Preventing Adolescent Alcohol Abuse and Dependence

A national longitudinal survey has shown that a person has an increased risk of becoming alcohol dependent (by DSM-IV criteria) the earlier the person begins drinking alcohol, regardless of family history (Grant 1998). Further analyses have demonstrated that people who began drinking prior to14 years old are approximately four times as likely to develop alcohol dependence as are people who started drinking after 20 years old (Grant and Dawson 1997). According to the 2003 Youth Risk Behavior Surveillance Survey, 75% of high school students have tried alcohol in their lifetime, 28% of those surveyed had tried alcohol by the age of 13, and 44.9% had at least one drink in the 30 days prior to the survey (Grunbaum JA et al 2004). In respect to safety, 28% had consumed five or more drinks within a few hours in the 30 days before survey, 12% had driven a car after drinking, while 30% had driven with a drinking driver in the 30 days preceding the survey (Grunbaum JA et al 2004). One quarter of the sexually active high school students surveyed had used drugs or alcohol prior to their last sexual encounter (Grunbaum JA et al 2004). Adolescent alcohol abuse and dependence may lead to drug abuse and dependence, violence, sexually transmitted diseases, accidents and injuries, suicide, and brain damage. Hence, there is a necessity to take steps to prevent alcohol abuse and dependence in adolescents. This course will summarize the approach physicians, parents, and communities are taking to avert adolescent alcohol misuse.

Intervention in the Primary Care Setting

Based on results of the Adolescent Drinking Questionnaire (ADQ), which assesses drinking frequency and volume, Spitiro et al demonstrated that brief motivational interviewing (MI) of adolescents who present to the emergency department (ED) with some indication of previous alcohol use had decreased drinking frequency and volume at one-year follow up compared to those who received standard quality of care (Spitiro et al 2004). Both groups received handouts about the negative effects of alcohol, a feedback sheet, and substance abuse treatment information. Motivational interviewing implores the patient making lifestyle changes after reflecting on the effect alcohol abuse on their short-term and long-term goals (Spitiro et al 2004). The alcohol positive adolescents who received MI discussed that the responsibility for changing their drinking lied within them; reviewed their motivation for and the possible consequences of drinking; received normative feedback about the pattern and risks of their specific alcohol use; established goals in respect to drinking alcohol; and anticipated the difficulties they would encounter in trying to achieve those goals (Spitiro et al 2004). Spitiro et al suggest adding a parental motivational interview may further reduce the average number of drinking days and high-volume drinking days per month (Spitiro et al 2004). While brief motivational interviewing may be useful in decreasing alcohol use in adolescents who have used alcohol, it may not be effective in encouraging continued abstinence in adolescents who have not started drinking alcohol because the consequences of alcohol use may be out of their realm of experience.

A London study by Cambridge and Strang examined the efficacy of MI in reducing drug consumption in college students (Cambridge and Strang 2004). They found that while MI patients reported decreased consumption of alcohol at 3 months, the method of reductions was by moderation of drinking and not cessation (Cambridge and Strang 2004).

A systematic review and meta-analysis of 19 studies that used alcohol consumption as an outcome measure of brief alcohol intervention in mostly adult patients in the primary care setting showed that brief intervention is effective at reducing alcohol consumption at 6 and 12 months (Bertholet et al 2005).

Maio et al. attempted to achieve similar goals by developing an interventional computer program based on successful school administered alcohol prevention curricula (Maio et al. 2005). Using the Alcohol Misuse Index (Amidx) and binge number episodes to measure outcome, the laptop curriculum was administered to 14 to 18 year olds presenting to the ED with minor injury, regardless of their use of alcohol (Maio et al. 2005). They found no significant difference in alcohol misuse or binge drinking at 3-month and 1-year follow up between the intervention and control group. Increasing the power of the study may clarify the trend showing that there may be a difference in outcomes for adolescents that have experience drinking and driving (Maio et al. 2005).

The Power of Parents

Parents have a profound influence on their children's choices. The Parent Corps is a national effort funded by the Corporation for National and Community Service (CNCS) to prevent tobacco, drug, and alcohol use in adolescents and young adults (parentcorps.org). The National Families in Action (NFIA)-operated program is modeled after a parent movement started in the late 1970s that decreased past-month substance use by two-thirds in our nation's youth

(parentcorps.org). Parent Corps hires and trains Parent Leaders to work with schools and other parents to create an ongoing parent support network that disseminates prevention education and techniques (parentcorps.org). They aim to have a Parent Leader in every school in America by 2014, engaging parents to work to influence their children to resist substance use and bring advertising of alcohol, drugs, and tobacco to children to an end (parentcorps.org).

Parents can also refer to information websites such as "Parents: the antidrug" (www.antidrug.com) and "NFIA's A Guide for Parents" (http://www.nationalfamilies.org/parents/index.html) for recommendations on how to discuss drug and alcohol use with their children.

Schools can Teach Students to Say "No"

School-based substance misuse prevention curricula have been used in students of all ages to deter and curtail student drinking. Studies have shown that some high school programs significantly relay alcohol misuse knowledge ($p<0.001$) and prevent alcohol misuse ($p<0.02$) (Shope et al 1992). Investigators are developing and testing new and creative interventional programs to be used in adolescents. Werch et al found that brief sport-based intervention tailored to high school students' health habits may prevent alcohol use in teens while promoting exercise frequency (Werch et al 2003).

ALERT Plus is a highly successful drug prevention program that aims to change students' beliefs and understanding of drugs and alcohol (Ellickson et al 2003). It helps students identify and

resist pro-drug and pro-alcohol pressure by peers, parents, the media, and other sources (Ellickson et al 2003).

The Role of the Community in Reducing Adolescent's Access to Alcohol

It is exceedingly difficult to discourage alcohol misuse in adolescents with the overwhelming amount of marketing dollars that go into advertising alcoholic beverages. According to David Jernigan, Research Director of the Center on Alcohol marketing and Youth of Georgetown University, alcohol companies spent 216 million dollars in 2001 to 2003 on advertising 'alcopops,' a colorful, fruit-flavored malt beverage that appeals to new drinkers (Jernigan 2005). Alcoholic beverage manufacturers have also increased their advertisement spending on distilled spirits from 1.3 million dollars in 2001 to 35 million dollars in 2003 (Jernigan 2005). Exposure to advertising propaganda has increased 11-17% in our youth (Jernigan 2005). Results of studies monitoring the impact of alcohol advertising exposure to youth have shown that exposure to in-store beer displays, magazines, and beer concession stands with alcohol advertisement promote drinking onset in middle school-aged adolescents, while television advertisements did not significantly predict alcohol use for students (Ellickson et al 2005). Ellickson et al also found that students who participated in the ALERT Plus alcohol prevention program, were resistant to the effect of in-store beer displays and had decreased future drinking (Ellickson wt al 2005).

In the multi-community cohort study, Complying with the Minimum Drinking Age project, Alexander et al followed the effectiveness of training retail alcohol management and enforcing compliance checks of alcohol retailers in reducing the sale of alcohol to minors (Alexander CW

et al 2005). They found that while enforcement checks decrease the amount of alcohol that is sold to minors in the short-term, the effect dissipated by 3 months, suggesting the need for ongoing, regular enforcement (Alexander CW et al 2005).

Dent et al also showed that the rate of illegal alcohol retail to minors corresponded to 30-day frequency of alcohol use, binge drinking, drinking and driving, and drinking in school (Dent et al 2005). They also found that communities enforcing minor-in-possession laws had a lower rate of binge drinking and alcohol use (Dent et al 2005).

Conclusion

In summary, it is important to counteract the media and social pressures that drive adolescents to drink alcohol. There are many factors that influence an adolescent's risk for drinking. By reaching out to our adolescents in health care, educational, and home settings to shape their ideas about alcohol and prevent alcohol use, we are arming them with the skills they need to combat advertisement and peer persuasion. It is important to have a multifaceted approach to this problem. By employing variations of brief motivational intervention, alcohol and drug prevention curricula in schools, and increasing communication between parents and their children, we have the power to decrease the morbidity and mortality caused by alcohol abuse and dependence in adolescents and consequently, in adults.

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