• Should pregnant women drink at all?
• Is there a safe or acceptable level of alcohol consumption for pregnant women?
No level of alcohol use during pregnancy has been proven safe. Therefore, the March of Dimes Birth Defects Foundation recommends that pregnant women do not drink any alcohol — including beer, wine, wine coolers and hard liquor — throughout their pregnancy and while nursing. In addition, since women often do not know they are pregnant for several months, women who are attempting to become pregnant should abstain from alcoholic beverages.
• The Royal College of Obstetricians and Gynaecologists conducted a large study including 400,000 American women, all of whom had consumed alcohol during pregnancy. Not a single case of fetal alcohol syndrome occurred and no adverse effects on children were found when consumption was under 8.5 drinks per week.

• The guidelines of the Royal College of Obstetricians and Gynaecologists recommend that "women should be careful about alcohol consumption in pregnancy and limit this to no more than one standard drink per day."
Objectives

- Describe maternal, fetal and neonatal complications associated with perinatal substance abuse
- Understand the interrelationship among substance abuse, STIs, DV/IPV and health care utilization for pregnant women
- Discuss specific assessment tools that should be integrated into all programs that provide women’s health services
Healthy People 2010

Goals:
- increase quality and years of healthy life lived
- eliminate health disparities

- 467 objectives are organized in 28 focus areas, each representing an important public health area
- Leading Health Indicators are intended to help everyone more easily understand the importance of health promotion and disease prevention and to encourage wide participation in improving health in this decade

www.healthypeople.gov
**Perinatal Substance Exposure**

16-17. Increase abstinence from alcohol, cigarettes, and illicit drugs among pregnant women.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Increase in Reported Abstinence in Past Month From Substance by Pregnant Women*</th>
<th>1996-97 Baseline</th>
<th>2010 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-17a</td>
<td>Alcohol</td>
<td>86</td>
<td>94</td>
</tr>
<tr>
<td>16-17b</td>
<td>Binge drinking</td>
<td>99</td>
<td>100</td>
</tr>
<tr>
<td>16-17c</td>
<td>Cigarette smoking*</td>
<td>87</td>
<td>98</td>
</tr>
<tr>
<td>16-17d</td>
<td>Illicit drug</td>
<td>98</td>
<td>100</td>
</tr>
</tbody>
</table>

*Pregnant women aged 15 to 44 years.

\*Smoking during pregnancy for all women giving birth in 1997 in 46 States, the District of Columbia, and New York City.

Target setting method: Better than the best for 16-17a, and 16-17c; complete elimination for 16-17b and 16-17d.

Data sources: National Household Survey on Drug Abuse, SAMHSA for 16-17a, 16-17b, and 16-17d. National Vital Statistics system, CDC, NCHS for 16-17c.
Pregnant Women Abstaining from Alcohol by Race/Ethnicity and Trimester, 2002

HP2010 Target

Percent in month preceding survey

Total  Hispanic*  Black  White  Not Hispanic  First  Second  Third

HP2010 Obj. 16-17a

95% Confidence interval. Source: NSDUH, OAS, SAMHSA.

* Persons of Hispanic origin may be of any race.
Substance Use During Pregnancy
HP2010 Developmental Objectives

• (Developmental) Reduce the birth prevalence of fetal alcohol syndrome.
  • Potential data source: CDC
• (Developmental) Reduce the number of birth defects caused by prenatal maternal exposure to prescription medications with a known teratogenic effect.
  • Potential data source: CDC
Conception → Birth → Fetal → Infancy → 1 Year

- Spontaneous Abortion
  - Ectopic
  - Perinatal
    - I
    - II
    - III

- Fetal:
  - 20 wks
  - 28 wks
  - Late Fetal

- Birth:
  - Neonatal

- Infancy:
  - Postneonatal
    - Infant
    - Feto-Infant
**Critical Periods of Development**

Weeks gestation from LMP

<table>
<thead>
<tr>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
<tr>
<td><strong>Central Nervous System</strong></td>
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<td><strong>Heart</strong></td>
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<td></td>
<td><strong>Arms</strong></td>
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<td><strong>Eyes</strong></td>
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<td><strong>Legs</strong></td>
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<td><strong>Teeth</strong></td>
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<td><strong>Palate</strong></td>
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<td><strong>External genitalia</strong></td>
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<td><strong>Ear</strong></td>
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</tr>
</tbody>
</table>

*Missed Period*  

*Mean Entry into Prenatal Care*

*Most susceptible time for major malformation*
Unintended Pregnancies
United States, 1994

Source: National Survey of Family Growth, 1995
Prepared by March of Dimes Perinatal Data Center, 2000
Pre/Interconceptional Care

- Readiness for pregnancy (FP)
- Optimal management of any medical conditions (diabetes, HBP, asthma, infections, heart disease)
- Infections and STIs
- Immunizations up to date
- Family history, genetic counseling, carrier testing
- Substance abuse (smoking, alcohol, other drugs)
- Domestic violence (DV/IPV)
- Stress reduction
- Optimal weight and activity
- Good nutrition-- folic acid for men and women
- Avoid teratogens (work site, environment)
- Review all meds and home remedies with hcp
Folic Acid Recommendations

*Prevent Recurrence, 1991*
- All women with a previous NTD pregnancy should take 4 mg or 4000mcg interconceptionally

*Prevent Occurrence, USPHS September, 1992*
- All women of childbearing potential should consume 0.4 mg (400 micrograms) of folic acid daily

*Food & Nutrition Board of IOM, 1998*
- Men (14 yr & older) 400 µg any source
- Women (14 yr & older) 400 µg *synthetic* + food
- Pregnancy 600 µg *synthetic* + food
- Lactation 500 µg any source
Conditions that Require More Folic Acid

- History of NTD affected pregnancy (4.0mg daily)
- History of NTD
- Diabetes
- Alcoholism, alcohol abuse
- Smoking
- Illicit drug use
- Obesity
- Absorption disorders
- Infection with HPV
- Some prescribed medications
- Some OTC (NSAIDs)
Substance Abuse and Reproductive Health Issues

- Polydrug use is common
- Substance abuse and domestic violence often overlap
- Women often use substances to cope with stress and/or depression; assess and intervene with primary causes
- Substances influence behavior and cognition
- Substances can impair a person’s immune system, increase susceptibility to infections
- Pregnancy is a time of relative immune suppression
- Methamphetamine, amphetamines and nitrates may be linked to longer or particularly vigorous sexual activity which can lead to physical trauma and enhanced transmission of STIs including HIV
Interplay between Substance Abuse and Sexual Intercourse

• Survey (11/2001-1/2002) of 988 sexually active youth in US, 15-24 years
• About 25% said they had unprotected sex because they were using alcohol or drugs
• About 30% said they were concerned about STIs or pregnancy because of the sexual activity which using alcohol or drugs
• Those who used alcohol or drugs were 7 times more likely to have sex and twice as likely to have sex with 4 or more partners
• Almost 3/4 believe their peers often fail to use protection when they are under the influence of alcohol or drugs

“Substance abuse and risky sexual behavior: Attitudes and practices among adolescents and young adults”, Kaiser Family Foundation Survey, Feb 2002
MULTIMEDIA

Alcohol and Drug Use Disorders, Sexually Transmitted Diseases, and Other Infectious Diseases

System Requirements for Viewing Live Webcasts
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View the Webcast

When: 7/7/2004
Sponsor: CSAT

Host: Nettie Torres, Associate Director for Consumer Affairs, Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (HHS)

Invited Panelists: Dr. Randy Pumphrey, Clinical Program Director, The Lamps Center (A Partnership of Whitman-Walker Clinic and The Psychiatric Institute of Washington); Mickey Smith, Senior Staff Associate, Behavioral Health, National Association of Social Workers; Debra Henderson, Syphilis Elimination Coordinator, Marion County Health Department; Lorraine Al-Mahdi, Case Coordinator, Social Services/Case Manager, Nurture for Live 2, Atra/Community Action Group

Program Abstract: For individuals with alcohol and drug use disorders, the risk of contracting an infectious disease is vastly increased. Intravenous drug users (IDUs) and persons who engage in risky sex while under the influence are prime candidates for contracting infectious diseases. Many professionals in the public health, mental health, criminal justice, and substance abuse healthcare delivery systems are not adequately prepared, either through training or experience, to fully address the complex needs of substance-abusing patients infected with HIV/AIDS, STDs, tuberculosis, or viral hepatitis. This program will highlight progress in efforts to improve treatment for persons with co-existing alcohol and drug use disorders and infectious diseases and give critical insights into proven approaches for providing...
Brief Interventions Work

• Youth counseled about alcohol and other drugs when treated for trauma, a year later:
  – consumed on average 21 drinks fewer/week
  – 47% reduction in new injuries
  – 48% fewer hospitalizations
  – 23% fewer DUIs

• “Catching people at a teachable moment had a recognizable impact on behavior”

Gentilello L. Annals of Surgery, 1999
Substance Abuse is a Major Problem During Pregnancy

- 5-10% of all pregnant women have substance abuse problems during pregnancy (alcohol, tobacco, cocaine, methamphetamine, heroin, marijuana, club drugs)
- Substance abuse contributes to obstetric and pediatric complications (eg miscarriage, fetal death, abruption, LBW, PTD, IUGR, birth defects, neurodevelopmental disorders)
- Pregnancy is a window of opportunity as 96% of women in the US are seen during their pregnancy
- Women are more likely to change their behavior during pregnancy than at any other time in their lives
- Treatment for substance abuse during pregnancy is significantly more effective than at other times in a woman’s life
Pregnancy and Substance Use
2002 National Survey on Drug Use and Health (NSDUH)

in the past month pregnant women aged 15 to 44 years:
- 3% reported binge alcohol use
- 17% reported smoking cigarettes
- 3% reported illicit drug use

• Pregnant women 15 to 25 years were more likely binge drink, smoke cigarettes and use illicit drugs and in the past month than those 26 to 44 years

• Among pregnant women aged 15 to 44, whites were more likely to have smoked cigarettes in the past month than blacks or Hispanics

www.oas.samhsa.gov
Past Month Substance Use among Women Aged 15 to 44 by Pregnancy and Recent Motherhood Status, 2002

Source: SAMHSA
2002 NSDUH
www.oas.samhsa.gov
Alcohol Use: Binge Drinking
Michigan vs. Nationwide

Alcohol Use: Chronic Drinking
Michigan vs. Nationwide

www.cdc.gov/brfss
Percentages Reporting Past Month Use of Alcohol among Persons Aged 18 to 25, by State: 2002
Alcohol Use During Pregnancy

- No known safe level of use
- Affects the fetus during all 3 trimesters
- 20% of pregnant women drink alcohol
- 3.5% drink two or more drinks per day or five or more drinks per occasion
- Exposure estimate (U.S. 1995): 140,000 newborns exposed to potentially teratogenic doses
- FAS estimate: 0.5 - 3 children per 1000 live births
Past Month Binge Drinking among Women Aged 15 to 44, by Pregnancy Status, Age, and Race/Ethnicity, 2002
Effects of Alcohol on Pregnancy
Fetal Alcohol Spectrum Disorder (FASD)

- Miscarriage
- Premature birth
- Low birth weight
- FAS
- ARBD - Alcohol-Related Birth Defects
- ARND - Alcohol-Related Neurodevelopmental Disorders
- Birth complications
FAS Facial Features

Discriminating Features
- short palpebral fissures
- flat midface
- short nose
- indistinct philtrum
- thin upper lip

Associated Features
- epicanthal folds
- low nasal bridge
- minor ear anomalies

In the Young Child
FAS Facial Malformation

- Short palpebral fissures
- Thin upper lip
- Long, flat philtrum
- Hypoplastic midface
midfacial zone in an 11-year-old boy to show the low nasal bridge, short palpebral fissures and epicanthic folds.

Lower face demonstrating a broad, smooth philtrum with narrowing of the red margin of the upper lip and loss of the normal "cupid's bow" configuration. Nostrils are directed slightly forward, not straight down, indicating a slightly short nose.
Mosaic photo of the same girl at 2, 4, and 8 years, showing the progression of facial features over time. The facial features of FAS were best seen in this patient when she was 4 years old. Progressive growth begins to "normalize" the face in the picture at 8 years old.