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Obstetrics and gynecology resident education in tobacco, alcohol, and drug use disorders

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The consequences of tobacco, alcohol, and drug use are some of the most common health problems that affect women. Since the majority of women in the United States visit the office of an obstetrician-gynecologist for routine care, obstetrics and gynecology physicians have the opportunity to prevent and treat substance use disorders in this population. Studies have shown that women will discuss their tobacco, alcohol, and drug use with their physicians, and many will respond to brief counseling and pharmacotherapy [1,2]. This is particularly true for women who use mood-altering drugs above recommended limits but who are not addicted or drug-dependent.

Studies suggest that 24% of women smoke cigarettes, 21% drink above recommended limits, and 3% to 5% abuse illegal drugs and prescription medication [3]. Tobacco, alcohol, and drug use are implicated in many health problems, including sexually transmitted diseases (STDs), adverse pregnancy outcomes, trauma, breast and colon cancer, lung disease, cardiovascular disease, and fetal alcohol syndrome. Depression, domestic violence, and suicide are often linked to substance use. In addition, these drugs can affect the outcome of surgical procedures. Withdrawal from these drugs can compromise postoperative and postpartum care.

Residents in obstetrics and gynecology need to recognize substance use disorders, as well as their health effects and treatment options. All obstetrics and gynecology residents are expected to meet the following objectives:

1. Assess for evidence of substance abuse throughout the life span.
2. Describe the teratogenic effects of nonprescription drugs (alcohol, heroin, cocaine, tobacco).
3. Assess and evaluate for substance abuse in pregnancy.

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4. Counsel patients on the impact of substance abuse on neonates.
5. Diagnose and manage drug overdose and withdrawal in pregnant patients.
6. Refer patients to specialists in the area of substance abuse.

Definitions of substance use disorders

Tobacco use

Eighty to ninety percent of women who use tobacco products meet the Diagnostic and Statistical Manual of Mental Disorders (4th edition) criteria for drug dependence. These women will develop symptoms of nicotine withdrawal with cessation of tobacco use and intense craving. Nicotine is an addictive substance when inhaled and often leads to physical and mental dependence within a few weeks of initial use. A small percentage can use tobacco in an episodic manner in limited amounts and do not develop physical dependence to tobacco products. All women who report tobacco use should be encouraged to become abstinent. There is no medically safe level of tobacco use.

Alcohol use

Alcohol use is divided into four categories: low-risk use, at-risk use, problem use, and dependent use. Females who are low-risk drinkers have fewer than 8 drinks per week, do not have more than 3 drinks per occasion and do not have any contraindications to alcohol use. Contraindications include pregnancy, breastfeeding, medications that interact with alcohol, and severe medical problems. At-risk drinkers are women who drink above these levels or who have a medical contraindication. Binge drinking even once a week in high-risk situations (eg, at parties or before driving a car) can result in very serious alcohol-related harm. Problem drinkers are women who experience medical or social problems related to their alcohol use. The major criteria for alcoholism and alcohol dependence are based on the Diagnostic and Statistical Manual of Mental Disorders (4th edition) criteria: preoccupation with use, inability to control drinking, repeated alcohol-related harm, and physical dependence. Counseling techniques vary depending on the category of use and level of risk associated with alcohol use.

Illicit drug use

Use of illegal drugs, even occasional use, is considered a drug use disorder. There is a spectrum of use, however, from at-risk/hazardous use to problem/harmful use to drug addiction. For example, marijuana has many different patterns of use. Some women limit their use of marijuana for relaxation or for use in social settings and develop minimal signs of harm or adverse health effects. Other women use marijuana on a daily basis and develop significant pulmonary and central nervous system adverse effects. Cocaine, heroin, and amphetamine

use is generally associated with the development of addiction and physician dependence. The degree of addiction and level of harm is dependent on the addictive properties of the drug, dose, frequency, organ toxicity, and the route of administration. For example, cocaine in small amounts can result in a fatal cardiac event. A single dose of intravenous heroin can result in a respiratory arrest or HIV or hepatitis C infection. There is no safe level or low-risk level of use for illicit drugs.

Physicians should encourage all patients to become abstinent and not use illegal drugs, because the medical and legal risk is not in their best interests. Although one can defend the medical use of marijuana in some women, it is currently illegal in most states and counties; furthermore, alternative treatments exist for most women.

Prescription drug use

Prescription drug abuse has become an increasing concern for all physicians, including OB/GYNs. Mood-altering drugs commonly abused include narcotics, benzodiazepines, sedatives, and amphetamines. These medications are being used with increasing frequency for treatment of a variety of symptoms and medical issues. Narcotics of high abuse potential include all short-acting narcotics, such as Percocet, Vicodin, and Dilaudid, as well as long-acting opoids such as Oxycontin and Methadone. Sedative drugs that can be abused include benzodiazepines (eg, Valium, Ativan, Xanax), muscle relaxants (eg, Soma, Flexoril), barbiturates (eg, Fiorinal), and sleeping medication (eg, Halcion, Ambien). Amphetamines are being used with increasing frequency for chronic fatigue syndromes, affective disorders, and adult attention-deficit disorders.

Although most women who receive prescriptions for mood-altering drugs use these medications appropriately, 5% to 10% develop patterns of use that suggest drug addiction or abuse. Use of mood-altering drugs falls into three categories. The first category is *medically appropriate use*, in which patients take their medications as prescribed and do not call in early or experience problems keeping track of the medication. Women in this category may or may not become physically dependent. Physical dependence and development of drug withdrawal symptoms are based on the characteristics of the medication, dose, and genetic and metabolic differences among women. For example, most women who use daily narcotics will develop symptoms of withdrawal with abrupt cessation of these medications. This is not the same as addiction. Over 90% of women who receive prescription narcotics, sedatives, or amphetamines fall into this category.

The second category of use is *psychological dependence or drug abuse*. Women in this category often use opioids, muscle relaxants, or sedative medication to deal with stress, family problems, or mental health problems. Women in this category take more medication than their provider has prescribed and thus use up their medicine early. They develop inappropriate ways of dealing with the physicians and nurses who are trying to help them. However, they do not meet criteria for

addiction and often respond to (1) treatment contracts, (2) weekly dosing of medication, (3) placing a family member in charge of their medication, or (4) intensive counseling for underlying mental health disorders. Many of the women in this category have a history of sexual abuse, domestic violence, or personality disorders. Psychological dependence is seen more frequently in women being treated with prescription drugs for intractable headaches, fibromyalgia, irritable bowel syndrome, and chronic pelvic pain.

The third category of prescription drug use is *addiction*. Symptoms of prescription drug addiction are similar to those for cocaine, heroin, and alcohol. Patients use the medications to get high and to affect their mood. Although they may have an underlying chronic pain or mental health disorder, they focus on getting drugs instead of obtaining help for their medical condition. These patients are often manipulative and aggressive and are skilled at convincing physicians to prescribe medication. They often mix prescription medication with street drugs. They usually have a history of alcohol and drug problems that started in early adolescence. A family history of drug problems is common. Although some will benefit with the careful use of prescription medication, physicians should be wary and refer women with these characteristics to an addiction specialist or a mental health provider with extensive experience in prescription drug addiction.

Role of the obstetrician-gynecologist

In the past, substance abuse treatment focused on treating addiction. Now the substance abuse community is shifting to reducing harm associated with the use of tobacco, alcohol, and illicit and prescription drugs. This public health approach acknowledges the importance of identifying and intervening with all women who use these drugs above the recommended levels—not just those women who are dependent upon tobacco, alcohol, or drugs.

Many of the problems related to substance use occur in women who are not addicted to these substances. For example, women do not have to be alcohol-dependent to have children with fetal alcohol syndrome or to be injured in a motor vehicle accident. There is a dose–response relationship between levels of use and adverse events for tobacco, alcohol, and drugs. While abstinence may be the most appropriate goal from a physician's perspective, a reduction in use may reduce harm. For example, if an OB/GYN can convince a female college student to limit her alcohol use to 4 or 5 drinks during an evening, the student is less likely to put herself at risk for an unwanted sexual experience or an STD infection than if she has 8 to 10 drinks.

With the development of short, sensitive, and specific screening tools for substance use, most physicians can quickly screen for these disorders. Studies have shown that brief interventions consisting of 2- to 5-minute counseling sessions can reduce alcohol use in as many as 30% of female problem drinkers and reduce the number of female smokers by 15% to 20% [4,5].

Tobacco use

Screening and assessment, brief intervention, and referral and pharmacotherapy

Obstetrics and gynecology residents need to understand the epidemiology, diagnosis, and interventions for tobacco use. Studies suggest that approximately 24% of women smoke cigarettes. Young women are one of the few groups in which the rate of tobacco use is increasing. The negative effects of tobacco affect women in different ways across their life span.

Adolescent smoking is associated with disruptive behavior disorders (eg, oppositional defiant disorder, conduct disorder, attention-deficit hyperactivity disorder), major depression, and drug and alcohol use disorder. Adolescents who become pregnant have the highest smoking rates of all age groups (59% before pregnancy, 51% during the first trimester, and 62% in the third trimester) [6].

Women who smoke during the reproductive years are at risk for adverse pregnancy events, increased cancer rates, and cardiovascular disease. Smoking during pregnancy occurs in approximately 25% of all pregnancies in the United States. Adverse outcomes associated with tobacco use during pregnancy include low–birth weight infants, prematurity, placental abruption, and higher miscarriage rate [7].

Women who smoke during the postmenopausal years are also at risk for adverse events. The risk for chronic lung disease, lung cancer, and cardiovascular disease is much higher in smokers. Studies show that there are still benefits to smoking cessation in long-term smokers.

Screening and assessment for tobacco use disorders

Physicians are three times more likely to do an intervention when they know that a patient smokes. It is important to include a question about smoking in the

Box 1. CAGE questions

1. Have you ever felt a need to Cut down or control your smoking, but had difficulty doing so?
2. Do you ever get Annoyed or angry with people who criticize your smoking or tell you that you ought to quit smoking?
3. Have you ever felt Guilty about your smoking or about something you did while smoking?
4. Do you ever smoke within half an hour of waking up (Eye opener)?

From Lairson DR, Harrist R, Martin DW, Ramby R, Rustin TA, Swing JM, et al. Screening for patients with alcohol problems: severity of patients identified by the Cage. J Drug Educ 1992;22:337–52.

Box 2. Brief Fagerström questions

1. How soon after waking do you smoke your first cigarette?
   a. < 5 minutes (3 points)
   b. 5 to 30 minutes (2 points)
   c. 31 to 60 minutes (1 point)
2. How many cigarettes do you smoke each day?
   a. > 30 cigarettes (3 points)
   b. 21 to 30 cigarettes (2 points)
   c. 11 to 20 cigarettes (1 point)

A score of 3 or more suggests dependence that may require pharmacotherapy.
From Heatherton TF, Kozlowski LT, Frecker RC. Fagerström Test for Nicotine Dependence: a revision of the Fagerström Tolerance Questionnaire. Br J Addict 1991;86:1119–27.

vital signs. Once a woman is identified as a smoker, the physician should determine the patient's current and past level of use and addiction. The CAGE questions (Box 1) and the Brief Fagerström questions (Box 2) are two easy tools to help physicians.

Brief intervention, referral, and pharmacotherapy for tobacco use disorders

In research trials, brief interventions have been shown to increase smoking quit rates [5]. The interventions should last no more than 5 minutes. Brief interventions are later described in greater detail in the section on illicit drugs and alcohol. Most

Table 1
Pharmacotherapy for tobacco detoxification

Medication	Dosage	Common side effects
Bupropion	150 mg for 3 d, then 150 mg BID for 8 to 12 wk	Dry mouth and sleep disturbance, do not use in women with a history of seizures or eating disorders
Nicotine patch	21 mg, 14 mg, or 7 mg, depending on level of dependence, with tapering over 8 to 12 wk	Mild skin irritation; sleep disruption can be alleviated by removing the patch at night
Nicotine gum	2-m or 4-mg pieces, use 10–15 pieces/d for 8 + wks	If gum is chewed too quickly, can be associated with nausea and dyspepsia
Nicotine inhaler	4 inhalers/d with tapering over 8 to 12 wk	Mouth and throat irritation
Nasal spray	4 sprays/h with tapering for 8 to 12 wk	Nasal and throat irritation, rhinorrhea and nausea

From Mallin R. Smoking cessation: integration of behavioral and drug therapies. Am Fam Physician 2002;65:1107–14; with permission.

smokers who quit relapse within a week because of the nicotine withdrawal symptoms. There are number of medications that can be helpful. Typical symptoms include dysphoria, insomnia, irritability, anxiety, difficulty in concentrating, restlessness, decreased heart rate, and increased appetite. It is important that women know what symptoms to expect during tobacco withdrawal. Medications can help alleviate these symptoms. Bupropion can be used along with the nicotine patch to improve the smoking cessation rate. Possible medications to reduce withdrawal symptoms are included in Table 1.

These medications have not been used as frequently in adolescents and pregnant women. A recent study at the Mayo Clinic looked at the use of nicotine patches for 4 days in pregnancy. The use of the patch was not associated with fetal compromise. This was a small study that had a short study period. Currently the US Food and Drug Administration does not approve the use of nicotine patches, inhalers, or gum during pregnancy. Bupropion has not been studied in pregnancy, and animal studies have not shown any adverse effects; it is currently listed as a category B drug [8].

Illicit drug use

Screening, assessment, brief intervention, referral and pharmacotherapy

Screening for illegal drug use is difficult, mainly because women are reluctant to report it. They could lose custody of their children, lose their jobs, and, in some states, be placed in jail if they are pregnant. Female patients should be reassured that this information is important for their medical care and is confidential to the extent permitted by law. In general, toxicology screens ordered for medical reasons are not admissible in court unless strict ''chain of custody procedures'' are used to collect and process the test material. Patients should be informed if urine toxicology screens are ordered. OB/GYNs may want to focus on marijuana, cocaine, sedative drugs, amphetamines, and opioids for screening, depending on the age of the woman and cultural setting. Table 2 outlines the maternal and fetal effects of some illicit drugs.

Table 2
Maternal and fetal effects of illicit drugs

Drug	Effects	Effects on the fetus and infant
Cocaine	Maternal	Low birth weight, preterm delivery, abruptio placentae
	Fetal	Impaired central nervous system leading to poor sucking, tremors and poor motor control
Heroin	Maternal	Abruptio placenta, eclampsia, preterm labor, stillbirth, IUGR
	Fetal	Respiratory distress & SIDS
		Poor sucking, disturbed sleep and seizures
Methamphetamine	Fetal	Brain abnormalities and IUGR

From Curet LB, Hsi AC. Drug Abuse during pregnancy. Clin Obstet Gynecol 2002;45:73–88; with permission.

Drug screening and assessment

A direct interview conducted within the context of general health questions is probably the best method of screening for illicit drug use. Although limited research exists on how to sequence drug questions, many physicians begin with questions about exercise or nutrition and then move on to tobacco, alcohol, drugs, and sexual risk questions. It is sometimes helpful to reassure women that the information is confidential and important for their medical care. Physicians may want to state that their medical records are protected by the new federal privacy laws. Also, relating the importance of medication interactions with many drugs can sometimes convince patients to give more honest answers. Drug questions should be asked in a straightforward, nonjudgmental manner. The manner in which these questions are asked may be more important than the exact set of questions or specific wording.

The recommended screening for illicit drug use includes the following questions. It is best that each drug be asked about separately. The authors recommend focusing on three drugs when screening questions for illicit drug use:

1. Have you used marijuana/cocaine/heroin 5 or more times in your lifetime?
   If no, no additional questions are needed. The female patient is unlikely to be currently using illicit drugs.
   If yes to any of the three drugs:
2. Have you used marijuana/cocaine/heroin in the last 12 months?
   If no, no additional questions are necessary.
   If yes to any of the three drugs:
3. How many times did you use marijuana/cocaine/heroin in the last month?

Women who have used an illicit drug one or more times a week should be referred to a treatment center for a full assessment and counseling. Women using drugs less often may respond to brief office counseling combined with random toxicology screenings and brief follow-up visits.

Additional questions that can be used to assess drug use are the CAGE questions for drugs:

1. Have you felt a need to control your drug use?
2. Do you get annoyed when someone criticizes your drug use?
3. Do you feel guilty about your drug use?
4. Do you need to use drugs everyday to keep from being sick?

A number of drug abuse screening questionnaires are available, such as the 20-question self-administered Drug Abuse Screening Test [9]. A positive response on any of the 20 questions may indicate a problem with drugs. Women who respond positively to three or more questions are likely to be drug-dependent and may require referral to a drug treatment program. Questions 4 and 5 are reversed, such

that an answer of "no" is actually a positive response. The questions refer to drug use in the past 12 months:

1. Have you used drugs other than those required for medical reasons?
2. Have you abused prescription drugs?
3. Do you abuse more than one drug at a time?
4. Can you get through the week without using drugs?
5. Are you always able to stop using drugs when you want to?
6. Have you had blackouts or flashbacks as a result of drug use?
7. Do you ever feel bad or guilty about your drug use?
8. Does your spouse (or parents) ever complain about your involvement with drugs?
9. Has drug abuse created problems between you and your spouse or your parents?
10. Have you lost friends because of your use of drugs?
11. Have you neglected your family because of your use of drugs?
12. Have you been in trouble at work because of drug abuse?
13. Have you lost a job because of drug abuse?
14. Have you gotten into fights when under the influence of drugs?
15. Have you engaged in illegal activities to obtain drugs?
16. Have you been arrested for possession of illegal drugs?
17. Have you ever felt sick when you stopped taking drugs?
18. Have you had medical problems as a result of your drug use?
19. Have you gone to anyone for help for a drug problem?
20. Have you been involved in a treatment program specifically related to drug use?

Urine toxicology screens can provide unique information. Physicians need to request specific drugs when ordering a urine drug test. Many drugs such as marijuana, methadone, anabolic steroids, and designer drugs may not be included in routine toxicology screens.

The authors recommend toxicology screening in the following situations:

- Women who receive prescriptions for mood-altering drugs such as sedatives, muscle relaxants, narcotics, or amphetamines
- Women who are being evaluated for trauma
- Women who are being treated for a medical situation that could be complicated by illicit drug use (eg, hypertension, infertility, amenorrhea, headaches, fibromylagia, chronic pelvic pain)
- Urine toxicology screens for preoperative evaluation in women with a history of drug use

The use of drug screening in pregnancy remains controversial, but it may help convince women to become abstinent and participate in drug treatment. It is important to tell a patient when a toxicology test is being ordered and how the results will be recorded in the patient's medical record.

Brief intervention and referral

Primary care physicians have a number of treatment options when trying to help women who are identified as currently using illicit drugs. Brief counseling may be helpful in convincing a woman reduce her drug use or become abstinent [10]. Referral to a drug specialist or physician with expertise in drug addiction for an assessment and possible drug treatment may be appropriate when available. There is an increasing number of medications that are available for detoxification, craving, and treatment of comorbid disorders. Posttraumatic stress syndrome, personality disorders, and childhood sexual abuse are commonly found in women who use illicit drugs. Protocols for brief counseling that have been tested and appear to work include the following.

Step 1: state your concern as the patient's physician

Physician empathy and caring can be a very powerful change agent.

> As your physician, I am very concerned about your marijuana/cocaine/heroin use.

Step 2: relate drug use to patient

Try to focus on drug effects that are of importance to your patient. These may be health risks such as STDs, asthma, cardiac and brain effects, family effects, or legal problems.

> There are a number of health problems that may occur when women use marijuana/cocaine/heroin), such as. . .
>
> You could develop hepatitis C or HIV infection.
>
> If you are arrested for drug use you could lose your children or be prosecuted. It just isn't worth the risk to your health or your family.

Step 3: ask the patient what she thinks about her drug use

Try to find out where the patient stands regarding her readiness to change her behavior around drug use. Ask her if she is willing to stop and get some help.

> Are you concerned about your drug use?
>
> Is your family worried?
>
> Are you willing to stop using drugs?
>
> Are you interested in seeing a drug specialist or a physician colleague of mine to get some help?

Step 4: get a sense of what your patient is willing to do at this time; develop a treatment plan

> I want you to stop using illicit drugs and get some help from an counselor.
>
> I want you to attend AA meetings.
>
> I am referring you to a physician colleague of mine who may be able to prescribe medication to help you stop using drugs.

A treatment plan may have to focus on reducing use rather than complete abstinence. The patient may need to think about seeing a counselor before she is willing to make a commitment. Women are much more likely to follow through if they are part of the process. It is very difficult to force treatment on a female patient who is not ready or who is too afraid. Safety issues can be a barrier to treatment if she has an abusive partner who also uses drugs.

Step 5: consider various methods when making a referral

If the patient is reluctant to see a counselor, tell her you would like a second opinion from a specialist. Make the phone call while the patient is in the examining room and have her make the appointment before she leaves your office. Ask the specialist to call you after completing the assessment so that you can participate in the treatment planning and support long-term behavioral change. Identify a recovering drug addict in the community who would be willing to meet with your patient to discuss methods she can use to change her drug use behavior.

Pharmacotherapy for drug use disorders

Marijauna

There are no effective drugs to reduce craving or provide a substitute for marijuana. Although most women who use marijuana can stop the drug with minimal symptoms of withdrawal, it has addictive properties, and cravings can be very intense. Hypnotics can be helpful for 1 to 2 weeks until the drug is metabolized out of the system. Underlying mental health issues may need to be treated with selective serotonin reuptake inhibitors (SSRIs) or anxiolytic agents. Because many people use marijuana for relaxation and mood effect, activities that produce similar feelings such as yoga, message therapy, exercise, or sexual activity with their partner may be helpful as an adjunct to medication.

Cocaine

There are no specific medications to treat cocaine dependence or cocaine withdrawal. Research with dopamine blocking agents (eg, Bromocriptine) and antiseizure medication (et, Tegretol) suggest these medications do not increase abstinence rates or decrease craving. Depression is a common sequela of chronic cocaine use. Although acute depressive effects are best treated with counseling and hypnotics for sleep, SSRIs may be helpful for the treatment of chronic depression related to cocaine use. Relapse rates are very high with cocaine, and patients often require close follow-up by their physician and other health care providers to help them achieve long-term abstinence. Women may need inpatient care or structured living environments for 3 to 6 months to achieve abstinence. Care of a woman's children while she is in treatment can be a primary barrier preventing adequate treatment. Safety issues such as housing and partner

violence are important considerations when trying to help women to stop using illicit drugs.

Opioids

The treatment of narcotic withdrawal is becoming increasingly common among all physicians—including OB/GYN physicians—because of the increasing use of opioids in the treatment of acute and chronic pain. There are a number of strategies that can be used to help women who have a physical dependence on opioids. Detoxification methods include: (1) tapering doses of the medication they are taking (10%–20% per day, depending on the half-life of the opioid medication); (2) use of methadone (21-day detoxification decreasing by 1–3 mg/day, depending on starting dose); (3) use of buprenorphine (3–4-day detoxification using subcutaneous injects every 6 hours starting at 300 μg per dose); or (4) symptomatic treatment of withdrawal symptoms (clonidine for sweating; piloerection for cramping; imodium for diarrhea; trazadone or lorazepam for sedation; phenergan for nausea). Counseling must be an integral part of any effort to detoxify a patient who has a dependence on illicit or prescription narcotics. Pregnant patients who are interested in stopping intravenous heroin should be placed on methadone. These patients should be referred to a methadone clinic and should be maintained on opioid medications until after completion of their pregnancy. Women on low-dose opioids for pain control can be safely withdrawn over 2 to 3 weeks during the second trimester.

Alcohol use

Screening and assessment

Fig. 1 presents an overview of alcohol screening, assessment, and treatment for women who use alcohol above recommended limits. Consumption questions that focus on frequency, quantity, and binge drinking are widely recommended as initial screening questions for use in clinical settings with women. These questions, which can be incorporated into routine patient care, are very sensitive and specific for the detection of women who use alcohol above recommended limits. Indirect behavioral questions such as those contained in the CAGE were developed to detect persons who are alcohol-dependent. One or more positive responses to the CAGE suggest an alcohol problem that needs to be assessed further. CAGE variants include the T-ACE or TWEAK, both of which were developed for pregnant women [11]. The T-ACE substitutes a question on tolerance for the guilty question. The TWEAK adds a question on blackouts to the T-ACE. Laboratory tests such as blood alcohol levels, gamma-glutamyltransferase (GGT) levels, or mean corpuscular volume levels may be useful in some clinical settings as an initial screening test.

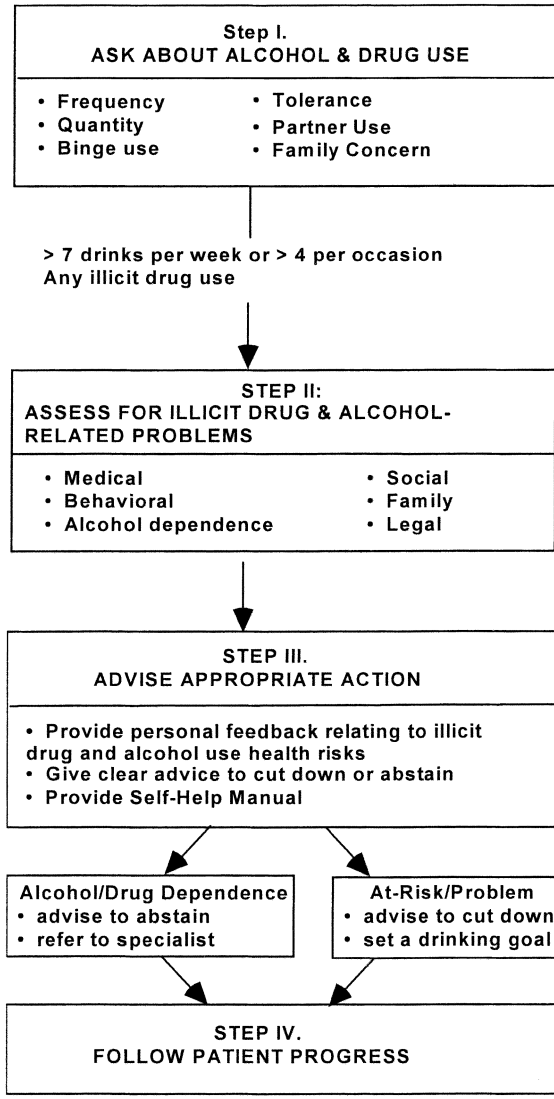

Fig. 1. An overview of alcohol screening, assessment and treatment for women who use alcohol above recommended limits.

Effects of alcohol exposure on the fetus and infant include: low birthweight; developmental and behavioral abnormalities; spontaneous abortion and stillbirth; and fetal alcohol syndrome (growth retardation, neurodevelopmental abnormalities, facial dysmorphology, smaller than normal palpebral fissures, absence of groove in upper lip, thin colored portion of the upper lip) [12].

Brief intervention and referral

The treatment of alcohol problems by an OB/GYN focuses on brief, office-based counseling or referral to treatment specialists. Brief counseling can include the following common elements:

1. Conduct a brief assessment. ''Tell me about your drinking.'' ''What do you think about your drinking?'' ''What does your family or partner think about your drinking?'' ''Have you had any problems related to your alcohol use?'' ''Have you ever been concerned about how much you drink?''
2. Provide direct clear feedback: ''As your doctor, I am concerned about how much you drink and how it is affecting your health.'' ''The car accident is a direct result of your alcohol use.''
3. Establish a treatment contract through negotiation and goal-setting. ''You need to reduce your drinking. What do you think about cutting down to three drinks two to three times per week?'' ''I would like you to use these diary cards to keep track of your drinking over the next two weeks; we will review these at your next visit.''
4. Apply behavioral modification techniques. ''Here is a list of situations when women drink and sometimes lose control of their drinking. Let's talk about ways you can avoid these situations.''
5. Ask patients to review a self-help booklet and complete diary cards. ''I would like you to review this booklet and bring it with you at your next visit. It would be very helpful if you could complete some of the exercises in the book. I'd also like you to write down how much you drink on these diary cards.''
6. Set up a continuing care plan for nurse reinforcement phone calls and clinic visits. ''I would like you to schedule a follow-up appointment in 1 month so we can review your diary cards and I can answer any questions you might have. I will also ask one of the nurses to call you in two weeks. When is good time to call?''

Physicians who feel they are too busy may want to refer female patients to one of their nurses to conduct the brief intervention. Physicians may want to limit their comments to the following:

''As your physician I would like you to stop drinking.''
''I am concerned about how alcohol is affecting your health.''
''I would like you to talk with my nurse or see a colleague of mine who can help you stop drinking.''

In addition to these six steps, there are a number of techniques that physicians can use to increase the efficacy of brief intervention. Provider empathy and body language are powerful change agents. Creating a safe, protective environment is another key element, especially for women. Developing trust and mutual respect

can lead to risk-taking and behavioral change. Creating cognitive dissonance and dealing with a patient's ambiguity toward change is another effective strategy. Other tools include self-monitoring diary cards, self-help booklets, and referring patients to reading materials. Many patients respond to stories about persons who have changed their alcohol use. Asking a patient to bring her partner or close family member is another technique.

Brief intervention is useful in three clinical situations. First, brief intervention can reduce alcohol use and the risk of alcohol-related problems in nondependent women who are consuming alcohol above recommended limits. The goal of brief intervention with this population is harm reduction, not abstinence.

Second, brief intervention may be used to facilitate medication compliance and abstinence with patients who are being treated with pharmacological therapies. For example, women who are being treated with medication that interacts with alcohol, such as blood pressure, glucose, and lipid-lowering medication; many antibiotics; most antidepressants; and all sedatives and opioids should not drink beverages that contain alcohol.

Third, brief intervention may be used to facilitate the referral of persons who do not respond to brief counseling alone or with patients who are alcohol-dependent. Most patients who are referred for an assessment or counseling by a primary care provider either do not schedule an appointment or fail to keep the scheduled assessment. Brief intervention can greatly facilitate this process and increase successful completion of an assessment and admission to a treatment program. The goal of brief advice in this situation is to move patients along the readiness-to-change scale from precontemplation to action. Dealing with ambivalence, resistance, and patient fears is critical to making a successful referral.

Pharmacotherapy for alcohol problems

Effective medications for the treatment of alcohol problems include disulfiram (Antabuse), naltrexone (ReVia), calcium acetylhomotaurinate (Acamprosate), SSRIs, and tricyclic antidepressants. Disulfiram is the most commonly used medication to deter women from drinking alcohol during recovery. While the efficacy of this medication is variable among women, disulfiram is widely used throughout the world in tablet and implant form. If women who are alcohol-dependent take disulfiram on a daily basis, it can be an effective deterrent. Disulfiram inhibits several enzyme systems, including aldehyde dehydrogenase and dopamine hydroxylase. The normal dose range is 250 to 500 mg per day, with the most common dose being 250 mg per day. Partner monitoring can significantly increase compliance and reduce rates of relapse.

Naltrexone is an opioid receptor antagonist that binds primarily to mu-type opioid receptors. It was initially found to reduce alcohol use in laboratory animals, and subsequent randomized controlled trials have found reductions in alcohol use and craving in alcohol-dependent persons. The drug does not appear to be effective when used without counseling and other standard treatment. It is viewed as a treatment adjunct rather than a replacement for traditional treatment.

The normal dose of naltrexone is 50 mg/day, with a recommended duration of 6 to 12 weeks. The optimum dose has not yet been established, and some ongoing clinical trials are using doses of up to 150 mg/day. The most common side effect is nausea (10%), which usually resolves within a few days. Vomiting is uncommon. Naltrexone appears to cause reversible elevations in GGT levels at high doses (200 mg/day). Idiosyncratic reactions include fatigue, dizziness, restlessness, and insomnia.

Calcium acetylhomotaurinate (Acamprosate) is an orally available, nonmetabolized, modified amino acid that is not protein-bound. It has a relative specificity for brain N-methyl-D-aspartate (NMDA) and gamma-aminobutyric acid receptors, which themselves are involved in learning and anxiety relief. Alcohol has activity at NMDA receptors. Acamprosate appears to act at glutamate receptors as a competitive antagonist and decrease craving in alcohol-dependent persons. Eleven controlled placebo trials have been conducted in Europe; ten of these trials demonstrated superior efficacy of Acamprosate over placebo when the medication was combined with psychosocial treatment. The trials used doses of up to 2000 mg per day for periods of up to 1 year with only one major side effect: diarrhea (in 10% of the cases).

Animal studies have found lower concentrations of serotonin and its metabolites (5-HIAA) in cerebrospinal fluid in alcohol-dependent persons. As a result, researchers have proposed many different methods to increase the amount and activity of serotonin in the brain. L-tryptophan, which is the amino acid precursor to serotonin, appears to have some effect in laboratory animals and may directly increase concentrations of serotonin. The serotonin receptor agonist buspirone has reduced alcohol use.

The use of SSRIs to reduce craving is being intensively studied by pharmaceutical companies. SSRIs (eg, fluoxetine, Prozac) appear to enhance serotonin activity in the central nervous system. These drugs have been traditionally used to treat depression, panic attacks, lack of self esteem, and obsessive compulsive disorders. A number of small clinical trials with zimelidine, citalopram, viqualine, and fluoxetine suggest a modest treatment effect in reducing alcohol use in both heavy drinkers and alcoholics.

Pregnant women who are addicted to alcohol should be referred to an addiction specialist. Benzodiazepines may be used to prevent the complications of alcohol withdrawal.

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