


YOUNG PEOPLE & ALCOHOL

IMPACT, POLICY, PREVENTION, TREATMENT

EDITED BY

JOHN B SAUNDERS, JOSEPH M REY

 WILEY-BLACKWELL

Addiction Press

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Young People and Alcohol

Impact, Policy, Prevention,
Treatment

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Preface

In the United States in 2008, 8 million adolescents—almost one-third of all people aged 12-17—drank alcohol. On an average day, 205 adolescents presented to hospital emergency departments as a result of their alcohol consumption, often because of alcohol poisoning. Each day, 76 sought substance abuse treatment.¹ Ian Gilmore, President of the Royal College of Physicians, London, UK, said, “The nation's growing addiction to alcohol is putting an immense strain on health services, especially in hospitals, costing the NHS [National Health Service] over £2.7 billion each year.” He added, “This burden is no longer sustainable”—costs had doubled in less than 5 years.² A specialist clinic for children with problems related to alcohol misuse was to be launched in the Netherlands following a marked increase in admissions to hospital of children younger than 16 years because of alcohol poisoning.³ In Thailand, formerly a low alcohol consuming country, consumption of alcohol increased 32-fold between 1961 and 2001 (from 0.26 to 8.47 L per capita, respectively), with a consequent rise in health and social problems, particularly among young women.⁴ These events and data draw attention to the fact that youth alcohol use is a growing concern worldwide.

Although consumption varies between countries and among cultural and ethnic groups, patterns of use among the young seem to be converging due to the influence of the mass media, marketing, growing affluence, and globalization. The *Surgeon General's Call to Action to Prevent and Reduce Underage Drinking*⁵ highlights that the highest prevalence of alcohol abuse and dependence in any age group is among people aged 18 to 20. The report goes on to stress that adolescents use alcohol differently from

adults, that they react uniquely to it, and that alcohol has a powerful attraction for adolescents, with often unpredictable and potentially devastating outcomes.⁵ The medical costs of underage drinking (below 21 years of age) in the United States are estimated to be in excess of \$5 billion a year. Notwithstanding all this, alcohol problems in the young are often ignored or minimized. For example, Australian data⁶—similar to data elsewhere—show that parents are the most common source of alcohol among school students.

The latest research demonstrates a compelling need to address alcohol use early, in the context of human development, and using a systematic approach that spans childhood through adolescence and into adulthood. The coming tide of medium- to long-term health consequences of increased youth alcohol use is tragically illustrated by Gary Reinbach, a 22-year-old Englishman from Dagenham, Essex, UK. This young man died in hospital after he was refused a liver transplant because he could not prove he had not drunk alcohol for at least 6 months—one of the requirements for liver transplant in the United Kingdom. Mr. Reinbach had been admitted to hospital 10 weeks earlier with cirrhosis of the liver. His family said he had started drinking at 11 years of age and drank heavily after the age of 13.⁷ Most physicians, educators, policymakers, youth workers, teachers, and parents underestimate this problem and are poorly equipped to deal with it. This book aims to fill this gap by providing workers from a range of professional backgrounds working with people aged 12–25 years with authoritative and up to date information about the effects of alcohol use in the young and, particularly, its management, with an emphasis on interventions whose effectiveness is supported by evidence.

The first three chapters deal with the sociological and developmental aspects of alcohol use. Chapter 1 examines the phenomenon of youth drinking in the context of youth

culture in the twenty-first century, highlighting recent changes in drinking patterns, a convergence between wine-, beer-, and spirit-drinking cultures, and the novel phenomenon of drinking specifically to become intoxicated as quickly as possible. While Chapter 2 considers the factors associated with early onset drinking and its consequences, Chapter 3 reviews the research on the short- and long-term consequences of adolescent alcohol use; in particular, how much of these outcomes can be actually attributed to alcohol use and how much to other confounding factors.

The next three chapters focus on the biological aspects of alcohol use. Chapter 4 describes how alcohol is handled by the body, its effects on consciousness and behavior, and summarizes the neurobiological mechanisms by which alcohol exerts its acute effects and leads to dependence. Chapter 5 examines a considerable body of new research showing that alcohol has specific effects on the developing adolescent brain. Chapter 6 discusses advances in our understanding of the genetic contributions to alcohol use across the life span but with a focus on adolescence and early adulthood.

Chapters 7-10 describe in some detail prevention and early intervention strategies. Chapter 7 focuses on universal preventive measures such as alcohol policies, legislation, and their effect on youth drinking and on preventing harms such as motor vehicle accidents. There is currently much discussion in the literature and in several countries' media about minimum pricing policies, thus far rejected by legislators on the incorrect belief that they unfairly penalize moderate drinkers. Chapter 8 describes the practicalities of how to mobilize community resources to develop and implement prevention policies and programs in a specific community. Chapter 9 deals with brief alcohol interventions in young people and their effectiveness, with a particular focus on those that can be delivered using new technologies

such as the Internet and cell phones. Finally, Chapter 10 examines preventative interventions in schools, colleges, and military, which are receiving considerable attention in the clinical and policy domains. For example, there is a widespread belief that college life encourages heavy drinking.

The next two chapters deal with the assessment and diagnosis of alcohol use disorders in youth, including diagnostic concepts and the classification of alcohol use disorders in the international diagnostic systems (Chapter 12). This chapter also describes the use of scales, diagnostic interviews and biological markers. Chapter 11 outlines the clinical interview of young people who misuse alcohol and emphasizes the importance of empathy and understanding of the young person's experiences with alcohol.

The final 6 chapters address various aspects of treatment, with an emphasis on those that have demonstrated effectiveness or show promise. Chapter 13 deals with the acute management of alcohol intoxication and withdrawal, highlighting the early signs of alcohol poisoning. Chapter 14 draws attention to the importance and issues involved in working with families of adolescents who misuse alcohol. Chapter 15 reviews the large body of literature on the psychological approaches to the treatment of adolescents who misuse alcohol that are the current mainstay of treatment, and offers practical advice on the implementation of these interventions in youth.

The last 10 years have witnessed a dramatic renewal of interest on the pharmacological approaches to the management of alcohol use disorders, resulting in a burgeoning literature. Although research targeting adolescents and young adults is still limited, these efforts are presented in Chapter 16. Chapter 17 describes the evidence for using 12-step programs such as Alcoholics Anonymous and advises clinicians on how to make them

more attractive for adolescents and youth. Finally, Chapter 18 gives an excellent picture of the problems managing alcohol use disorders comorbid with other conditions, a very common occurrence in clinical practice.

At the beginning of each chapter, there is a list of “key points” that summarize the thrust of the chapter. At the end, when appropriate, there is a list of sound resources for practitioners, patients, and families, mostly available in the Internet free of charge. We also provide a glossary explaining the abbreviations and some of the technical terms used in this very broad field.

We would like to finish by thanking the contributors very much; they generously agreed to share their wisdom, knowledge, and clinical experience and adhered to a demanding and tight schedule. We are in their debt.

*John B. Saunders
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Glossary and abbreviations

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Acamprosate: A drug used in the treatment of alcohol dependence that blocks glutamatergic *N*-methyl-D-aspartate (NMDA) receptors and activates gamma-aminobutyric acid (GABA) type A receptors. Acamprosate's main effect in alcohol dependence seems to be suppression of glutamatergic hyperactivity, resulting in a dampening of craving.

Acetaldehyde: A toxic by-product of alcohol metabolism.

Acetate: A salt or ester of acetic acid; produced from the metabolism of acetaldehyde.

ADH: Alcohol dehydrogenase.

ADHD: Attention-deficit hyperactivity disorder.

Alcohol abuse: The term alcohol abuse is a DSM-IV diagnosis, but is not in the ICD 10. In DSM-IV, it is defined as a maladaptive pattern of alcohol use leading to clinically significant impairment or distress and social consequences, with at least one of the following occurring within a 12-month period:

- Recurrent alcohol use resulting in a failure to fulfill major role obligations at work, school, home (e.g., alcohol-related absences, suspensions, or expulsions from school).
- Recurrent alcohol use in situations in which it is physically hazardous (e.g., when driving an automobile or operating a machine).
- Recurrent alcohol-related legal problems.
- Continued use of alcohol despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the alcohol.

Alcohol dehydrogenase (ADH): An enzyme that breaks down alcohol by oxidation, converting it to acetaldehyde.

Alcohol dependence: Alcohol dependence is a diagnostic entity in both ICD 10 and DSM-IV, and is described in essentially similar terms in the two systems. In ICD 10, it is defined as a cluster of behavioral, cognitive, and physiological phenomena that develop after repeated alcohol use and that typically include a strong desire to consume alcohol, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to its use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.

Alcohol intoxication: See intoxication.

Alcohol misuse: Alcohol misuse is the use of alcohol in a way that is not consistent with legal or medical guidelines. It is not a diagnostic term in either ICD 10 or DSM-IV. It tends to be used as an umbrella term encompassing a range of drinking patterns leading to disorders, harm, and social problems.

Alcohol Use Disorders Identification Test (AUDIT): A screening and brief assessment instrument for alcohol misuse approved by the World Health Organization.

Alcohol withdrawal: It is defined by the American Psychiatric Association (DSM-IV) as the cessation of heavy or prolonged alcohol use resulting in two or more of the following: autonomic hyperactivity, increased hand tremor, insomnia, nausea or vomiting, hallucinations, psychomotor agitation, anxiety, and seizures.

Alcoholics Anonymous (AA): AA is a self-help group “of men and women who share their experience, strength and hope with each other that they may solve their common problem and help others to recover from alcoholism.” The only requirement for membership is a desire to stop drinking. AA is an informal society of more than 2 million

recovering alcoholics throughout the world and is not allied with any religion, political organization or institution. AA is nonprofessional—it does not have clinics, doctors, counselors or psychologists and there is no central authority controlling how groups operate. The “12 steps” provide a framework for self-examination and a road to recovery.

Alcoholism Type A: See Type A alcoholism.

Alcoholism Type B: See Type B alcoholism.

Allele: One of two or more variants of a certain gene.

Amino acids: The principal building blocks of proteins and enzymes.

Andersen model of health services utilization: A model developed by Andersen and Laake to determine the use of health services whereby medical contacts are determined by three factors: Predisposing (gender, age, and socioeconomic status), enabling (conditions that facilitate or inhibit the use of physician services—for example, the distance to the health center, the type of municipality, working hours, and family size) and need (such as chronic diseases, disability, new illnesses, and psychological well-being).

AODs: Alcohol and other drug use disorders.

Attention-deficit hyperactivity disorder: A common childhood condition characterized by developmentally inappropriate inattention, impulsivity and hyperactivity that causes significant functional impairment.

AUD: Alcohol use disorder.

AUDIT: The Alcohol Use Disorders Identification Test.

BAC: Blood alcohol concentration.

Baclofen: A GABA_B receptor agonist which is typically used as muscle relaxant for the treatment of spasticity, and which is under investigation as a treatment for alcohol dependence.

BAL: Blood alcohol level.

BASICS: Brief Alcohol Screening and Intervention for College Students.

Behavioral inhibition: A temperament or style of reacting displayed by some infants and children when confronted with novel situations or unfamiliar adults or peers. Behavioral inhibition is characterized by withdrawal, avoidance, fear of the unfamiliar and overarousal of the sympathetic nervous system. These children tend to be fearful, cautious, quiet, introverted, and shy in unfamiliar situations.

Behavioral undercontrol: The inability, unwillingness or failure to inhibit behavior even in the face of anticipated or already received negative consequences. Behavioural undercontrol is considered a risk factor for alcohol misuse.

Binge drinking: The term “binge drinking” or “binge” has no generally accepted definition. Traditionally, a “binge” was used to describe an episode of heavy drinking occurring over a prolonged period set aside for the purpose. Recent use of the term “binge” refers to a single drinking session intended to achieve, or actually leading to, intoxication. The World Health Organization has defined it as consumption of six 10 g drinks (60 g alcohol) in a single session, an amount that would be expected to lead to perceptible impairment. The United States has recently introduced a definition of binge drinking meaning the consumption of five or more US standard drinks in a single session for males (65 g alcohol) and four for females (52 g alcohol). This is also called the “five/four” measure.

Blood alcohol concentration: It is the concentration of alcohol in a person's blood; it is measured either as mass per volume, or as a percentage of mass by mass. Several measurement units are used:

- Mass per volume of blood in the body (e.g., 80 mg/100 mL).
- Mass of alcohol per mass of blood (e.g., 0.08 g/kg).

Because 1 mL of blood is equivalent to 1.06 g of blood, units by volume are similar but not identical to units by mass. In anglophone countries, the mass per volume of blood (e.g., 80 mg/100 mL) is typically used. In many countries, BAC is measured and reported as grams of alcohol per 1,000 mL (1 L) of blood (g/L). For purposes of law enforcement, BAC is used to define intoxication and provides a rough measure of impairment.

Buspirone: A serotonin-1A partial agonist drug that is typically used for the treatment of anxiety, and is being investigated in the treatment of alcohol dependence.

CA: Cocaine Anonymous.

CD: Conduct disorder.

CDC: Centers for Disease Control and Prevention.

C57BL/6 mouse: An inbred mouse resulting from no less than 20 consecutive generations of brother-sister matings. This allows the offspring to possess both genetic and phenotypic uniformity. C57BL/6 mice show a high alcohol and morphine preference.

CHDS: Christchurch Health and Development Study.

Cocaine Anonymous: A 12-step self-help program for recovering cocaine users.

Conduct disorder: A common childhood and adolescent disorder characterized by a persistent pattern of breaking rules or age-appropriate societal norms (stealing, truancy, running away from home overnight...).

Cosegregate: The tendency for closely linked genes and genetic markers to be inherited (segregate) together.

COT: Children of twins design in genetic studies.

Cotinine: An alkaloid found in tobacco and a metabolite of nicotine. Serum and urinary levels of cotinine are used as a biomarker for exposure to tobacco smoke.

CPR: Cardiopulmonary resuscitation.