;26:36-43.

QUESTION

In persons with problem drinking, is a brief intervention effective for reducing drinking in the long term?

DESIGN

Randomized (unclear allocation concealment*), unblinded,* controlled trial with 48-month follow-up (Project TrEAT [Trial for Early Alcohol Treatment]).

SETTING

64 primary care physician offices from 17 clinics in 10 southern Wisconsin counties, USA.

PATIENTS

774 patients who were 18 to 65 years of age (62% men) and drank a large amount of alcohol weekly (> 14 drinks [168 g of alcohol] for men, > 11 drinks [132 g of alcohol] for women) or drank > 5 drinks on ≥ 4 occasions in the previous 30 days. Patients were excluded if they had formal alcohol treatment in the previous year or a history of alcohol withdrawal, were pregnant, or had suicide ideation. Follow-up was 83% at 48 months.

INTERVENTION

Patients were allocated to a brief intervention ($n = 392$) or no intervention ($n = 382$).

All patients received a general health booklet containing prevention messages. Patients in the intervention group received two 15-minute sessions 1 month apart with their physician and two 5-minute follow-up phone calls from office nurses. The protocol was scripted and included a workbook with tasks for patients to complete at home.

MAIN OUTCOME MEASURES

Alcohol use, health care use, motor vehicle and legal events, mortality, and costs (1993 U.S. dollars).

MAIN RESULTS

Analysis was by intention to treat. The intervention group had lower rates of 7-day alcohol use ($P = 0.002$) and a lower mean number of binge-drinking episodes in the previous 30 days ($P < 0.001$) than did the control group. Heavy drinking (> 20 drinks/wk for men or > 13 drinks/wk for women) was reduced more in the treatment group than in the control group in the first 2 years ($P < 0.001$), but the reduction was similar by 48 months, from 47% to 22% in the intervention group and from 49% to 26% in the control group. Binge drinking (> 5 drinks on 1 occasion) in the previous 30 days was reduced from 85% to 64% in the intervention group and from 87% to 70% in the

control group ($P < 0.001$ for overall 48-month treatment effect). The intervention group had fewer days of hospitalization (420 vs 664 d, $P < 0.05$) and fewer arrests for controlled substance or liquor violations (2 vs 11, $P < 0.05$); differences in health care use or motor vehicle or other legal events were not statistically significant. The groups did not differ for mortality at 48 months. When costs were analyzed from a medical perspective, the net benefit was not statistically significant (\$546, 95% CI -\$71 to \$1164); from a societal perspective, the net benefit was statistically significant (\$7780, CI \$894 to \$14 668).

CONCLUSIONS

In patients with problem drinking, a brief intervention reduced alcohol drinking for up to 48 months. A net benefit was seen when costs were analyzed from a societal perspective.

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*See Glossary.

COMMENTARY (continued from page 58)

incidence of at-risk drinkers was 14% in the study by Fleming and colleagues but only 8% in a similar study by Senft and colleagues (3); consequently, the cost-benefit ratio should be lower and the project less attractive. In reality, the study by Senft and colleagues failed to find any savings or outcome differences at 12 months.

Brief interventions seem to be inexpensive and require little staff input. However, when applied broadly, they require daily, systematic staff effort, including the screening of many normal patients to identify each at-risk person (7:1 ratio in the study by Fleming and colleagues). For a health maintenance organization with 300 000 adult members, such as Kaiser Permanente of Colorado, an anticipated 42 000 members would qualify as problem drinkers, if the prevalence is 14%. Kaiser's 250 primary care physicians would need to devote two 15-minute visits per patient to replicate Fleming's intervention. If all members were to be screened within 4 years, it would take 1% of every physician's time to do the intervention, cost roughly \$10 million (\$166/patient, adjusted to 2002 dollars), and save perhaps \$42 million. Before implementing a project affecting so many physicians and mem-

bers, complementary studies that replicate the positive findings by Fleming and colleagues are needed.

Finally, on a serendipitous note, the data suggest a unique opportunity to increase the cost-benefit ratio by including the savings from motor vehicle crash expenses in the calculations. An additional \$7171 was probably saved for each \$166 spent on brief interventions (95% CI \$396 to \$13 965). These potential savings may be of interest to auto insurers. Perhaps a unique collaboration could be created between auto and health insurance companies to finance brief intervention programs for the mutual benefit of their subscribers. Is this a place where the rubber meets the road?

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References

1. Bien TH, Miller WR, Tonigan JS. *Addiction.* 1993;88:315-36.
2. Wilk AI, Jensen NM, Havighurst TC. *J Gen Intern Med.* 1997;12:274-83.
3. Senft RA, Polen MR, Freeborn DK, Hollis JF. *Am J Prev Med.* 1997;13:464-70.