

Substance use Behaviors among Adolescents and their Long-Term Health and Social Consequences

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Abstract

Background: Substance use amongst adolescents is a recent critical public health issue worldwide as youths are becoming increasingly exposed to alcohol, tobacco, and illicit substances at the crucial developmental stages. The premature nature is linked with various negative effects that can be carried into the adult life not only in terms of health, but also in terms of social welfare. **Objective:** This work seeks to discuss the issue of substance use behaviors in adolescents, as well as to evaluate its health and social outcomes in the long-term. **Methodology:** Qualitative review of the existing literature has been done and it is based on peer reviewed journal articles, reports and epidemiological studies on substance use patterns among teenagers and their results. **Findings:** The results show that teenage substance abuse is closely related to chronic mental illness, cognitive disabilities, addiction, and higher chances of chronic illness. Social impacts are low academic achievement, joblessness, criminal activities, and low interpersonal relationships. Health and social factors tend to develop a disadvantage cycle. **Conclusion:** The problem of adolescent substance use needs a multifaceted approach (family, school, and policy) that addresses the issue in its entirety. Intervention at the early stages is needed to reduce the adverse outcomes in the long-term and enhance healthier developmental paths.

Keywords: Adolescents, Substance Use, Mental Health, Social Consequences, Addiction, Public Health

1. Introduction

The issue of adolescent substance use has increasingly become a topic of worldwide social health concern, with the recent estimates showing that a large percentage of teenagers begin to experiment with alcohol, tobacco, and illegal drugs prior to the age of 18 [1]. This is a very worrying trend considering that the teenage is a very serious developmental phase that is characterized by neurological, psychological and social changes. At this age, exposure to substances may interfere with the development of the brain and make them susceptible to health issues in the long term [2,3]. The use of substances by adolescents is a complex interaction of various factors, such as peer pressure, family environment, socioeconomic status, and media exposure [4,5]. The growing availability of substances and the shift in social norms have also played a role in the increase in experimentation rates in young populations [6]. Some teenagers use it sporadically, but some even form a pattern of misuse, which continues in adulthood, resulting in addiction and lifelong ailments [7]. The impacts of teenage substance use are not limited to the direct health threat. There are indications of close relations with chronic mental illnesses like depression and anxiety and higher vulnerabilities to cardiovascular and neurological illnesses [8,9]. At the social level, poor academic performance, unemployment, criminal activities, and poor interpersonal relationships are associated with substance use [10]. The consequences not only impact individuals, but also have great burdens to society and economy. Although a lot of research has been conducted on adolescent substance use, much of the literature available tends to concentrate either on the health effects or on the social outcomes alone. There is a dearth of integrative analysis which looks at the interdependency of these long-term effects and how they support each other over time. Moreover, the role of early behavioral patterns in the subsequent adult disadvantages in various areas is not given enough attention [11,12]. The paper will contend that the long-term health and social impacts of adolescent substance use are interrelated and form a cycle of disadvantage, which continues into adulthood. This study will offer a more in-depth insight into the problem by analyzing the two dimensions at the same time. The paper is divided as follows: in the first part, the causes and risk factors of adolescent substance use are reviewed;

in the second, the long-term health outcomes are discussed; in the third, the social implications are discussed; and the last part provides the discussion of the interrelationship between the long-term health outcomes and the possible prevention strategies.

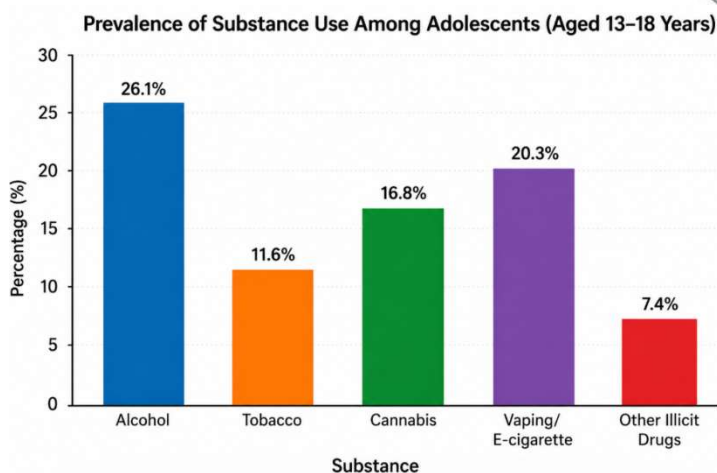


Figure 1: The Substance Use among Adolescents.

This figure 1 shows a conceptual model that demonstrates the role of various risk factors in causing adolescent substance use: peer pressure, family environment, socioeconomic status, media influence, and psychological conditions. It emphasizes the route of exposure to behavioral outcomes and further health and social outcomes. These frameworks are rife to show the multi factorial character of substance use and its development over time [8,19].

2 Literature review

According to recent studies, adolescent substance use is a complex and changing issue on the global agenda, and the use of alcohol, tobacco, and new forms of drug use are becoming more frequent and widespread in various regions [13,14]. Research has pointed out that starting the use of substances at an early age is linked to increased chances of developing long-term dependency and other negative developmental consequences. There is also a trend to move towards polysubstance use when adolescents use a variety of substances at the same time, increasing the risks of health [15]. Regarding the type of substances, alcohol remains the most widespread substance used by adolescents, then tobacco and cannabis, with a growing trend in using synthetic drugs and abusing prescription medicines [16,17]. Accessibility, perceived risk and social acceptance are the factors that affect these trends. It is worth noting that the vaping and the use of e-cigarettes have become prominent and provoked new concerns about the public health in relation to the nicotine addiction [18]. The theoretical perspectives highlight peer pressure, family situation, and the external socio-ecological influences in influencing substance use behavior among adolescents. According to social learning theory, adolescents learn and imitate the behaviors they see in their peer and the media and environmental stressors like poverty and family instability predispose them to vulnerable behaviors [19]. Also, the recent research incorporates neurodevelopmental models, which purport that immature cognitive control in adulthood is one of the causes of risk-taking behaviors [20]. In spite of these developments, there are still gaps in the literature. Research has been conducted on particular substances or individual outcomes, and has rarely been conducted integratively in terms of the interactions of various substances and contextual influences over time. Moreover, longitudinal studies that would investigate joint long-term health and social impacts of adolescent substance use in a single framework are lacking. To fill these gaps, this paper will take a more holistic perspective in which behavioral patterns are related to health and social outcomes to offer a more comprehensive view of adolescent substance use.

3 Causes and Risk Factors of Adolescent Substance Use

Peer pressure is a major factor in adolescent use of substances and it is at this stage where behavioral decisions are made. Studies have always indicated that teenagers tend to be more attracted to substance use when their peer groups normalize or promote substance use. An example is that research has shown that being associated with substance using peers increases the chances of experimenting with alcohol and drugs [19]. This is because teenagers are in pursuit of acceptance and identity building by the peer group. Therefore, peer influence is not only the starting point of substance use but can also serve as a strong factor that supports the further use, and thus, it is a significant risk factor.

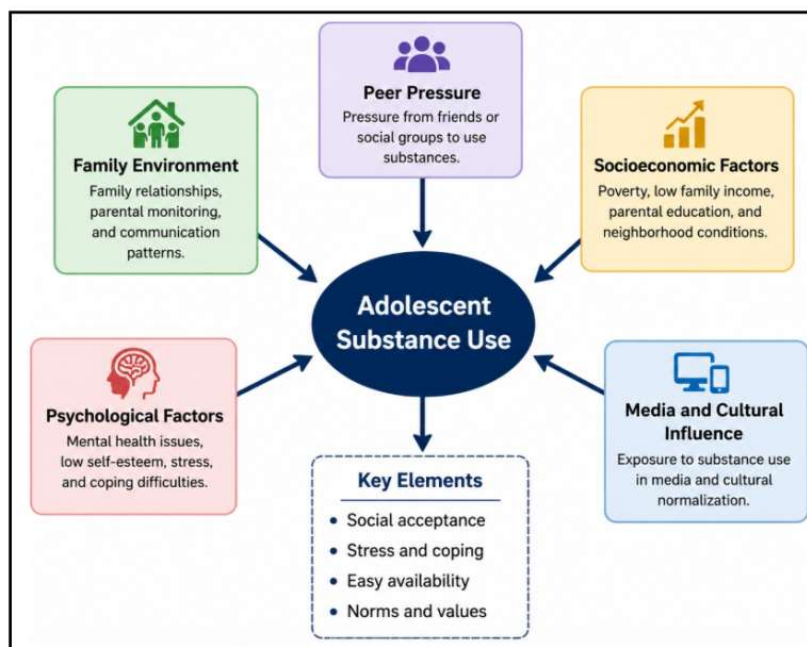


Figure 2: Causes and Risk Factors Framework

The factors interact with each other to affect adolescent substance use and they include family environment, peer pressure, socioeconomic conditions, psychological, and media influence shown in figure 2. These aspects influence behaviors based on factors such as social acceptance, coping with stress, substance availability and cultural norms. Combined, they establish situations that enhance or diminish the risk of substance use among adolescents [2,11]. Another important predictor of adolescent substance use behavior is family environment. It has been shown that parental substance use, absence of supervision and family communication can greatly contribute to the risk of early initiation [5]. On the other hand, parental monitoring and positive relations are protective factors. Unhealthy family environments can result in teenagers finding a way to cope, such as drug use. Therefore, the family dynamics have a preventive and contributory role based on their nature. Adolescents use substances because of socioeconomic factors as well. Unprivileged teens tend to experience greater exposure to stress, restricted access to education, and enhanced access to drugs in their neighborhood [11]. Such conditions are able to normalize risky behaviors and decrease perceived consequences. Meanwhile, wealth can also expand access to substances indicating that socioeconomic status determines substance consumption in complicated manners.

Adolescents have been found to experiment more as a result of exposure to content related to substances in movies, social media and advertisements [18]. These depictions tend to romanticize substance use and downplay the dangers, creating positive feelings about these activities. Lastly, psychological causes of substance use in adolescents are attributed to stress, anxiety, depression and low self-esteem. There is evidence that adolescents can resort to the use of substances as a way of coping with emotional distress [8]. The maturing teenage brain, especially in the areas pertaining to impulse control makes one even more vulnerable to risk-taking behaviors. Thus, the psychological vulnerability does not only indicate the inclination of adolescents to use substances, but also makes them more likely to get dependent.

4 Health Consequences (Long-Term)

Early substance use is a major disrupter of brain development, rendering it susceptible to the long-term cognitive impairment and mental health disorders. Teenagers who indulge in drugs are also prone to developing anxiety, depression, and mood disorders in later years. Experimental research shows that being exposed to alcohol and drugs at a young age distorts emotional control and predisposes to psychiatric disorders [8]. This is because the adolescence stage is one of the most important stages of brain development, especially those areas that are related to decision-making and emotional regulation. Consequently, drug abuse in this age group may result in chronic psychological weaknesses. Early substance use has a specific impact on neurological development, and long-term consequences on cognitive functioning. It has been found that certain substances like alcohol and cannabis disrupt the process of synaptic pruning and neural connectivity which is vital to normal brain functioning [2]. Such interruptions may affect the ability of memory, attention and learning, which may eventually impact on the academic and career outcomes. The adolescent brain, compared to adults, is more susceptible to neurotoxic effects, and therefore is more susceptible to permanent neurological damage. The other significant effect is that it poses a greater chance of addiction and dependency. Young people who start substance use at an early age have a high probability of developing substance use disorders during adulthood [7]. This is, in large part, because the adolescent brain is already more plastic, which strengthens the behaviors that seek rewards and weakens impulse control. Repeated exposure to substances changes brain chemistry over time and makes it harder to quit and predisposes one to chronic dependency. Besides psychological and neurological impact, there is a variety of long-term physical illnesses that are linked to substance use. Teenage drug use is associated with higher rates of respiratory illnesses, liver injury, and heart diseases in adulthood [11]. As an example, long-term tobacco and vaping will lead to lung disease, and alcohol misuse may result in liver cirrhosis and heart-related complications. Such health outcomes not only decrease quality of life, but also lead to higher healthcare burdens.

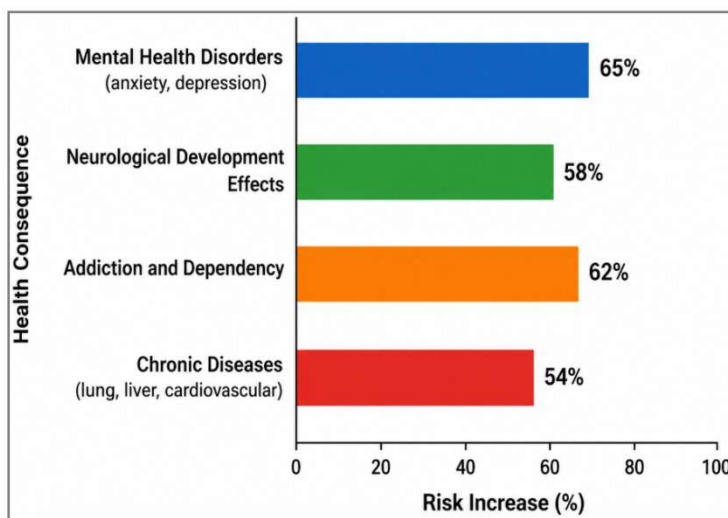


Figure 3: Long-Term Health Consequences

This figure 3 is a summary of the key long-term health risks of adolescent substance use, such as mental disorders, neurological impairment, addiction, and chronic diseases. It shows the proportionality of the outcome of each result and supports the findings that early exposure to substances has a significant effect on the brain development and physical health. The visual representation of such data will enhance the comprehension of the severity of risks and the health-related consequences to people [2] [11].

5 Social Consequences

There are profound effects of adolescent substance use at the individual level, especially academic performance. Students who use substances have higher chances of developing a lack of concentration, loss of memory, and lack of motivation resulting in deteriorating academic success [15]. There is evidence of increased absenteeism and

school dropout among substance-using teenagers. This not only degrades current educational performance, but also curtails future prospects, which become disadvantageous in the long run. Such personal consequences frequently spill over on to employment in adulthood. Teenagers who have a substance use history have a higher risk of unemployment or underemployment because of low educational levels, compromised cognitive and social functioning [10]. Development of key life skills to participate in the workforce like discipline, responsibility, and decision-making may be impaired by substance use, which are important. Subsequently, early substance use results in a decrease in economic stability in the long run. On a larger behavioral scale, adolescent substance use is related to a higher risk of criminal activity. Studies have shown that drug consumption may affect judgment and become more impulsive, which may result in risky and illegal activities like stealing, abusing power, and committing crimes [11]. This not only impacts on the future of the individual but also imposes a strain on the legal and correctional systems. Adolescent substance use also has effects on family and interpersonal relationship. Substance use may cause family disputes, loss of trust and lack of communication [5]. Adolescents can either drop out of supportive relationships or get into behaviors that deplete family relationships with long-term relational instability. Lastly, on a social level, substance use results in social isolation and marginalization. Misusing adolescents feel stigmatized, marginalized, and less involved in social and community life [8].

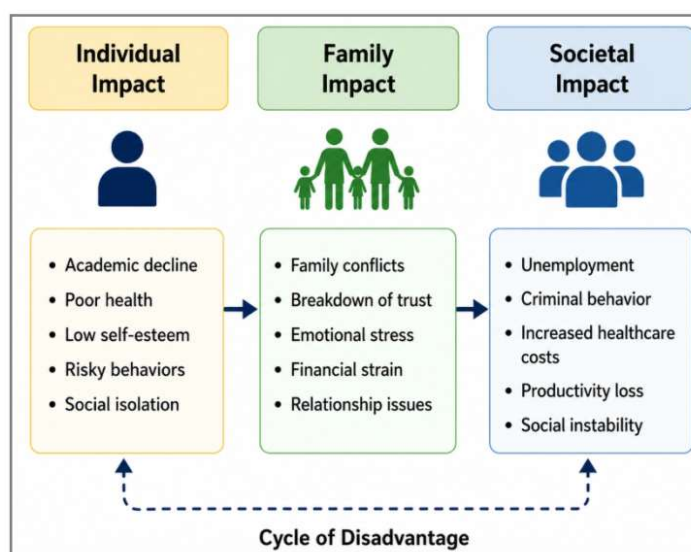


Figure 4: Social Consequences Model

Figure 4 shows the path of social effects of individual-level effects to other societal effects. The effects begin with a decline in academics and behavioral problems and are then transferred to family conflict and eventually leading to unemployment and social instability. This stratified architecture emphasizes how individual actions may turn into extensive social issues, which is in line with the results on the social burden of substance use [11,10].

6 Interconnection between Health and Social Outcomes

Adolescent drug use establishes a great interdependence between the long-term health issues and negative social effects, in which one aspect supports the other. Mental illness, such as depression and anxiety caused by drug use, tends to cause poor performance in school and social isolation [8]. Indicatively, the focus, the ability to interact with others and to be successful in education can be constrained by cognitive impairments and emotional instability in an adolescent. These biological issues directly become social problems, proving the role of early biological effects in the overall results in life.

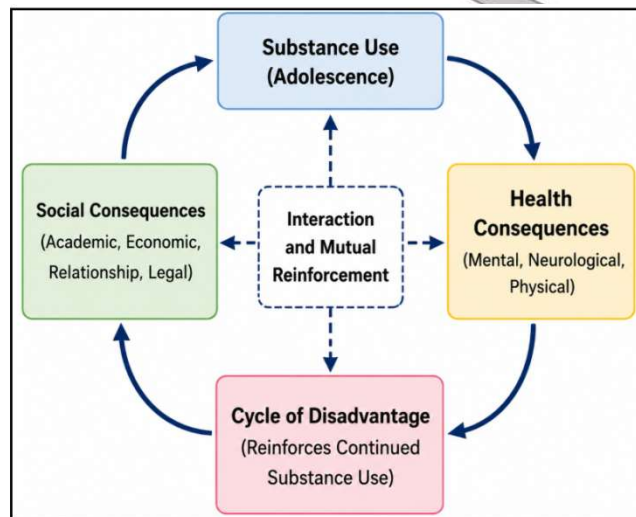


Figure 5: Interconnection Cycle of Outcomes

This number illustrates the figure 5 vicious cycle between social and health outcomes of substance use in adolescence. It demonstrates the interplay between mental health problems and social disadvantages that further the use of substances and dependency. The cycle underlines the multifacetedness of the intervention process since the disruption of one aspect necessitates the consideration of the whole system of interdependent variables [8,10]. Such a relationship leads to a cycle of disadvantage. People with substance-related health problems have increased risks of having a social problem like unemployment, economic instability and poor relations [10]. These social stressors, in turn, may worsen underlying mental health issues, making dependence on substances as a means of coping. This dance of the health and social impacts points to the fact that health and social impacts are not separate events but rather they reinforce each other over time. This can lead to adolescents being caught in a cycle of addiction and alienation which they find hard to overcome. Moreover, the cumulative effect of health and social effects adds to a great burden on the society in the long run. Early substance use is typically linked with increased healthcare expenditure, decreased labor force productivity, and increased criminal justice contact [11]. These consequences strain social services, economic systems and health systems. Also, the impact on generations cannot be ignored, and the victims of substance use only can inherit the drawbacks in the form of unstable families and fewer opportunities of the subsequent generations. In general, the interrelation between social outcomes and health highlights the intricacy of adolescent substance use. To solve this problem, there is a need to have integrated interventions that focus on addressing both health and social determinants, not as two different problems.

7 Prevention and Intervention Strategies

A multi-level approach involving educational, familial, policy, and community-level interventions is essential to address the problem of adolescent substance use. One of the most popular types of interventions is school-based programs, which are expected to inform students on the dangers of using substances and train them to make decisions. There is evidence that life skills training programs and peer resistance programs are more effective than those that are based only on dissemination of information [21]. Nevertheless, their success is determined by the consistency, teacher training, and long-term reinforcement. The effects of such programs might wear off with time unless there is continuous interaction. Interventions that are based on family are also important in prevention. Interventions, which strengthen parental monitoring, communication, and emotional support, have been demonstrated to greatly decrease the chances of teenage substance abuse [22]. Such interventions deal with the risk factors behind these, including family conflict and supervision. However, their success is usually based on the parental participation and participation desire which might be different in various socioeconomic and cultural settings. Policies play a crucial role in creating a wider context within which adolescents make decisions. Laws against age, imposition of taxes on alcohol and tobacco and prohibition of advertisements have been successful in curbing the availability and use by the youths [1]. Vaping and new substance policies in the field of public health have also acquired significance in the recent years. Although policy interventions may be able to create large-scale

effect, enforcement and compliance is also a major issue especially in low-resource contexts. Awareness and community engagement programs also enable prevention programs to be more effective by working on social norms and stigma surrounding substance use. School, family, and local organization campaigns can be used to establish conducive environments that deter risky behaviors [4]. Nonetheless, awareness campaigns with no immediate follow-ups are likely to have minimal effects in the long-term.

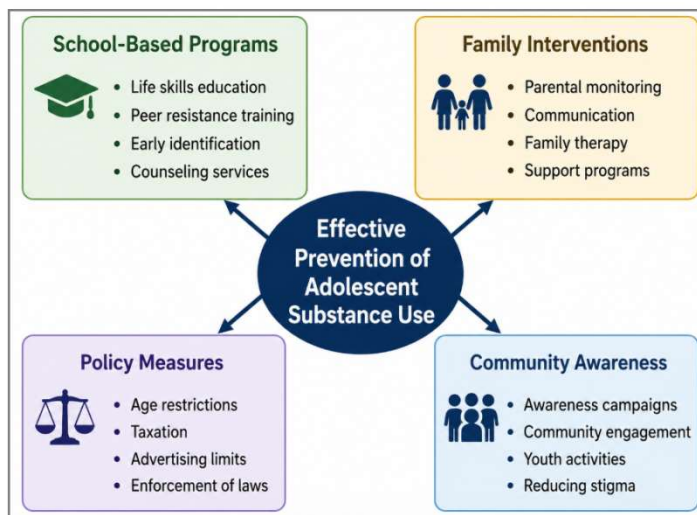


Figure 6: Multi-Level Prevention Strategies

A multi-level prevention model that combines school-based interventions, family interventions, policy interventions, and community education is provided in Figure 6. It emphasizes that prevention needs the concerted efforts of various systems, but not individual approaches. This is in line with the strategies of the field of public health that focuses on interventions that are both long-term and comprehensive to minimize substance use in adolescence and its effects in the long term [11,19]. All in all, all of the strategies have been shown to be more or less effective; the most successful ones are the ones that combine school, family, policy and community interventions. To tackle the multifaceted and interrelated nature of adolescent substance use, a multidimensional and long-term structure is needed.

8 Discussion

The results of this research reveal the multifaceted and interdependent character of adolescent substance use and the effect of this phenomenon in the long-term perspective. It has been shown that adolescent substance use does not only influence short-term health outcomes, but also leads to long-term psychological, neurological, and social problems. The interplay between health and social outcomes depicts a reinforcing loop, in which mental health problems and cognitive dysfunctions result in both academic and social disadvantages, which further complicates drug dependency. Although prevention methods like school based programs, family interventions and policy measures are effective, they tend to have little effect when they are applied separately. This highlights the significance of multi-level and integrated strategies that would focus on individual and social determinants on a larger scale. In general, the discussion highlights the fact that the issue of adolescent substance use needs a long-standing, multi-faceted (health, education, policy) approach to attain significant long-term results.

9 Conclusion and future scope

To sum up, teenage substance use is a very important social problem of public health that has far-reaching long-term health and social outcomes. As it has been evident in this paper, exposure to substances at an early age has profound implications on mental health, neurological development, and physical health as well as academic and unemployment and social instability. These effects are interdependent resulting in a cycle of disadvantage which may be perpetuated throughout adulthood and across generations. Though there are prevention and intervention

strategies, their effectiveness is enhanced when they are taken in an integrated and sustained approach within the schools, families, communities, and policy frameworks. Future studies ought to be directed towards longitudinal and interdisciplinary studies to gain a deeper insight into how early substance use patterns change through time and how they interplay with social determinants. Moreover, there exist requirements of culturally relevant and technologically oriented interventions, especially with the increasing power of digital media and new substance trends. Enhancement of mental health support, early prevention, and the enforcement of policies will play a crucial role in alleviating the long-term effects of substance use among adolescents, on both individuals and society.

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