

## Addiction Susceptibility and Adolescents: Evidence for Psychosocial Development of Addiction

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**Abstract:** Addiction is characterized by the pathological pattern of drug seeking; the state in which an individual loses control over the use of substances despite the adverse consequences associated with substance use. It is the most troubling aspect of dependency. Studies show the disease of addiction can not be created immediately. Despite access to addictive drugs, if a person is not prone to addiction; he or she won't develop addiction. The addicts are individuals that some substance is added to their pathological development backgrounds. Tendency for substance and abuse it, developmental unhealthy background and special personal proneness is necessary that without it addiction disease is not caused. This preparation has been described as addiction susceptibility that an adolescence stage is the peak of its expression. Therefore, in addiction, the prevention is the only solution to prevent the disease of addiction. In addiction treatment, in addition to the drug therapy, six pathological development background and destroyed psycho-social aspects, should be paid attention strictly.

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### Introduction

Substance abuse and addiction is one of the main problems of the current century with a global scope, which has gone beyond health-treatment boundaries and has become a psycho-social and family problem. Despite extensive efforts to control drug abuse all over the world, its prevalence continues to increase and age of drug abuse is decreasing. The causes of high addiction prevalence have been reported to be multiple and complex, with significant differences due to characteristics of different communities [1].

An epidemiological study of drug abuse in Iran (2001) showed that there are at least 3761000 opiate abusers (opium, juice, heroin, buprenorphine), 2547000 of which are problematic users (abuse or dependence) [2], especially by considering the fact that new drug abusers join the squad every year. The Secretary of Iranian National Committee for AIDS reported that there are approximately 3200000 addicts in Iran, 260000 of which are students [3].

Alan Leshner, head of the National Institute on Drug Abuse (NIDA), believes that no need in a human being is stronger and more intense than the sense of need of an addict to use drugs [3]. On the other hand, the human society has accepted that it is difficult to eradicate the problem of drugs and addiction and as long as there are human beings, drug abuse will continue [1]. However, the number of drug addicts, addiction patterns, drug use quality and various complications arising from drugs change in different time phases of each community, based on family, social and psychological infrastructures. Therefore,

understanding the disease of addiction and how the habit is formed can be a guide to positive changes.

Recently, increased attention has been focused on understanding the initiation and continuation of drug abuse in adolescents. Skara and Sussman[4] have attributed a part of the reason for increased attention on adolescents' substance abuse to the fact that the period of peak risk for the onset of drug problems in adolescence is around 10-20 years of age. Studies show that substance abuse is a developmental phenomenon that increases linearly from early to late adolescence. In addition, studies show a steady developmental increase in drug abuse through the adolescence, with tobacco, alcohol and marijuana use being relatively common [5].

Since drug abuse generally occurs in late adolescence and early adulthood [5, 6], it appears the peak expression of susceptibility for addiction is during this period. It is important to understand the characteristics of adolescent substance abusers.

Adolescent substance abusers are potentially at high health risks, including increased risk for injury and death from interpersonal violence, motor vehicle accidents, drowning [7], increased probability of engaging in high risk sexual behaviors [8], and increased risk for suicidal thoughts and behaviors [9]. A relationship has also been found between adolescent substance abuse and co-morbid psychiatric disorders, such as behavioral and mood disorders [10].

Substance abuse in adolescents has been related to poor academic performance, declining grades, absenteeism, truancy, and school drop-outs [11]. Furthermore, some studies indicate that there is a

link between substance abuse and getting involved in crime, and there is a high prevalence of substance abuse among juvenile offenders [12]. Alcohol use among students is significantly associated with smoking, self-injury, general high risk behavior, and higher socioeconomic class [6]. Thus, understanding the disease of addiction and how it develops and forms would be a guide to addiction prevention and treatment programs.

Research findings suggest that unhealthy background and susceptibility to addiction play a fundamental role in the development of addiction [13, 14, 15, 16].

According to the Addict Prone Theory, certain individuals are at a high risk for drug dependency if they are exposed to certain psychoactive drugs as a result of their unhealthy personalities [17]. Consistent with this theory, the availability-proneness theory states that drug abuse occurs when a susceptible individual is exposed to a level of availability. When availability is excessively high, the level of proneness required among users could be lower compared to in situations of low availability. Where an individual's psychological or social proneness is very high, (s)he may become a drug abuser in situations in which availability is low [18]. In a series of studies Barnes et al [13] introduced addiction-prone personality and reported that having addiction-prone personality traits can lead to alcohol and drugs abuse.

*What is addiction susceptibility? How to develop and prepare the individual vulnerability to drug addiction?*

Some reviews refer to personality characteristics or proneness in an individual's tendency toward addiction. Zarrabi [19] explains that in European societies, despite the availability of alcohol and lack of serious moral and social prohibition, there are people who are not drug addicts; it is also noteworthy that there are only 10% of alcoholics among people who drink alcoholic drinks. It seems that certain personality characteristics are effective in addiction.

Franke et al. [14], referring to the development of this proneness throughout life, propose that individuals who grow up with no dependence on substances despite having access to them might differ in terms of psychiatric risk factors from drug-exposed subjects who develop substances dependence. The researchers concluded that environmental risk factors facilitate the availability of substances, and psychiatric risk factors increase the possibility of developing drug dependence.

On the other hand, Flagel, Vazquez and Robinson [20] discovered that early childhood events may change the neurobiological layers and help develop a different kind of susceptibility for drug

abuse in adolescents and adults. This study showed how early life events change the neurobiological layers, which helps create different proneness and readiness to substance abuse in adolescents and adults.

Barnes et al. [13] proposed two environmental factors contributing significantly to the development of APP characteristics: a) Low levels of parental care, and b) High scores on parental APP characteristics. This way, low levels of parental care may lead to the development of APP characteristics and consequently result in drug abuse and dependency. Lettieri et al. [18] reported that the results of different studies show that opium abusers suffer from a lot of psychological problems such as impulsivity, psychopathic or sociopathic traits, low tolerance of failure, weak ego functions, depression, alienation, etc. before they develop addiction. Agatsuma and Hiroi [15] reported that an individual's susceptibility to dependence exhibits specific co-morbid behavioral traits, such as sensation seeking, novelty seeking, and antisocial personality. Zeinali et al. [16] in an ex-post facto research showed that different pathological background factors including personality traits, lifestyle, social and family relationships, beliefs and thoughts, feelings and emotions, and behaviors play an important role in developing addiction. Addicts are significantly different from healthy individuals in all these pathological background factors even before they develop addiction. Pathological (unhealthy) growth and development during childhood in any of these factors may lead to vulnerability and susceptibility to addiction and finally result in a tendency for drug abuse.

Minooee and Salehi [21] showed that there are significant differences between students and addicts in addiction susceptibility scores. Vahdat and Zeinali [22], in study on prevalence of addiction susceptibility, showed that 2.43% of students had low, 8.42% had moderate and 1.14% had high addiction susceptibility.

The most sensitive issue in this field of study is referring to existence of susceptibility for addiction in some individuals.

Hiroi and Agatsuma (pp: 338) [23] stated that: "Despite what is often believed, the majority of those who experiment with substances with a dependence potential do not develop dependence. However, there is a subpopulation of users that easily become dependent on substances, and these individuals exhibit pre-existing co-morbid traits, including novelty seeking and antisocial behavior. How often does the use of an addictive substance lead to dependence? Estimates vary from study to study, but the consensus is that a majority of those who try substances with dependence potential do not become dependent".

An epidemiological study in the United States showed that individuals between 15 and 54 years of age, who try a substance at least once in their lifetimes, have a probability of becoming dependent around 32% for tobacco, 23% for heroin, 17% for cocaine, 15% for alcohol, 11% for stimulants other than cocaine, 9% for cannabis, 9% for anxiolytic, sedative and hypnotic drugs, 8% for analgesics, 5% for psychedelics, and 4% for inhalants (Anthony, Warner & Kessler, 1994). In another study [24] in the United States with 47500 participants aged 12 years a similar estimate was made. For example, among the 120 million current drinkers in the US, 15.9 million aged 12 or older are heavy alcohol drinkers (13%) [23].

Hiroi and Agatsuma (pp: 337) [23] continue: "A series of studies on the rate of addiction/behavioral dependence in chronic users of nicotine, alcohol, and opioids elegantly demonstrated that only a subpopulation of chronic substance users become dependent. These examples consistently illustrate three points. First, not all individuals exposed to an addictive substance develop dependence or addiction; the rate of transition from use to dependence/addiction is low. Second, prolonged exposure is not a sufficient condition for dependence or addiction. Despite the long-term use of nicotine, alcohol, and narcotics, some users do not develop dependence/addiction. On the other hand, some individuals are easily addicted to substances after only a few exposures. Third, those susceptible to dependence/addiction tend to be multiple substance users. The majority of people in the general population will not exhibit behavioral dependence in response to chronic exposure to a substance with dependence potential. This is likely to reflect many factors, including the effects of genetic variations and environmental factors (eg, stress, developmental factors, and social factors). While it remains unclear how various factors increase addiction susceptibility, certain pre-existing personality traits distinguish those who are prone to dependence/addiction from those who are not. Novelty/sensation seeking has also been found to be correlated with the degree of use of marijuana and other addictive substances. Individuals with high sensation seeking-impulsivity scores tend to seek novel and risky situations and show less anxiety about these situations".

High novelty/sensation seeking scores are correlated with impulsiveness, exploratory excitability, extravagance, and disorderliness [23].

As it was mentioned, recent approaches to and research on different aspects strongly emphasize proneness and readiness for initiation of substance abuse. In fact drug abuse and addiction do not happen all at once but develop in a long process in which an

individual has grown pathologic, becoming vulnerable and susceptible for addiction. Therefore, monofactor approaches and even simple multifactor approaches are deficient in explaining addiction problem. Addiction can be better understood in a developmental multifactor process that emphasizes the factors leading to susceptibility during developmental periods [16].

Before an individual starts drug abuse, a background is prepared for it during the growth and development years parallel with the formation of personality traits, lifestyle, social and family relationships, beliefs and thoughts, feelings and emotions, and behaviors. Since drug abuse results in physical, psychological (mental) and spiritual damage, the person is deeply deteriorated from a social viewpoint, and gradually other undesirable characteristics are added to the condition to make his/her addiction more apparent and obvious. Indeed, these childhood and adolescence backgrounds can make the individual susceptible and vulnerable. In other words, despite the availability of substances a person does not become an addict unless he becomes prone to addiction. Addicts are individuals to whose unhealthy growth and development backgrounds substances are added rather than drugs leading to their addiction. An increase in tendency toward drugs is referred to as "addiction susceptibility".

#### **Summation**

No need in a human being is stronger and more intense than the sense of need of an addict to use drugs. Addiction has four physical, psychological, social and spiritual aspects.

In formation of addiction, at least 6 known pathological backgrounds play fundamental roles. Addiction can be better understood in a developmental multifactor process that emphasizes the factors leading to susceptibility during the developmental periods. Adolescence is the peak period of risk for drug problems. It seems adolescence is the peak period of susceptibility for addiction. Not all individuals exposed to an addictive substance develop dependence or addiction. Addiction occurs only in a small fraction of individuals who try an addictive substance. Prolonged exposure is not sufficient for dependence or addiction. Studies refer to unhealthy personality traits, the interaction of environmental and personal characteristics, early life events, personality traits and development of different psychological, social and spiritual backgrounds, making an individual vulnerable and susceptible.

#### **Conclusion**

Addiction does not happen all at once with initial experience; despite the availability of substances an individual does not become an addict unless (s) he becomes prone to addiction. Addicts are individuals, to whose unhealthy backgrounds drugs

are added, and the substance use does not result in their addiction. In fact, addicts are individuals who have developed pathologic growth and development in different aspects of life, which have dragged them into drug abuse. With this description, it seems prevention is the only solution to addiction problem. In solving the problem of addiction it is of great importance to pay attention to the six pathological backgrounds and disturbed psychological, social and spiritual aspects in addition to the medical treatment.

## References

- [1] Rahimi Movaghar, A. (1996). Primary prevalence in addiction. University of Social Welfare and Rehabilitation, Tehran, Iran.
- [2] Yassami MT et al (2002): Epidemiology of Drug Abuse in I.R. Iran; Ministry of Health and Medical Education; Drug Control Headquarters (cooperation with UNODC in 2001).
- [3] Statements of the 10th Iranian Congress on Infectious Diseases and Tropical Medicine. (2001). 10th Iranian Congress on Infectious Diseases and Tropical Medicine, Tehran, Iran.
- [4] Skara, S., & Sussman, S. (2003). A review of 25 long-term adolescent tobacco and other drug use prevention program evaluations. *Preventive Medicine*, 37, 451–474.
- [5] Young, S.E; Corley, R.P; Stallings, M.C; Rhee, S.H; Crowley, T.J; & Hewitt, J.K. (2002). Substance use, abuse and dependence in adolescence: prevalence, symptom profiles and correlates. *Drug and Alcohol Dependence*, 68, 309–322.
- [6] Mohammadpoorasl, A; Fakhari, A; Rostami, F; & Vahidi, R. (2007-a). Substance abuse in Iranian high school students. *J of Addictive Behaviors*, 32, 622–627.
- [7] Miller, T. R., Lesting, D. C., & Smith, G. S. (2001). Injury risk among medically identified alcohol and drug abusers. *Alcoholism, Clinical and Experimental Research*, 25, 54–59.
- [8] Flisher, A. J., Ziervogel, C. F., & Charlton, D. O. (1996). Risk taking behavior of Cape Peninsula high school students. Part X. Multivariate relationships among behaviors. *South African Medical Journal*, 86, 1094–1098.
- [9] Stoelb, M. (1998). A process model for assessing adolescent risk for suicide. *Journal of Adolescence*, 21, 359–370.
- [10] Gilrume, E. (2000). Substance abuse in young people. *Journal of Child Psychology and Psychiatry*, 41, 55–80.
- [11] Chen, K; Sheth, A. J; Elliott, D. K & Yeager, A. (2004). Prevalence and correlates of past-year substance use, abuse, and dependence in a suburban community sample of high-school students. *J of Addictive Behaviors*, 29, 413–423.
- [12] Zhang, L., & Wieczorek, W. (1997). The impact of age of onset of substance use on delinquency. *Journal of Research in Crime and Delinquency*, 34, 253–270.
- [13] Barnes, G. E., Murray, R. P., Patton, D., Bentler, P. M., & Anderson, R.E. (2000). The addiction-prone personality. In H.B. Kaplan; A. E. Gottfried; & A. w. Gottfried. (Eds), *Longitudinal research in the social and behavioural sciences* (pp. 1–320). New York, Kluwer Academic/Plenum Publishers.
- [14] Franke, P., Neef, D., Weiffenbach, Om., Gansicke, M., Hautzinger, M., Maier, W. (2003). Psychiatric comorbidity in risk groups of opioid addiction: a comparison between opioid dependent and nonopioid dependent prisoners. *Fortschr Neurol Psychiatr*, 71(1), 37–44.
- [15] Agatsuma, S., & Hiroi, N. (2004). Genetic basis of drug dependence and comorbid behavioral trait. *Japanese Journal of Psychopharmacology*, 24(3), 137–45.
- [16] Zeinali, A., Vahdat, R., & Eisavi, M. (2008). Pre-addiction susceptibility backgrounds in recovered drug users. *Iranian Journal of Psychiatry and Clinical Psychology*, 14(1), 71–79.
- [17] Gendreau, P., & Gendreau, L. P. (1970). The “addiction-prone” personality: A study of Canadian heroin addicts. *Canadian Journal of Behavioral Science*, 2, 18–25.
- [18] Lettieri, D. J., Sayers, M., & Pearson, H. W. (1980). Theories on drug abuse, selected contemporary perspectives. *NIDA Research Monograph*, U.S., Washington, D.C.
- [19] Zarrabi, A. (1980). Addiction, definitions and concepts. *Journal of Baztab*, 3, 12–16.
- [20] Flagel, S.B., Vázquez, D.M., & Robinson, T.E. (2003). Manipulations during the second week of life increase susceptibility to cocaine self-administration in a stressor and gender-specific manner. *Neuropsychopharmacology*, 28, 1741–1751.
- [21] Minooee, m., Salehi, M. (2003). Assessment of the scientific validity, reliability and normalization of APS, AAS and MAC-R test for spotting vulnerable individuals exposed to drug abuse among the male high school in the city of Tehran. *Journal of Research on Addiction*, 1(3), 76–107.
- [22] Vahdat, R & Zeinali, A. (2009). Epidemiology of Addiction Susceptibility in Iran high School Adolescents. University of Social Welfare and Rehabilitation, Tehran, Iran.
- [23] Hiroi, N., & Agatsuma, S. (2005). Genetic susceptibility to substance dependence. *Journal of Molecular Psychiatry*, 10, 336–344. doi:10.1038/sj.mp.4001622
- [24] Substance Abuse and Mental Health Services Administration (SAMHSA). (2003) National Survey on Drug Use and Health: National Findings NHSDA Series H-22, DHHS Publication No. SMA 03-3836. Office of the Applied Studies: Rockville, MD.

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