2. ALCOHOL DEPENDENCE

Steven Asch, M.D., M.P.H.

We relied on four main sources to construct quality indicators for alcohol abuse among adult women. Three are the reports of federally sponsored task forces (United States Preventive Services Task Force [USPSTF], 1989; Committee of the Institute of Medicine [IOM], 1990; National Institutes of Health [NIH], 1993) and one is a review article (Fleming, 1993). When these core references cited studies to support individual indicators, we have referenced the original source. When the core references were unclear in their support for a particular indicator, we performed a narrow MEDLINE search of English-language articles addressing that topic from January 1966 to 1995.

IMPORTANCE

Alcohol is consumed by over half of all American adults, and about 10 percent of users meet criteria for dependence (see below). It has been estimated that alcohol accounts for 69,000 deaths annually, including those resulting from alcohol-related motor vehicle deaths, homicides, and suicides, as well as the clinical sequelae of chronic use like cirrhosis, pancreatitis, gastrointestinal bleeding, and cardiomyopathy (USPSTF, 1989). Annual societal costs exceed $115 billion in medical treatment, lost productivity, and property damage (Kamerow et al., 1986). The lifetime prevalence rate of alcohol dependence among all individuals in the U.S. aged 18 years and older has been estimated at 13 percent (Regier et al., 1988). The one-month prevalence rate of alcohol dependence in women between the ages of 25 and 44 is about 1 percent, somewhat higher than in older women and considerably lower than among men (Regier et al., 1988), although the gap between men and women is probably smaller than reported because alcohol abuse by women tends to be hidden (Halliday and Bush, 1987, in Barnes et al., 1987; Cyr and Moulton, 1990). In addition, evidence has accumulated that women are more susceptible to cirrhotic, traumatic and cardiomyopathic complications of heavy alcohol use (Bigby and Cyr, 1995,.
in Carlson et al., 1995; Gearhart et al., 1991; Urbano-Marquez et al., 1995), perhaps as a result of lower levels of gastric alcohol dehydrogenase (Frezza et al., 1990); however, similar to men, light to moderate alcohol use by women may actually decrease overall mortality (Fuchs et al., 1995).

**Table 2.1**

<table>
<thead>
<tr>
<th>Age</th>
<th>One-Month Prevalence (percent)</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24</td>
<td>2.3</td>
<td>6.0</td>
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<tr>
<td>25-44</td>
<td>1.1</td>
<td>6.2</td>
<td></td>
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<tr>
<td>45-64</td>
<td>0.3</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>65+</td>
<td>0.3</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>All ages</td>
<td>0.9</td>
<td>5.0</td>
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</tbody>
</table>

Source: Regier et al., 1988

NOTE: The rates are standardized to the age, sex, and race distribution of the 1980 noninstitutionalized population.

**Efficacy and/or Effectiveness of Interventions**

**Screening**

Common definitions of alcohol dependence require several basic elements (American Psychiatric Association [APA], 1994):

1. regular or binge use,
2. tolerance of the psychoactive effects,
3. physical dependence, and/or
4. interference with social function.

The APA defines alcohol abuse as a social disorder distinct from dependence in that the patient continues to drink despite the knowledge of recurrent social, occupational, psychological, physical or legal problems. Routine measures of biochemical markers like gamma-glutamyl
transferase (GGT) are probably less sensitive and certainly less specific than clinical history in detecting dependence and abuse (Hoeksema and de Bock, 1993; USPSTF, 1989). Screening questionnaires have reasonable sensitivity and specificity in detecting dependence (see below), but can be unwieldy to apply en bloc to an unselected population. For that reason, many authors recommend instead that primary care providers at least ask patients about the first basic element, regular or binge use. Regular or binge use of alcohol is usually defined as more than 2 drinks/day, 11 drinks/week, or 5 drinks in any one day in the last month. (A drink is generally defined in ethanol equivalents with 1 ounce representing 1-2 drinks.) Though estimates of the sensitivity of patients’ responses to such questions are lower than the estimated sensitivity of questionnaires (perhaps 50 percent), it can serve as a screen for further evaluation (Fleming, 1993; Cyr and Wartman, 1988; NIH, 1993).

**Initial Evaluation**

If patients show evidence of regular or binge use, there are many questionnaires that can assist in determining if the patient meets the other criteria for alcohol dependence. The lengthy Michigan Alcoholism Screening Test (MAST) has a reported sensitivity between 84 and 100 percent and a reported specificity of between 87 and 95 percent. The much shorter and more popular CAGE has only 4 items and an estimated sensitivity and specificity of 49-89 percent and 79-95 percent, respectively. Other questionnaires include the Self-Administered Alcoholism Screening Test (SAAST) (Swenson and Morse, 1975), Alcohol Use Disorder Identification Test (AUDIT) (Babor and Grant, 1989), the Short MAST (SMAST) (Selzer et al., 1975), and Health Screening Survey (HSS) (Fleming and Barry, 1991). If the patient reports regular or binge drinking, we propose that the chart should indicate some assessment of the three other criteria for alcohol dependence or the administration of one of the above-mentioned questionnaires.

**Treatment**

Treatment of alcohol dependence is usually divided into three phases:
1) detoxification,
2) active treatment and rehabilitation, and
3) relapse prevention.

The Institute of Medicine (IOM) reviewed more than 60 controlled trials evaluating specific treatments for one of these three phases, including inpatient and outpatient rehabilitation, mutual help groups, supportive psychotherapy, disulfuram, benzodiazepines, and aversion therapy. While various treatment modalities have clinical trial support when compared with no treatment, the IOM concluded that there was insufficient evidence to recommend any one modality over another. The Secretary’s Eighth Special Report to Congress on Alcohol and Health (NIH, 1993) came to a similar conclusion, though the authors emphasized the need to tailor the treatment to the individual patient. In particular, they note one randomized controlled trial of 200 women assigned to a single gender vs. a mixed gender treatment group (Dahlgren and Willander, 1989). In this trial, the women assigned to the single gender group remained in treatment longer and had higher rates of program completion. However, the authors were reluctant to base recommendations on this single trial because treatment conditions varied in more aspects than gender segregation. We propose simply that the medical record should indicate referral for one of the above treatment modalities for alcohol dependent patients.

Regular or binge drinkers who do not meet criteria for dependence can still benefit from medical intervention. Two recent randomized trials have shown that primary care providers can reduce alcohol use among regular or binge drinkers. A British study of 47 medical practices and 909 patients who reported they drank more than 35 drinks per week found that a brief intervention decreased alcohol use, episodes of binge drinking, and GGT levels (Wallace et al., 1988). The intervention in this study consisted of physician advice, a self-help booklet, a weekly diary of alcohol use, and a written contract in the form of a prescription. A U.S. study of 72 women and 54 men who reported drinking between 21 and 70 drinks per week found that a brief intervention reduced alcohol use in men but not in women (Scott and
The intervention in this trial consisted of a 10-minute brief advice session with the patient’s primary care provider. Two other randomized trials have also found brief advice to be equally effective in reducing alcohol use as inpatient treatment (Edwards et al., 1977; Drummond et al., 1990). Given the low cost of such an intervention, many experts have recommended its widespread adoption (NIH, 1993; Fleming and Barry, 1991).

**Follow-up**

The core references agree that the third phase of treatment, relapse prevention, is the most difficult and least well evaluated. Most of the predictors of relapse (psychosocial stressors, mood state, concomitant psychiatric diagnoses) are difficult to modify. Two randomized trials comparing aftercare protocols have only shown that those patients who adhere to the assigned protocol relapse less often, regardless of the type of protocol used (Gilbert, 1988; McLatchie and Lomp, 1988; NIH, 1993). These trials compared different aftercare protocols head-to-head and found no difference in relapse rates by protocol, but did find that those who did not drop out relapsed less often. The outcome could be a result of self-selection of compliant or motivated patients. Observational trials of perhaps the best known aftercare program of all, Alcoholics Anonymous (AA), can be interpreted in the same way. Patients who subscribe to the 12-step AA philosophy or who maintain affiliation relapse less often (Gilbert, 1991; Cross, 1990), but the results could be due to patient self-selection. A trial of randomized court mandated attendance of AA meetings vs. no treatment showed no long-term difference in the likelihood of relapse (Brandsma et al., 1980). Given this weak evidence, we cannot recommend any particular aftercare program. Instead, we follow Fleming’s recommendation that providers review all regular or binge drinkers’ alcohol consumption at all subsequent visits (Fleming, 1993).
RECOMMENDED QUALITY INDICATORS FOR ALCOHOL DEPENDENCE

The following criteria apply to women age 18-50.

Diagnosis

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Quality of evidence</th>
<th>Literature</th>
<th>Benefits</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td><strong>Screening</strong></td>
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<tr>
<td>1. New patients should be screened for problem drinking. This should include an assessment of at least one of the following:</td>
<td>II-III</td>
<td>Fleming, 1993</td>
<td>Reduce alcohol-associated pathology.*</td>
<td>Diagnosis of alcohol dependence requires regular or binge use. Sensitivity of history probably about 50 percent. Increased detection of problem drinkers may lead to counseling and detoxification and ultimately cessation of alcohol intake.</td>
</tr>
<tr>
<td>a. Quantity (e.g., drinks per day)</td>
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<tr>
<td>b. Binge drinking (e.g., more than 5 drinks in a day in the last month)</td>
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<tr>
<td><strong>Initial Assessment</strong></td>
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<td>2. The record should indicate more detailed screening for dependence, tolerance of psychoactive effects, loss of control and consequences of use (examples include but are not confined to the following questionnaires: CAGE, MAST, HSS, AUDIT, SAAST, and SMAST), if the medical record indicates any of the following:</td>
<td>II</td>
<td>Fleming, 1993; Babor and Grant, 1989; Swenson and Morse, 1975; Selzer et al., 1975</td>
<td>Reduce alcohol-associated pathology.*</td>
<td>Diagnosis of alcohol dependence requires evidence of dependence, loss of control and consequences. Sensitivity and specificity of questionnaires are 49-100 percent and 75-95 percent, respectively. Increased detection of alcohol dependence may lead to detoxification, treatment, and cessation.</td>
</tr>
<tr>
<td>a. Patient drinks more than 2 drinks each day.</td>
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<tr>
<td>b. Patient drinks more than 11 drinks per week.</td>
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<tr>
<td>c. Patient drinks more than 5 drinks in a day in the last month.</td>
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</table>
### Treatment

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Quality of evidence</th>
<th>Literature</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>3. Patients diagnosed with alcohol dependence should be referred for further treatment to at least one of the following: a. Inpatient rehabilitation program b. Outpatient rehabilitation program c. Mutual help group (e.g., AA) d. Supportive psychotherapy e. Aversion therapy</td>
<td>I</td>
<td>NIH, 1993</td>
<td>Reduce alcohol-associated pathology.*</td>
<td>Multiple clinical trials show effectiveness of various treatment modalities, though no one treatment has consistently been demonstrated to be most effective.</td>
</tr>
</tbody>
</table>

### Follow-up

<table>
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<tr>
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<th>Literature</th>
<th>Benefits</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>4. Regular or binge drinkers (as defined above) should be advised to decrease their drinking.</td>
<td>I</td>
<td>Wallace et al., 1988; Scott and Anderson, 1990</td>
<td>Reduce alcohol-associated pathology.*</td>
<td>Two randomized trials have shown effectiveness of a brief intervention to reduce alcohol use in regular or binge drinkers, though one found no effect among women.</td>
</tr>
<tr>
<td>5. Providers should reassess the alcohol intake of patients who report regular or binge drinking at every visit.</td>
<td>III</td>
<td>Fleming, 1993</td>
<td>Reduce alcohol-associated pathology.*</td>
<td>Prevention of relapse is the most difficult phase of treatment. Experts recommend frequent reassessment to evaluate success of intervention.</td>
</tr>
</tbody>
</table>

* Alcohol associated pathology includes: cirrhosis, pancreatitis, gastrointestinal bleeding, cardiomyopathy, assault, suicide and motor vehicle accidents. Cirrhosis, cardiomyopathy and pancreatitis may cause chronic decreases in health-related quality of life due to vomiting, ascites, abdominal pain, bleeding, shortness of breath and may eventually result in mortality. Gastrointestinal bleeding has a short-term mortality risk as well as a chronic impact on health-related quality of life due to anemia and other complications. Motor vehicle accidents and assaults may result in chronic disability from injuries and death. The health-related quality of life of persons other than the patient may also be affected. Liver disease and alcohol-related trauma are more common in women.

**Quality of Evidence Codes:**

I: RCT  
II-1: Nonrandomized controlled trials  
II-2: Cohort or case analysis  
II-3: Multiple time series  
III: Opinions or descriptive studies
REFERENCES – ALCOHOL DEPENDENCE


Committee of the Institute of Medicine, Division of Mental Health and Behavioral Medicine. 1990. *Broadening the Base of Treatment for Alcohol Problems*. Washington, DC: National Academy Press.


