NIDA
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NewsScan
NIDA ADDICTION RESEARCH NEWS

NEWS UPDATE

Special Issue

NIDA Partners With American Psychiatric Association (APA) for Research-Based Track on Drug Abuse at 2004 APA Annual Meeting

This edition of *NewsScan* focuses on research supported by the National Institute on Drug Abuse (NIDA), one of the components of the National Institutes of Health, presenting new findings on the wide variety of topics that will be addressed during APA's 157th Annual Meeting, which will be held in New York City, May 1–6, 2004.

For the meeting, NIDA has joined forces with APA to present a special research-based program track, "Integrating the Science of Addiction Into Psychiatric Practice." This special track will raise awareness of new and emerging issues in addiction and psychiatry and provide important information related to best practices and treatment strategies. The nearly 40 sessions include such diverse topics as comorbidity of substance abuse and mental illness, the basic science of signal integration in the brain, the effects of substance abuse during pregnancy on offspring, effects of stress and trauma on substance abuse disorders, and anticraving medications. Session formats include lectures, symposia, and workshops.

As part of NIDA's presence at the meeting, NIDA Director Dr. Nora D. Volkow will participate in a symposium titled, "Obesity: Lessons Learned From Addiction," on Monday, May 3, and present the Distinguished Psychiatrist Lecture titled, "Why Does the Human Brain Become Addicted?" on Tuesday, May 4.

Dr. Volkow assumed her position as NIDA's director in May 2003. A leader in drug addiction research, she is the first woman to serve as NIDA's director. She is particularly known for her work investigating the mechanisms underlying the reinforcing, addictive, and toxic properties of drugs of abuse in the human brain.

Other NIDA-sponsored highlights at this meeting include:

- **Monday, May 3**

9:00 a.m. - 10:30 a.m.	Signal Integration in the Brain
9:00 a.m. - 10:30 a.m.	Drug Abuse and Suicidal Behavior
9:00 a.m. - 10:30 a.m.	Cocaine and Tobacco Use During Pregnancy: Adverse Outcomes in Offspring
11:00 a.m. - 12:30 p.m.	Obtaining Research Funding From NIH: Keys to Successful Grant Writing
2:00 p.m. - 5:00 p.m.	Functional Brain Imaging of Addiction
2:00 p.m. - 5:00 p.m.	Genetic and Environmental Factors Contributing to Vulnerability to Addiction
2:00 p.m. - 5:00 p.m.	Obesity: Lessons Learned From Addiction
2:00 p.m. - 5:00 p.m.	Treatment of Chronic Pain in Recovering Addicts

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- **Tuesday, May 4**

9:00 a.m. - 10:30 a.m.	Why Does the Human Brain Become Addicted?
9:00 a.m. - 11:00 a.m.	The Epidemiology and Treatment of Psychiatric Comorbidities
9:00 a.m. - 10:30 a.m.	Addiction Research as a Career Choice in Psychiatry
9:00 a.m. - 10:30 a.m.	Emerging Pharmacotherapies for the Treatment of Stimulant Dependence
9:00 a.m. - 10:30 a.m.	Steroid Abuse: Growing Problem for Adolescents and a Hidden Problem for Adults
11:00 a.m. - 12:30 p.m.	Anticraving Medication: A New Class of Psychoactive Medication?
11:00 a.m. - 12:30 p.m.	Drugs and Other Addictions: Does One Size Fit All?
11:00 a.m. - 12:30 p.m.	Stress, Trauma, and Drug Abuse
2:00 p.m. - 3:30 p.m.	Conceptual and Methodological Flaws in the Evaluation of Addiction Treatment
2:00 p.m. - 5:00 p.m.	Smoking and Comorbid Mental Disorders
2:00 p.m. - 5:00 p.m.	ADHD Subtypes and Subgroups at Risk for Substance Use Disorders

- **Wednesday, May 5**

9:00 a.m. - 10:30 a.m.	Treatment of Patients With Drug Dependence and Psychiatric Illness
11:00 a.m. - 12:30 p.m.	Stress and Relapse to Substance Use Disorders
2:00 p.m. - 5:00 p.m.	Consequences and Treatment of Marijuana Abuse
2:00 p.m. - 5:00 p.m.	Drug Abuse Treatment Issues in Women
2:00 p.m. - 5:00 p.m.	Moving the Targets: The Neurobiology of Addiction

- **Thursday, May 6**

2:00 p.m. - 5:00 p.m.	Behavioral Treatments for Drug Dependence

Research News

Medication for Multiple Sclerosis May Help in Treating Cocaine Addiction

Results of a NIDA-funded study show that a combination of substance abuse counseling and baclofen—a medication often used to treat muscle spasms in people with multiple sclerosis—can reduce cocaine use.

The study involved 70 people who participated in a 16-week treatment program for cocaine addiction. Thirty-five received counseling and baclofen, and 35 received counseling and a placebo. Cocaine use was monitored by thrice-weekly urine tests.

Analyses showed that people who received the counseling/baclofen combination had lower levels of drug use during the treatment period than the individuals in the counseling/placebo group, as indicated by urine testing. The response was most apparent among people who were chronic, heavy users of crack cocaine.

The researchers say baclofen may help by inhibiting the release of the brain chemical dopamine, thus reducing the desire for cocaine.

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- **WHAT IT MEANS:** The combined effect of drug abuse counseling and a medication that targets dopamine release in the brain may offer hope to the many people struggling with cocaine dependence. There are currently no Food and Drug Administration-approved medications to treat cocaine addiction.

Dr. Steven Shoptaw and his colleagues at the University of California–Los Angeles published these results in the December 15, 2003 issue of the *Journal of Clinical Psychiatry*.

Study Finds Bupropion May Be Effective Smoking Cessation Aid for Women

Research has indicated that women smokers have more difficulty quitting and maintaining abstinence from cigarettes than men. Several factors may contribute to gender differences in smoking cessation outcomes, including depression and fears of gaining weight. NIDA-funded scientists have found that the antidepressant medication bupropion may help women who are light smokers maintain abstinence at rates similar to those of men.

For the study, the researchers recruited 314 women and 241 men who smoked at least 10 cigarettes per day. Participants were assigned to receive bupropion, commonly known as Zyban or Wellbutrin, accompanied by behavioral counseling or counseling only. Behavioral counseling was designed to help participants reduce smoking, learn to cope with stress and situations that trigger their desire to smoke, and prevent relapse. Two weeks after participants began taking bupropion, or on the day of the third counseling session, they were instructed to stop smoking. Abstinence from smoking was evaluated at 8 weeks (end of treatment) and 6 months after the quit date, and was verified by saliva analysis for the presence of cotinine, an indicator of smoking.

At the end of treatment, 51 percent of the men and 40 percent of the women had remained abstinent from smoking. At the 6-month follow-up, about 32 percent of the men and 22 percent of the women were abstinent from smoking. The researchers found that, overall, women receiving both bupropion and behavioral counseling had abstinence rates similar to those of the men. However, women receiving behavioral counseling alone were more likely to relapse to smoking than the men. At the end of treatment, about 55 percent of the women receiving bupropion were abstinent from smoking compared with 35 percent of those receiving behavioral counseling alone. Women who received bupropion and smoked fewer than 20 cigarettes per day were twice as likely to remain abstinent than those receiving behavioral counseling alone. However, bupropion had little effect on the abstinence rates of women who smoked more than 20 cigarettes per day. For men, however, bupropion was more effective for heavy smokers than light smokers.

- **WHAT IT MEANS:** These findings indicate that bupropion may be an effective treatment for women who are light smokers. Identifying gender-specific smoking cessation factors will aid in the development of more effective treatment programs targeted to women.

This study was published in the February 2004 issue of *Nicotine and Tobacco Research* by lead investigator Bradley Collins at the University of Pennsylvania.

Adopting 12-Step Philosophy May Enhance Treatment Outcomes of Individual & Group Counseling for Cocaine Addiction

Study results suggest that encouraging patients to adopt the "12-step" philosophy and its associated behaviors may be responsible in part for the therapeutic success of combined individual and group counseling for cocaine addiction. The researchers who conducted these studies also found that counseling may affect a drug abuser's beliefs about drug abuse.

The 12-step philosophy includes believing in a "higher power" to help someone remain drug-free, and believing that recovery from addiction is a life-long process. Other recommended behaviors include attending meetings, obtaining a sponsor, and staying away from the people, places, and things that trigger substance abuse.

The study, conducted by Dr. Paul Crits-Christoph, of the University of Pennsylvania, and his colleagues, focused on 487 patients who were randomly assigned to receive 6 months of group drug counseling, either alone or in combination with individual drug counseling (IDC), supportive-expressive psychotherapy (SEP), or cognitive psychotherapy (CT). The researchers then analyzed outcomes using the Addiction Recovery Scale to assess the effectiveness of the 12-step program among people receiving group and individual drug counseling. They also used other scales to examine how IDC, SEP, and CT achieved their effects.

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The researchers found a statistical correlation between the adoption of the 12-step philosophy and behaviors and drug counseling outcomes.

In what was an unexpected finding, the scientists also found that the combination of individual and group drug counseling may have influenced patients' beliefs about substance abuse. Negative beliefs about substance abuse (e.g., "Life without using drugs is boring," or "I don't deserve to recover from drug abuse") may help maintain usage. When patients' beliefs became less negative, there were more reductions in drug use. In fact, changing beliefs about addiction was more highly correlated with reduced drug use than was adopting the 12-step philosophy. A possible explanation, the scientists suggest, is that beliefs about substance abuse change in response to changes in drug use.

- **WHAT IT MEANS:** Although the 12-step philosophy and associated behaviors are linked with the positive effects seen with group and individual counseling for cocaine addiction, the inability to show a sequential process—first adopting the 12-step philosophy and then undergoing counseling—means the mechanism that drives these affirming results remains unknown. The authors also say that changing beliefs about addiction may play an important part in successful treatment.

The NIDA-funded study was published in the October 2003 issue of the *Journal of Consulting and Clinical Psychology*.

Co-Occurring Disorders Increase Risk of Suicide Attempt by Adolescents

Research has shown that adolescents with substance use disorders are most likely to attempt suicide when they also have a co-occurring mood disorder. NIDA-funded scientists at the University of Pittsburgh have extended this research and found that generally, both male and female substance abusers who attempt suicide begin taking drugs at an early age and have more symptoms of psychiatric and substance use disorders than adolescents who do not attempt suicide.

Dr. Thomas Kelly and colleagues collected data from 188 females and 315 males, aged 12 to 19 years, who were diagnosed with an alcohol or substance use disorder and who participated in studies between 1991 and 2000 at the Pittsburgh Adolescent Alcohol Research Center. The adolescents completed standardized assessments of substance- and nonsubstance-related psychiatric disorders. Both the adolescents and their parents answered standardized questions about age of onset for all diagnosed psychiatric disorders. Adolescents who attempted suicide and their parents estimated the age(s) at which the adolescent attempted suicide.

Overall, 29 males and 56 females made one or more suicide attempts during their lifetimes. Males with hallucinogen use disorders, inhalant use disorders, sedative-hypnotic use disorders, and attention-deficit hyperactivity disorder were more likely to have attempted suicide than males who were not diagnosed with these disorders. Male suicide attempters had more symptoms of mood, alcohol, and disruptive behavior disorders compared with male nonattempters. There existed an earlier age of onset for alcohol use disorders and conduct disorders among male suicide attempters compared with the age of onset among males with these disorders who did not attempt suicide.

Females with conduct disorders and substance use disorders (other than cannabis use disorders) were at higher risk for attempting suicide than females who were not diagnosed with conduct disorders or noncannabis substance use disorders. Female suicide attempters had more symptoms of substance use disorders (other than cannabis use disorders) and mood disorders compared with female nonattempters. Female suicide attempters with mood disorders had an earlier age of onset of mood disorders compared with the age of onset for mood disorders among female nonattempters.

The researchers also found that risk of attempting suicide generally begins to increase at age 11 for females and about 12.5 for males with substance use disorders. Co-occurring mood disorders place both males and females with substance use disorders at highest risk for attempting suicide.

- **WHAT IT MEANS:** These findings indicate that clinicians should closely monitor adolescents with substance use disorders for suicide risk. Clinicians should also be aware of gender differences in suicidal behavior based on the course and severity of a co-occurring psychiatric disorder in this population.

Dr. Kelly and colleagues published these findings in the January 2004 issue of *Drug and Alcohol Dependence*.

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Examining Motivational Interviewing in Drug Abuse Therapy

A study designed to assess the usefulness of a single session of motivational interviewing in drug abuse treatment showed that the single session of the psychotherapy technique had no effect on drug use outcomes. However, results of a subsequent analysis suggest that the therapist may have pressed for change before the individual was ready.

Motivational interviewing is designed to strengthen a person's commitment to changing their behavior by focusing on such factors as desire, self-efficacy, need, readiness, and reasons. In the original study, University of New Mexico researchers randomly assigned 152 outpatients and 56 inpatients to receive or not receive a single session of motivational interviewing as part of their drug abuse therapy. The researchers assessed drug use at the pretreatment baseline and at 3, 6, 9, and 12 months following study entry. They found that adding a single session of motivational interviewing failed to have a positive effect on abstinence.

In a follow-up study, a psycholinguist watched videotapes of 84 persons undergoing motivational interviewing—representing a subset of individuals from the earlier study—and their therapists to analyze the language they used.

For the psycholinguistic analysis, each session was broken into four parts: motivational interviewing, assessment feedback, additional motivational interviewing, and developing a change plan. The researchers found that during the motivational interviewing segments, the study participants used language that showed a strong commitment to drug abstinence. However, the analysis also revealed that individuals began "resisting," or using weaker language, when the therapist switched to giving assessment feedback. There was also a precipitous decline in commitment language when the therapist pressed for a plan to initiate behavior changes.

- **WHAT IT MEANS:** The finding from the first study—the failure of motivational interviewing to have a positive impact on drug use behaviors—was unexpected because previous assessments had shown that the technique improved treatment retention, adherence, and outcome. Results of the second study suggest that therapists should modify manual-guided motivational interviewing techniques when faced with individuals whose language, especially during assessment feedback, begins to reflect a decline in their initial desire to reduce drug use. By pressing for change before a person is ready, the therapist can undermine the existing motivation for behavior change.

Dr. William Miller and his colleagues published these NIDA-funded studies in the August 2003 and October 2003 issues of the *Journal of Consulting and Clinical Psychology*.

Study Finds Combination Therapy Successful for Treating Depression in Injection Drug Users

Depression is common among opiate users and may serve as a trigger for high-risk drug injection practices, continued drug use, and relapse. Research has shown that individuals with co-occurring depression and substance use are less likely to complete treatment and have poorer prognoses after traditional treatment. However, scientists at the Brown University School of Medicine demonstrated that multisession, combination antidepressant therapy successfully reduced depression in active injection drug users.

Dr. Michael Stein and colleagues recruited 109 out-of-treatment injection drug users diagnosed with depression to participate in the study. Fifty-three participants received combined psychotherapy and pharmacotherapy for their depression during a 3-month period. These participants were scheduled to receive eight individual cognitive behavioral therapy (CBT) sessions and three pharmacotherapy visits. Fifty-six participants did not receive treatment. At the end of 3 months, adherence to treatment was assessed, and all study members participated in follow-up interviews designed to assess their heroin use and severity of depression.

Forty-three percent of participants receiving the combined treatment were considered to be fully adherent to their treatment schedules (receiving more than 75 percent of either psychotherapy or pharmacotherapy). At follow-up, significant reductions in depression were observed. Participants receiving the combined treatment were about 2.5 times more likely than those not receiving treatment to be in depression remission. Nearly 40 percent of participants who were fully adherent to treatment were in remission at 3 months, while only about 12 percent of those not receiving treatment were in remission at this time. Among all participants, depression status was associated with frequency of heroin use. Participants in remission at 3 months reported fewer than 8 days of heroin use during that time compared with roughly 13 days of heroin use among those not in remission.

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- **WHAT IT MEANS:** These findings indicate that depressed drug abusers are able to successfully participate in conventional treatment for depression, and for those who are adherent, depression remission is not uncommon. However, most mental health and drug treatment programs do not provide integrated treatment for their dually diagnosed patients. Developing and improving programs for patients with co-occurring depression and substance abuse disorders who do not seek drug treatment may be important as a potential prelude to entry into drug treatment.

The study was published in the February 2004 issue of the *Archives of General Psychiatry*. It was funded in part by NIDA.

Bupropion, Counseling May Help Youth With ADHD Stop Smoking

Results of a small pilot study suggest that combining the drug bupropion with brief counseling sessions may help teens reduce or stop smoking, even those with attention deficit hyperactivity disorder (ADHD). Evidence suggests that people with ADHD have more difficulty quitting smoking than people who do not have the disorder.

Bupropion is known commonly as Zyban or Wellbutrin.

Researchers at the Medical University of S. Carolina in Charleston enrolled 16 adolescents, aged 12 to 19 years, in the study. Participants took the drug at the maximum dosage of 300 mg daily for 6 weeks. They also took part in two 30-minute smoking cessation counseling sessions. Eleven of the 16 youths had co-occurring ADHD.

The scientists say that the number of cigarettes the participants smoked daily decreased significantly from an average of more than 18 at the start of the study to less than 1 when the study ended. Five participants, one of whom had ADHD, quit smoking by the fourth week of the study.

The researchers also assessed levels of carbon monoxide (CO) in expired breath to gauge the efficacy of the program. Levels of CO decreased significantly, falling from a baseline of about 18 parts per million (ppm) to about 7.2 ppm by the end of the study. CO, a component of cigarette smoke, reduces the capacity of blood to carry oxygen, forcing the heart to work harder to supply the body with the oxygen it needs. Decreased levels of CO may signify the efficacy of a smoking cessation program.

There was no change in ADHD symptom scores among the participants who completed the study.

- **WHAT IT MEANS:** These results suggest that bupropion might have a role in treating nicotine dependence in adolescents. In light of the limited options available for treating nicotine dependence in youth, future studies of the efficacy of bupropion that are randomized, double-blinded, and placebo-controlled may be warranted.

Dr. Himanshu Upadhyaya and his colleagues published this study in the February 2004 issue of *Journal of the American Academy of Child and Adolescent Psychiatry*.

Substance Abuse and Mental Illness Care Providers Should Be Prepared for High Prevalence of Severe Co-Occurring Disorders

People who have major mental illnesses often have co-occurring substance abuse disorders. Conversely, individuals with substance abuse disorders often have co-occurring psychiatric disorders. But are the substance abuse problems of patients with major mental illnesses less severe than those of patients in substance abuse treatment? Are the psychiatric disorders of patients receiving substance abuse treatment less severe than those of psychiatric patients?

Scientists at the University of California–San Francisco conducted a study that addressed these questions. They compared, at treatment entry, 120 substance abuse patients who had co-occurring psychiatric disorders with 106 psychiatric patients who had co-occurring substance abuse disorders. Both patient groups were in public, acute-crisis, residential treatment programs, within either the mental health or substance abuse treatment systems. The researchers speculated that the relative absence of differences between the two patient groups would suggest that the prevalent practice of specialized treatments in separate systems of care for comorbid patients was not clinically indicated.

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Dr. Barbara Havassy and her colleagues determined patients' DSM-IV (the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*) psychiatric and substance abuse diagnoses and assessed severity of drug abuse and psychiatric symptoms. Few differences between the comorbid groups emerged. There were no diagnostic differences except for those with schizophrenia spectrum disorders. These disorders were slightly more common among psychiatric than substance abuse patients; nevertheless, nearly one-third of substance abuse patients were diagnosed with this disorder. Furthermore, although more substance abuse than psychiatric patients reported recent drug abuse, the average days of drug abuse, among those in each group who reported drug abuse, was not different.

- **WHAT IT MEANS**: Health care providers should recognize the associative nature of drug abuse and mental illness. Substance abuse treatment providers should be prepared to treat patients with severe mental illness. Likewise, mental health treatment providers should be prepared for patients with severe drug problems and long histories of abuse. Other providers and programs, independent of the treatment system, should be aware of the potential for co-occurring disorders and be prepared to offer interventions to their patients.

The researchers published this study in the January 2004 issue of the *American Journal of Psychiatry*.

For more information about any item in this *NewsScan*:

- **Reporters**, call **Blair Gately** at 301-443-6245.
- **Congressional staffers**, call **Mary Mayhew** at 301-443-6071.

The National Institute on Drug Abuse (NIDA) is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports more than 85 percent of the world's research on the health aspects of drug abuse and addiction. The Institute carries out a large variety of programs to ensure the rapid dissemination of research information and its implementation in policy and practice. Fact sheets on the health effects of drugs of abuse and other topics are available in English and Spanish. These fact sheets and further information on NIDA research and other activities can be found on the NIDA home page at **http://www.drugabuse.gov**.

(30)

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