

Recent approaches in treatment of substance abuse in adolescents

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Protocol

Adolescent substance abuse is a major national public health problem, researches indicates that despite a recent leveling –off of substance abuse by adolescents, the current levels remain high. Studies suggest that the younger the individual is at the onset of substance use, the greater the likelihood that a substance use disorder will develop and continue into adulthood, In fact more than 90% of adults with substance use disorders starting using before age 18 ; half of those began before age 15. (*Dennis,2002*)

Regarding today's youth, Estimates of nearly 25 percent have been made of illicit drug use among adolescents from 12 to 17 years of age. Approximately one of five adolescents has used marijuana or hashish approximately one third of adolescents have used cigarettes by age 17 years. Studies of alcohol use among adolescents in the United States have shown that by 13 years of age, one third of boys and almost one fourth of girls have tried alcohol, By 18 years of age, 92 percent of males and 73 percent of females reported trying alcohol, and 4 percent reported using alcohol daily. Of high school seniors, 41 percent report using marijuana ; 2 percent reported using the drug daily. Emergency room visits for heroin use among 18- to 25- year-olds increased over 50 percent from 1997 to 2000(*Kaplan & Sadock's, 2004*).

Risk that may predict later drug abuse

Substance abuse is predicted by multiple biological, psychological, and social factors and their interactions (*Hawkins et al.,1995; Hawkins et al.,1992*) ,as some children appear to be at greater risk for substance abuse by virtue of their family histories, prenatal and birth experience, temperament, and early and persistent displays of problem behaviors. A family history of alcoholism increases the risk of alcoholism in children about four times (*Merikanagas et al.,1992*).

Also some studies suggest that inherited biological traits and temperament link genetics and alcohol use behaviors (*Tarter, 1998*). High behavior activity level and sensation seeking have been identified as predictors of early drug initiation and abuse .Attention deficit/hyperactive disorder in childhood has been found to predict substance abuse disorder in late adolescence, especially when combined with aggressive behavior or conduct disorder (*Hawkins, 2003*).

Common substances to be used by adolescents:

Tobacco use:

Tobacco can be used in the form of cigarettes, cigars, pipes, or smokeless tobacco. Using tobacco at a young age increases the risk of addiction and later health problems. Tobacco use has been associated with many health problems, including heart disease and cancer, and is the leading preventable cause of death in the United States (*Mokdad et al 2004*).

Alcohol use:

Alcohol poisoning can result when large amounts of alcohol are consumed in a short period of time, leading to extreme sleepiness, unconsciousness, difficulty breathing, dangerously low blood sugar, seizures, and death.(*Shatz, 2004*).

Consequences of heavy alcohol use include memory problems, liver disorders (such as hepatitis), and cancer.(*Dorsey et al., 2006*)

Illicit drug use:

Illicit drugs are drugs that are illegal to possess, sell, and use. More than 54 percent of high school seniors report ever trying some type of illicit drug, such as marijuana, cocaine, heroin, Ecstasy, methamphetamine, hallucinogens, psychedelics, OxyContin, or steroids. The two most common illicit drugs are marijuana and inhalants. Marijuana is the most common illicit drug used by teens. Roughly 6,000 people each day use marijuana for the first time, and 64 percent of users are under the age of 18 (*Drug Policy Alliance, 2006*).

Short-term effects of marijuana include problems with memory and learning, distorted perception, difficulty in thinking and problem solving, loss of coordination, and increased heart rate.

Inhalants are the second most common drug used by teens.

One in five eighth-graders has ever used inhalants, such as spray paints, cleaning fluids, gasoline, and hair spray. The immediate effects of inhalants include extreme giddiness, excitement, and hallucinations. these substances may also cause brain damage, memory loss, and death.

As the risk of substance use disorder starts to be a rising problem affecting the person ,the society, and the country, early prevention and recent trends in treatment of substance use disorder in adolescents must be an implicated and important issue to be considered and discussed, especially that treatment of adolescent substance use disorders involves a number of issues that are quite different from those seen in adults with substance abuse problems.

First adolescent's biopsychosocial level of development must be considered .for example it is normal for young adolescents (age 12 to 14 years) to be self centered, experience mood shifts, and have minimal capacity for introspection, This profile makes therapy with early adolescents very different from treatment of older adolescents.

Second since adolescents still are developing with in a family system, family members must be part of treatment program.

Third, adolescents differs from adults in their pattern of substance use, as adolescents are more apt to use multiple drugs and to use inhalants and club drugs (such as 3,4-methylenedioxymethamphetamine or "ecstasy" ,gamma-hydroxybutarate or ghb , and ketamine) in late adolescents and early adulthood.

Fourth some studies have shown that current co-morbidity more common among adolescents than adults, and parallel treatment of the co-morbid condition is especially important in adolescents (*Jaffe, 2003*).

Aim of the work::

- 1- For estimation of the Magnitude of Problem of substance Abuse in adolescents.
- 2- To predict the Risk factor for substance Abuse
- 3- To determine Common Drugs used in adolescents.
- 4- And finally to highlights trials of psychotherapy and pharmacotherapy in adolescents.

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List of Abbreviations

- YRBS :** Youth Risk Behavior Survey.
- NHSDA :** National household survey on drug abuse.
- SAMHSA :** Substance Abuse and Mental Health Services Administration.
- WHO :** World Health Organization.
- EMCDDA :** European Monitoring Center for Drugs and Drug addiction.
- UNDCP :** United National International Drug Control Programme.
- IDUs :** Injecting drug users.
- ATS :** Amphetamine- Type Stimulant.
- UNAIDS :** United Nations Programme on AIDS.
- SUDs :** Substance use disorders.
- CM :** Crystal methamphetamine.

CD :	Conduct disorder.
BPD :	Bipolar disorder.
ADHD :	Attention Deficit Hyperactive Disorder.
PD :	Personality disorder.
AACAP :	American Academy of Child and Adolescent Psychiatry.
APA :	American Psychiatric Association.
AUD :	Alcohol use disorder.
DSM-IV-TR:	Diagnostic and Statistical Manual of Mental Disorder 4th edition. Text revised.
GAD :	Generalized Anxiety Disorder.
THC :	Tetrahydrocannabinoid.
CDC :	Center for Disease Control and Prevention.
NIDA :	National Institute of Drug Abuse.
NRT :	Nicotine Replacement Therapy.
A-OCDs :	Adolescent Obsessive Compulsive Drinking Scale.

NMDA :	N-methyl D-aspartate.
SSRI :	Selective Serotonin Reuptake Inhibitor.
GHB :	Gamma-hydroxy butyrate.
CB1 :	Cannabinoid.
PMT :	Parent Management Training.
MST :	Multisystemic Therapy.
MDFT :	Multidimensional Family Therapy.
FSN :	Family Support Network.
CBT :	Cognitive Behavioral Therapy.
BSFT :	Brief Strategic Family Therapy.
NA :	Narcotic Anonymous.
AA :	Alcoholic Anonymous.
BMI :	Brief Motivation Intervention.
AOSUD :	Alcohol and Other Substance Use Disorder.
MET :	Motivational Enhancement Therapy.

ACRA : Adolescent Community Reinforcement Approach.

PTSD : Post Traumatic Stress Disorder.

GP : General Practionner.

CRAFT : Community Reinforcement and Family Training.

HIPAA : Health Insurance Portability and Accountability Act.

MDMA : 3,4-methylenedioxymethamphetamine.

MDA : Methylenedioxyamphetamine.

INTRODUCTION

Introduction

Adolescence is the period between childhood and adulthood encompassed by changes in physical, psychological, and social development (*Ernst et al., 2006*). These alterations make this period a time of vulnerability and adjustment (*Steinberg, 2005*).

Adolescents are not quite children, not quite adults. There are several definitions related to this period of rapid growth in a human's life. Most experts on adolescence divide this stage in life into three parts: early adolescence (11-14), middle adolescence (15-18), and late adolescence (18-21). The term adolescent in this fact sheet means people between the ages of 11 and 21 (*Cole and Cole, 2001*).

According to the National Center for Health Statistics, there are over 13,000 adolescent deaths in the United States each year. Approximately 70% of these deaths result from motor vehicle crashes, unintentional injuries, homicide, and suicide (*Eaton et al., 2006*).