

# ED Intervention Modestly Alters Teens' Behaviors

BY ROBERT FINN

FROM JAMA

**A** brief intervention in the emergency department resulted in modest reductions in violence and alcohol use, according to a randomized, controlled trial involving 726 adolescents.

The teenagers, all of whom reported violence and alcohol abuse during the past year, were randomized to receive either a brochure (the control condition) or a 35-minute intervention delivered via computer or by a therapist. Both interventions were targeted at alcohol use and violence and were based on motivational interviewing techniques and skills training. The interventions included a review of goals, tailored feedback, a decisional balance exercise, role plays, and referrals, wrote Maureen A. Walton, Ph.D., of the University of Michigan, Ann Arbor, and her colleagues (JAMA 2010;304:527-35).

On every violence-related measure, all three groups, including the control group, showed substantial declines from baseline at 3 months and again at 6 months. For example, at baseline 83% of the therapist group, 76% of the computer group, and 78% of the control group reported severe peer aggression during the past year. At 3 months the percentages reporting aggression were 48%, 54%, and 62%, respectively, and at 6 months they were 45%, 49%, and 49%.

Similarly, all three groups showed substantial declines in every alcohol-related

measure at 3 months and additional declines in most alcohol-related measures at 6 months. For example, at baseline 53% of the therapist group, 49% of the computer group, and 54% of the control group reported binge drinking. At 3 months the percentages declined to 34%, 29%, and 35%, respectively, and at 6 months they were 33%, 33%, and 34%.

Included in the study were adolescents aged 14-18 years who were being seen in a level I trauma center for a variety of reasons. Excluded were teens experiencing suicidal ideation, abnormal vital signs, insufficient cognitive orientation, and several other conditions. Of 3,764 patients approached for screening, 446 refused and 2,509 did not meet inclusion criteria, the most important of which was reported alcohol use and reported violence within the past year. More than 100 others refused participation, leaving 726 to be randomized. A total of 626 completed the 6-month assessment.

Several of the between-group differences were statistically significant. Compared with those in the control group, teenagers in the therapist group were significantly less likely to report severe peer aggression, an experience of peer violence, or consequences of violence at 3 months. None of those differences were statistically significant at 6 months. At 6

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**Data Source:** Randomized, controlled trial of 726 adolescents, aged 14-18 years, who reported both past-year aggression and alcohol consumption.

**Disclosures:** The study was supported by the National Institute on Alcohol Abuse and Alcoholism. The authors reported no financial conflicts.

months, but not at 3 months, those in the therapist group reported significantly fewer alcohol consequences than controls.

The investigators reported several encouraging results from a number-needed-to-treat analysis. For example, only eight at-risk adolescents would need to receive the therapist intervention to prevent severe peer aggression in one adolescent. Ten at-risk adolescents would need to receive the therapist intervention to prevent one from being victimized by a peer. And 17 adolescents would need to receive the therapist intervention to prevent alcohol consequences in 1 teen.

In an accompanying editorial, Dr. Richard Saitz and Dr. Timothy S. Naimi of Boston University criticized several as-

pects of the study. They noted that the study's trial registration suggested that the investigators measured quite a few additional primary outcomes that they did not mention in their report, including drug use, injury, delinquency, and weapon carrying.

The fact that the investigators measured so many primary outcomes raises the concern of type I experimental error because of multiple comparisons. "If this study had measured more objective outcomes such as physician-documented injury events or school-based reports of violent incidents, rather than self-reported risk behaviors, the findings might have been more convincing," they wrote.

In addition, Dr. Saitz and Dr. Naimi suggested that participants in face-to-face counseling might be less likely to report unsafe or undesirable behaviors at follow-up (JAMA 2010;304:575-7).

Dr. Saitz reported having been a consultant for online alcohol-related screening and brief intervention education projects supported by National Institutes of Health grants. He also has been compensated by Beth Israel Deaconess Hospital and the National Institute on Alcohol Abuse and Alcoholism for serving on data and safety monitoring boards. He has been or expects to be compensated as a speaker or consultant on alcohol and drug topics by multiple government agencies, academic institutions, professional societies, and private companies.

Dr. Naimi reported currently receiving NIH grant support. ■

# Light Marijuana Use Appears Protective Against Diabetes

BY BRUCE JANCIN

FROM THE ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

DENVER – Marijuana use may be associated with a markedly decreased risk of diabetes.

A provocative new analysis of data from the Third National Health and Nutrition Examination Survey (NHANES III) indicates marijuana users had 66% lower odds of having diabetes after adjustment for numerous potential confounding factors, Dr. Magda Shaheen reported at the meeting.

This robust observed benefit has a biologically plausible mechanism, she noted.

In addition to defects in pancreatic beta-cell function and insulin sensitivity, the pathogenesis of diabetes is thought to involve systemic inflammation. Marijuana contains bioactive cannabinoids that have been shown to have an anti-inflammatory effect. This was borne out in the NHANES III analysis, where the prevalence of an elevated C-reactive protein level in excess of 0.5 mg/dL was significantly higher in nonusers of marijuana, at 18.9%, than in past users, with a 13% prevalence of elevated CRP, current light users (16%), or current heavy users of the illicit drug (9%), according to Dr. Shaheen of Charles R. Drew University of Medicine and Science, Los Angeles.

The study population consisted of 10,896 NHANES III participants aged 20-59 years; they constituted a statistically representative sample of the broader U.S. civilian population in 1988-1994, when the survey was conducted. The majority of subjects – 55% – reported

## VITALS

**Major Finding:** The age-adjusted prevalence of diabetes was 4% in nonusers and significantly lower at 3% in marijuana users. In a multiple logistic regression analysis adjusted for socio-demographic factors, comorbid conditions, laboratory values, and inflammatory markers, marijuana users had a 66% lower likelihood of having diabetes.

**Data Source:** A cross-sectional study involving 10,896 NHANES III participants aged 20-59 years.

**Disclosures:** The study was funded by Omics Biotechnology, which is pursuing potential medical applications for nonpsychotropic cannabinoid receptor agonists. Dr. Shaheen declared she has no relevant financial relationships.

never having used marijuana. Another 37% were past users, meaning they hadn't used marijuana during the previous month. The 6% of subjects who reported currently using the drug 1-4 days per month were categorized as current light users, while 3.3% of subjects were current heavier users.

The age-adjusted prevalence of diabetes in this cross-sectional study was 4% in nonusers and significantly lower at 3% in marijuana users. Current and past users were significantly younger, had a lower body mass index, were more physically active, and were more likely to smoke cigarettes, drink alcohol, and use cocaine than were nonusers. They were more likely to have an HDL level greater than 40 mg/dL and had lower mean total cholesterol, LDL, and triglyceride levels.

In a multiple logistic regression analysis adjusted for sociodemographic factors, comorbid conditions, laboratory values, and inflammatory markers, marijuana users had a 66% lower likelihood of having diabetes. This benefit was confined to the 41- to 59-year-old age group, where the reduction in diabetes risk associated with marijuana use was 67%. In contrast, the 7% reduction in risk among 20- to 40-year-olds was not statistically significant. These findings could be the result of the markedly higher occurrence of diabetes in middle age.

Unlike in diabetes, marijuana use was not associated with a lower prevalence of the other chronic diseases that Dr. Shaheen and colleagues looked at in which systemic inflammation also plays a role: myocardial infarction, heart failure, stroke, and hypertension. "This was probably due to the lower prevalence of these diseases in this age group," she commented.

Dr. Shaheen noted that the lowest prevalence of diabetes was found in current light users of marijuana, although past users and current heavy users also had lower rates than did nonusers. "This finding in light marijuana users is similar to the effect of alcohol on diabetes mellitus and the metabolic syndrome. Studies have shown that mild alcohol use was associated with a lower prevalence of diabetes and metabolic syndrome, and higher use was associated with a higher prevalence."

Dr. Shaheen said this was a cross-sectional study that can't establish causality. "Prospective studies need to be performed in rodents and humans to determine a causal relationship between cannabinoid receptor activation and diabetes. Until those studies are performed, we do not advocate the use of marijuana in patients at risk for diabetes mellitus," the investigator stressed. ■