

Fetal Alcohol Spectrum Disorders

Competency-Based Curriculum Development Guide

for Medical and Allied Health Education and Practice



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center on Birth Defects and
Developmental Disabilities

FASD Regional Training Centers

National Organization on Fetal
Alcohol Syndrome (NOFAS)



Competency II: Screening and Brief Interventions

The health care student or provider will be able to provide services aimed at preventing alcohol-exposed pregnancies in women of childbearing age through screening and brief interventions for alcohol use.

Learning Goals

(Learning objectives for each goal can be found at the end of this section.)

- II-A Screen women of childbearing age for alcohol use at the appropriate time during patient care.
- II-B Use demographic and other risk factors appropriately in prevention and screening activities.
- II-C Use screening methods, screening tools, and assessment methods appropriately as part of prevention and screening activities.
- II-D Conduct brief interventions with women.
- II-E Appreciate the use of more extensive interviews to evaluate alcohol consumption during pregnancy.
- II-F Define risk drinking and differentiate types of drinkers by patterns of alcohol use.
- II-G Assess for referral to treatment.

Content Outline for Competency II

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| <ul style="list-style-type: none"> I. Populations needing screening <ul style="list-style-type: none"> A. All women of childbearing age B. All pregnant women C. High-risk female drinkers D. Teens and college-age women E. Nursing mothers II. Risk factors <ul style="list-style-type: none"> A. Demographics B. Other risk factors III. Screening methods <ul style="list-style-type: none"> A. Quantity/frequency, binge, AA score B. Screening tools C. Screening adolescents and college-age women D. Administration of screening tools E. Laboratory screening measures | <ul style="list-style-type: none"> IV. Brief interventions <ul style="list-style-type: none"> A. Background B. Brief motivational interviewing C. Manualized brief intervention D. Computerized brief intervention E. Improving clinicians' use of brief intervention F. Conclusions regarding the use of brief intervention V. More extensive interviews used to evaluate alcohol consumption during pregnancy <ul style="list-style-type: none"> A. Health interview for women B. NIAAA Health Screening Survey VI. Definition of risk drinking VII. Criteria for referral to treatment <ul style="list-style-type: none"> A. Women who are not pregnant B. Women who are pregnant |
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Also included in this section are:

- Suggested learning activities.
- References.
- Chart of all learning goals and objectives for this competency.

I. Populations Needing Screening

Mary J. O'Connor, PhD; R. Louise Floyd, DSN; and Gretchen Guiton, PhD

Alcohol use by women during pregnancy has been associated with negative reproductive, infant, and child health outcomes. Although the most widely recognized consequence of prenatal alcohol exposure is fetal alcohol syndrome (FAS), which occurs in an estimated 2 in 1,000 live births in the United States (May & Gossage, 2001), the literature clearly indicates that FAS is not the only consequence of exposure. Instead, it is suggested that the effects of exposure fall on a continuum now referred to as fetal alcohol spectrum disorders (FASDs) (Streissguth & O'Malley, 2001), which are estimated to occur in 9 or 10 per 1,000 live births (May & Gossage, 2001). Even low levels of alcohol consumption during pregnancy have been associated with negative developmental consequences (Sood et al., 2001). To prevent FASDs, it is important for health professionals to screen and counsel women on their alcohol use.

National Institute on Alcohol Abuse and Alcoholism (NIAAA) Dietary Guidelines for Alcohol Use in Women

According to the NIAAA and the dietary guidelines from the U.S. Department of Health and Human Services, sensible alcohol limits for women include:

- Not drinking more than one standard drink per day.
- Not drinking more than three drinks per drinking occasion.
- Not drinking alcohol at all if you are pregnant, breastfeeding, or planning to become pregnant soon.
- Not drinking alcohol if you are sexually active and not using contraception.
- Not drinking alcohol if you are driving, are taking certain medications, have a history of alcohol or drug dependence, or have certain medical conditions.

A. All Women of Childbearing Age

Alcohol use among women of childbearing age (18 to 44 years) has remained high over the last decade. Recent government surveys indicate that approximately 53% of women report some alcohol use, and approximately 12% report binge drinking, defined as five or more drinks per drinking occasion (Centers for Disease Control and Prevention [CDC], 2002; Substance Abuse and Mental Health Services Administration [SAMSHA], 2004). More recently, the definition of binge drinking for women has been changed to four or more drinks on any one occasion (NIAAA, 2005a). Results further indicate that more than half of women of childbearing age who do not use birth control (and therefore might become pregnant) report alcohol use. Of those women not using effective birth control measures, approximately 13% are sexually active and drink alcohol frequently or binge drink, thereby putting them at high risk for an alcohol-exposed pregnancy (Ebrahim, Anderson, & Floyd, 1999; Tsai & Floyd, 2004). These high levels of general consumption and risk drinking among non-pregnant women of childbearing age are of concern because research has shown that prenatal drinking status is predictive of alcohol use during pregnancy (SAMSHA, 2004). Indeed, many women continue to drink well into the first trimester before they know they are pregnant, which is a particularly vulnerable time for the

developing organ systems of the fetus. Therefore, identifying women who are at high risk for an alcohol-exposed pregnancy and intervening with them before conception is an essential strategy for preventing alcohol-exposed pregnancies.

B. All Pregnant Women

In spite of the robust findings that prenatal drinking is associated with significantly increased negative consequences on fetal growth and child development (Riley & McGee, 2005), data on pregnant women indicate that 10% report drinking alcohol and 2%–4% report binge drinking (Tsai & Floyd, 2004; Wright & Sathe, 2006). Given the updated NIAAA recommendation that a binge episode in women should be considered four or more drinks instead of five or more drinks per occasion (NIAAA, 2005b), current rates are likely much higher than those reported. Indeed, high-risk drinking, thought to increase the risk for infant mortality and morbidity, has not decreased in the last decade, despite significant universal prevention efforts in the form of public service announcements and warning labels on alcohol.

Moreover, in a sample of low-income minority pregnant women participating in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), the rate of post-conception drinking was 24%, which is much higher than the estimated rate reported previously (O'Connor & Whaley, 2003). Significantly, of the women who reported post-conception drinking, about 62% reported drinking before they knew they were pregnant. As pregnancy recognition in the sample did not occur until after about the 7th week of gestation, many women were drinking well into their first trimester placing their fetuses at significant risk. Therefore, health professionals should be skilled in screening for alcohol use with women from varied cultural backgrounds both during pregnancy and prior to conception.

C. High-Risk Female Drinkers

The probability that an alcohol-dependent woman will have a child with FAS has been estimated to be 25%–45% (Streissguth, 1997). However, along the spectrum of FASDs, it is not uncommon to see an increase in developmental disabilities with each successive pregnancy if the woman continues to drink. The rate of FAS in the offspring of women who have already given birth to a child with FAS has been estimated to be 771 per 1,000 (Abel, 1988), making these women extremely high risk. All women who have previously abused alcohol while pregnant or women who drink and have a child with an FASD should be screened for alcohol consumption.

D. Teens and College-Age Women

1. **Teens.** Alcohol use among adolescents is a serious and growing problem. Forty-six percent of girls in 9th through 12th grade report drinking alcohol, and 28% report binge drinking (described as five or more drinks) (CDC, 2001). Although teen awareness of alcohol's effects on the fetus is particularly important, studies of their beliefs and knowledge about the risks of drinking during pregnancy highlight that a substantial proportion of teens believe that occasional heavy drinking is not harmful, and suggest that teens perceive a safe level of drinking that is higher than the Surgeon General's abstinence recommendations (MacKinnon, Warsi, & Dwyer, 1995).

In one study examining Black or African American, Hispanic, and White, non-Hispanic pregnant adolescents, approximately 22% continued to drink during pregnancy (Rhodes, Gingiss, & Smith, 1994). This percentage is higher than that reported by prevalence studies in the general U.S. population, but it is consistent with reports of drinking during pregnancy in older minority women (O'Connor & Whaley, 2003). Although drinking during pregnancy differs among ethnic groups, in most studies of adolescents, social influences are more relevant than ethnicity in explaining drinking behavior. Thus, it is expected that pregnant teens whose peers use alcohol will be more resistant to reducing their alcohol consumption than will older pregnant women.

- 2. College-age women.** Many teens bring established drinking habits with them to college. Several national surveys indicate that more than 80% of college students drink and that about half of those drinkers engage in heavy episodic consumption. More than 40% of college students report recent binge drinking (Wechsler, Davenport, Dowdell, Moeykens, & Castillo, 1994; Wechsler, Dowdall, Maenner, Gledhill-Hoyt, & Lee, 1998; Wechsler, Lee, Kuo, & Lee, 2000). Furthermore, high-risk drinking among female college students is increasing. The Harvard School of Public Health College Alcohol Study examined nationwide college alcohol use trends in three separate surveys between 1993 and 1999 (Wechsler et al., 1994; 1998; 2000). In these surveys, researchers observed that, in contrast to recent past trends, there was a sharp rise in frequent binge drinking among females. These trends exist in disquieting contrast to the increased college and community prevention efforts conducted during the same period.

Furthermore, in a time when safe sex practices have been underscored on college campuses, some studies have found that alcohol use might be associated with decreased contraceptive use among youth (Cooper, Peirce, & Huselid, 1994), putting college-age women at risk for unintended pregnancies. One study reported that frequent binge drinkers were 7 to 20 times more likely than nondrinkers to engage in unplanned or unprotected sex (Wechsler et al., 1994), and an estimated 100,000 women per year had sex when they were so intoxicated that they were unable to consent (Hingson, 2002). Because high-risk drinking in college-age women might have the consequence of an unplanned pregnancy, health professionals who work with college women should be skilled in screening them for alcohol use.

E. Nursing Mothers

Studies suggest that infants consume less milk when their mothers consume an alcoholic beverage before nursing than when their mothers consume a nonalcoholic beverage (Mennella & Beauchamp, 1993). Acute exposure to alcohol in mothers' milk has been shown to alter infants' sleep-wake patterns resulting in a reduction in active sleep. A positive association between maternal drinking and delayed infant motor development has also been demonstrated (Lindmark, 1990). In addition to the effects of maternal alcohol consumption on infant nutrition and development, experience with the sensory qualities of alcohol in mother's milk might affect the child's responses to alcohol in the future (Mennella, 2001). For these reasons, it is important for health professionals to discuss alcohol consumption with nursing mothers.

II. Risk Factors

Mary J. O'Connor, PhD; R. Louise Floyd, DSN; and Gretchen Guiton, PhD

Considerable variation in developmental outcome occurs following intrauterine alcohol exposure, and the mechanisms for this variation relate, in part, to the magnitude and timing of alcohol exposure in addition to a number of demographic and other risk factors.

A. Demographics

When considering risk for alcohol use, the health professional must consider several demographic features of the women with whom they work. These include ethnicity, level of acculturation, socioeconomic status (SES), maternal age, age at first drink, number of children, and marital status.

- 1. Ethnicity and acculturation.** Drinking patterns appear to differ among women from different ethnic backgrounds and are influenced by genetic, environmental, historical, and cultural factors (Caetano, 1998; Caetano, Clark, & Tam, 1998). Similar findings have been reported in studies that have concentrated on changes in drinking patterns over time in different ethnic minority populations with special emphasis on women (Caetano, 1994; Helzer & Canino, 1992; Gilbert, 1991). For example, in an analysis of data from the 1988 National Maternal and Infant Health Survey, CDC's National Center for Health Statistics found that 25.4% of White, non-Hispanic women reported drinking during pregnancy compared with 12.2% of Black, non-Hispanic women and 10.6% of Hispanic women (CDC, 1995). However, in a study comparing changes in drinking patterns in a sample of non-pregnant women from 1984 to 1995, the mean rate of consumption for White, non-Hispanic women who were frequent heavy drinkers decreased, whereas the mean for Black and Hispanic women remained the same or increased slightly (Caetano, 1997; Caetano & Clark, 1998). Furthermore, Gilbert (1991) reported an increase in alcohol consumption by Hispanic women with each successive generation following immigration to the United States. Most recently, rates as high as 14.8% have been reported in Hispanic women, suggesting that drinking frequency has increased significantly in this population (Sidhu & Floyd, 2002). The highest rates of drinking during pregnancy in these women were found among those who were younger, more educated, employed, and unmarried. Similarly, higher rates have been reported for Hispanic, English-speaking women compared with Hispanic Spanish-speaking women (O'Connor & Whaley, 2003). Hispanic English-speakers have been shown to exhibit drinking patterns consistent with their White and Black non-Hispanic English-speaking peers. Thus, acculturation appears to interact with other socio-demographic factors in shaping the drinking practices of minority women.

Asians have typically been considered a "model minority," with high rates of abstention and low rates of heavy alcohol use. This image most likely results from the low numbers of Asian Americans who enter alcohol treatment and from the lack of research on alcohol consumption patterns in this population. Pronounced gender differences also exist: Asian-American women are much more likely than their male counterparts to abstain or consume less of alcohol (Chi, Lubben, & Kitano, 1989). Nevertheless, rates differ among various ethnic subgroups. Drinking rates vary from as high as 67% among Japanese-American

women to as low as 18% among Korean-American women (Chi et al., 1989). Stress and social adjustment have been considered factors contributing to drinking behavior among Asian immigrants. For example, in a study of Cambodian refugee women, 45% acknowledged using alcohol for self-medication for stress and pain (D'Avanzo, Frye, & Fromen, 1994). Acculturation has been found to explain, at least partially, the observed differences in drinking levels among young Asian Americans. Among college students, more highly acculturated students have been found to report higher levels of alcohol consumption than do less acculturated students (reviewed in Zane & Kim, 1994).

Although prevalence rates for alcohol consumption are highest among American Indians than among other large ethnic groups, alcohol use varies widely among tribes. For example, the Navajo tend to view social drinking as acceptable, whereas the Hopi consider drinking irresponsible (Mail & Johnson, 1993). For this reason, it is wise to know the culture of the tribe from which the woman comes in order to be more informed about her risk for alcohol consumption.

- 2. Lower socioeconomic status (SES).** A significant demographic risk factor associated with the drinking behavior of women during pregnancy appears to be socioeconomic status. Despite the fact that drinking prevalence rates are highest among White, non-Hispanic women, as compared with their Black, non-Hispanic and Hispanic counterparts, lower socioeconomic status has been postulated to increase the risk of FAS (Abel, 1995). Abel (1995) reported that, within the United States, the incidence of FAS at sites characterized by low socioeconomic status and Black or American Indian/Alaska Native background were about 10 times higher than at sites with predominant middle or high socioeconomic status and White background. In another study, investigators found that about 40% of 133 Black, non-Hispanic and Hispanic lower-SES infants were diagnosed with FAS, compared with only 3% with FAS among the 109 infants born to a group of White, non-Hispanic upper-middle-class alcoholics in New York (Bingol et al., 1987). Rates were much lower in a standardized multiple-source FAS surveillance study supported by the CDC; however, the incidence of FAS was still highest for Black and American Indian/Alaska Native populations compared with White, non-Hispanic, Hispanic, and Asian/Pacific Islander populations (CDC, 2002). Data from these studies suggest that health professionals must be aware of specific issues that might need to be addressed to successfully work with low-income women in both screening and intervention.
- 3. Maternal age.** Maternal age has been shown to be an important moderator of vulnerability to FAS and other alcohol-related deficits, including physical growth, mental development, and information processing speed, with the children of mothers older than 30 years of age showing the most dramatic negative effects (Jacobson & Jacobson, 1996; Jacobson, Jacobson, & Sokol, 1996; Kvigne et al., 2003; O'Connor, Brill, & Sigman, 1986). Nevertheless, epidemiological studies show that younger women have higher rates of heavy drinking and alcohol-related problems than do older women (CDC, 2004; Wilsnack et al., 1994). Women ages 21 to 30 have the highest rates of intoxication, problem drinking, heavy episodic drinking, and alcohol dependency symptoms (Hilton, 1991; Wilsnack & Wilsnack, 1993), and have a low number of abstainers compared with older age groups (Graham, Wilsnack, Dawson, & Wogeltanz, 1998).

4. **Age of first drink.** Data from a national survey of 43,000 adults in the United States suggest that those who began drinking before age 14 are at greater risk of developing alcohol dependence (Hingson, Heeren, & Winter, 2006). Additionally, women who started drinking earlier in life are least likely to stop drinking during pregnancy and are more resistant to intervention (Smith & Coles, 1991; Smith, Lancaster, Moss-Wells, Coles, & Falek, 1987). Smith et al. (1987) reported that among the best predictors of continued drinking during pregnancy was length of drinking history.
5. **Number of children and previous child with FAS.** Studies suggest that the risk for FAS increases with each successive pregnancy. Whereas the risk for FAS is approximately 2 in 1,000 live births in the United States (May & Gossage, 2001), the rate increases to 771 in 1,000 live births for the younger sibling of a child with FAS (Abel, 1988).
6. **Marital status.** Regardless of age, ethnicity, or economic status, women who are separated, divorced, or never married are at greater risk for having a child with FAS or alcohol-related birth defects (NIAAA, 1997).

B. Other Risk Factors

1. **Genetic predisposition.** Both animal and human studies have shown support for pharmacogenetic differences dictated by genetic variations in ethanol metabolism as determinants of susceptibility to alcohol-related effects (Goodlett, Marcussen, & West., 1990; McCarver, 2001). The mechanism underlying this varying susceptibility might involve genetic differences in ethanol metabolism catalyzed by alcohol dehydrogenase (ADH). ADH isozymes arising from functional variants in the ADH2 gene catalyze the oxidation of ethanol at different rates (for review, Dick & Foroud, 2003). Several studies have shown that individuals who carry the ADH2*2 or the ADH2*3 alleles are less likely to become alcohol dependent than those who do not (Chen et al., 1999; Dick & Foroud, 2003; Wall, Carr, & Ehlers, 2003). Furthermore, in individuals of mixed ancestry in the Western Cape Province of South Africa, the ADH2*2 allele was found to be protective against alcohol-related birth defects in alcohol-exposed offspring and, in studies of Blacks or African Americans, the ADH2*3 allele was associated with fewer alcohol-related birth defects and developmental deficits (Jacobson et al., 2000; McCarver, Thomason, Martier, Sokol, & Li, 1997). The mechanism of protection might be related to the fact that women with the ADH2*2 and ADH2*3 alleles metabolize alcohol more quickly and efficiently, thereby exposing the fetus to lower blood alcohol concentrations. Although the observation of the protective effect of certain genotypes has been found to be statistically significant, and the direction of the effect is consistent for maternal and offspring genotypes, as well as for offspring growth and development, the magnitude of effects on infant outcome has been found to be relatively small. Thus, the interaction of other environmental and/or genetic factors must be considered as contributors to the varying susceptibility of offspring exposed to ethanol prenatally.
2. **Depression.** An extended analysis of 15 national surveys found that depression contributes to increased drinking levels among women (NIAAA, 1997). In reviews of the literature on women and alcohol use, depression is consistently documented as part of a complex etiology of drinking problems (Gomberg, 1993, 1994). Studies have shown that women who are experiencing symptoms of depression consume more drinks per occasion (Haack, Harford,

& Parker, 1988) and are less able to reduce their alcohol consumption, thus impeding the effectiveness of intervention attempts (Haller, Knisely, Dawson, & Schnoll, 1993; Raskin, 1993). Links between alcohol use and depression have been documented among minority populations, with some studies documenting the strongest associations among African-American women (Grant & Harford, 1995). Studies of Latinas show similar patterns and document an increase in depressive symptoms among low-income Latinas (Caetano, 1987; Golding, Burnam, Benjamin, & Wells, 1993). Furthermore, in a sample of low-income pregnant Latinas, more than 50% of the sample scored in the depressed range on a standardized measure of depression (O'Connor & Whaley, 2006). Depression was also found to play a significant role in continued drinking during pregnancy despite a health care provider's advice to stop. In another study of pregnant women, those who were depressed or who did not have a positive attitude toward the pregnancy were more likely to use alcohol both before and after knowing they were pregnant (Hanna, Faden, & DuFour, 1994). Prevalence rates of depression among pregnant adolescents have been reported to be at least twice as high as among pregnant adults, and these rates have been associated with poor compliance with prenatal care and increased drug and alcohol use (Miller, 1998).

Women who drink alcohol have been shown to have the highest levels of depressive symptoms (Hanna et al., 1994; Meschke, Holl, & Messelt, 2003). Significantly, co-morbid alcohol use and depression have been shown to have negative consequences on infant outcomes. For example, a retrospective report of more than 500,000 women in California found that those diagnosed with co-morbid substance use disorders and psychiatric disorders were more likely to deliver low birth weight and preterm infants than were those with either of these conditions alone (Kelly et al., 2002).

Based on the relationship between depression and alcohol use, it is important to train health practitioners to assess alcohol use in depressed pregnant and non-pregnant women of childbearing age and to be able to recognize depression as a possible risk factor in increased alcohol consumption among women.

- 3. Heavy alcohol use in partner and/or family member.** When considering factors that contribute to drinking behavior, of significant importance is the woman's social environment. Women in households in which other family members, especially their spouse, have alcohol problems are more likely to continue to drink during pregnancy (Smith & Coles, 1991; Smith et al., 1987; Wilsnack & Wilsnack, 1993). Both clinical studies and general population surveys have found a positive association between a woman's levels of alcohol consumption and that of her partner (Jacob & Bremer, 1986; Kolonel & Lee, 1981; Wilsnack, Wilsnack, & Hiller-Sturmhofel, 1994). Biological fathers of alcohol-exposed children commonly abuse alcohol, and assortative mating patterns are such that high levels of alcohol abuse are often found in both parents (Abel, 1992; Hall, Hesselbrock, & Stabenau, 1983; Russell, 1990). One study found that women with alcoholic partners were twice as likely to abuse alcohol as women in relationships with nonalcoholic partners (Windle, Windle, Scheidt, & Miller, 1995).

Family members can influence drinking behavior actively, by explicitly encouraging or discouraging alcohol use, or passively, by providing models of drinking behavior (Graham, Marks, & Hansen, 1991). This is particularly true for adolescent women (Rhodes et al.,

1994). Social influences from friends and family members, particularly mothers, are highly predictive of teen alcohol use (Williams, Epstein, Botvin, Schinke, & Diaz, 1998).

Peers' substance abuse is one of the strongest predictors of alcohol use during pregnancy (Lohr, Gillmore, Gilchrist, & Butler, 1992), as is family alcohol use (Rhodes et al., 1994). The potential impact of social support on prenatal alcohol use was found to be particularly important in a study in which subjects identified social events, specific celebratory occasions, family history of alcohol problems, and partner's use of alcohol as risk factors for prenatal alcohol consumption (Chang, Goetz, Wilkins-Haug, & Berman, 2000). Thus, it is likely that women of all ages whose social environments encourage alcohol use will be less amenable to reducing their drinking during pregnancy. For these reasons, it is important for health practitioners to consider alcohol abuse in a partner or family member as a risk factor when screening women.

4. **Binge drinking pattern.** Heavy episodic drinking has been identified as an important risk factor because of the demonstrated association between binge drinking and unintended pregnancy (Foster, Vaughan, Foster, & Califano, 2003; Naimi, Lipscomb, Brewer, & Gilbert, 2003) and between higher peak blood alcohol levels and increased magnitude of the teratogenic effects of alcohol on the fetus (Avaria, Mills, & Kleinsteuber, 2004). Several factors might explain why binge drinking is harmful to fetal brain development (Maier & West, 2001). First, the peak blood alcohol concentrations (BACs) achieved with this drinking pattern are higher than the peak BACs achieved with lower quantity, continuous drinking patterns. Another consequence of higher peak BACs is prolonged alcohol exposure for the pregnant woman, which produces longer periods of alcohol exposure for the developing fetal brain than does consumption and metabolism of a single drink. High and prolonged BACs are critical factors in producing fetal brain injury by potentiating apoptosis during synaptogenesis. The timing of binge drinking episodes relative to key stages of fetal development might influence the extent of adverse effects. Some sensitive developmental periods are of short duration; a single binge episode that occurs during one or more of these periods could produce profound adverse effects. Alcohol consumption in a binge pattern also exposes the developing fetal brain to periods of withdrawal from alcohol, which might be a risk factor for developmental brain injury.
5. **Use of other substances, cigarette smoking; abuse and multiple sex partners; sexually active women.** Results of a recent study of 2,672 English-speaking women aged 18 to 44 from six different outpatient treatment settings and an urban jail revealed that recent drug use, history of smoking more than 100 cigarettes, and history of inpatient treatment for drugs, alcohol, or mental health treatment correlated significantly with risk for an alcohol-exposed pregnancy (Project CHOICES Research Group, 2002). Having multiple sex partners and recent physical abuse were also related to risk.
6. **Alcohol expectancy in adolescence.** Alcohol expectancies—positive or negative beliefs about the consequences of using alcohol—constitute a powerful construct for examining cognitions about alcohol because they might play a causal role in the initiation and maintenance of alcohol use. Some studies have accounted for 50% or more of the drinking variance attributed to alcohol expectancies when sophisticated instruments and analytic techniques were employed (e.g., Goldman, Greenbaum, & Darkes, 1997)

With regard to young women, Brown (1985) demonstrated that alcohol expectancies yielded better predictive capacity for college drinking than did demographic variables. Furthermore, college students' expectancies were differentially related to problematic and non-problematic patterns of college drinking. Social drinkers were shown to expect social enhancement from alcohol, whereas problem drinkers were more likely to expect tension reduction from alcohol. Other studies using college samples have demonstrated that heavier drinkers report more positive effects over all dimensions than do lighter drinkers (Bogart, Yeatman, Sirridge, & Geer, 1995; Leigh & Stacy, 1991).

7. **High-risk drinking.** In a recent study conducted at UCLA on low-income minority women, after numerous demographic measures were considered, the best predictor of alcohol use was the woman's score on a screening measure of high-risk drinking (O'Connor & Whaley, 2003, 2006).

Although these risk factors that have been identified as important to consider when thinking about possible alcohol use in women, they should not be used to establish a profile of a typical drinker or to eliminate possible women from universal screening. Nevertheless, health care professionals should be aware of these risk factors when working with women of childbearing age.

III. Screening Methods

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Primary care physicians need to ask all women they see about alcohol use. One of the main challenges to identifying a group of at-risk alcohol users, particularly in a nonmedical sample, is to effectively screen for alcohol use and related problems using reliable methods (Midanik, Zahnd, & Klein, 1998). Despite substantial literature on the validity and reliability of self-report of alcohol use and abuse (reviewed in Babor, Brown, & Del Boca, 1990; Maisto, McKay, & Connors, 1990; Sobell & Sobell, 1990), the issue of underreporting of drinking levels must always be considered. Factors shown to increase accurate and truthful reporting include (a) being certain the individual is alcohol-free when interviewed, (b) ensuring confidentiality, (c) conducting the interview in a clinic setting, and (d) wording questions and questionnaires clearly (Brown, Kranzler, & Del Boca, 1992; Sobell & Sobell, 1990). Furthermore, using more than one alcohol consumption measure can enhance the validity of self-report (Day & Robles, 1989). When screening women in a busy clinic setting, it is important that the screening instrument be easy to administer and relatively brief.

Each screening instrument has particular strengths and weaknesses and varies in its applicability to clinical settings. When selecting a screening tool for routine implementation, health care professionals should consider factors such as the goals of the screening process, features of the target population (age, pregnancy, ethnicity, literacy rates, etc.), and the ease of administration.

A. Quantity/Frequency, Binge, AA Score

The physicians' guide developed by NIAAA (1999) recommends quantity/frequency and binge-drinking questions as the primary screening test. Although denial can be triggered by direct questioning about alcohol consumption patterns, particularly in heavy consumers, when asked in a standardized nonjudgmental manner, with the questions embedded in the context of a general medical history screen, relatively high sensitivity and specificity can be achieved with minimal cost and effort (NIAAA, 2003).

Quantity-frequency measures (QF) inquire about average or typical consumption patterns (Sobell & Sobell, 1995). The simplest measures assess amount of drinking on average drinking days (Q), and the average number of days on which alcohol is consumed (F). To assess for binge drinking, some investigators have recommended that screening questions should include measures of maximum quantity consumption and include frequency of maximum quantity (QVF) (Day & Robles, 1989). QF measures can be used to estimate a woman's average amount of alcohol consumed per day (AA score). Using QF measures, non-pregnant women who consume more than seven drinks per week or who have binge episodes of more than three drinks are considered high risk (NIAAA, 2005a). Pregnant women are advised that there is no safe amount of alcohol during pregnancy.

An additional feature that should be included in any QF assessment is the measurement of the types of alcoholic beverages most often consumed. It has been traditional in alcohol research to assume that all drinks are equivalent in terms of the amount of absolute alcohol. That is, a standard drink is defined as 0.60 ounces of pure alcohol, which is equivalent to one 12-ounce beer or wine cooler, one 5-ounce glass of wine, or 1.50 ounces of 80-proof distilled spirits (Table 2.1).

Table 2.1. How to Compute a Standard Drink

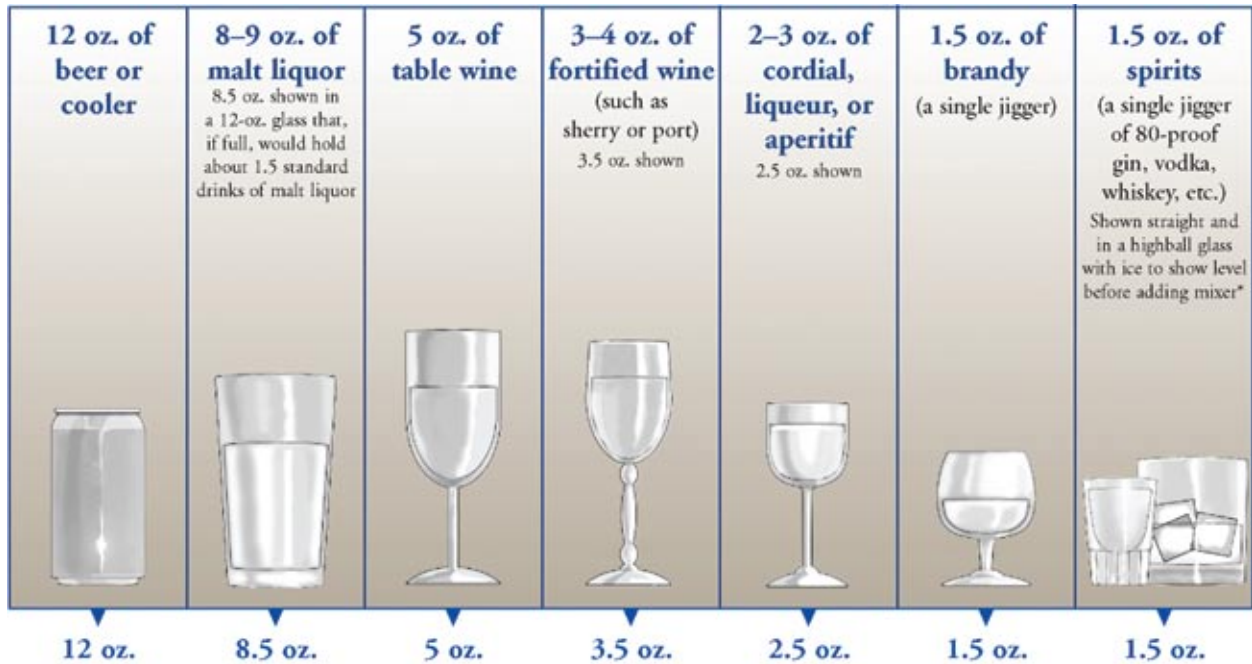
A standard drink (SD) is considered to be 0.60 ounces of absolute alcohol (aa).

- One 12-ounce can of beer containing 5% aa ($12 \times 0.05 = 0.60 = 1 \text{ SD}$)
- One 5-ounce glass of wine containing 12% aa ($5 \times 0.12 = 0.60 = 1 \text{ SD}$)
- One 4-ounce glass of fortified wine containing 15% aa ($4 \times 0.15 = 0.60 = 1 \text{ SD}$)
- 1.5 ounces hard liquor or spirits containing 40% aa ($1.50 \times 0.40 = 0.60 = 1 \text{ SD}$)
- One 12-ounce bottle of wine cooler containing 5% aa ($12 \times 0.05 = 0.60 = 1 \text{ SD}$)
- One 16-ounce can of malt liquor containing 8% aa ($16 \times 0.08 = 1.20/0.60 = 2 \text{ SD}$)
- One 40-ounce bottle of malt liquor containing 8% aa ($40 \times 0.08 = 3.20/0.60 = 5.33 \text{ SD}$)
- One Colt 45-ounce bottle of beer containing 6% aa ($45 \times 0.06 = 2.70/0.60 = 4.50 \text{ SD}$)
- One Margarita bar drink ($1.5 \times 0.40 = 0.60 = 1 \text{ SD}$)
- One Long Island Ice Tea bar drink ($2.25 \times 0.40 = 0.90/0.60 = 1.5 \text{ SD}$)

Source: O'Connor & Whaley, 2007, UCLA Project Care, NIAAA grant #AA12480

However, the development of new ways of marketing wine and beer, including high-alcohol-content malt liquors and beer in 22- to 45-ounce containers, has increased the need to provide women who drink with more specific standards by which to compare their drinking. Furthermore, studies show that when asking heavier drinkers and those consuming high-alcohol-content beverages about their consumption, reliance on standard drinks results in considerable underestimation. For this reason, before screening, women should first be taught what constitutes a typical drink and be provided with vessel size estimates in the form of physical props (Figure 2.1; Hankin & Sokol, 1995; Kaskutas & Graves, 2001). Moreover, beverage-specific questions have been shown to be more accurate than grouped beverage questions; ask about beer, wine, wine coolers, cocktails, or liqueur separately (Serdula, Mokad, Byers, & Siegel, 1999). The American College of Obstetricians and Gynecologists (ACOG, 2006) has provided a physician's guide illustrating standard-sized drinks for a number of beverages in a recent publication entitled, *Drinking and Reproductive Health: A Fetal Alcohol Spectrum Disorders Prevention Tool Kit*. This tool kit can be ordered online from ACOG: <http://www.acog.org/>.

Figure 2.1. Alcohol Equivalents



Source: National Institute on Alcohol Abuse and Alcoholism. (2005a). *Helping patients who drink too much: A clinician's guide, Updated 2005 Edition*. NIH Pub. No. 07-3769. Bethesda, MD: U.S. Department of Health and Human Services.

*It can be difficult to estimate the number of standard drinks in a single mixed drink made with hard liquor. Depending on factors such as the type of spirits and the recipe, a mixed drink can contain from one to three or more standard drinks.

B. Screening Tools

1. **T-ACE and TWEAK.** Several short questionnaires currently exist that have been used to screen for problematic alcohol use and have been evaluated in multiple settings. These include the MAST, the S-MAST, the T-ACE, the TWEAK, the NET, the AUDIT, the AUDIT-C, the RAPS4, the RAPS4-QF, and the CAGE (Chan, Pristach, Welte, & Russell, 1993; Cherpitel, 2002; Dawson, Grant, Stinson, & Zhou, 2005; Ewing, 1984; Midanik et al., 1998; Rosett, Weiner, & Edelin, 1981; Russell, 1994; Russell et al., 1996). In general, a positive screen does not indicate an alcoholism diagnosis, but rather a need to discuss pregnancy risk drinking.

Of these screening tools, the two used most commonly with pregnant women are the T-ACE and the TWEAK. The T-ACE has four questions that take less than a minute to ask. The questions are:

- T TOLERANCE. How many drinks does it take to make you feel high?
- A Have people ANNOYED you by criticizing your drinking?
- C Have you ever felt you ought to CUT DOWN on your drinking?
- E EYE OPENER. Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover?

One point is given for each affirmative answer to the A, C, E questions, and 2 points are given when a pregnant woman reports a tolerance of three or more drinks to feel high. A positive screen is a score of 2 or more points.

Like the T-ACE, the TWEAK attempts to elicit the following:

- T TOLERANCE for alcohol.
- W WORRY or concern by family or friends about drinking behavior.
- E EYE OPENER, the need to have a drink in the morning.
- A “Blackouts” or AMNESIA while drinking.
- K The self-perception of the need to CUT DOWN on alcohol use.

Scores range from 0 to 7. The tolerance and worry questions each contribute 2 points and the other three questions contribute 1 point each. Any endorsement of the worry question is scored a 2. On the tolerance question, if three or more drinks are needed to feel the effects of alcohol, the question is scored as a 2. (Other versions of the tolerance question ask: How many drinks does it take before the alcohol makes you fall asleep or pass out? Or, if you never drink till you pass out, what is the largest number of drinks you have or can hold? These questions are scored as a 2 if the woman answers five or more drinks. Using these questions, however, results in lower sensitivity and specificity). A total score of 3 or more on the TWEAK is suggestive of harmful drinking (Chan et al., 1993). The sensitivity of the TWEAK for predicting current alcohol consumption in pregnant women can be increased using a cut point of 2 or more (Russell et al., 1994). For screening purposes, increased sensitivity is desirable.

Bradley, Boyd-Wickizer, Powell, and Geer (1998) analyzed 13 published, peer-reviewed articles and concluded that the five-item TWEAK appears to be the optimal screening questionnaire for identifying alcohol use in women. The TWEAK proved most sensitive across ethnic

groups and has been suggested for additional use with pregnant women not only because of its promising performance to date, but also because it was designed for use in obstetric/gynecologic clinics and other primary health care settings.

2. **AUDIT-C.** A large epidemiological study examined the use of the AUDIT-C on a sample derived from the 2001–2002 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) conducted by the NIAAA (Dawson et al., 2005). The NESARC AUDIT-C included modifications to the first three questions of the original AUDIT (Saunders et al., 1993) and was based solely on items reflecting alcohol consumption. The tool was developed to match the brevity and ease of administration provided by other brief screening instruments. The three questions on the screen are:
 - During the last 12 months, about how often did you drink ANY alcoholic beverage?
 - Counting all types of alcohol combined, how many drinks did you USUALLY have on days when you drank during the last 12 months?
 - During the last 12 months, about how often did you drink FIVE OR MORE drinks in a single day?

Scores range from 0 to 4 on each question. The AUDIT-C demonstrates good sensitivity and specificity at a cut point of 3 or greater for identifying risk drinking in non-pregnant and pregnant women, and it performs well across different racial and ethnic groups.

3. **Timeline Follow Back.** Not surprisingly, more intensive interview methods have been shown to be effective means of determining alcohol use. The Timeline Follow Back (TLFB) method, for example, provides a detailed picture of a person's drinking over a designated time period (Sobell & Sobell, 1995). It has been evaluated extensively with clinical and nonclinical drinker populations (Sobell & Sobell, 1992) and yields data on the pattern, variability, and level of drinking. Hankin and Sokol (1995), for example, successfully used TLFB interview techniques to determine the amount of alcohol consumed by pregnant women around the time of conception and the amount consumed in the 2 weeks prior to their prenatal visit. Although this method might be highly effective for a more in-depth evaluation of a woman's drinking pattern, it might not be appropriate for screening purposes in busy clinics or among large samples of women. Nevertheless, an abbreviated TLFB method inquiring about very recent alcohol use and use during the previous weekend might increase feasibility of use.
4. **Trauma Questionnaire.** A number of studies have shown a strong association between alcohol intoxication and trauma (Howland & Hingson, 1987). The Trauma Questionnaire was developed to screen patients in an unobtrusive way without asking them directly about their alcohol use (Israel et al., 1996). The questionnaire consists of four questions asking about injuries in the last 5 years (fractures or dislocations of bones or joints, traffic accidents, head injury, or injury during a fight or assault). The questionnaire has been shown to have high sensitivity and specificity for identifying high-risk alcohol use and to be acceptable to respondents and physicians.
5. **UCLA Alcohol Screener.** The previously mentioned techniques have also been used successfully to screen pregnant drinkers in a California sample of low-income, minority women participating in WIC (Whaley & O'Connor, 2003). On the self-report screener,

women were asked how much they drank on an average day (Q) and the average number of days on which alcohol was consumed (F). These questions were asked for the period after conception but before pregnancy recognition, and for current drinking (after pregnancy recognition). Women were also asked how many times they had consumed three or more drinks in a single episode and whether or not they had any alcohol during the previous weekend, week, or month. The TWEAK was included in the screener to assess high-risk drinking. Women were considered to screen positive for alcohol consumption during pregnancy if they reported any alcohol consumption since conception on any of the measures. Using this screening method, 15% of women who drank after they knew they were pregnant were identified compared with 5% using the WIC standard of care of simply asking if women if they drank any alcohol in the last month (Whaley & O'Connor, 2003). All women who screened positive for any alcohol use were then given a brief intervention. This tool has not yet been validated against other screening measures for identifying high-risk women, but it might be promising for screening in a busy outpatient clinic while women are waiting to see their health care provider.

C. Screening Adolescents and College-Age Women

The use of screening tools developed for adults is not recommended for screening adolescents and college-age youths. Rather, measures such as the Rutgers Alcohol Problem Index (White & Labouvie, 1989) and the College Alcohol Problem Scale (O'Hare, 1997) should be considered. One brief screening device, the CRAFFT, was developed for adolescents. It is simple to score, asks about alcohol and drug use, and has good psychometric properties in a sample of predominately female youths between the ages of 14 and 18 (Knight, Shrier, & Bravender, 1999).

CRAFFT asks the following six questions:

- C Have you ever ridden in a CAR driven by someone (including yourself) who was high or had been using alcohol or drugs?
- R Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?
- A Do you ever use alcohol or drugs while you are by yourself, ALONE?
- F Do you ever FORGET things you did while using alcohol or drugs?
- F Do your family or FRIENDS ever tell you that you should cut down on your drinking or drug use?
- T Have you ever gotten into TROUBLE while you were using alcohol or drugs?

Each question on the CRAFFT is given a score of 1, and a cut point of 2 provides moderate sensitivity (0.70) and excellent specificity (0.94) for identifying alcohol use disorders in adolescents. The authors recommend that any positive answer on the CRAFFT be followed by further assessment of quantity, frequency, and pattern of use to increase sensitivity and to guide decisions about the need for intervention.

D. Administration of Screening Tools

1. **Self-report versus face-to-face interview.** The method of delivery of questions about alcohol use has been shown to influence truthful reporting. Clinical interviews might not be as effective in eliciting truthful responses from women because practitioners are not always

comfortable asking these questions in a face-to-face interview. Moreover, women might underestimate alcohol use because of reluctance to discuss this potentially sensitive subject. For this reason, self-administered questionnaires might improve the validity of self-report.

2. **Computer-assisted interviews.** The Audio Computer-Assisted Self-Interviewing (ACASI) technology has been used successfully in prenatal clinics serving disadvantaged, low-literate, minority women (Thornberry et al., 2002). Questions drawn from the TWEAK and quantity/frequency questions pertaining to 3 months before and during pregnancy are asked by a recorded voice through earphones. Patients can answer questions by pressing a few keys on the computer. Advantages include ease of use for respondents with poor literacy or computer skills, as well as increased privacy (Lessler, Caspar, Penne, & Barker, 2000). Acceptability studies revealed that patients liked this method of screening.

E. Laboratory Screening Measures

Laboratory screening measures offer promise for obtaining objective evidence of problem drinking (Allen, Litten, Fertig, & Sillanaukee, 2000; Bearer, 2001). The most common biomarkers are GGT (gamma glutamyltransferase) and CDT (carbohydrate-deficient transferrin). Fatty acid ethyl esters synthase (FAEE) can be found in the hair of women who use alcohol. This biomarker might hold promise for screening for alcohol use in pregnant women, although the dynamics of enzyme expression appear to be complex, and changes occur only at high alcohol doses. Low sensitivity in non-alcoholic women and the high cost of laboratory analysis make these measures less feasible for use in more universal screening.

IV. Brief Interventions

Mary J. O'Connor, PhD; R. Louise Floyd, DSN; and Gretchen Guiton, PhD

A. Background

Brief intervention (BI) has been shown to be an effective, low-cost treatment alternative for alcohol problems that uses time-limited, self-help, and preventative strategies to promote reductions in alcohol use in nondependent individuals, and in the case of dependent persons, to facilitate their referral to specialized treatment programs (Bien, Miller, & Tonigan, 1993; Fleming, 2003). Overall, BI for alcohol problems has been shown to be more effective than no intervention and often is as effective as more extensive intervention. Effective prevention programs frequently employ a multicomponent approach combining cognitive-behavioral skills with norms clarification, education, and motivational enhancement. BI is usually restricted to fewer than four sessions and is typically performed in a treatment setting that is not specific for alcoholism. It is often performed by personnel who are not specialized in the treatment of alcohol use and abuse and is provided to individuals at varying risk for negative consequences caused by drinking, rather than to those who are considered alcohol dependent (NIAAA, 1997). In 2004, the U.S. Preventive Services Task Force reported evidence-based recommendations citing screening and brief intervention as the standard of care for intervening in alcohol use problems in adults and extended the recommendation to pregnant women as well.

1. **Components of Brief Intervention.** Six elements characterize the key ingredients of standardized brief intervention, summarized by the acronym FRAMES (Miller & Sanchez, 1993). These include:
 - Feedback of personal risk.
 - Responsibility for personal control.
 - Advice to change.
 - Menu of ways to reduce or stop drinking.
 - Empathetic counseling style.
 - Self-efficacy or optimism about cutting down or stopping drinking.

The intervention also involves establishing a drinking goal in the form of a signed contract and follow-up of progress with ongoing support. See Table 2.2 for an example of a brief intervention for a pregnant woman.

Table 2.2. Example of Brief Intervention for a Pregnant Woman

FEEDBACK AND RESPONSIBILITY

“You have already done many good things to help your baby be healthy. You mentioned that you are having ____ drinks on occasion. Did you know that there is no safe amount of drinking when you are pregnant because alcohol exposure can hurt a developing baby? No one can make you decide to change your drinking. What you do about your drinking is up to you. But you can have a healthier baby if you stop drinking now. A baby who has been exposed to alcohol during pregnancy might have some problems.”

MAJOR PROBLEMS: small size, mental retardation, facial deformities, heart problems

OTHER PROBLEMS: eating and sleeping problems, hyperactivity and inattention, language delays, memory and learning, hearing and vision, social problems, motor delays

ADVICE TO CHANGE

“The best advice for a pregnant woman is to not drink any alcohol.”

Ask for a response to your advice to make sure the patient understands the need to take action: “What do you think about what I have just said? Would you like to work with me to quit or reduce your drinking?”

MENU OF WAYS TO REDUCE RISKY SITUATIONS FOR DRINKING

“People drink for different reasons. Here are some examples of risky situations for some people: at a party, on weekends, after arguments, when feeling uptight or stressed, when feeling angry, when smoking, when friends are drinking, when feeling sad, when wanting to fit in. Are there situations in which you feel like you want to drink?”

“It is important to figure out how you can resist drinking in risky situations. Here are some examples of ways in which people cope with a desire to drink: go for a walk, call a friend, grab a snack, listen to music. Can you tell me some ways you think you can avoid drinking in these risky situations?”

ESTABLISHING A DRINKING GOAL

“Now, thinking about how much alcohol you have told me that you drink, would you like to set a drinking goal? Would you like to stop or lower your alcohol use? A reasonable goal for someone who is pregnant is abstinence—not drinking any alcohol. I know some people find that total abstinence is difficult. What would you like to do? What goal would you like to set for yourself? Stop drinking altogether or cut down?”

SET A GOAL

Encourage abstinence. Agree on number of drinks per week.

SELF-EFFICACY

“On a scale of 1 to 5, how sure are you that you can stop (lower) your drinking? 1 means you think you CANNOT stop (cut down) your drinking, and 5 means you are sure you CAN stop (cut down) your drinking.”

“If you feel that you cannot stop drinking right now, here are ways to cut down.

- Add water to hard liquor (whiskey, rum, gin).
- Drink no more than one drink per hour.
- Eat food when you drink.
- Sip your drinks.
- Do not drink from the bottle.
- Drink water or juice instead of alcohol.
- Do not drink three or more drinks per drinking occasion.”

ENCOURAGEMENT AND FOLLOW-UP

“Changing your behavior can be hard. It will get easier.

- Remember your drinking goal.
- Some people have days when they drink too much. If this happens to you, DO NOT GIVE UP.
- At the end of each week, think about how many days you did not drink and congratulate yourself.
- Your follow-up visit is important. Please remember to come see me.”

Source: O'Connor & Whaley, 2007, UCLA Project Care, NIAAA grant #AA12480

2. **Characteristics of interviewer and interview techniques.** Studies reveal that supportive, nonjudgmental techniques in which trained personnel counsel women lead to decreased alcohol consumption during pregnancy. The most effective intervention approaches avoid the use of moral or volitional injunctions and instead focus on reduction of alcohol use without criticism or provocation of guilt (NIAAA, 1997). Effective interviewers have been found to have a thorough knowledge of the intervention technique, an optimistic attitude about change, a compassionate style, sincerity and respect for clients, an ability to avoid arguments that evoke patient defensiveness, and comfort discussing alcohol problems (Miller & Rollnick, 1991; Najavits & Weiss, 1994).

B. Brief Motivational Interviewing

Motivational interviewing (MI), one form of BI, is an empathic, patient-centered counseling approach for increasing readiness for change by resolving ambivalence about behavior change (Miller & Rollnick, 1991). The process involves exploring the client's ambivalence in an atmosphere of acceptance, warmth, and positive regard. Although the session is directive, direct persuasion and coercion are avoided. The goal is to enhance the discrepancy between the reasons for changing versus the reasons for staying the same. More than 24 studies of motivational interviewing have yielded beneficial effects in decreasing problem drinking and other health-related problem behaviors (Miller, 2000).

CDC-funded Project CHOICES (Changing High-risk alcohol use and Increasing Contraception Effectiveness Study) is an example of a selective intervention using motivational interviewing aimed at preventing alcohol-exposed pregnancies among high-risk women in special community settings (Project CHOICES Research Group, 2003). This project focused on providing women two alternatives: reducing risk drinking levels or instituting effective contraception. Participants were non-pregnant women who were of childbearing age, fertile, sexually active, and using ineffective or no contraception at study commencement. The intervention consisted of four sessions using motivational interviewing and one contraceptive counseling session aimed at moving the women to change one or both of the target behaviors. Results revealed that at 6-month follow-up, 68.5% of women had lowered their risk of having an alcohol-exposed pregnancy: 13% reduced their drinking only; 23.1% reported using effective contraception only; and 32.9% reported doing both (Project CHOICES Research Group, 2003).

Like Project CHOICES, another CDC-funded study was aimed at female college students who were sexually active, using ineffective birth control, and drinking at high-risk levels. In a one-session motivational interview, they were encouraged to abstain from alcohol or to use contraception if they drank. At 1-month follow-up, 74% of women in the brief intervention group were no longer at risk compared with 54% of women in the control group (Ingersoll et al., 2005).

C. Manualized Brief Intervention

Although the findings of the studies discussed previously provide the foundation for intervention and prevention efforts, the usefulness of MI in a busy clinic or medical practice might be limited because it requires considerable training and clinical skill. Standardized, manualized BI techniques to reduce alcohol consumption have been developed. Four randomized controlled studies, funded by NIAAA, serve as examples of the effectiveness of this approach. These studies included women of different socioeconomic and cultural backgrounds and were conducted in doctors' offices and community settings. Two studies found that manualized BI was successful in decreasing alcohol use during subsequent pregnancies in high-risk women, thus preventing possible negative developmental sequelae in their offspring (Hankin, Sokol, Casentrelli, & Shernorr, 2000; Manwell, Fleming, Mundt, Stauffacher, & Barry, 2000). Two other studies, one working with high-risk, white, middle-class pregnant women in physicians' offices, and one working in WIC community clinics with primarily low-risk, low-income Hispanic clients, also found manualized BI to be a promising approach (Chang, Wilkins-Haug, Berman, & Goetz, 1999; Chang et al., 2000; 2005; O'Connor & Whaley, 2007). Significantly, these two studies found that the control conditions, which included an assessment of alcohol consumption and simple advice to stop or cut down on drinking, were almost as effective in helping women reduce their drinking levels as was the manualized BI itself. The success of these projects in reducing alcohol consumption in both experimental and control groups was postulated to be due to the desire of pregnant women to have healthy pregnancies and to the time and attention that interventionists provided to women in both groups. Even so, BI was found to be most effective with women who were drinking at higher levels (Chang et al., 2005), and better infant outcomes, including higher birth weights, longer birth lengths, and lower mortality rates, were reported for newborns of heavier drinkers who were provided with BI (O'Connor & Whaley, 2007). Results of these studies provide evidence of the efficacy of standardized brief intervention strategies with pregnant women for promoting reductions in alcohol consumption.

D. Computerized Brief Intervention

A potential tool for administering an intervention is “video doctor technology” in which health questions are asked using an interactive computer program. In one study, Gerbert and colleagues (2003) developed a patient-centered, supportive, nonjudgmental intervention based on motivational interviewing. A laptop computer program presented an actor-portrayed doctor asking health questions and delivering advice about drinking. The program employed branching logic that allowed users to customize the content of the presentation according to their gender, level of drinking, readiness to change, and desire for information. To foster a sense of self-efficacy among users, the messages provided personal feedback, allowed users to make their own choices about changing, gave recommendations, and offered suggestions for making changes. Pilot results of this approach indicate that individuals respond positively to a computerized presentation, and it is easily used even by those with little computer experience. This approach has yet to be tested on pregnant women.

E. Improving Clinicians’ Use of Brief Intervention

Research devoted to finding ways to encourage wider use of brief interventions by clinicians indicates that current routine educational approaches might not be effective. Strategies found to be effective included (a) conducting educational programs at the intervention site; (b) using specific step-by-step, evidence-based clinical protocols; (c) using skills-based role playing; (d) holding peer group discussions; and (e) using a credible expert trainer or educator. Brevity, repetition, and reinforcement of recommended practices are also key program elements (Brown & Fleming, 1998). Importantly, as of January 2007, new billing codes are available through the Medicaid program for physician reimbursement for alcohol screening and brief intervention.

F. Conclusions Regarding the Use of Brief Intervention

Research to date suggests that routine, formal screening for alcohol use should be conducted with all women of childbearing age. Screening can be done in both physicians’ offices and in community health settings. Simple screening tools have been found to be beneficial for both non-pregnant and pregnant women. The T-ACE and the TWEAK, in particular, are recommended for pregnant women. The CRAFFT shows promise as a screener for alcohol and other drugs among female adolescents. Simple screening questions that include measures of quantity and frequency and heavy episodic drinking, such as those used on the AUDIT-C, have proven beneficial.

BI administered by physicians and allied health professionals in medical and non-medical settings are effective in bringing about reductions in drinking in the preconception and pregnancy periods. Women who are pregnant, planning a pregnancy, or at risk for pregnancy should be advised not to drink, as damage to the fetus can occur before they know they are pregnant, and no safe threshold of alcohol use during pregnancy has been established. Women who are fertile, sexually active, and not using effective contraception should be advised that they are at risk for an alcohol-exposed pregnancy and should abstain from alcohol use or establish effective contraception. Women of childbearing age who are using effective contraception should be advised to drink no more than seven drinks per week and no more than three drinks on any one occasion.

Recent surveys of practicing obstetricians-gynecologists support the need and desire for information on effective means of screening and counseling women who report alcohol use (Diekman et al., 2000). To enhance physician use of current screening and intervention approaches for preventing alcohol-exposed pregnancies, federal agencies have developed and disseminated clinical guidelines and tools for primary care professionals for screening pregnant and non-pregnant women on alcohol use and recommendations for appropriate advice depending on the level of alcohol use and consequences. Additionally, in 2002, CDC funded four regional training centers to provide education and training to medical and allied health professionals and students in identifying and diagnosing children affected by prenatal alcohol exposure and in effectively intervening with and preventing these conditions. Finally, the American College of Obstetricians and Gynecologists, under the auspices of CDC, has developed materials to enhance formal screening and BI provided by physicians and nurse practitioners.

V. More Extensive Interviews Used To Evaluate Alcohol Consumption During Pregnancy

Mary J. O'Connor, PhD; R. Louise Floyd, DSN; and Gretchen Guiton, PhD

A. Health Interview for Women

The Health Interview for Women is an adaptation of an interview developed by Day and Robles (1989) that requires the pregnant woman to estimate the extent of her current alcohol use (O'Connor, 2003). This interview was used in the UCLA WIC study to decrease drinking levels in low-income, pregnant, minority women. It inquires about the woman's drinking before pregnancy recognition and about current use—now that the woman knows that she is pregnant. The Health Interview yields standard alcohol measures of average number of drinks per drinking occasion, maximum drinks per occasion, and the frequency of both. The brand of alcohol the woman uses and the estimated number of ounces consumed is included. Questions about other teratogen use, including smoking, caffeine, and prescription and illegal drug use, are also included on the interview and are quantified using methods developed by Jacobson et al. (1994). Table 2.3 shows the Health Interview for Women used in the UCLA WIC study.

Table 2.3. UCLA Health Interview for Women

This questionnaire is designed to survey your health-related habits.

How many weeks pregnant were you when you FIRST found out that you were pregnant? WEEKS

Before you knew you were pregnant:

1. How many servings a day did you have of:
 - a. Coffee (caffeinated)..... CUPS
 - b. Tea (non-herbal) CUPS
 - c. Cola drinks with caffeine DRINKS

2. How many cigarettes did you smoke on a typical day? # OF CIGARETTES

3. On days that you drank alcohol, how many drinks did you usually have of...?	DRINKS	4. How often did you drink this amount of (beer/liquor/ wine)? IF THE WOMAN DENIES DRINKING, PUT ZEROS IN THE DRINKS COLUMN. OTHERWISE CIRCLE ONE OF THE FOLLOWING.						
		Daily	Almost every day	3-4 days a week	1-2 days a week	2-3 days a month	Once a month	Less than once a month
a. Beer.....	<input type="text"/> <input type="text"/>	7	6	5	4	3	2	1
b. Liquor.....	<input type="text"/> <input type="text"/>	7	6	5	4	3	2	1
c. Wine.....	<input type="text"/> <input type="text"/>	7	6	5	4	3	2	1

5. Did you have days when you drank more (beer/ liquor/wine) than usual? If so, how much?	DRINKS	6. How often did you drink this amount of (beer/liquor/ wine)? IF THE WOMAN DENIES DRINKING, PUT ZEROS IN THE DRINKS COLUMN. OTHERWISE CIRCLE ONE OF THE FOLLOWING.						
		Daily	Almost every day	3-4 days a week	1-2 days a week	2-3 days a month	Once a month	Less than once a month
a. Beer.....	<input type="text"/> <input type="text"/>	7	6	5	4	3	2	1
b. Liquor.....	<input type="text"/> <input type="text"/>	7	6	5	4	3	2	1
c. Wine.....	<input type="text"/> <input type="text"/>	7	6	5	4	3	2	1

7. How many drinks did it take until you felt the effects of alcohol? **Circle only one.**

21	20	19	18	17	16	15
14	13	12	11	10	9	8
7	6	5	4	3	2	1

8. Did close friends or relatives worry or complain about your drinking? **Check only one.**

Yes
 No

9. Did you sometimes take a drink in the morning when you first got up? **Check only one.**

Yes
 No

10. Did a friend or family member ever tell you about things you said or did while you were drinking that you could not remember? **Check only one.**

Yes
 No

11. Did you sometimes feel the need to cut down on your drinking? **Check only one.**

Yes
 No

12. Did you smoke marijuana? **Check only one.**

Yes
 No

13. How many joints did you smoke on a typical day? (1 BLUNT = 5 JOINTS)

--	--	--

OF JOINTS

14. On average, how often did you smoke marijuana? **Check only one.**

Daily
 Almost every day
 3-4 days a week
 1-2 days a week
 2-3 days a month
 Once a month
 Less than once a month
 Never

15. Did you take any of the following? **Check only one.**

None	1–2 times per week	3 or more times per week
------	--------------------	--------------------------

	None	1–2 times per week	3 or more times per week
a. Aspirin/Tylenol/ibuprofen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Antibiotics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Tranquilizers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Pain pills (Dilaudid, dillies, morphine, Vicodin).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Barbiturates (barbs, downers, reds, Seconal, sedatives, sleeping pills)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Amphetamine (Ritalin, pellets, uppers, crank, crystal, meth, bennies, blancas, speed, glass, ice)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Cocaine (coke, snow, blow, crack, rock, eightball, freebase).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Did you take any of the following? Check only one.	None	1–2 times per week	3 or more times per week
h. Methadone/heroin.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Hallucinogens (acid, LSD, magic mushrooms, shrooms, microdots, micro tabs, lacy, dip, ecstasy, X, MDMA, hog, mescaline, peyote, windowpane, PCP, angel dust).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Non-medical inhalants.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Medications for seizures or epilepsy (Dilantin, Tegretol, Traxine, Depakene, valproic acid).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Antidepressants (Prozac, Luvox, Effexor, Paxil, Zoloft, Elavil, Pamelor, Wellbutrin).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Now consider your health habits now that you know you are pregnant.

Questions 1 through 15 are repeated reminding the woman that you are now asking her about behavior after pregnancy recognition.

Source: O'Connor & Whaley, 2003, NIAAA grant #AA12480

Adapted from: Day N. L., & Robles, N. (1989). Methodological issues in the measurement of substance abuse. *NYAS 562*, 8-13.

B. NIAAA Health Screening Survey

The NIAAA health screening survey (1999) is composed of two sets of questionnaires, one for women of childbearing age who are not pregnant, and one for women who are pregnant. Using a decision tree format, the screener starts with general health-related questions, then asks about drinking in the last 3 months and includes the T and W questions from the TWEAK. If a woman screens positively on any of the alcohol related questions, she is then asked nine questions about negative consequences associated with her drinking. Based on her responses, she is classified as an at-risk drinker, problem drinker, or possibly alcohol-dependent. The screener for pregnant women uses the same questions as those for non-pregnant women, but the respondent is asked about drinking 3 months prior to pregnancy and currently, during pregnancy. The tolerance for classifying risk is lower for pregnant women than for non-pregnant women. Table 2.4 shows the NIAAA Health Screening Questions.

Table 2.4. NIAAA Health Screening Survey Questions

For women who are not pregnant

1. In the past 3 months, have you smoked cigarettes?
2. Do you use a seatbelt every time you ride in a motor vehicle?
3. Do you exercise three or more times per week?
4. In the past 3 months, about how many days a week did you have two or more standard drinks (a standard drink is one 12-ounce bottle or can of beer or wine cooler, one 1.5-ounce shot of hard liquor, or one 5-ounce glass of wine)?
5. In the past 3 months, about how many days a week did you have four or more standard drinks?
6. How many drinks does it take to make you feel high?
7. Have any family members, friends, or health care professionals been concerned about how much you drank in the last year?

Scoring: Based on questions 4–7, score positive if patient:

- Admits to drinking almost every day.
- Admits to drinking four or more drinks per occasion.
- Reports that it takes more than two drinks to get high.
- Reports that family members or friends are concerned about her alcohol use.

Any positive score is followed by nine questions to assess risk for alcohol-associated problems:

1. Have you ever felt the need to cut down or control your drinking?
2. Have you ever lost a job because of your drinking?
3. Has your drinking affected your family, especially your children?
4. Have you ever been stopped by the police when you were drinking?
5. Have you been injured when you were drinking?
6. Do you become very nervous or shaky if you stop drinking for more than a day?
7. Do you need to have a drink in the morning to start your day?
8. Do you have medical problems that could be related to alcohol use, such as depression, suicide ideation, anxiety, panic attacks, sleeping problems, headaches, and chronic fatigue? More serious medical problems might include liver dysfunction, repeated trauma, blood pressure elevation, and pancreatitis.
9. Do you have evidence of alcohol problems on physical exams, such as high blood pressure, cardiac arrhythmia, enlarged liver, or alcohol on your breath?

Scoring:

Patient is an at-risk drinker—negative response to the nine assessment questions above and is only positive on the Health Screening Survey.

Patient is a problem drinker—one or two positive responses.

Patient might be alcohol dependent—three or more positive responses.

Patients who are at-risk or problem drinkers should receive brief intervention. Patients who might be alcohol-dependent should receive brief intervention and be referred to specialized treatment.

For women who are pregnant

1. In the past 3 months, have you smoked cigarettes?
2. Do you use a seatbelt every time you ride in a motor vehicle?
3. Do you exercise three or more times per week?
4. In the past 3 months, about how many days a week did you have two or more standard drinks (a standard drink is one 12-ounce bottle or can of beer or wine cooler, one 1.5-ounce shot of hard liquor, or one 5-ounce glass of wine)?
5. How many drinks does it take to make you feel high?
6. Have any family members, friends, or health care professionals been concerned about how much you drank in the last year?
7. Since you became pregnant, on average, about how many days a week do you have two or more standard drinks?

Scoring: Based on questions 4–7, score positive if patient:

- Admits to drinking almost every day during pregnancy.
- Reports that it takes more than 2 drinks to get high.
- Reports that family members or friends are concerned about her alcohol use.
- Reports drinking 2 or more drinks per day two or more days per week during pregnancy.

Any positive score is followed by the nine questions to assess risk for alcohol-associated problems.

Scoring:

Patient is an at-risk drinker—negative response to the nine assessment questions above and is only positive on the Health Screening Survey.

Patient is a problem drinker—one or two positive responses.

Patient might be alcohol dependent—three or more positive responses.

Patients who are at-risk or problem drinkers should receive brief intervention. Patients who might be alcohol-dependent should receive brief intervention and be referred to specialized treatment.

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VI. Definition of Risk Drinking

Mary J. O'Connor, PhD; R. Louise Floyd, DSN; and Gretchen Guiton, PhD

Following are types of drinkers by patterns of alcohol use (NIAAA, 1999):

- **Abstainers:** Do not consume alcohol at all or have less than 1 drink per month.
- **Low-risk drinkers:** Consume 1–2 standard drinks per day, but only 3 or fewer times per week. Their use of alcohol does not affect their health, and it does not result in problems. They do not use alcohol before driving, when pregnant, when breastfeeding, or with certain medications.
- **At-risk drinkers:** Consume 7–21 standard drinks per week; consume more than 3–4 standards drinks per occasion or drink in risky situations.
- **Problem drinkers:** Consume more than 21 standard drinks per week and might experience problems from such drinking (behavioral, family, medical, mental health, employment, social, legal).
- **Alcohol-dependent drinkers:** Cannot stop drinking once they start. They experience repeated and multiple problems from such drinking (behavioral, family, medical, mental health, employment, social, legal). Heavy drinking leads to a physical need for alcohol.

VII. Criteria for Referral to Treatment

Mary J. O'Connor, PhD; R. Louise Floyd, DSN; and Gretchen Guiton, PhD

Please refer to the NIAAA Health Screening Survey for criteria (NIAAA,1997).

A. Women Who Are Not Pregnant

- **Patient is an at-risk drinker.** One positive response on the Health Screening Survey and negative responses to the nine assessment questions having to do with consequences of drinking (behavioral, family, medical, mental health, employment, social, legal).
- **Patient is a problem drinker.** Positive responses on the Health Screening Survey and one or two positive responses on the assessment questions.
- **Patient might be alcohol-dependent.** Positive responses on the Health Screening Survey and three or more positive responses on the assessment questions.

Women who are at-risk or problem drinkers should receive brief intervention. Women who might be alcohol-dependent should receive brief intervention and be referred to specialized treatment.

B. Women Who Are Pregnant

- **Patient is an at-risk drinker.** One positive response on the Health Screening Survey and negative responses to the nine assessment questions having to do with consequences of drinking (behavioral, family, medical, mental health, employment, social, legal).
- **Patient is a problem drinker.** Positive responses on the Health Screening Survey and one or two positive responses on the assessment questions.
- **Patient might be alcohol-dependent.** Positive responses on the Health Screening Survey and three or more positive responses on the assessment questions.

Pregnant women who are at-risk or problem drinkers should receive brief intervention. Those who might be alcohol-dependent should receive brief intervention and be referred to specialized treatment.

Suggested Learning Activities

- Assign topics using section headers (nursing mothers, etc.) for small groups to research and present to the group. Include target populations who should be screened, suggested approaches, and opportunities.
- Lead a group discussion of barriers and opportunities for screening.
- Use a brief screening tool, such as TWEAK, in a role play activity. Follow up with group discussion. Use brief intake information for the group that increases a woman's risk for alcohol use.
- Use case studies of women with different risk factors for group discussion.
- Role play screening techniques. Provide scripted information for the role of the woman being screened. Activities would include assessment of quantity and frequency of alcohol as well as selection of appropriate tool.
- Explore ACOG's *Drinking and Reproductive Health: A Fetal Alcohol Spectrum Disorders Prevention Tool Kit* (http://www.acog.org/from_home/misc/dept_pubs.cfm).
- Demonstrate screening and brief intervention techniques using the ACOG tool kit. (http://www.acog.org/from_home/misc/dept_pubs.cfm).
- Use a group discussion to explore factors to consider in selecting a screening tool.
- Role play or use standardized patient to conduct the Health Interview for Women.
- Create a matching activity with drinking description to types of drinks.
- Use mini case studies or scenarios of women for group discussion of type of drinker.
- Use mini case studies or scenarios to identify need for referral to treatment.

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Learning Goals and Related Objectives

Goal II-A: Screen women of childbearing age for alcohol use at the appropriate time during patient care

Learning Objectives

<p>Level 1 The learner will be able to...</p>	<p>Level 2 The learner will be able to...</p>	<p>Level 3 The learner will be able to...</p>
<ul style="list-style-type: none"> ▪ Explain the importance of monitoring women’s alcohol consumption. (A) ▪ Recognize that all women of childbearing age should be screened for alcohol use. (K) 	<ul style="list-style-type: none"> ▪ Identify screening of women’s alcohol use as an important part of routine clinical care. (A) ▪ Differentiate the need for and approaches to screening women of different ages and cultural backgrounds. (K) ▪ Identify opportunities to screen women for alcohol use in individual practice settings. (K) ▪ Establish procedures for screening all women of childbearing age for alcohol use. (S) 	<ul style="list-style-type: none"> ▪ Describe the need for ongoing monitoring of all women’s alcohol consumption. (A) ▪ State the most current approaches for screening in multiple settings. (K) ▪ Demonstrate knowledge of different techniques that are appropriate for women of different ages and cultural backgrounds. (K) ▪ Explain procedures to ensure that all women of childbearing age receive appropriate alcohol screening. (S)

A=Attitude-based objective; K=Knowledge-based objective; S=Skill-based objective

Level 1. Medical and allied health students or professionals who need basic background information on FASDs for their education, work, or both.

Level 2. Medical and allied health practitioners who need to use the information to provide services.

Level 3. Medical and allied health professionals who educate and train other professionals about FASDs.

Goal II-B: Use demographic and other risk factors appropriately in prevention and screening activities

Learning Objectives

<p>Level 1 The learner will be able to...</p>	<p>Level 2 The learner will be able to...</p>	<p>Level 3 The learner will be able to...</p>
<ul style="list-style-type: none"> ▪ Recognize the increased need to screen women with characteristics associated with greater risk for alcohol use. (A) ▪ Identify features that increase a woman’s risk for alcohol use, including age, marital status, level of education, family history, acculturation, and socioeconomic and cultural factors. (K) ▪ Demonstrate the ability to collect basic demographic and personal information from a woman to assess risk for alcohol use. (S) 	<ul style="list-style-type: none"> ▪ Describe the potential problems associated with stereotypical thinking about demographic or socio-cultural factors related to risk for alcohol use. (A) ▪ Explain the importance of accepting differences in women’s attitudes about alcohol consumption depending on their socio-cultural background. (A) ▪ Recognize interaction of multiple factors as contributors to a woman’s risk for alcohol use. (K) ▪ Identify level of risk in specific practice settings. (K) ▪ Describe subtle signs of alcohol use (e.g., frequent injuries). (K) ▪ Obtain comprehensive demographic and personal information from a woman to assess risk for alcohol use. (S) ▪ Evaluate risk factors accurately for the population the practitioner serves. (S) 	<ul style="list-style-type: none"> ▪ State the limitations of current risk factors for identifying women who use alcohol. (A) ▪ Explain current research developments refining risk factors. (K) ▪ Identify additional information about risk factors and implement new criteria when available. (S) ▪ Describe research developments refining risk factors. (S) ▪ Describe risk factors in concrete ways for practitioners. (S)

A=Attitude-based objective; K=Knowledge-based objective; S=Skill-based objective

Level 1. Medical and allied health students or professionals who need basic background information on FASDs for their education, work, or both.

Level 2. Medical and allied health practitioners who need to use the information to provide services.

Level 3. Medical and allied health professionals who educate and train other professionals about FASDs.

Goal II-C: Use screening methods, screening tools, and assessment methods appropriately as part of prevention and screening activities

Learning Objectives

<p>Level 1 The learner will be able to...</p>	<p>Level 2 The learner will be able to...</p>	<p>Level 3 The learner will be able to...</p>
<ul style="list-style-type: none"> ▪ Explain the importance of screening women for alcohol use. (A) ▪ Show awareness of own level of comfort in asking alcohol use questions. (A) ▪ Explain the treatment benefits of screening. (A) ▪ Describe primary screening components (e.g., quantity/frequency, binge drinking, and AA). (K) ▪ Recognize drinking that meets criteria for a binge episode. (K) ▪ Categorize women's risk according to level of alcohol consumed. (K) ▪ Define standard drink. (K) ▪ Recognize the link between method of question administration and likelihood of woman's disclosure of alcohol use. (K) ▪ Identify multiple screening tools, including laboratory methods, and differences among them. (K) ▪ Demonstrate the ability to ask TWEAK or T-ACE questions as a routine part of history taking with women of childbearing age. (S) ▪ Assess alcohol consumption patterns based on a woman's responses. (S) 	<ul style="list-style-type: none"> ▪ Demonstrate an underlying attitude of respect for women who are using alcohol. (A) ▪ Express comfort in working with women who use alcohol. (A) ▪ Demonstrate empathy for women who use alcohol. (A) ▪ Identify methods to increase reliability and validity of screening questions (e.g., specific types of alcoholic beverages consumed, accurate alcohol content estimates, vessel sizes). (K) ▪ Select the best screening method for a specific context (e.g., patient background, culture, relationship, time available). (K) ▪ Differentiate risk criteria depending on a woman's pregnancy status (i.e., binge level, drinks/wk). (K) ▪ Differentiate need for referral based on a woman's drinking status. (K) ▪ Locate treatment referral resources. (K) ▪ Conduct comprehensive interview of a woman regarding alcohol use. (S) ▪ Assess a woman for high-risk drinking. (S) ▪ Assess a woman for referral to more intensive treatment program. (S) ▪ Communicate the definition of a standard drink to a woman. (S) 	<ul style="list-style-type: none"> ▪ Describe sources for criteria of alcohol use that constitute abuse and risk for FASDs and how to access them. (K) ▪ Use resources and research efforts to refine and/or develop improved methods of screening and assessing alcohol use in pregnant women. (K) ▪ Evaluate new screening methods using evidence-based criteria. (S) ▪ Demonstrate use of screening tools to practitioners including description of when, how, and with whom to use. (S)

A=Attitude-based objective; K=Knowledge-based objective; S=Skill-based objective

Level 1. Medical and allied health students or professionals who need basic background information on FASDs for their education, work, or both.

Level 2. Medical and allied health practitioners who need to use the information to provide services.

Level 3. Medical and allied health professionals who educate and train other professionals about FASDs.

Goal II-D: Conduct brief interventions with women

Learning Objectives

<p>Level 1 The learner will be able to...</p>	<p>Level 2 The learner will be able to...</p>	<p>Level 3 The learner will be able to...</p>
<ul style="list-style-type: none"> ▪ Identify distinguishing features of brief interventions. (K) ▪ Describe benefits of brief interventions. (K) ▪ List questions to determine a woman's readiness to change drinking behavior. (K) ▪ Define steps in conducting brief intervention. (K) ▪ Demonstrate the ability to interview a woman without criticism or provocation of guilt. (S) ▪ Articulate benefits of stopping or reducing drinking. (S) ▪ Provide normative information about drinking behaviors. (S) 	<ul style="list-style-type: none"> ▪ Demonstrate a nonjudgmental attitude about women's drinking. (A) ▪ Display an underlying attitude of respect for women who are using alcohol. (A) ▪ Express comfort in working with women who use alcohol. (A) ▪ Demonstrate empathy for women who use alcohol. (A) ▪ Display comfort in conducting brief intervention with women from diverse backgrounds seen frequently in practice setting. (A) ▪ Recognize demographic and environmental factors that might impede success of brief intervention. (K) ▪ Describe brief intervention techniques. (K) ▪ Explain the efficacy of brief intervention techniques. (K) ▪ Develop a brief intervention plan for a specific woman. (S) ▪ Tailor brief intervention for women of different socioeconomic, educational, or cultural backgrounds. (S) ▪ Provide clear concrete feedback to a woman using examples, visual displays, etc. (S) ▪ Conduct brief intervention with women. (S) ▪ Motivate a woman's desire to reduce or stop drinking. (S) ▪ Support a woman's efforts to reduce or stop drinking. (S) 	<ul style="list-style-type: none"> ▪ Identify sources of new intervention research and how to access them. (K) ▪ Explain evidence-based criteria for evaluating interventions. (K) ▪ Describe national research efforts to improve treatment using brief intervention. (K) ▪ Evaluate new intervention methods using evidence-based criteria. (S) ▪ Demonstrate new methods to other practitioners. (S) ▪ Assist practitioners in confronting their own biases in working with women who use alcohol. (S)

A=Attitude-based objective; K=Knowledge-based objective; S=Skill-based objective

Level 1. Medical and allied health students or professionals who need basic background information on FASDs for their education, work, or both.

Level 2. Medical and allied health practitioners who need to use the information to provide services.

Level 3. Medical and allied health professionals who educate and train other professionals about FASDs.

Goal II-E: Appreciate the use of more extensive interviews to evaluate alcohol consumption during pregnancy

Learning Objectives

<p>Level 1 The learner will be able to...</p>	<p>Level 2 The learner will be able to...</p>	<p>Level 3 The learner will be able to...</p>
<ul style="list-style-type: none"> ▪ Describe the use of more extensive interviews to evaluate alcohol consumption during pregnancy. (K) 	<ul style="list-style-type: none"> ▪ Conduct the Health Interview for Women with pregnant women. (S) ▪ Conduct the NIAAA Health Screening Survey with non-pregnant women of childbearing age and pregnant women. (S) 	<ul style="list-style-type: none"> ▪ Explain to others the use of more extensive interviews to evaluate alcohol consumption during pregnancy. (S)

A=Attitude-based objective; K=Knowledge-based objective; S=Skill-based objective

Level 1. Medical and allied health students or professionals who need basic background information on FASDs for their education, work, or both.

Level 2. Medical and allied health practitioners who need to use the information to provide services.

Level 3. Medical and allied health professionals who educate and train other professionals about FASDs.

Goal II-F: Define risk drinking and differentiate types of drinkers by patterns of alcohol use

Learning Objectives

Level 1 The learner will be able to...	Level 2 The learner will be able to...	Level 3 The learner will be able to...
<ul style="list-style-type: none"> Differentiate the types of drinkers by patterns of alcohol use. (K) 	<ul style="list-style-type: none"> Identify types of drinkers by patterns of alcohol use. (S) 	<ul style="list-style-type: none"> Explain to other health professionals how to differentiate types of drinkers by patterns of alcohol use. (S)

A=Attitude-based objective; K=Knowledge-based objective; S=Skill-based objective

Level 1. Medical and allied health students or professionals who need basic background information on FASDs for their education, work, or both.

Level 2. Medical and allied health practitioners who need to use the information to provide services.

Level 3. Medical and allied health professionals who educate and train other professionals about FASDs.

Goal II-G: Assess for referral to treatment

Learning Objectives

Level 1 The learner will be able to...	Level 2 The learner will be able to...	Level 3 The learner will be able to...
<ul style="list-style-type: none">▪ Explain the need to assess a woman for referral to more intensive treatment programs. (K)	<ul style="list-style-type: none">▪ Assess a woman for referral to more intensive treatment programs. (S)	<ul style="list-style-type: none">▪ Explain to others about the need to assess a woman for referral to more intensive treatment programs. (S)

A=Attitude-based objective; K=Knowledge-based objective; S=Skill-based objective

Level 1. Medical and allied health students or professionals who need basic background information on FASDs for their education, work, or both.

Level 2. Medical and allied health practitioners who need to use the information to provide services.

Level 3. Medical and allied health professionals who educate and train other professionals about FASDs.