



New Articles Explore Cannabis Use and Psychotic Disorders

A Canadian study and two literature review articles have been published recently on the relationship between substance use (particularly of cannabis) and psychotic disorders.

Addington, J. & Addington, D. (2007). Patterns, predictors and impact of substance use in early psychosis: A longitudinal study. *Acta Psychiatrica Scandinavica*, 115 (4), 304-309.

These authors studied 203 individuals who were consecutively admitted to a Calgary, Ontario program intended to address early psychosis. They assessed them at entry into the program and at 1, 2, and 3 years after. While a number of participants had dropped out by year 3 (143 remained), they did not find any significant differences between those who dropped out and those who remained except that those who left had a higher level of negative schizophrenia symptoms in the prior year.

Addington and Addington found that at admission 51.7 percent of the sample met criteria for one or more substance use disorders, with 35.5 percent having an alcohol use disorder and 33 percent having a cannabis use disorder. However, these rates declined significantly during the study to the point that only 7 percent had a cannabis use disorder at the 2-year assessment.

In evaluating the relationship between cannabis use and psychotic disorders, Addington and Addington found that subjects who used cannabis had consistently higher levels of positive schizophrenia symptoms at each assessment. They suggest this finding is further evidence that cannabis use may increase the risk of a psychotic episode in already vulnerable individuals.

Gregg, L., Barrowclough, C., & Haddock, G. (2007). Reasons for increased substance use in psychosis. *Clinical Psychology Review*, 27 (4), 494-510.

This article provides a comprehensive review of research on the relation between substance use and psychosis. The authors conclude that there is not sufficient evidence to support the claim that substance use (in general) causes schizophrenia but that there is evidence that

cannabis use may play a role in the development of psychotic disorders. They note that cannabis may make psychosis more likely among individuals who are already prone to the disorder. They also conclude that the self-reported reasons for substance use are quite varied and complex and that the relationships among expectations and the results of use are at times contradictory.

Moore, T. H. M., Zammit, S., Lingford-Hughes, A., Barnes, T. R. E., Jones, P. B., Burke, M., & Lewis, G. (2007). Cannabis use and risk of psychotic or affective mental health outcomes: A systematic review. *The Lancet*, 370 (9584), 319-328.

These authors reviewed data specifically concerning cannabis use and its relation to both psychotic and affective disorders. They conclude that there are consistent reports of an increased risk of psychosis among people who use cannabis. Studies that look at the relationship between dosage and response also appear to show that increased use is related to increased risk. The authors did not, however, find sufficient support for claims that the earlier age of onset for cannabis use was related to more debilitating disorders. Also, they note that most studies have not tried to address possible reverse causation in the relationship between cannabis use and psychotic disorders and that there are a number of other potentially confounding factors (such as other substance use and other pre-existing mental conditions) that need to be taken into account. Moore and colleagues also look at the relation of cannabis use to affective disorders and note that while most studies do show a relationship, effect sizes have been small.

A comment by Merete Nordetoft and Carsten Hjorthoj that follows this article in the *Lancet* notes that this is by far the most comprehensive review of the subject to date. They recognize the efforts of the authors in taking into account a number of confounding factors in their analysis and suggest that these authors show there is now sufficient evidence to warn young people about the increased risk of psychosis associated with cannabis use.

This Review contains revisions of abstracts and is not generally the product of an original analysis of the actual articles cited. Readers interested in finding out more about COCE should visit the Web site: <http://coce.samhsa.gov/>

COD Research

Epidemiology

Anderson, K. G., Tapert, S. F., Moadab, I., Crowley, T. J., & Brown, S. A. (2007). Personality risk profile for conduct disorder and substance use disorders in youth. *Addictive Behaviors*, 32 (10), 2377-2382.

The authors used the NEO-Five Factor Inventory to assess 243 youth between the ages of 13 and 18, and 178 of their siblings of similar ages. They found that youth who had co-occurring conduct disorder and substance use disorders scored higher on neuroticism and lower on agreeableness and conscientiousness than did their siblings. Measures from this instrument appeared to predict both aggression and substance use.

Bonn-Miller, M. O., Vujanovic, A. A., Feldner, M. T., Bernstein, A., & Zvolensky, M. J. (2007). Posttraumatic stress symptom severity predicts marijuana use coping motives among traumatic event-exposed marijuana users. *Journal of Traumatic Stress*, 20 (4), 577-586.

The authors investigated the relationship between severity of posttraumatic stress disorder (PTSD) symptoms and reasons for marijuana use among a group of 103 young adults who used marijuana. They found, after controlling for factors such as other substance use, that severity of PTSD symptoms was significantly associated with the use of marijuana as a coping mechanism but not with other motives for use.

Curran, G. M., Booth, B. M., Kirchner, J. E., & Deneke, D. E. (2007). Recognition and management of depression in a substance use disorder treatment population. *The American Journal of Drug and Alcohol Abuse*, 33 (4), 563-569.

The authors looked at the relationship of depressive symptoms and relapse among 126 consecutive admissions to a Department of Veterans Affairs (VA) intensive outpatient substance abuse treatment program. After controlling for various demographic and health variables, they found that the level of depressive symptoms was related to substance use measured 3 months after treatment. Individuals who scored as having moderate to severe depression (as measured by the Beck Depression Inventory [BDI]) were 4.1 times more likely to be using substances than were those who had lower levels of depressive symptoms.

Maremmani, I., Pani, P. P., Canoniero, S., Pacini, M., Perugi, G., Rihmer, Z., & Akiskal, H. S. (2007). Is the bipolar spectrum the psychopathological substrate of suicidality in heroin addicts? *Psychopathology*, 40 (5), 269-277.

The authors studied a group of Italian men and women with opioid dependence (N=616) to evaluate the prevalence and existence of risk factors for suicidal ideation. Past week suicidal thoughts were reported by 29 percent of the sample. Subjects who had bipolar disorders or reported depressive or aggressive symptoms had the highest rates of suicidal thinking. Rates were also elevated for those who were receiving welfare benefits, were unemployed, lived alone, had difficulties in making social contacts and finding leisure activities, and who had early age of onset for opioid dependence.

Wolf-Branigin, M. (2007). Disability and abuse in relation to substance abuse: A descriptive analysis. *Journal of Social Work in Disability & Rehabilitation*, 6 (3), 65-74.

The authors reviewed a single State's records for substance abuse treatment admissions and discharges covering a 5 year period. They found that those who had a disability (other than a substance use disorder) had a greater chance of being physically abused and/or abused by a domestic partner than did those without such a disability.

Services & Service Systems

Prevention

Thurstone, C., Riggs, P. D., Klein, C., & Mikulich-Gilbertson, S. K. (2007). A one-session human immunodeficiency virus risk-reduction intervention in adolescents with psychiatric and substance use disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*, 46 (9), 1179-1186.

The authors evaluated HIV-risk of teenagers in substance abuse treatment who had co-occurring major depressive disorders and conduct disorders (N=50) and who received a single HIV education session. Based on assessments of HIV knowledge and risk reduction practices conducted before the intervention and afterward, the authors conclude that this sort of intervention is needed and helpful with this population.

Screening & Assessment

Haro, G., Calabrese, J. R., Larsson, C., Shirley, E. R., Martín, E., Leal, C., & Delgado, P. L. (2007). The relationship of personality traits to substance abuse in patients with bipolar disorder. *European Psychiatry*, 22 (5), 305-308.

The authors sought to understand how personality traits relate to the development of substance use disorders in people who have a bipolar disorder. They evaluated 59 individuals with bipolar disorder, 20 of whom had no history of a substance related disorder, 21 who had a lifetime history but no current disorder, and 18 with a current substance-related disorder. They evaluated a number of different personality traits and found the only one that was significantly different between the groups was novelty seeking, and that those with current substance-related disorders had higher rates of novelty seeking than those in the other two groups.

Tikkanen, R., Holi, M., Lindberg, N., & Virkkunen, M. (2007). Tridimensional Personality Questionnaire data on alcoholic violent offenders: Specific connections to severe impulsive cluster B personality disorders and violent criminality. *BMC Psychiatry*, 7 (36)

The authors compared the temperament of 114 violent offenders with an alcohol use disorder and antisocial personality disorder (ASPD) to 84 violent offenders who did not have those disorders and a control group of 170 non-offenders without those disorders. Those individuals who had ASPD typically scored high on harm avoidance and novelty seeking and low on reward dependence. However, 21 percent of those with ASPD did score low on harm avoidance and those individuals had committed fewer acts of impulsive violence.

Treatment Planning & Services

Batki, S. L., Dimmock, J. A., Wade, M., Gately, P. W., Cornell, M., Maisto, S. A., Carey, K. B., & Ploutz-Snyder, R. (2007). Monitored naltrexone without counseling for alcohol abuse/dependence in schizophrenia-spectrum disorders. *American Journal on Addictions*, 16 (4), 253-259.

The authors evaluated the use of naltrexone for 19 individuals with co-occurring schizophrenia spectrum and alcohol use disorders. Participants in the trial reported significantly better outcomes on a number of measures related to alcohol use (i.e., drinks per week, drinks per day of drinking, days of drinking to intoxication, and alcohol craving) and also showed significant improvements in their Addiction Severity Index alcohol composite scores and in measures of psychopathology.

Grand, R. B. G., Hwang, S., Han, J., George, T., & Brody, A. L. (2007). Short-term naturalistic treatment outcomes in cigarette smokers with substance abuse and/or mental illness [CME activity]. *Journal of Clinical Psychiatry*, 68 (6), 892-898.

The authors evaluated the effect of co-occurring substance use and mental disorders on smoking cessation treatment. They retrospectively reviewed charts from 231 individuals who entered a Veterans Affairs (VA) smoking cessation program during an 18-month period. Participants who quit smoking by the end of the program (n=84) were less likely to have a

history of an alcohol use disorder or a schizophrenia spectrum disorder. Quit rates were not affected by other substance use or mental disorders.

Lester, K. M., Milby, J. B., Schumacher, J. E., Vuchinich, R., Person, S., & Clay, O. J. (2007). Impact of behavioral contingency management intervention on coping behaviors and PTSD symptom reduction in cocaine-addicted homeless. *Journal of Traumatic Stress, 20* (4), 565-575.

The authors evaluated the effect of a contingency management intervention on homeless individuals with cocaine dependence and co-occurring mental disorders (N=118). Participants who received the intervention showed greater reductions in posttraumatic stress disorder (PTSD) symptoms than did those who received the standard treatment. The authors also found there was a relationship between coping strategies as determined at baseline and symptom and severity reductions, with greater positive distraction coping and lower negative avoidance coping associated with greater reductions.

Links, P. S., Strike, C., Ball, J. S., Bergmans, Y., Rhodes, A. E., Spence, J. M., Watson, W. J., & Rufo, C. (2007). The experience of suicidal, substance-abusing men with severe personality disorders in the emergency department. *Personality and Mental Health, 1* (1), 51-61.

The authors investigated the experiences of suicidal men with substance use disorders and severe personality disorders who received assistance at a hospital emergency room. They interviewed both the patients and some of the staff who treated them. They found that both patients and staff had negative expectations concerning this population that appeared to interact with negative past experiences and negative current behavior to produce a negative outcome. The authors suggest changes (both systemic and at a personal level) to make treatment more effective for this population.

Manwani, S. G., Szilagyi, K. A., Zablotsky, B., Hennen, J., Griffin, M. L., & Weiss, R. D. (2007). Adherence to pharmacotherapy in bipolar disorder patients with and without co-occurring substance use disorders. *Journal of Clinical Psychiatry, 68* (8), 1172-1176.

The authors gave a structured interview to 115 patients with bipolar disorder, slightly over half of whom (n=58) had a co-occurring substance use disorder to determine their experiences with mood stabilizers. Participants with substance use disorders were less likely to have adhered to prescribed medication regimens (with 65.6 percent reporting lifetime adherence compared to 82.5 percent of those without a substance use disorder). In explaining their reasons for non-adherence, participants with substance use disorders were more likely than were the others to cite substance-related reasons (and less likely to cite pill- and dosage-related reasons).

Molina, B. S. G., Flory, K., Hinshaw, S. P., Greiner, A. R., Arnold, L. E., Swanson, J. M., Hechtman, L., Jensen, P. S., Vitiello, B., Hoza, B., Pelham, W. E., Elliott, G. R., Wells, K. C., Abikoff, H. B., Gibbons, R. D., Marcus, S., Conners, C. K., Epstein, J. N., Greenhill, L. L., March, J. S., Newcorn, J. H., Severe, J. B., & Wigal, T. (2007). Delinquent behavior and emerging substance use in the MTA at 36 months: Prevalence, course, and treatment effects. *Journal of the American Academy of Child & Adolescent Psychiatry, 46* (8), 1028-1040.

The authors compared the substance use and delinquent behavior of a group of children in an ongoing attention deficit hyperactivity disorder (AD/HD) study (n = 487) to that of a control group (n = 272) over a 3-year period. Children with AD/HD had significantly higher rates of both substance use and delinquency in comparison to those in the control group. At the 2- and 3-year assessments, greater use of prescribed medication in AD/HD group (as measured by days of use) was associated with increased delinquency but not increased substance use.

Rubin, E., Aharonovich, E., Bisaga, A., Levin, F. R., Raby, W. N., & Nunes, E. V. (2007). Early abstinence in cocaine dependence: Influence of comorbid major depression. *American Journal on Addictions, 16* (4), 283-290.

The authors compared a group of individuals with current cocaine dependence and major depressive disorder who were attending an inpatient substance abuse treatment to a similar in-treatment group who did not meet criteria for major depressive disorder. Subjects were followed over a 3-day period during which abstinence was closely monitored. At the start of the study, there were significant differences in depression (measured with the Beck Depression Inventory (BDI)), but by day 3 BDI scores for both groups had improved significantly.

Subramaniam, G. A., Stitzer, M. A., Clemmey, P., Kolodner, K., & Fishman, M. J. (2007). Baseline depressive symptoms predict poor substance use outcome following adolescent residential treatment. *Journal of the American Academy of Child & Adolescent Psychiatry*, 46 (8), 1062-1069.

The authors assessed a sample of 153 adolescents at their entry into a residential substance abuse treatment program and at 3-month intervals after up to 1 year. Study participants were assessed for depression (using the Beck Depression Inventory (BDI)), substance use, and other risk factors. At entry into the program, 55 percent had a BDI score of 11 or higher and a score of 11 or higher was associated with more days of substance use throughout the follow-up.