

Alcohol Use and Premature Birth

© 2006 Teresa Kellerman

It is well known that drinking during pregnancy can cause birth defects, cognitive disabilities, developmental delays, learning difficulties, and behavioral disorders. Most people do not realize, however, that alcohol use during pregnancy is one of the known causes of prematurity. (1)

Approximately ten percent of all births in the United States are classified as preterm, which is defined as delivery occurring before 37 complete weeks of gestation. Preterm delivery causes the majority of neonatal deaths (except for those related to genetic birth defects) and accounts for more than one half of neonatal hospital nursery costs. (2)

When looking at alcohol's effects on preterm labor, we should include questions about alcohol's possible indirect effects and alcohol's connection to other causes of prematurity.

Multiple risk factors associated with preterm delivery include the following:

1. infection
2. physical abuse
3. cocaine use
4. lack of prenatal care
5. poor nutrition

1. Infection: Approximately 40 percent of spontaneous premature births are thought to be caused by infection. (3) Types of infections include sexually transmitted diseases (STD) such as gonorrhea and chlamydia, which is the most frequently reported bacterial STD in the United States. (4) Although chlamydia is easily treated with antibiotics, this STD often has mild or absent symptoms; the pregnant woman with chlamydia may never receive a diagnosis or seek treatment. Alcohol use increases the risk of unprotected sex and multiple sex partners, which increases the risk of chlamydia and other genitourinary infections. (5)

2. Physical abuse: Women whose partners had a drinking problem were 3.4 times (95% CI 1.2-9.9) more likely to have been abused than women whose partners did not have a drinking problem. (6) Women who are heavy drinkers are more likely to have partners who are heavy drinkers, and women are likely to increase their drinking behavior due to influence of their partner's drinking behavior. (7-8)

3. Cocaine use: Women who abuse cocaine during pregnancy are more likely to continue drinking alcohol during the third trimester. The women most likely to abuse alcohol and cocaine during pregnancy also have other characteristics that are significant risk factors for poor pregnancy outcome. (9) Alcohol use is a risk factor in relapse of cocaine abuse. (10)

4. Lack of prenatal care: There is an association between lack of prenatal care and the increased risk of preterm labor and other birth complications. (11) Women who abuse alcohol and other drugs are less likely to receive early prenatal care. (12)

5. Nutrition: Although it is difficult to isolate factors such as nutrition in human studies, there are animal studies that support the link between poor nutrition and preterm birth. (13) There is a link between heavy alcohol use and malnutrition. (14) Also, alcohol interferes with the nutritional process by affecting digestion, storage, utilization, and excretion of nutrients. (15)

Increased awareness about the risk of alcohol use during pregnancy can prevent many cases of premature birth, as well as the serious effects associated with Fetal Alcohol Spectrum Disorders.

References:

1. March of Dimes Update: Taking action against prematurity. Ellen Fiore. Contemporary Ob/Gyn 2003;2:92-104.
2. ACOG technical bulletin. Preterm Labor. Number 206--June 1995. Int J Gynaecol Obstet 1995;50:303-13.
3. Lettieri L, Vintzileos AM, Rodis JF, Albini SM, Salafia CM. Does "idiopathic" preterm labor resulting in preterm birth exist? Am J Obstet Gynecol 1993; 168:1480-5.
4. Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines 2002. MMWR 2002;51(no. RR-6).
5. Chlamydia Fact Sheet. Health Matters. August 2006. National Institutes of Health, Department of Health and Human Services.
6. Stewart DE, Cecutti A. Physical abuse in pregnancy. CMAJ. 1993 Nov 1;149(9):1257–1263.
7. Muhajarine N, D'Arcy C. Physical abuse during pregnancy: prevalence and risk factors. CMAJ. 1999 Apr 6;160(7):1007–1011.
8. Peer and Partner Drinking and the Transition to Marriage: A Longitudinal Examination of Selection and Influence Processes. Kenneth E. Leonard, Ph.D., and Pamela Mudar, M.S. Research Institute on Addictions. University at Buffalo, The State University of New York. Abstracted from Psychology of Addictive Behaviors, 17, 115-125, 2003.
9. The epidemiology of alcohol, marijuana, and cocaine use among women of childbearing age and pregnant women. Day NL, Cottreau CM, Richardson GA. Clin Obstet Gynecol. 1993 Jun;36(2):232-45.
10. The relationship of alcohol use to cocaine Relapse in cocaine dependent Patients in an aftercare study. MCKAY J. R. (1) ; ALTERMAN A. I.; RUTHERFORD M. J.; CACCIOLA J. S.; MCLELLAN A. T. Journal of studies on alcohol. 1999, vol. 60, no2, pp. 176-180.
11. The impact of prenatal care in the United States on preterm births in the presence and absence of antenatal high-risk conditions. VINTZILEOS Anthony M.; ANANTH Cande V.; SMULIAN John C.; SCORZA William E.; KNUPPEL Robert A. American journal of obstetrics and gynecology. 2002, vol. 187, no5, pp. 1254-1257.
12. US Department of Health and Human Services. (1990). Fetal alcohol syndrome and other effects of alcohol on pregnancy. In Seventh Special Report to the US Congress on Alcohol and Health from the Secretary of Health and Human Services (pp. 139-161). Rockville, MD: US Department of Health and Human Services.
13. Poor Nutrition, Short Gestation? An Animal Study. Geller, B, Bloomfield, FH. *Science* 2003 Apr 25; 300:606.
14. Relationships between nutrition, alcohol use, and liver disease. Lieber, C.S. (2003)Alcohol Research & Health 27(3):220–231.
15. The influence of alcohol on nutritional status. Lieber, C.S. Nutrition Reviews 46(7):241-254, 1988.