



Substance Abuse Worsens Outcomes for Those at Risk for Psychosis

A new research report from the North American Prodrome Longitudinal Study addresses how clinicians might identify which at-risk young people will develop a psychotic disorder such as schizophrenia: **Cannon, T. D., Cadenhead, K., Cornblatt, B., Woods, S. W., Addington, J., Walker, E., Seidman, L. J., Perkins, D., Tsuang, M., McGlashan, T., & Heinssen, R. (2008). Prediction of psychosis in youth at high clinical risk: A multisite longitudinal study in North America. *Archives of General Psychiatry, 65* (1), 28-37.**

This large, multisite study reports that the presence of a substance use disorder roughly doubled the likelihood that a youth who was at high-risk for psychosis ‘converted’ from a prodromal state (symptomatic of disease onset) to a state indicative of a diagnosable psychotic disorder at some point during the 30 month study period.

The broad aims of the research are “to improve understanding of the mechanisms of disease onset and progression and to facilitate application of interventions before the illness takes hold, thereby reducing or preventing the devastating effects of schizophrenia” (p. 28). Participants were included in the study if they (1) were at risk for developing a psychotic disorder because of high levels of past-year psychotic symptoms (i.e., unusual thoughts, grandiosity, suspicion/paranoia, perceptual anomalies, and/or disorganized communication), (2) they had months of brief intermittent psychotic symptoms, or (3) they had a genetic risk and significant past-year deterioration in global functioning. After losing about 20 percent of the initial study group, 291 participants (mean age 18.1, standard deviation of +/- 4.6) remained and were assessed at 6-month intervals for 2.5 years.

Clinicians rated symptoms on a seven point scale, ranging from low subprodromal levels (1-2), to prodromal symptom levels (3-5), to fully psychotic (6-7). Over the course of the study, 82 of the 291 participating patients converted from a prodromal state

to a fully diagnosable psychotic disorder. Most of those who converted did so within the first year, and the rate of conversions declined over the 2.5 year period

The authors evaluated 77 potential predictors of conversion to a psychotic disorder and found that roughly half of these predictors were associated with conversion from a prodromal state to full psychosis. By eliminating overlapping predictors, five factors were identified that were found to be significant and unique predictors: (1) genetic risk for schizophrenia, (2) unusual thought content, (3) high level of suspicion or paranoia, (4) social impairment, and (5) a substance use disorder (for alcohol, hypnotics, cannabis, amphetamines, opioids, cocaine, and/or hallucinogens). Those who had substance use disorders converted to a psychotic disorder about twice as often as those who did not, and none of the substances evaluated increased the risk of conversion to psychosis more than any of the others did. In other words, it did not seem to matter which specific substance use disorder diagnosis the patient had received.

The authors speculate that the association between substance use disorders and conversion to psychosis in this at-risk population may signify that substances of abuse can cause “psychosis-promoting” changes in brain function and that abstinence from drugs may decrease the risk of psychotic illness in such populations. In discussing the limitations to the present study, the authors note that the results apply to a narrow treatment-seeking patient group at high risk or “prodromal” for psychosis and cannot be applied for any type of general population screening. They also note that because their results were empirically derived, another independent study following along the same lines is necessary to confirm their findings.

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COD Research

National Epidemiological Studies

Office of Applied Studies (2008). Nicotine dependence: 2006 (The NSDUH Report, January 24, 2008). Rockville, MD: Substance Abuse and Mental Health Services Administration. Available online at <http://oas.samhsa.gov/2k8/nicotine/nicotine.pdf>

This SAMHSA report uses data from the 2006 National Survey on Drug Use and Health to evaluate nicotine dependence among different groups. One notable finding is that among adults (age ≥ 18) who were nicotine dependent in the prior month rates of serious psychological distress in the past year were over twice as high (with 21.2 percent experiencing serious psychological distress in that period compared to 9.4 percent of adults who were not nicotine dependent).

Pulay, A. J., Dawson, D. A., Hasin, D. S., Goldstein, R. B., Ruan, W. J., Pickering, R. P., Huang, B., Chou, S. P., & Grant, B. F. (2008). Violent behavior and DSM-IV psychiatric disorders: Results from the national epidemiologic survey on alcohol and related conditions. *Journal of Clinical Psychiatry*, 69 (1), 12-22.

The authors used data from the National Epidemiologic Survey on Alcohol and Related Conditions to analyze the relationship of violent behavior to substance use and mental disorders. They found that substance use disorders had the largest, significant effect on increasing violent behaviors and that for almost every mental disorder co-occurring substance use disorders increased the likelihood of violent behaviors.

Client Characteristics

Biederman, J., Petty, C. R., Wilens, T. E., Fraire, M. G., Purcell, C. A., Mick, E., Monuteaux, M. C., & Faraone, S. V. (2008). Familial risk analyses of attention deficit hyperactivity disorder and substance use disorders. *American Journal of Psychiatry*, 165 (1), 107-115.

The authors analyzed the relative risk of substance abuse among family members of boys with and without attention deficit/hyperactivity disorder (AD/HD). They found that while the association between AD/HD and drug dependence in family members appeared to result from a common risk between these disorders, the association of AD/HD and alcohol dependence in family members appeared to result from independent sources of transmission.

Brook, J. S., Duan, T., Zhang, C., Cohen, P. R., & Brook, D. W. (2008). The association between attention deficit hyperactivity disorder in adolescence and smoking in adulthood. *American Journal on Addictions*, 17 (1), 54-59.

The authors investigated the relationships between childhood AD/HD childhood conduct disorder (CD), and smoking in adulthood. They gathered data from 641 families and assessed them over a 19-year period when the mean ages of the children were 14 (at baseline), 17, and 32. After controlling for gender, age, socio-economic status, and adolescent smoking, they found that there was a relationship between childhood AD/HD and later smoking that was mediated by CD. The authors note that smoking prevention interventions for young children with AD/HD may also need to target CD and that interventions that reduce CD may also reduce smoking in this population.

Buckner, J. D., Schmidt, N. B., Lang, A. R., Small, J. W., Schlauch, R. C., & Lewinsohn, P. M. (2008). Specificity of social anxiety disorder as a risk factor for alcohol and cannabis dependence. *Journal of Psychiatric Research*, 42 (3), 230-239.

The authors note that prior research had found that social anxiety disorder frequently co-occurs with alcohol use disorders and cannabis dependence. With this study, they sought to better understand the temporal sequencing of these disorders. After controlling for other variables such as depression and gender, they found that social anxiety disorder at baseline increased the chances of having cannabis dependence (but not abuse) by 6.4 times and increased the odds of alcohol dependence (but not abuse) by 4.5 times at follow-up.

Compton, M. T., Whicker, N. E., & Hochman, K. M. (2007). Alcohol and cannabis use in urban, African American, first-episode schizophrenia-spectrum patients: Associations with positive and negative symptoms. *Journal of Clinical Psychiatry*, 68 (12), 1939-1945.

The authors used a retrospective chart analysis to investigate the relationship between alcohol and cannabis use and symptoms of schizophrenia among a group of 72 patients hospitalized for their first episode of schizophrenia. After controlling for other relevant factors, they found that drinking in the 6 months prior to the hospitalization was associated with more frequent positive schizophrenia symptoms, and that cannabis use was associated with less prominent negative symptoms of schizophrenia.

Davis, L. L., Frazier, E. C., Gaynes, B. N., Trivedi, M. H., Wisniewski, S. R., Fava, M., Barkin, J., Kashner, T. M., Shelton, R. C., Alpert, J. E., & Rush, A. J. (2007). Are depressed outpatients with and without a family history of substance use disorder different? A baseline analysis of the STAR*D cohort. *Journal of Clinical Psychiatry*, 68 (12), 1931-1938.

The authors compared two groups of individuals with major depressive disorder, some with a family history of substance use disorders and some without (N=4,010, 46 percent of whom have family histories of substance use disorders). Those that had family members with substance use disorders were less educated, less likely to be married, more likely to be divorced, more likely to be female, and were less likely to be Hispanic. Those with family members with substance use disorders also tended to have had an earlier age of onset for depression, a longer length of illness, more episodes of depression, more suicide attempts prior to the study, more co-occurring disorders (including substance use disorders and a number of mental disorders), and were more likely to have recurrent major depressive disorder.

Evans, A. S., Spirito, A., Celio, M., Dyl, J., & Hunt, J. (2007). The relation of substance use to trauma and conduct disorder in an adolescent psychiatric population. *Journal of Child & Adolescent Substance Abuse*, 17 (1), 29-49.

The authors evaluated substance use disorders among 192 adolescents in a psychiatric hospital setting who had conduct disorder (CD) and/or posttraumatic stress disorder (PTSD). Those who had both co-occurring CD and PTSD had greater levels of substance abuse than those who had only one or the other disorder.

Falck, R. S., Jichuan, W., & Carlson, R. G. (2008). Depressive symptomatology in young adults with a history of MDMA use: A longitudinal analysis. *Journal of Psychopharmacology*, 22 (1), 47-54.

The authors evaluated depressive symptoms among a group of young adult MDMA (i.e., ecstasy) users (N=402). Participants were administered the Beck Depression Inventory (BDI) at the start of the study and 24 months later, and the authors found the mean BDI score for the group decreased over that period (from 9.8 to 7.7). The higher the individual's BDI score at the initial assessment the more likely it was to decrease over the course of the study. The following factors were associated with significantly higher levels of depressive symptoms at baseline: female gender, non-White race/ethnicity, lower levels of education, current benzodiazepine use, current opioid use, and greater cumulative MDMA use. The authors note that the low level of BDI scores and the decline of scores over time suggest that MDMA use does not cause long-term depressive symptoms.

Fidalgo, T. M., da Silveira, E. D., & da Silveira, D. X. (2008). Psychiatric comorbidity related to alcohol use among adolescents. *American Journal of Drug and Alcohol Abuse*, 34 (1), 83-89.

The authors compared a group of adolescents seeking treatment for alcohol-related problems (n=41) to a general population sample of adolescents (n=41). Heavy drinkers had significantly higher scores on the Self Report Questionnaire, a measure of mental disorders. Daily drinkers were also significantly more likely to be depressed (76.9 percent were according to Center for Epidemiologic Studies Depression Scale scores), and more likely to be considered at-risk for anxiety disorders (50 percent according to Beck Anxiety Inventory scores).

Howard, M. O., Balster, R. L., Cottler, L. B., Wu, L.-T., & Vaughn, M. G. (2008). Inhalant use among incarcerated adolescents in the United States: Prevalence, characteristics, and correlates of use. *Drug and Alcohol Dependence*, 93 (3), 197-209.

The authors investigated patterns of inhalant use among 723 youth incarcerated in Missouri. The average age of youth in the study was 15.5. They found that 36.9 percent had used inhalants with 47.9 percent of those users reporting having used four or more different types of inhalants. Compared to non-users, inhalant users had more antisocial attitudes, current psychiatric symptoms, kidney disease, hormonal problems, suicidality, experiences of head injuries, trauma experiences, criminal behavior, and substance-related problems. They also had an earlier age of onset for both criminal behavior and substance use. After controlling for other factors, they found positive associations between lifetime frequency of inhalant use and cognitive impairment, impulsivity, blame externalization, polydrug use, and substance-related problems.

Khalsa, H. M. K., Salvatore, P., Hennen, J., Baethge, C., Tohen, M., & Baldessarini, R. J. (2008). Suicidal events and accidents in 216 first-episode bipolar I disorder patients: Predictive factors. *Journal of Affective Disorders*, 106 (1), 179-184.

The authors evaluated suicide risk among a group of 216 individuals with bipolar disorder, following them 4.2 years from their first hospitalization for bipolar disorder. They found 127 had suicidal thoughts during that period, 88 had suicidal ideation, and 39 committed suicidal acts (38 suicide attempts and one suicide). The authors also found that 53 participants were involved in violent behaviors during this time. Suicidality among this population was associated with alcohol abuse among other factors.

Looby, A. (2008). Childhood attention deficit hyperactivity disorder and the development of substance use disorders: Valid concern or exaggeration. *Addictive Behaviors*, 33 (3), 451-463.

The author reviews research on the relationship of AD/HD and substance use disorders. The author notes that without co-occurring conduct disorder the presence of AD/HD in youth only signifies a moderately increased risk for substance use disorders. The increased amount of risk for a substance use disorder an adolescent with AD/HD has appears to vary according to substance of abuse and level of particular symptoms of AD/HD. There does appear to be little evidence that the use of stimulant medication increases the risk of developing a substance use disorder.

Merikangas, K. R., Herrell, R., Swendsen, J., Rossler, W., Jdacic-Gross, V., & Angst, J. (2008). Specificity of bipolar spectrum conditions in the comorbidity of mood and substance use disorders: Results from the Zurich Cohort Study. *Archives of General Psychiatry*, 65 (1), 47-52.

The authors investigated different subtypes of depression and their association with different substance use disorders, paying particular attention to progression and onset. They collected data from 591 Swiss individuals who began the study as young adults and were followed for 20 years. They found that individuals who experienced manic symptoms had a greater risk for later developing an alcohol or cannabis use disorder. Individuals with bipolar II disorder had significantly higher rates of alcohol and benzodiazepine use and use disorders. Those with major depression had significantly higher rates of benzodiazepine use disorders.

Potvin, S. & Amar, M. B. (2008). Review: Cannabis use increases the risk of psychotic outcomes. *Evidence-Based Mental Health*, 11 (1), 28.

The authors review research on the relationship of cannabis use and psychotic or affective mental disorders.

Waldrop, A. E., Ana, E. J. S., Saladin, M. E., McRae, A. L., & Brady, K. T. (2007). Differences in early onset alcohol use and heavy drinking among persons with childhood and adulthood trauma. *American Journal on Addictions*, 16 (6), 439-442.

The authors investigated rates of different types of sleep disturbances among individuals with PTSD, alcohol dependence, or both disorders. They found that both alcohol dependence and PTSD were associated with a number of different types of sleep disturbances but that the co-occurrence of the two disorders did not appear to increase rates of sleep disturbances above those seen with either disorder. While PTSD symptom severity was related to severity of sleep disturbances, severity of alcohol dependence was not.

Services & Service Systems

Prevention

Conrod, P. J., Castellanos, N., & Mackie, C. (2008). Personality-targeted interventions delay the growth of adolescent drinking and binge drinking. *Journal of Child Psychology and Psychiatry*, 49 (2), 181-190.

The authors followed 368 British adolescents (mean age of 14) who had scored at least one standard deviation above their school's mean scores on at least one rating of negative thinking, anxiety sensitivity, impulsivity, and/or sensation seeking. Participants were randomly assigned to receive a school-based intervention (n=199) or to a control group (n=169). The intervention addressed the personality factors that the individual scored highest in and the coping behaviors that typically resulted from those characteristics. The authors found that the intervention was effective at significantly reducing the likelihood of binge drinking among participants (those in the intervention were 41 percent less likely to be binge drinking 6 months after the intervention concluded). They also found that an elevated score on the sensation seeking scale was a significant predictor of binge drinking, but that the intervention significantly greatly reduced this risk. Youth with high sensation seeking scores who received the intervention were 45 percent less likely to be binge drinking than those who did not 6 months after the intervention and 50 percent less likely 12 months later.

Screening & Assessment

Buessing, A., Matthiessen, P. F., & Mundle, G. (2008). Emotional and rational disease acceptance in patients with depression and alcohol addiction. *Health and Quality of Life Outcomes*, 6 (4).

The authors tested an instrument for assessing psychological well-being and coping, particularly as related to acceptance of disorders and life satisfaction. The instrument was administered to 115 individuals who had depression, with and without a co-occurring alcohol use disorder. The instrument analyzed factors such as feelings of contentedness and well-being, conscious dealing with illness, rejection of irrational responses to illness, and acceptance of disease/disorder. They found that the instrument was reliable and valid in assessing strategies to accept diseases/disorders in this population.

Dum, M., Pickren, J., Sobell, L. C., & Sobell, M. B. (2008). Comparing the BDI-II and the PHQ-9 with outpatient substance abusers. *Addictive Behaviors*, 33 (2), 381-387.

The authors evaluated the use of two self-report, psychological assessment instruments (the Beck Depression Inventory-II and the Patient Health Questionnaire PRIME MD) with a group of participants who had substance use disorders (N=108). They found that both instruments were reliable with this population and correlated well with severity of substance use.

Gold, M. S. (Ed.). (2008). *Dual disorders: Nosology, diagnosis, and treatment confusion--Chicken or egg?* Binghamton, NY: Haworth Press.

This volume collects articles on problems related to the diagnosis and treatment of COD. Specific topics include tobacco use and co-occurring mental disorders; the role of self-medication in COD; the connections between impulsivity, neural deficits, and substance abuse/dependence; overeating and substance abuse among adolescents; the use of the Temperament Character Inventory in developing treatment plans for professionals with substance use disorders; and the relationship of pain perception and prescription opioid dependence.

Kolodziej, M. E., Griffin, M. L., Bender, R., & Weiss, R. D. (2008). Assessment of depressive symptom severity among patients with co-occurring bipolar disorder and substance dependence. *Journal of Affective Disorders*, 106 (1-2), 83-89.

The authors developed a modified version of the Hamilton Depression Rating Scale (HDRS) for use with individuals who have co-occurring bipolar disorder and substance use disorders. They administered a 27-item version of the HDRS to 105 individuals with current bipolar disorder and substance dependence (all of whom were receiving mood stabilization medication). The authors found 11 items, primarily concerned with "melancholia" and "anxiety" that correlated well with findings from the Addiction Severity Index (ASI). They suggest using this 11-item version of the HDRS with this population to assess symptoms of depression that might complicate treatment.

Lykke, J., Hesse, M., Austin, S. F., & Oestrich, I. (2008). Validity of the BPRS, the BDI and the BAI in dual diagnosis patients. *Addictive Behaviors*, 33 (2), 292-300.

The authors evaluated the validity of the Brief Psychiatric Rating Scale (BPRS), the Beck Anxiety Inventory (BAI), and the Beck Depression Inventory (BDI) for people with COD, using a sample of 134 patients at a dual diagnosis treatment facility. They found that the Thought Disorder scale of the BPRS was effective at assessing which patients had schizophrenia spectrum diagnoses, and the BDI was able to determine which participants had mood disorders and/or schizoaffective disorders at intake.

Treatment Planning & Services

Anderson, K. G., Frissell, K. C., & Brown, S. A. (2007). Relapse contexts for substance abusing adolescents with comorbid psychopathology. *Journal of Child & Adolescent Substance Abuse*, 17 (1), 65-82.

The authors investigated reasons for relapse to substance use among adolescents with COD. Their sample consisted of 103 youth (age 12 to 17) who had completed an inpatient treatment program. They found that the reasons for relapse in this group did not differ significantly from the reasons given by youth of the same age who had substance use disorders but not COD.

Book, S. W., Thomas, S. E., Randall, P. K., & Randall, C. L. (2008). Paroxetine reduces social anxiety in individuals with a co-occurring alcohol use disorder. *Journal of Anxiety Disorders*, 22 (2), 310-318.

The authors conducted a double-blind, placebo-controlled study of the selective-serotonin-reuptake-inhibitor (SSRI) paroxetine for social anxiety in a group of 42 individuals with co-occurring alcohol use disorders. They found the medication performed better than the placebo at reducing social anxiety in this population.

Crofoot, T. L., Harris, N., Plumb, M. A., Smith, K. S., Gault, J., Brooks, G., Hungry, L., Geary, A., & Holland, I. (2008). Mental health, health, and substance abuse service needs for the Native American Rehabilitation Association Northwest (NARA NW) in the Portland, Oregon metropolitan area. *American Indian and Alaska Native Mental Health Research*, 14 (3), 1-23. Available online at [http://aianp.uchsc.edu/ncaianmhr/journal/pdf_files/14\(3\).pdf](http://aianp.uchsc.edu/ncaianmhr/journal/pdf_files/14(3).pdf)

This article reports on a needs assessment of substance abuse, mental health, and physical health needs of American Indians and Alaska Natives living in the Portland, Oregon metropolitan area. The assessment found high levels of COD as well as co-occurring physical problems. The authors identify a need for crisis care as well as treatment aimed at specific subgroups of this population (e.g., children and families, veterans, older adults).

Daughters, S. B., Braun, A. R., Sargeant, M. N., Reynolds, E. K., Hopko, D. R., Blanco, C., & Lejuez, C. W. (2008). Effectiveness of a brief behavioral treatment for inner-city illicit drug users with elevated depressive symptoms: The Life Enhancement Treatment for Substance Use (LETS Act!). *Journal of Clinical Psychiatry*, 69 (1), 122-129.

The authors evaluated the benefits of adding a brief, behavioral intervention designed to address depressive symptoms (the LETS Act! Intervention) to an inpatient substance abuse treatment program. Clients who had mild to moderate levels of symptoms of depression (i.e., score of ≥ 10 on the BDI) were randomly assigned to the intervention (n=22) or to a control group, which just received standard treatment (n=22). Clients who participated in the LETS Act! Intervention evidenced significantly better outcomes in terms of severity of depressive symptoms, severity of anxiety symptoms, and in self-reports after treatment on how rewarding daily activities were.

Farren, C. K. & Mc Elroy, S. (2008). Treatment response of bipolar and unipolar alcoholics to an inpatient dual diagnosis program. *Journal of Affective Disorders*, 106 (3), 265-272.

The authors evaluated the effectiveness of an Irish program designed to treat co-occurring alcohol dependence and either unipolar or bipolar affective disorders. They followed 232 clients who were assessed for symptoms of depression, anxiety, and mania as well as one substance-related factor. All participants received the intervention and none were assigned to a control group. Participants reduced the number of days drinking and the amount drank per occasion. In the unipolar group,

71.8 percent were abstinent at the 3-month follow-up and 55.8 at the 6-month follow-up. Among the bipolar group, 64.7 percent were abstinent at the 3-month follow-up and 54.1 at the 6-month follow-up. In both groups, symptoms of mania, depression, and anxiety decreased significantly after treatment.

Magura, S., Rosenblum, A., Villano, C. L., Vogel, H. S., Fong, C., & Betzler, T. (2008). Dual-focus mutual aid for co-occurring disorders: A quasi-experimental outcome evaluation study. *American Journal of Drug and Alcohol Abuse*, 34 (1), 61-74.

The authors compared two cohorts of clients with high rates of COD who entered a psychiatric day treatment program. The first group attended the program without access to Double Trouble in Recovery (DTR) self-help group meetings, while the second had access to such meetings. Both groups were assessed upon entering treatment and 6 months later. Participants who attended DTR had significantly fewer days of drug and alcohol use, attended more self-help meetings after treatment, and had better adherence to prescribed medication. There were no significant differences regarding psychiatric symptoms.

Padgett, D. K., Henwood, B., Abrams, C., & Davis, A. (2008). Engagement and retention in services among formerly homeless adults with co-occurring mental illness and substance abuse: Voices from the margins. *Psychiatric Rehabilitation Journal*, 31 (3), 226-233.

The authors interviewed 39 formerly homeless individuals with COD to determine which factors they believed improved their engagement and retention in treatment and which negatively effected it. Respondents reported that program rules and restrictions and a lack of one-on-one counseling had a negative effect, while staff kindness, a pleasant environment, and the promise (or provision) of independent housing had a positive effect.

Rush, B. R., Dennis, M. L., Scott, C. K., Castel, S., & Funk, R. R. (2008). The interaction of co-occurring mental disorders and recovery management checkups on substance abuse treatment participation and recovery. *Evaluation Review*, 32 (1), 7-38.

The authors evaluated the use of quarterly Recovery Management Checkups (RMCs) with substance use disorders who had various levels and types of co-occurring mental disorders. Of the sample of 865, 34 percent had no co-occurring mental disorders, 27 percent had internalizing disorders, and 39 percent had both internalizing and externalizing disorders. They found RMCs an effective way to link clients to needed treatment, and found that participants with COD in the program had as good or better outcomes than those who did not have co-occurring mental disorders.

Turner, L. R., Mermelstein, R., Hitsman, B., & Warnecke, R. B. (2008). Social support as a moderator of the relationship between recent history of depression and smoking cessation among lower-educated women. *Nicotine & Tobacco Research*, 10 (1), 201-212.

The authors investigated the relationship of depression and smoking among a group of 1,198 female smokers who participated in a brief tobacco cessation intervention and 682 who were in a control group. Participants were surveyed by phone every 6 months following the intervention for a 2 year period. The authors found that recent depression (in the past 6 months) was not significantly related to cessation, but that self-efficacy was a significant predictor of cessation. They did, however, find that among women in the intervention (but not in the control group) women who had been recently depressed had significantly better quit rates if they had a higher level of perceived social support.