

Early Detection and Counselling of Problem Drinking

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Overview

In 1989 the Canadian Task Force on the Periodic Health Examination concluded that there was fair evidence that routine case-finding for problem drinking, and that brief counselling intervention in patients identified thereby was effective in reducing alcohol consumption and related consequences.<1,2> The studies which yielded this evidence<3,4> have since been confirmed by seven new randomized controlled trials<5- 11> in study populations that included both men and women aged 18-60 years. Standardized interviewing strategies and questionnaires are more sensitive than clinical judgement and can be used routinely with all adults to raise the index of clinical suspicion of problem drinking. When problem drinkers are identified, either simple advice or brief counselling is effective in reducing alcohol consumption and diminishing the negative consequences of drinking. The intervention of simple advice or brief counselling is appropriate for the patient with mild to moderate as opposed to severe alcohol dependency. Problem drinking or mild to moderate, rather than severe dependency is the focus of this report. There are separate chapters on Primary Prevention of Fetal Alcohol Syndrome (alcohol consumption among pregnant women – Chapter 5) and Children of Alcoholics (Chapter 4 1).

Burden of Suffering

Per capita consumption of alcohol in Canada has been steadily decreasing since 1981, and the decrease has been paralleled by a concomitant decrease in rates of mortality from alcoholic liver cirrhosis<12> and other possibly alcohol-related mortality such as suicide, upper gastrointestinal and respiratory cancers, duodenal and stomach ulcers, pneumonia, and accidents. Negative alcohol-related consequences have a dose-response relationship with individual alcohol consumption, and the risk of negative consequences increases dramatically after a threshold of regular consumption of 2-3 drinks/day in males and 1-2 drinks/day in females.

The nomenclature for alcohol-related problems can be confusing. In the literature, the terms alcoholism, alcohol abuse, and severe alcohol dependency are clinical diagnoses by DSM-III-R criteria and correspond to an ICD-10 classification. Alcohol consumption patterns (either excessive regular consumption or binge drinking) that put patients at high risk of physical, psychological or social consequences, are termed problem, hazardous, harmful, heavy, or excessive drinking, or mild to moderate alcohol dependency; no internationally-recognized criteria have been developed to classify problem drinking.

Severe alcohol dependency is present in 5-10% of the population, and problem drinking in 15-25%. In medical settings the rate of alcohol-related problems is even higher; routine screening with the instruments reviewed in this report have yielded prevalence rates of severe to mild dependency averaging 25% and as high as 36%.<13> Studies have repeatedly demonstrated that physicians fail to detect the majority of alcohol-related problems in their patients.

Maneuver

Case-finding

The traditional medical history-taking questions about average quantity and frequency of alcohol consumption underestimate problem drinking in patients, and the yield is highly dependent on the individual physician, patient, and clinical setting. For this reason, the use of standardized questionnaires or objective measures is generally favored. An exception may occur in patient populations where the prevalence of problem drinking is low, as shown in a screening study of pre-natal patients showing that quantity-frequency questions detected more problem drinkers than either the CAGE or the MAST questionnaires (see below).^{<14>} Another suggested strategy to detect the problem drinker by history-taking is to use the two questions "Have you ever had a drinking problem?" and "Have you had a drink in the last 24 hours?". Positive responses to both yielded no false positives compared to the MAST when used to screen general medicine patients.^{<13>}

The two most extensively validated and commonly used standardized questionnaires are the Michigan Alcoholism Screening Test (MAST) and the four-question CAGE query. The MAST is a 25-item questionnaire that takes 20 minutes to administer; borderline alcoholism is identified by positive responses to at least four of the alcohol-related problem behaviors. Shorter versions of the MAST are generally used, and the instrument has shown sensitivities of 59-100% and specificities of 54-95%.

The CAGE is a mnemonic for the following questions: 1) ever felt the need to cut down on drinking? 2) ever felt annoyed by criticism of drinking? 3) ever had guilty feelings about drinking? 4) ever take a morning eye-opener drink? It can be easily incorporated into history-taking, and the presence of at least two positive responses in general medicine clinics has been shown to detect alcoholism with sensitivities ranging from 75%-89% and specificities from 68%-96%. Sensitivity and specificity are lower in populations where the prevalence of problem drinking is low,^{<14>} or where problem drinking rather than severe alcohol dependency is the target.

Despite extensive validation, both the CAGE and the MAST have the limitations of being designed to detect severe alcohol dependency as opposed to problem drinking, and the questions are phrased in terms of lifetime occurrence, making it difficult to distinguish between current and previous problems. Neither instrument addresses "binge" drinking behavior, which has been found to be a more sensitive indicator of problem drinking in certain sub-groups such as women and inner-city populations.^{<15>}

A promising screening questionnaire has recently been developed to address these issues. The Alcohol Use Disorders Identification Test (AUDIT, [Table 1](#)) is a 10-item questionnaire developed as part of a six-country World Health Organization (WHO) Collaborative Project on Identification and Management of Alcohol-Related Problems.^{<16>} It is designed specifically to detect problem drinkers rather than alcoholics by placing emphasis on heavy drinking and frequency of intoxication rather than signs of dependency. The questions refer to lifetime alcohol experiences as well as those in the past year, thus distinguishing between current and previous problems. Its development in a broad range of cultures is thought to enhance cross-cultural validity, although further research is required to confirm this. In the WHO collaborative project, the sensitivity and specificity across the different countries were fairly consistent, averaging 80% and 98% respectively with a cut-off point of 10/40. It is currently being tested in various countries and sub-populations.

The reference criterion for problem drinking in the AUDIT is based on the expert judgement of the WHO Collaborative Project investigators, and this can reflect only the current knowledge and expert opinion since there are no internationally-recognized criteria to define hazardous drinking. Nonetheless, it appears to address criticisms of the CAGE and MAST effectively, and can be incorporated relatively easily into clinical practice. The yield of standardized instruments in clinical

practice is still dependent on a neutral and sensitive approach by the clinician.

No biomarkers with adequate sensitivity or specificity for routine screening have yet emerged. Gamma-glutamyl transferase (GGT) continues to be used by researchers to identify excessive drinkers and to monitor the response to interventions; this, despite its poor sensitivity (40-52%) and specificity (78-89%). In a community sample of men one study found that the GGT was similar to the MAST for detecting problem drinkers, but the sensitivity of 50% is still inadequate for routine screening.<17> While not justified for detection, follow-up measures of GGT may be useful in patients attempting to reduce alcohol consumption. Researchers have also focused on the use of a combination of laboratory and clinical measurements to improve both sensitivity and specificity, but no consensus has emerged on what specific set of measures to use.

Counselling

The common elements in all eight studies of effective early interventions were: feedback to the patient about the results of the screening test, clarification of the association between excessive alcohol consumption and negative consequences, and advice to reduce alcohol consumption. This constitutes the maneuver of simple advice and should take about five minutes in the clinical encounter. Some of the interventions were more intensive and included problem clarification, goal setting, or discussion and/or guidance on how to reduce consumption; this maneuver is brief counselling and would a minimum of 15 minutes. Other components of successful interventions whose relative merit has not been investigated separately are: self-help pamphlets,<4-8> regular follow-up visits,<3,5,6,8,9> and objective laboratory biomarkers.<3,5,9,11>

There appears to be more acceptance in the alcohol treatment community of controlled drinking rather than abstinence as a treatment goal in problem drinkers.<18> Abstinence, however, continues to be the treatment goal in patients with severe alcohol dependency; these patients are generally not amenable to brief counselling interventions and should be referred for specialized treatment.

Effectiveness of Prevention and Treatment

Since the last report of the Task Force<1> several randomized controlled trials have confirmed that routine case-finding and counselling are effective in reducing alcohol consumption and alcohol-related problems in patients.<5-11> Five of the published trials are of good quality: two population-based screening trials which used elevated GGT levels to identify problem drinkers,<3,5> and three which used general health questionnaires and quantity-frequency measures of consumption in primary care populations in a variety of cultural contexts.<6-8>

In the Scandinavian population-based studies the intervention linked the elevated GGT to alcohol consumption; heavy drinkers were advised to reduce alcohol intake, and their progress was monitored regularly until the GGT levels normalized.<3,5> The Nilssen and colleagues study also evaluated the relative effectiveness of a second low-intensity intervention in which a more tenuous link was made between GGT levels and alcohol consumption, and subjects were given a pamphlet containing advice on GGT and alcohol consumption; no statistically significant differences were found between the two intervention groups at one-year follow-up. In the Kirstensen and coworkers study, the controls were informed by letter of their elevated GGT result and told to restrict alcohol, whereas no information was given to the controls in the Nilssen and colleagues study. This may account for the finding that in the Kirstensen and coworkers study, that GGT levels decreased significantly in both control and intervention groups, whereas in the Nilssen and colleagues study the statistically significant decrease in GGT levels and self-reported alcohol consumption was observed only in the intervention groups. The Kirstensen and coworkers study did, however, demonstrate a 61% reduction in hospital days and a 50% reduction in mortality in the intervention group after 5 years. The Kirstensen and coworkers study

was limited to middle-aged males and a third of the subjects had symptoms of alcohol dependence. The Nilssen and colleagues study excluded alcoholics but included men and women aged 17-62 years; the effect by gender was stated to be homogenous. The limitation of both of these studies is the use of GGT as both a screening device and the principal outcome measure.

Two good quality primary care studies of adults aged 17-69 in the United Kingdom used comparable screening, intervention, and outcome measures.^{6,7} Based on an independent two-stage screening procedure (self-administered health questionnaire, interviewer review of one-week drinking diary) patients were considered problem drinkers if males consumed more than 29 drinks per week or females more than 18 per week. Intervention subjects were referred to their general practitioner who gave the patient feedback about their consumption relative to national norms, advised them to reduce alcohol consumption to target levels of moderate drinking, and gave them a self-help pamphlet. Follow-up at one-year demonstrated that in the Wallace and associates study 45% of the intervention group reduced their drinking to target levels compared to 25% in the controls;⁶ in the Anderson & Scott study the proportions were 18% and 5% respectively.⁷ In the Wallace and associates study, intervention subjects were encouraged to return for at least one and up to 4 monitoring visits during the year and the study population included very heavy drinkers; these may account for the greater reductions in excessive drinking. The authors found that although the intervention was also effective in women, their reductions in reported consumption were not accompanied by reductions in mean GGT levels; the results for women were not reported in the Anderson & Scott study.

The early intervention study of the WHO Collaborative Project on Identification and Management of Alcohol-Related Problems did not use the AUDIT to identify problem drinkers because it was not completed by the initiation of the trial. Instead it used a general health and lifestyle questionnaire and a structures assessment interview to identify problem drinkers.¹¹ Based on the criteria of ³² intoxications/month or 29 drinks/week for men and 19 drinks/week for women, 1,559 problem drinkers aged 19-70 years in eight countries (Australia, the United Kingdom, Norway, Mexico, Kenya, the former Soviet Union, Zimbabwe, and the United States) were randomly assigned to either control, simple advice or brief counselling groups. After a 9-month average follow-up in 75% of the patients drinking behavior based on self-report was reduced in all groups, males in both intervention groups showed a significantly greater reduction in typical daily consumption and drinking intensity on the basis of self-report than did the controls. The intervention effect in the much smaller number of women was not statistically significant. There was no statistically significant difference between the simple advice and brief counselling intervention groups.

The results of these studies support the effectiveness of routine identification of problem drinkers and advice to reduce alcohol consumption, although in only one study³ was the reduction corroborated by decreased morbidity and mortality over a longer period. None of the studies used the standardized screening instruments which have been reviewed in this report. Simple advice was found to be as effective as a brief counselling intervention.^{5,11} Several authors suggested that the observed improvement in controls might be attributable to a therapeutic effect of the screening procedure itself. It is not clear whether the results can be generalized to the elderly. The effectiveness in these trials was less pronounced in women,^{6,8,11} but a randomized trial of problem drinkers' responsiveness to different interventions showed that women were more likely to achieve problem-free moderate drinking than men.¹⁹

Recommendations of Others

The U.S. Preventive Services Task Force²⁰ recommends that all adolescents and adults be asked to describe their use of alcohol, but that routine measurement of biochemical markers not be the primary method of detecting alcohol abuse in asymptomatic persons. All persons who use alcohol, especially

pregnant women, should be urged to limit their consumption.

The Alcohol Risk Assessment and Intervention (ARAI) Project of the College of Family Physicians of Canada recommends that all patients age 12 years or older be screened to assess their level of risk drinking, and that patients who drink at potentially problematic or problematic levels be counselled and followed-up to reduce their drinking; and that patients with severe problems be referred to appropriate specialized treatment with periodic follow-up by the primary care physician. The project provides aids for both physicians and patients.

The Institute of Medicine in the United States recommends that all patients be screened for alcohol problems. If mild or moderate problems are detected, a brief counselling intervention should be provided and the patient be periodically monitored. If a severe problem is detected, the patient should be referred for specialized treatment.

Conclusions and Recommendations

Routine active case-finding of problem drinking by physicians is highly recommended on the basis of the high prevalence of this problem in medical practices, its association with adverse consequences before the stage of dependency is reached, and its amenability to a counselling intervention by physicians. Detection by biomarkers is not recommended, although these may be used to confirm clinical suspicions raised by use of the CAGE query, MAST or AUDIT questionnaires, and may be useful for monitoring the patient's progress. Either simple advice or the brief counselling intervention may be used with equal effectiveness in reducing alcohol consumption in problem drinkers. The counselling intervention is probably most effective in the context of an established and effective doctor-patient relationship.

Unanswered Questions (Research Agenda)

The most appropriate detection instruments and counselling interventions for women and the elderly still need to be addressed in well-designed trials. Further validation and use of the AUDIT is required. Broad consensus is required to establish internationally recognized criteria to define problem drinking.

Evidence

The literature was identified with a MEDLINE search for the years 1989 to October 1993 using the MESH headings, "alcoholism" and "alcohol drinking", with the sub-headings "epidemiology", "prevention & control", "therapy", and "rehabilitation". Only original studies reported in English or French were selected.

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