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Review Article

**SUBSTANCE ABUSE RISK FACTORS: SYSTEMATIC REVIEW
IN LITERATURE****Safa AlMohaishi^{1*}, Abdullah Mohanna², Fatimah AlShehri³, Mohammed Alsaleem⁴, Alaa Alzamil⁵, Fatimah Al-Aithan¹, Khalid Alshaalan⁵, Abdulmajeed Alahmari², Ebraheem Alrabiah⁶, Maram Alqahtani⁶**¹ Najran University, Najran, Saudi Arabia² King Abdulaziz University, Jeddah, Saudi Arabia³ King Faisal University, Al-Hasa, Saudi Arabia⁴ Al Imam Mohammed Bin Saud Islamic University, Riyadh, Saudi Arabia⁵ King Saud bin Abdulaziz University for Health Science, Riyadh, Saudi Arabia⁶ King Saud University, Riyadh, Saudi Arabia**Abstract:**

This review is aiming to review and analysis the Substance abuse risk factors. The present review was conducted by searching in Medline, Embase, Web of Science, Science Direct, BMJ journal and Google Scholar for, researches, review articles and reports, published over the past years. Books published on the Substance abuse risk factors. If several studies had similar findings, we randomly selected one or two to avoid repetitive results. Based on findings and results this review found Adolescents are particularly susceptible to involvement in substance use due to the underdeveloped state of the adolescent brain, also social, individual, peer, family, and the community factors play significant role as risk factors for the occurrence of the Substance abuse and its disorders.

Keywords: Substance, abuse, drugs, addictions, Adolescents, risk factors**Corresponding author:****Safa AlMohaishi,**

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INTRODUCTION:

Substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs. Psychoactive substance use can lead to dependence syndrome - a cluster of behavioural, cognitive, and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state [1].

Drug use among adolescents and young adults has become quite widespread during the past 25 years, with many characterizing the increases as of epidemic proportions.² Alcohol, tobacco and illicit drug use are major global risk factors for disability and premature loss of life.³ Their health burden is accompanied by significant economic costs, namely expenditure on healthcare and law enforcement, lost productivity, and other direct and indirect costs, including harm to others.⁴ Estimating the prevalence of use and associated burden of disease and mortality at the country, regional, and global level is critical in quantifying the extent and severity of the burden arising from substance use. This knowledge should inform allocation decisions by governments, policy-makers, and funding bodies about service provision and policy and assist in evaluations of the impact of policies. [5]

In 2015, the estimated prevalence among the adult population was 18.3% for heavy episodic alcohol use (in the past 30 days); 15.2% for daily tobacco smoking; and 3.8%, 0.77%, 0.37%, and 0.35% for past-year cannabis, amphetamine, opioid, and cocaine use, respectively. European regions had the highest prevalence of heavy episodic alcohol use and daily tobacco use. The age-standardised prevalence of alcohol dependence was 843.2 per 100,000 people; for cannabis, opioids, amphetamines and cocaine dependence it was 259.3, 220.4, 86.0 and 52.5 per 100,000 people, respectively. High-Income North America region had among the highest rates of cannabis, opioid, and cocaine dependence. Attributable disability-adjusted life-years (DALYs) were highest for tobacco (170.9 million DALYs), followed by alcohol (85.0 million) and illicit drugs (27.8 million). Substance-attributable mortality rates were highest for tobacco (110.7 deaths per 100,000 people), followed by alcohol and illicit drugs (33.0, and 6.9 deaths per 100,000 people, respectively). Attributable age-standardized mortality rates and DALYs for alcohol and illicit drugs were highest in

Eastern Europe; attributable age-standardized tobacco mortality rates and DALYs were highest in Oceania.[6]

In this review, aiming to address and examine a wider range of risk factors whose cut points are determined on a combination of theoretical and empirical bases. Studies about association between risk factors and drug use is analyzed for five types of drug substances including cigarettes, alcohol, cannabis, hard drugs, and nonprescription medications. Finally, we use longitudinal data to determine whether in fact the presence of these risk factors precedes increased drug use.

METHODS:

The present review was conducted November 2018 in accordance with the preferred reporting items for systematic reviews and meta-analyses (PRISMA) declaration standards for systematic reviews. We reviewed all the topics on Substance abuse risk factors, such as, etiology, epidemiology, and clinical statistics. To achieve this goal, we searched Medline, Embase, Web of Science, Science Direct, and Google Scholar for, researches, review articles and reports, published over the past 5 years. Books published on Substance abuse risk factors.

Our search was completed without language restrictions. Then we extracted data on study year, study design, and key outcome on Substance abuse risk factors. The selected studies were summarized and unreproducible studies were excluded. Selected data is shown in the Table 1.

Inclusion criteria

Studies were included in this review Any SUD - alcohol, amphetamine, cannabis, cocaine (including crack), hallucinogens, inhalants, opioids (including heroin), phencyclidine (PCP), sedatives, and other drug use (e.g., over-the-counter drugs)

Exclusion criteria

Irrelevant articles [not related to the aim of this review and articles that did not meet the inclusion criteria in this review.

Data extraction and analysis

Information relating to each of the systematic review elements was extracted from the studies and collated in qualitative tables. Direct analysis of the studies of Substance abuse risk factors is made with extreme caution, as different sampling techniques can provide

bias as overview of the assemblage.

RESULTS:

In the medical field, the concept of risk has long been common; however, the acceptance of the concept began to emerge in the 1970s in the behavioral sciences (Jens & Gordon, 1991). Over the past three decades, signs of trouble (e.g., rates of divorce, teenage pregnancy, poverty) have materialized for child development in the United States (Masten & Coatsworth, 1998) causing much attention to the status of children regarding school success, behavior, and physical and mental health.

A great deal of research effort has been devoted to understanding the etiology and antecedents of drug use during the teenage years. [7-9]

Studies over the past two decades have tried to determine the origins and pathways of drug abuse and addiction—how the problem starts and how it progresses. Many factors have been identified that help differentiate those more likely to abuse drugs from those less vulnerable to drug abuse. Factors associated with greater potential for drug abuse are called “risk” factors, while those associated with reduced potential for abuse are called “protective” factors. [10]

The **table 1** provides a framework examples of risk factors in five domains, or settings. These domains can then serve as a focus for prevention. As the first two examples suggest, some risk and protective factors are mutually exclusive—the presence of one means the absence of the other. For example, in the Individual domain, early aggressive behavior, a risk factor, indicates the absence of impulse control, a key protective factor. Helping a young child learn to control impulsive behavior is a focus of some prevention programs. [10]

Risk Factors	Domain
Early Aggressive Behavior	Individual
Lack of Parental Supervision	Family
Substance Abuse	Peer
Drug Availability	School
Poverty	Community

Table 1 provides a framework for characterizing risk

Brain risk factors

Although lateralization of brain function has been intensively investigated for a number of years in a variety of contexts, the role of lateralized function has not been a prominent topic in substance abuse research. Yet, brain activation asymmetries between the left and right hemispheres are often reported for measures of impulsivity and craving - both of which are risk factors for addiction. This disconnect is a

missed opportunity to apply known hemispheric differences for specialized cognitive function to understand the underlying neurosystems of addiction. The purpose of this report, then, is to highlight these asymmetries of activation and to couple those data with cognitive, neuroanatomical, neurophysiological and pharmacological systems. Accordingly, new research on the vulnerabilities and consequences of addiction can incorporate these factors into study designs and functional models.[11]

Poor Academic Achievement

While numerous findings have demonstrated that cross-sectional measures of substance use are related inversely to educational attainment, the interpretation of such findings has proved controversial and numerous hypotheses have been proposed to explain these associations. Reduced educational attainment has been cited as a possible risk factor for substance use while, conversely, substance use, and particularly early onset and/or frequent use, has been proposed as a risk factor for reduced educational attainment.

Low Religiosity

Religiosity is a multidimensional construct referring to a person’s behavioral and attitudinal religious fervor, regardless of the content of his or her beliefs (Amey, Albrecht, & Miller, 1996). The literature operationalizes religiosity in several ways. Some researchers have explored behavioral and attitudinal domains of religiosity simultaneously. For instance, Kutter and McDermott (1997) conceptualized religiosity in three dimensions: prescriptiveness, involvement in church (or synagogue or mosque) activities, and importance placed on those activities.[17]

According to the National Center on Addiction and Substance Abuse (2001), 95% of Americans have some religious faith—that is, they believe in God or a higher power. This belief can provide them with a sense of security and stability. Numerous studies have revealed religiosity’s protective effect on important life outcomes for adolescents (T. L. Brown, Parks, Zimmerman, & Phillips, 2001; Kutter & McDermott, 1997), such as ego strength (Markstrom, 1999), health status (D. R. Brown & Gary, 1994), and prosocial peers and behavior (Donahue & Benson, 1995). In a study of U.S. high school seniors, researchers found that religious students were least likely to engage in at-risk behavior and that religiosity was the most powerful predictor of at-risk behavior (Benson & Donahue, 1989).

The negative correlation between religiosity (religious beliefs and church attendance) and the

likelihood of substance use disorders (of both alcohol and drugs) has been extensively documented in the U.S and Europe but the mechanism(s) underlying this correlation remain poorly understood. Evidence does suggest that religiosity is most strongly associated with the decision to use or completely abstain from alcohol or drugs, and less strongly associated with abuse or dependence, among those who do drink or use drugs. It is likely that prohibitions against the use of alcohol and drugs contained in some religious doctrines result in lower rates of substance abuse and dependence among individuals that subscribe to such beliefs.[14-16]

Early Alcohol Use

Another important consequence of alcohol consumption in adolescence is predisposition to alcohol drinking in later stages. Indeed, NCANDA (National Consortium on Alcohol and Neuro Development in Adolescence Project) data show the potential risk factors that may contribute to early drinking in at-risk adolescents before they initiate heavy alcohol use. [13]

Today many younger people are drinking and at younger ages. In the Region, 15–30% of young people drink. While the gender gap in prevalence is generally closing, rural–urban differences remain in some

countries and areas, with more drinkers in urban areas. Binge drinking is also becoming more and more common. Young people are reporting increasing alcohol-related harm and risks including injuries, risky sexual activity, suicidality and impaired relationships and participation in education and employment.[18]

Poor Self-esteem:

The relationship between self-esteem and psychological satisfaction (e.g. depression, social anxiety and loneliness) can be an important factor in understanding the relationship between self-esteem and health. Many researchers have found several relationships between self-esteem, optimism and inadaptability. Furthermore, the relationship between self-esteem and many socioeconomic, behavioral, and psychosocial features and diseases has been reported.[19]

Lack of self-esteem can be the cause of many social problems including some crimes and drug abuse; although it may not be the major factor for such cases, it often plays a special role in this regard.[20]

Psychopathological factor:

The search for risk factors that indicate a greater probability of developing a maladaptive or psychopathological outcome has been an area of

active research in developmental psychopathology (Haggerty, Sherrod, Garmez, & Rutter, 1994; Rolf, Masten, Cicchetti, Nuechterlein, & Weintraub, 1990) and, more specifically, in studies on drug use and abuse (Glantz & Pickens, 1992; Hawkins, Catalano, & Miller, 1992). The articles in this special section follow this tradition and focus on evaluating whether the co-occurrence of a history of other psychiatric diagnoses portend a greater potential for developing drug use and abuse.[22] Psychopathological conditions are strongly associated with substance use disorders, and some childhood psychopathological conditions may constitute precursors to this comorbidity. Conduct disorder constitutes a strong risk factor for substance use disorders, and bipolar disorder, although more rare, may also constitute a significant risk.[23]

Poor Relationship with Parents:

Familial risk factors include childhood maltreatment (including abuse and neglect), parental or familial substance abuse, marital status of parents, level of parental education, parent-child relationships, familial socioeconomic status, and child perception that parents approve of their substance use. Child maltreatment has been classified for the purpose of this paper as a familial factor, though it is important to note that not all maltreatment is perpetrated by a family member. The federal Child Abuse Prevention and Treatment Act (CAPTA) defines maltreatment as child abuse or neglect, which encompasses any act or lack of an act by a child's caretaker that results in physical or emotional harm.[24] Childhood maltreatment, including physical abuse and neglect, has been linked to increased risk for adolescent substance use, with one study reporting 29% of children who experienced maltreatment participating in some level of substance use and another reporting 16% of maltreated children abusing substances.[25,26]

Peer Pressure and Popularity

Similarly, peer pressure and perceived popularity have been shown to be associated with increased risk for adolescent substance use.[27,28,29] Specifically, when adolescents believe that their popularity within a peer group increases with the use of substances, they are more likely to participate in such substance use.[27,28] Adolescents who self-identify as popular have shown to have increased prevalence of substance use when compared to adolescents who do not identify this way.[28] There may also be a greater correlation between substance use and self-identification of popularity than between substance use and popularity as assessed by peers.[28] Though

research into specific types of social motivation is limited, one study revealed that adolescents who seek to be the leader of a group or to stand out above others are more inclined to smoke cigarettes, which can be perceived as an association with maturity, whereas those who seek to be accepted by a group are more inclined towards alcohol use, which is perceived as a communal activity.[27] Boys may also be more likely to engage in smoking to improve their

social image, whereas girls more often do so as a form of stress relief.[30]

Much of the literature regarding the influences of peer relationships on adolescent substance use focuses primarily on alcohol and cigarette use. [27,31,32] Though these areas are important to address, it will be necessary for future research to also focus specifically on marijuana and synthetic marijuana use and prescription drug abuse.

Table 2 show risk factors for Substance abuse

Risk Factor	Author	Sample	Method	Findings
Brain	Harold W, 2016. ¹¹	1731	From published reports, brain areas of activation for two tests of response inhibition or craving for drugs of abuse were compiled from fMRI activation peaks and were tabulated for eight sections (octants) in each hemisphere. Percent asymmetries were calculated (R-L/R+L) across studies for each area.	Brain activation studies demonstrate different left/right hemispheric contributions for impulsivity versus craving - factors related to addiction. Failure to take laterality into consideration is a missed opportunity in designing studies and gaining insight into the etiology of drug abuse and pathways for treatment.
Poor Academic Achievement	King et al.2006. ¹²	248 children of alcoholics and 206 matched controls.	longitudinal growth curve modeling to examine associations between self-report alcohol and other drug use in early adolescence (ages 13–15 years) and college attendance and graduation by age 25	growth in drug (but not alcohol) use appeared to partially mediate the influence of a range of earlier risk factors.
Low Religiosity	Flavio, et al.2005. ¹⁷		Data from the 2-year study were collected in four waves across students' seventh and eighth grade years: fall 1998, spring and fall 1999, and spring 2000.	Interaction effects demonstrated that the protective effect of greater religiosity operated more strongly in some religions than in others for selected outcomes. Overall, the impact of religiosity on reported drug use did not differ significantly for more and less acculturated Latino youth.
Early Alcohol Use	Sullivan E.V. et al.2016 ¹³	7,304 students	Participants were 831 adolescents recruited across five United States sites of the National Consortium on Alcohol and Neuro Development in Adolescence (NCANDA): 692 met criteria for no/low alcohol exposure, and 139 exceeded drinking thresholds.	data show the potential risk factors that may contribute to early drinking in at-risk adolescents before they initiate heavy alcohol use.

Poor Self-esteem	Hamid R A.2011. ²¹	300	The research sample consisted of 300 individuals, 200 of whom were those with record of addiction, theft and prostitution in the central prison of Kerman city, and 100 ordinary people.	Self-esteem had a meaningful role in the individual's tendency to addiction, theft and prostitution.
Psychopathology	Langenbach T, et al. 2010	151 patients (mean age 16.95 years, SD = 1.76; range 13 - 22)	Patients assessed with the Composite International Diagnostic Interview (CIDI) and standardized clinical questionnaires to assess mental disorders, symptom distress, psychosocial variables and detailed aspects of drug use.	Data validates previous findings of high psychiatric comorbidity in adolescent patients with substance use disorders. The high rates of school refusal and conduct disorder indicate the severity of psychosocial impairment.
Poor Relationship With Parents	Christian M. et al. 2010. 34	1200	Self-reported history and frequency of alcohol, tobacco, marijuana, inhalants, pain medications, and other hard drug use was assessed for 9th and 10th grade students.	Youth report of peer substance use had the largest effects on substance use class membership. Other individual characteristics (e.g., gender, antisocial behavior, academic performance, perceived harm from use), family characteristics (e.g., parental drinking, parental disapproval of youth use), and community characteristics (e.g., availability of substances) demonstrated consistent effects on substance use classes.
Peer Pressure and Popularity	Tucker JS, et al.2011. ³³	1793	6-8th grade students who completed an in-school survey.	These results extend previous work and highlight that popularity, whether based on self-perceptions or peer friendship nominations, is a risk factor for substance use during middle school.

DISCUSSION:

There are several important findings and implications stemming from this study. Risk factors were found to be consistently related to alcohol and illicit drug use among the sixth- and seventh-grade boys in the sample, affording the value of risk factors for predicting substance use among adolescents. The comparative design of this study made it possible to detect major ethnic/racial subsample differences in prevalence and in risk profiles.

Risk factors for drug abuse represent challenges to an individual's emotional, social, and academic development. These risk factors can produce different effects, depending on the individual's personality traits, phase of development, and environment. For instance, many serious risks, such as early aggressive behavior and poor academic achievement, may indicate that a young child is on a negative developmental path headed toward problem behavior. Early intervention, however, can help reduce or reverse these risks and change that child's developmental path. [10]

Risk factors can influence drug abuse in several ways. They may be additive: The more risks a child is exposed to, the more likely the child will abuse drugs. Some risk factors are particularly potent yet may not influence drug abuse unless certain conditions prevail. Having a family history of substance abuse, for example, puts a child at risk for drug abuse. However, in an environment with no drug-abusing peers and strong antidrug norms, that child is less likely to become a drug abuser. And the presence of many protective factors can lessen the impact of a few risk factors. For example, strong protection—such as parental support and involvement—can reduce the influence of strong risks, such as having substance-abusing peers.

Gender may also determine how an individual responds to risk factors. Research on relationships within the family shows that adolescent girls respond positively to parental support and discipline, while adolescent boys sometimes respond negatively. Research on early risk behaviors in the school setting shows that aggressive behavior in boys and learning difficulties in girls are the primary causes of poor peer relationships. These poor relationships, in turn, can lead to social rejection, a negative school experience, and problem behaviors including drug abuse. [10]

CONCLUSIONS:

Adolescents are particularly susceptible to involvement in substance use due to the

underdeveloped state of the adolescent brain, also social, individual, peer, family, and the community factors play significant role as risk factors for the occurrence of the Substance abuse and its disorders. Scientific examination of the risk factors and causes of substance use, abuse, and dependence is essential to prevent and ameliorate their deleterious consequences for individuals and for society.

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