

Substance Abuse In Pediatric Age Group and Medicolegal Importance

Essay

***Submitted in the fulfillment of the master degree in forensic
medicine and clinical toxicology***

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ACKNOWLEDGEMENT

Praise To Allah The Most Generous And The Most Merciful

I wish to express my deepest gratitude to ***Prof Dr FATMA ABDELHAMID AHMED***, Professor of Forensic medicine and Toxicology, Faculty of Medicine, Cairo University. Her instructive guidance, continuous support, enthusiastic encouragement and scientific supervision and correction were beyond words can convey.

I find great privilege in expressing my sincere gratitude to my eminent ***Prof Dr HODA ABDEL-MEGUID EL-GHAMRY***, Assistant Professor of Forensic Medicine and Toxicology, Faculty of Medicine, Cairo University. Her constant encouragement and constructive guidance were paramount axes in the initiation, progress and completion of this work.

I would like to express my most sincere gratitude and deep respect to ***Dr DINA SOLIMAN BADRAN*** Lecturer of Forensic Medicine and Toxicology, Faculty of Medicine, Cairo University, for her fruitful advice, help and supervision during the preparation of this work.

*Special thanks and gratitude to my father and mother
for their kind support, encouragement, and continuous
prayers.*

*Also special thanks and gratitude to my dear husband
who supported me and blessed my work.*

*All of which has enabled this work to reach its final
form.*

ABSTRACT

Key words: drugs-substance abuse-children-pediatricians-

- **Background:**

Drugs may be used medically to modify or control mood or state of mind. Examples include taking an antianxiety agent for an acute anxiety state in accordance with a physician's prescription. The use of a substance to modify or control mood or state of mind in a manner that is illegal or leads to adverse effects on the individual's physical and mental health is considered abuse. Substance abuse is the overindulgence in and dependence of a [drug](#) or other chemical. It is considered a disorder and is characterized by a pattern of continued pathological use of a medication, [non-medically indicated drug or toxin](#), that results in repeated adverse social consequences related to drug use, such as failure to meet work, family, or school obligations, interpersonal conflicts, or legal problems. Substance abuse poses a serious threat to the health of children and adolescents. In addition to the health risks inherent with alcohol and other drug use, substance abuse often is linked with other risk behaviors (early sexual activity, violence, academic failure, school dropout, and delinquency).

- **Objective:**

This essay will focus on substance abuse and addiction in terms of; the most important substances abused, medicolegal importance and prevention in pediatric age group.

- **Conclusions:**

Paediatricians and other primary care providers are in an ideal position to identify substance abuse and to provide preventive guidance and education to children, adolescents, and their families. There is a strong positive relationship between substance abuse and violent crime. Substance abuse has become an exceedingly important issue within the correctional component of the juvenile criminal justice system. The observed high correlation between crime, substance abuse and poor mental health suggests that factors which reduce substance abuse and improve mental health may also be effective in reducing criminal activities

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List of abbreviations

<i>VTA</i>	<i>Ventral tegmental area</i>
<i>CNS</i>	<i>Central nervous system</i>
<i>ADHD</i>	<i>Attention deficit hyperactivity syndrome</i>
<i>OTC</i>	<i>Over the counter drugs</i>
<i>SSRI</i>	<i>Selective serotonin reuptake inhibitors</i>
<i>MDMA</i>	<i>3, 4-methylenedioxymethamphetamine</i>
<i>PCP</i>	<i>Phencyclidine phosphate</i>
<i>LSD</i>	<i>Lysergic acid diethylamide</i>
<i>PNS</i>	<i>Peripheral nervous system</i>
<i>THC</i>	<i>Tetrahydrocannabinol</i>
<i>HPPD</i>	<i>Hallucinogen persisting perception disorder</i>
<i>GC</i>	<i>Gas chromatography</i>
<i>TLC</i>	<i>Thin layer chromatography</i>
<i>MS</i>	<i>Mass spectrometry</i>
<i>CIF</i>	<i>Cannabis influence factor</i>
<i>DTI</i>	<i>Diffusion tensor imaging</i>
<i>fMRI</i>	<i>Functional magnetic resonance imaging MRI</i>
<i>PET</i>	<i>Positron emission tomography</i>
<i>CT</i>	<i>Computerized tomography</i>
<i>MRI</i>	<i>Magnetic resonance imaging</i>
<i>NAD</i>	<i>Nicotinamide adenine dinucleotide</i>
<i>GABA</i>	<i>Gamma amino butyric acid</i>
<i>FAS</i>	<i>Fetal alcohol syndrome</i>
<i>GGT</i>	<i>Gamma glutamyl transferase</i>
<i>CDT</i>	<i>Carbohydrate-deficient transferrin</i>
<i>ETG</i>	<i>Ethyl glucuronide</i>

<i>FAEE</i>	<i>Fatty acid ethyl esters</i>
<i>ETS</i>	<i>Ethyl sulfate</i>
<i>OAT</i>	<i>Opioid agonist therapy</i>
<i>METHADONE MAINTAINANCE THERAPY</i>	<i>Mat</i>
<i>BMT</i>	<i>Buprenorphine maintenance therapy</i>
<i>AIDS</i>	<i>Aquired immunodeficiency syndrome</i>
<i>SIDS</i>	<i>Sudden infant death syndrome</i>
<i>NAS</i>	<i>Neonatal abstinence syndrome</i>
<i>NGO'S</i>	<i>Non-governemental organizations</i>
<i>MCV</i>	<i>Mean corpuscular volume</i>
<i>AST</i>	<i>Aspartate transaminase</i>
<i>ALT</i>	<i>Alanin transaminase</i>
<i>ARND</i>	<i>Alcohol-related neurodevelopmental disorder</i>
<i>CB 1</i>	<i>Cannabinoid receptor</i>
<i>NRT</i>	<i>Nicotine replacement therapy</i>
<i>NACC</i>	<i>Nucleus accumbans</i>
<i>IA</i>	<i>Inhalant abuse</i>
<i>WHO</i>	<i>World health organization</i>

Review

Of

Literature

INTRODUCTION AND AIM OF WORK

Drugs may be used in a socially and medically accepted manner to modify or control mood or state of mind (psychoactive drugs). Examples include taking an antianxiety agent for an acute anxiety state in accordance with a physician's prescription. (*Nutt et al., 2007*)

Substance abuse can simply be defined as a pattern of harmful use of any substance which includes illicit drugs, abuse of prescription, over-the-counter drugs in a manner that is illegal or harmful to oneself. Some psychoactive substances can be abused for their mood-altering effects and are not drugs at all e.g. inhalants and solvent. On the other hand there are drugs that can be abused that have no mood-altering or intoxication properties, such as anabolic steroids (*Pham & Jacqueline, 2001*).

Substance abuse may lead to addiction or substance dependence. Addiction is defined as compulsive drug use despite negative consequences. The goals of the addicted person become narrowed to obtaining and using drugs, despite failure in life roles, medical illness and other problems. (*Frank & McGuire, 2000*)

Addiction is often accompanied by physical dependence, withdrawal syndrome and tolerance. Physical dependence is a physiologic state of adaptation to a substance, the absence of which produces symptoms and signs of withdrawal. (*Fishman et al., 1997*)

Withdrawal syndrome consists of a predictable group of signs and symptoms resulting from abrupt removal of a psychoactive substance; the syndrome is often characterized by overactivity of the physiologic

functions that were suppressed by the drug and/or depression of the functions that were stimulated by the drug. (*Pham & Jacqueline, 2001*).

Tolerance is a state in which a drug produces a diminishing biologic or behavioral response; in other words, higher doses are needed to produce the same effect that the user experienced initially. (*Nutt et al., 2007*)

It is possible to be physically dependent on a drug without being addicted to it, and conversely, it is possible to be addicted without being physically dependent. An example of physical dependence without addiction is the patient with cancer who becomes tolerant of and physically dependent on the opiates prescribed to control pain. Such a patient may undergo withdrawal with discontinuation of the usual dose but will not experience social, psychologic or physical harm from using the drug and would not seek out the drug if it were no longer needed for analgesia (*Frank & McGuire, 2000*).

In comparison, addiction without physical dependence may be seen in a person who uses marijuana to such a degree that it interferes with psychosocial functioning but the person does not experience physical discomfort. (*Fishman et al., 1997*)

Substance and other drug use pose a serious threat to the health of pediatric age group (0-20) according to **Behrmann et al (2004)** children and adolescents. In addition to the health risks, substance abuse often is linked with other risk behaviors (early sexual activity, violence, academic failure, school dropout, and delinquency). (*Fishman et al., 1997*)