



### Co-occurring Disorders (COD) Related to Risk of Pregnancy Loss

Data from the National Comorbidity Study (NCS) have been examined in regard to pregnancy loss and COD: **Gold, K., Dalton, V.K., Schwenk, T.L., & Hayward, R.A. (2007). What causes pregnancy loss? Preexisting mental illness as an independent risk factor. *General Hospital Psychiatry, 29, 207–213.***

The NCS surveyed 8,098 adults, aged 15 to 54. Within the NCS, the authors had available data on 606 women (average age of 38, with a range of 15 to 59) who reported one or more cases of pregnancy loss (assessed in the survey by a single question asking whether the respondent had ever had a miscarriage or stillbirth) and 1,354 women (average age of 36, with a range of 16 to 54) who delivered one or more children without a miscarriage or still birth. Women who lost a pregnancy had a greater number of pregnancies on average: 4.1 (with a range of 1 to 19) compared to 2.3 (with a range of 1 to 8) for women who had not lost a pregnancy.

The authors note that fetal loss is not an uncommon event, and estimates are that a miscarriage occurs in 15 percent of pregnancies and a stillbirth in nearly 1 percent of all births. The women who lost pregnancies, regardless of their mental health status, tended to be older, had a greater number of pregnancies, were more likely to use tobacco, and were more likely to have certain high-risk medical conditions.

In making the determination as to who to include in their analysis, the authors excluded current pregnancies and cases where the only outcome for any pregnancy was termination to ensure that they only evaluated pregnancies with an outcome. They also used NCS age-of-onset data to determine whether a mental or substance use disorder occurred prior to a pregnancy.

In evaluating the role of mental disorders, the authors focused their analysis on affective disorders (i.e., depression, dysthymia, mania), anxiety disorders (i.e., general anxiety disorder, panic disorder, simple phobia, social phobia, agoraphobia, posttraumatic stress disorder), and substance use disorders (SUDs), excluding tobacco use disorders. They evaluated the role of these disorders in both unadjusted and adjusted models, with the latter taking into account other

pregnancy loss risk factors such as the mother's age, race, income, prior birth history, specific medical problems (e.g., high blood sugar, autoimmune disorders, high blood pressure), tobacco use, and cocaine use three or more times during one's life. They analyzed the data and ruled out a number of possibly influential factors, including tobacco use and belonging to an age group at high-risk for pregnancy loss (i.e., 15 to 17 or 35 and older), as not significantly altering their findings.

Of the disorders considered, affective disorders appeared to have the strongest relationship to pregnancy loss (increasing the odds of loss by slightly more than 60 percent in the adjusted model) with substance use disorders having a slightly weaker relationship (increasing the odds of loss by slightly less than 50 percent in the adjusted model). Anxiety disorders did not have a significant effect in either model.

While the article does not report data on COD, the main author of the study reported that the data do show that having co-occurring affective and substance use disorders increases the odds of loss approximately twofold, which represents a significant increase over the odds of loss for having either disorder alone. Also unreported in the article is the fact that there were no significant differences regarding pregnancy loss between those who had alcohol use disorders and those with drug use disorders. **K. Gold (personal communication, March 16, 2008).**

The authors caution that their research is not able to distinguish any causative pathway between SUDs or affective disorders and fetal loss. Also, they note that the study is dependent on self-report data and estimates concerning age of onset. However, their findings are in line with other research that shows mental and substance use disorders can have an effect on fetal development. The authors also stress the importance of providing pregnant women with better mental health/substance abuse screening and treatment.

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## COD Research

### National Epidemiological Studies

**Office of Applied Studies (2008). *Impact of hurricanes Katrina and Rita on substance use and mental health* (The NSDUH Report, January 31, 2008). Rockville, MD: Substance Abuse and Mental Health Services Administration. Available online at <http://oas.samhsa.gov/2k8/katrina/katrina.cfm>**

This SAMHSA report uses data from the National Survey on Drug Use & Health (NSDUH) taken from between July 2004 through June 2005 and between January 2006 through December 2006 to analyze the effects of Hurricane Katrina and Hurricane Rita on the substance use and mental health of people living in the Gulf State areas affected by those storms. These data show that, contrary to expectations, past month marijuana use in these areas was significantly lower in the year after the hurricanes. There were no significant differences in regards to illicit drug use, binge drinking, cigarette use, mental health problems, mental health treatment, or a reported unmet mental health treatment need in the year after the hurricanes compared to the period before. The report does, however, note that adults (age 18 or older) who were displaced from homes for a period of 2 weeks or more after the hurricanes did have significantly higher past rates of past month illicit drug use, past month marijuana use, past month cigarette, past year rates of serious psychological distress, past year major depressive episodes, and a past year unmet need for mental health treatment than did those who were not so displaced.

**Office of Applied Studies (2008). *Nonmedical stimulant use, other drug use, Delinquent behaviors, and depression among adolescents* (The NSDUH Report, February 28, 2008). Rockville, MD: Substance Abuse and Mental Health Services Administration. Available online at <http://oas.samhsa.gov/2k8/stimulants/depression.cfm>**

This report from SAMHSA uses data from the 2006 National Survey on Drug Use and Health (NSDUH) concerning youths aged 12 to 17. Approximately 2 percent of youths in this age group had used stimulant drugs nonmedically in the prior year. Nearly 23 percent of youth who had used stimulants nonmedically experienced an episode of major depression in the prior year compared to 8.1 percent of other youth from the same age group. Youth who had used these drugs were also significantly more likely to engage in a variety of delinquent behaviors (over 71 percent in comparison to 34 percent of non-users).

### Client Characteristics

**Chapman, J. F. & Ford, J. D. (2008). *Relationships between suicide risk, traumatic experiences, and substance use among juvenile detainees*. *Archives of Suicide Research*, 12 (1), 50-61.**

The authors administered multiple screening instruments to assess suicide risks and other factors among 757 youth who were consecutively admitted to juvenile detention in Connecticut. In comparing instruments, the authors found that there was a significant relationship between scores on the Traumatic Experiences and Alcohol and Drug Use subscales of the Massachusetts Youth Screening Instrument 2 and on the Suicidal Ideation Questionnaire.

**Clark, D. B., Thatcher, D. L., & Tapert, S. F. (2008). *Alcohol, psychological dysregulation, and adolescent brain development*. *Alcoholism: Clinical and Experimental Research*, 32 (3), 375-385.**

The authors review available information concerning the relationship between alcohol consumption and adolescent brain development. They look at how alcohol use may affect adolescent brain development as well as how developmental delays or deficits may make some adolescents more prone to alcohol use. However, available research is insufficient to make definitive conclusions about how these factors influence one another.

**DeLisi, L. E. (2008). *The effect of cannabis on the brain: Can it cause brain anomalies that lead to increased risk for schizophrenia?* *Current Opinion in Psychiatry*, 21 (2), 140-150.**

The author reviews current information on the effects of cannabis on the brain, with particular attention paid to how it may affect the development of schizophrenia. The author concludes that it appears unlikely that cannabis use alone causes

chronic psychosis, although it may have an effect on individuals who are already genetically predisposed to such disorders. He also notes that there is some evidence that cannabis has a benign effect on brain structure.

**Driessen, M., Schulte, S., Luedecke, C., Schaefer, I., Sutmann, F., Ohlmeier, M., Kemper, U., Koesters, G., Chodzinski, C., Schneider, U., Broese, T., Dette, C., & Havemann-Reinicke, U. (2008). Trauma and PTSD in patients with alcohol, drug, or dual dependence: A multi-center study. *Alcoholism: Clinical and Experimental Research*, 32 (3), 481-488.**

The authors investigated trauma histories and posttraumatic stress disorder (PTSD) prevalence among 459 clients at a German substance abuse treatment program. Of their sample, which included people with drug use disorders and/or alcohol use disorders, 25.3 percent met criteria for PTSD, 22.8 percent had sub-diagnostic levels of PTSD symptoms, and 18.3 percent had trauma exposure without PTSD symptoms. PTSD was more common among those with drug use disorders alone or with both alcohol and drug use disorders than among those with alcohol use disorders alone. PTSD was associated with poorer treatment outcomes but trauma exposure alone was not.

**Erickson, S. K., Rosenheck, R. A., Trestman, R. L., Ford, J. D., & Desai, R. A. (2008). Risk of incarceration between cohorts of veterans with and without mental illness discharged from inpatient units. *Psychiatric Services*, 59 (2), 178-183.**

The authors looked at data from 36,385 veterans who had received treatment in the Connecticut Department of Veterans Affairs (VA) system between 1993 and 1997. They found that rates of incarceration during this period were significantly higher for veterans who had mental disorders and/or substance use disorders. While 26.6 percent of those who were not incarcerated had COD, 76.8 percent of those who were incarcerated had COD. However, in their multiple logistic regression analysis only substance use disorder and major depression diagnoses and not other mental disorders (e.g., personality disorders, schizophrenia) were independently associated with greater chances of being incarcerated. COD disorders were also no more significant than mental and substance use disorders considered independently. Substance use disorders accounted for the greatest increase in risk for incarceration in this population.

**Feldner, M., Babson, K., Zvolensky, M., Monson, C., Bonn-Miller, M., & Gibson, L. (2008). An examination of anxiety sensitivity as a moderator of the relationship between smoking level and posttraumatic stress symptoms among trauma-exposed adults. *Cognitive Therapy and Research*, 32 (1), 116-132.**

The authors sought to understand the relationship between PTSD symptoms and smoking in a group of 78 individuals who had been exposed to traumatic events. They found that sensitivity to anxiety, as well as mental and physical concerns related to sensitivity to anxiety, moderated the association of PTSD symptoms and smoking. The greatest level of PTSD symptoms was found among those who had high levels of anxiety sensitivity and who smoked frequently.

**Greenberg, G. A. & Rosenheck, R. A. (2008). Jail incarceration, homelessness, and mental health: A national study. *Psychiatric Services*, 59 (2), 170-177.**

The authors used data from a national sample of adult jail inmates (N=6,953) to determine rates of homelessness among those who had been so incarcerated. While diagnoses were not available for most of these individuals, the authors were able to look at groups of reported symptoms to make a rough determination as to whether an individual had a mental disorder and/or substance use disorder. The authors found that 15.3 percent of the jail population had been homeless in the year prior to incarceration, which they note is anywhere from 7.5 to 11.3 times the rate of homelessness found in general population samples. Those individuals who had symptoms indicating a drug use disorder, depression, and/or psychosis or who had been diagnosed with a mental disorder in the prior year were approximately 1.5 times more likely to have been homeless prior to entering jail.

**Jun, H. J., Rich-Edwards, J. W., Boynton-Jarrett, R., & Wright, R. J. (2008). Women's experience with battering and cigarette smoking: Added risk related to co-occurrence with other forms of intimate partner violence. *American Journal of Public Health*, 98 (3), 527-535.**

The authors analyzed data from 54,200 female nurses who were involved in a current relationship. They assessed whether participants were victims of psychological abuse in their current relationship based on scores on the Women's Experience With Battering scale (scores of 20 or greater were considered indicative of psychological abuse). Women who were found

to be victims of current psychological abuse were 33 percent more likely to be smokers than women who did not experience such abuse. The odds of smoking were further increased if a woman reported physical or sexual abuse.

**Kirillova, G. P., Vanyukov, M. M., Kirisci, L., & Reynolds, M. (2008). Physical maturation, peer environment, and the ontogenesis of substance use disorders. *Psychiatry Research*, 158 (1), 43-53.**

Researchers have suggested that one way in which substance use disorders are transmitted through families is via a speeded up process of physiological maturation. The authors evaluated this theory with a group of 478 young males who were assessed between the ages of 9 and 13 and again between the ages of 17 and 20. Participants included boys whose fathers had substance use disorders and those whose fathers did not. Testing (which included radioimmunoassay to assess blood testosterone levels, Tanner staging to assess sexual maturation, and the application of the Peer Delinquency Scale) showed that having a father with a substance use disorder was associated with a faster rate of maturation among young males, and that faster maturation was associated with higher rates of substance use disorders and/or conduct disorder and with increased affiliation with deviant peers.

**Lejoyeux, M., Huet, F., Claudon, M., Fichelle, A., Casalino, E., & Lequen, V. (2008). Characteristics of suicide attempts preceded by alcohol consumption. *Archives of Suicide Research*, 12 (1), 30-38.**

The authors evaluated the relationship of alcohol use and suicide attempts among 160 attempters who received treatment at a French emergency room. In 40 percent of the cases the suicide attempt was preceded by alcohol consumption. Those who consumed alcohol prior to the attempt were significantly older, more likely to have an alcohol or drug use disorder, drank more alcohol per day, drank on more days per week, drank more alcohol per day, were more likely to drink to intoxication during a given week, were more likely to drink in the mornings, were more likely to drink by themselves, and scored higher on the Michigan Alcohol Screening test.

**Swahn, M. H., Bossarte, R. M., & Sullivent, E. E., III (2008). Age of alcohol use initiation, suicidal behavior, and peer and dating violence victimization and perpetration among high-risk, seventh-grade adolescents. *Pediatrics*, 121 (2), 297-305.**

The authors used 2004 data from 856 seventh-grade students who participated in the Youth Violence Survey administered to public school students in "high risk" school districts in the US to assess the relationship among alcohol use, suicidal behaviors, and interpersonal violence. They found that 35 percent reported drinking before the age of 13 and that those who began drinking at that early age were involved in significantly more violent behaviors and had more suicide attempts in comparison to those who did not start drinking before age 13, even after controlling for demographic characteristics and factors.

**Szobot, C. M. & Bukstein, O. (2008). Attention deficit hyperactivity disorder and substance use disorders. *Child and Adolescent Psychiatric Clinics of North America*, 17 (2), 309-323.**

The authors review current research on the relationship between attention deficit hyperactivity disorder (AD/HD) and substance use disorders.

## Services & Service Systems

### *Systems Integration*

**Kathol, R. G., Melek, S., Bair, B., & Sargent, S. (2008). Financing mental health and substance use disorder care within physical health: A look to the future. *Psychiatric Clinics of North America*, 31 (1), 11-25.**

The authors discuss how people with mental health and/or substance use disorders are currently being treated and how treatment can be improved if assessment and treatment of these disorders became an integrated part of the physical healthcare system. They also describe how systems change could be implemented.

**Keyser, D. J., Houtsinger, J. K., Watkins, K., & Pincus, H. A. (2008). Applying the Institute of Medicine quality chasm framework to improving health care for mental and substance use conditions. *Psychiatric Clinics of North America*, 31 (1), 43-56.**

The authors discuss the Institute of Medicine's report *Improving the Quality of Health Care for Mental and Substance Use Conditions*, noting that the report placed great importance of COD and on differences in how mental health and substance abuse treatment services are delivered. They also describe some ongoing efforts to respond to the report's recommendations and improve service delivery for people with substance use conditions.

### *Treatment Planning & Services*

**Branstetter, S. A., Bower, E. H., Kamien, J., & Amass, L. (2008). A history of sexual, emotional, or physical abuse predicts adjustment during opioid maintenance treatment. *Journal of Substance Abuse Treatment*, 34 (2), 208-214.**

The authors use data from a study of 268 individuals who were opioid-dependent and who participated in a randomized clinical trial of buprenorphine/naloxone or methadone. Specifically, they examine how histories of physical, sexual, or emotional abuse affect opioid maintenance treatment with these medications. For females, a history of any type of abuse was associated with slower recovery times and fewer successful attempts at obtaining recovery. For both men and women, entering treatment with an abuse history was associated with also entering treatment with more severe psychiatric problems.

**Buydens-Branchey, L., Branchey, M., & Hibbeln, J. R. (2008). Associations between increases in plasma n-3 polyunsaturated fatty acids following supplementation and decreases in anger and anxiety in substance abusers. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 32 (2), 568-575.**

The authors studied whether low levels of n-3 polyunsaturated fatty acids, specifically eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), would reduce anger and anxiety in a group of 24 clients in a substance abuse treatment program. In a double-blind, randomly assigned, 3-month trial clients received either a placebo or a daily dose of 2.25 g. of EPA and 500 mg. of DHA (combined in a food supplement available over-the-counter). Participants self-reported their level of anxiety and anger over the course of the study. The authors found that individuals who received the n-3 polyunsaturated fatty acids had significantly lower scores of anger and anxiety at the end of the study in comparison to those who received a placebo. The authors also measured blood levels of EPA and DHA and found that higher levels of EPA were significantly associated with lower anxiety scores but not lower anger scores; on the other hand, higher blood levels of DHA were associated with significantly lower anger scores but not anxiety scores. The authors speculate that those clients who were unresponsive to this treatment may have already had sufficient levels of polyunsaturated fatty acids.

**Daughters, S. B., Stipelman, B. A., Sargeant, M. N., Schuster, R., Bornovalova, M. A., & Lejuez, C. W. (2008). The interactive effects of antisocial personality disorder and court-mandated status on substance abuse treatment dropout. *Journal of Substance Abuse Treatment*, 34 (2), 157-164.**

The authors evaluated how antisocial personality disorder (ASPD) and court-mandated treatment affected client dropout in a group of 236 male clients of a residential substance abuse treatment program, 34.5 percent of whom had ASPD (n=93) and 72 percent of whom were court-ordered to treatment (n = 171). They found a significant interaction between ASPD and court-mandated treatment status, with clients who had ASPD and who were voluntarily in treatment being significantly more likely to drop-out of treatment than any other clients in the study.

**Friedman-Wheeler, D., Haaga, D., Gunthert, K., Ahrens, A., & McIntosh, E. (2008). Depression, neuroticism, and mood-regulation expectancies for engagement and disengagement coping among cigarette smokers. *Cognitive Therapy and Research*, 32 (1), 105-115.**

The authors studied the relationship among cigarette smoking, neuroticism, depressive symptoms, and the use of specific types of coping mechanisms (i.e., engagement and disengagement strategies) in a group of 72 smokers. They found that elevated symptoms of depression and neuroticism were separately, significantly, and positively associated with greater

use of disengagement strategies (e.g., withdrawing from a situation) and less use of engagement strategies (e.g., working through things with others who are involved).

**Laker, C. J. (2007). How reliable is the current evidence looking at the efficacy of harm reduction and motivational interviewing interventions in the treatment of patients with a dual diagnosis? *Journal of Psychiatric and Mental Health Nursing*, 14 (8), 720-726.**

The author reviews current research on harm reduction and motivational interviewing for clients with COD. The focus is on interventions that can be implemented by nursing staff. The article also touches upon integrated treatment and brief interventions for this population.

**Prochaska, J. J., Hall, S. M., Tsoh, J. Y., Eisendrath, S., Rossi, J. S., Redding, C. A., Rosen, A. B., Meisner, M., Humfleet, G. L., & Gorecki, J. A. (2008). Treating tobacco dependence in clinically depressed smokers: Effect of smoking cessation on mental health functioning. *American Journal of Public Health*, 98 (3), 446-448.**

The authors used data from 322 smokers who were diagnosed with current depression to determine the effect smoking cessation had upon their mental health. They found that depressive symptoms decreased significantly for participants, regardless of whether they successfully quit smoking. They also found that participants who did successfully quit reported less drinking than did those who continued smoking.

**Spring, B., Cook, J., Appelhans, B., Maloney, A., Richmond, M., Vaughn, J., Vanderveen, J., & Hedeker, D. (2008). Nicotine effects on affective response in depression-prone smokers. *Psychopharmacology*, 196 (3), 461-471.**

The authors compared three groups of smokers: (1) those with no history of major depressive disorder (n=63), those with past episodes of major depressive disorder but no current episode (n=61), and those with both current and past major depressive disorder (n=41). During four different sessions, participants were randomly given cigarettes with and without nicotine after experiencing either a negative or positive mood induction experience. They found that smokers who had previous but not current depression reported a greater positive mood as a result of smoking nicotine than did others. Nicotine also had an effect in improving depressed mood among those who were considered vulnerable for depression and in worsening negative mood in all groups after negative mood induction.

**Zanjani, F., Mavandadi, S., TenHave, T., Katz, I., Durai, N. B., Krahn, D., Llorente, M., Kirchner, J., Olsen, E., Van Stone, W., Cooley, S., & Oslin, D. W. (2008). Longitudinal course of substance treatment benefits in older male veteran at-risk drinkers. *Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*, 63 (1), 98-106.**

The authors used data from the Primary Care Research in Substance Abuse and Mental Health for the Elderly (PRISM-E) study conducted by the Department of Veterans Affairs, which compared two different treatment models for older adults (aged 65 or older) who had depression, anxiety, and/or were at-risk drinkers. This particular article focuses on that population who were screened as at-risk drinkers (n=258), 25.6 percent of whom had co-occurring major depression. Participants were randomly assigned to either an integrated or enhanced treatment referral model. Of this group, 111 were identified as already being problem drinkers, and those participants who had co-occurring depression were significantly more likely to have been problem drinkers at the start of the study. Both problem drinkers and non-problem drinkers benefited from treatment and significantly reduced average weekly alcohol consumption over the course of the 12-month study, with no significant differences between the two treatments provided. However, the problem drinkers had a significantly greater reduction in the number of episodes of binge drinking when participating in the integrated treatment.