



Adolescent Smoking: The Causes, the Onset, the Prevalence and the Associated Risk Factors

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Abstract

The menace of adolescents smoking is something that cannot be relegated to the background. The findings of this review attested to the fact that the prevalence of adolescents smoking is still on the rise especially in Europe and the Arab world. Though the onset of cigarette smoking differed from regions of the world, while most are initiated or start to use tobacco at 13 years, some are initiated into it indirectly as early as 6 years. Social workers, counselors, and health care specialists should be informed of the actual reasons leading to underage or early age smoking, which pinpoints to environmental, peers, and family influences, social media referencing and perceived unjustified benefits of tobacco. The symbolic escalation of smoking among adolescents and kids should be addressed with a well-designed national smoking prevention programs that involve schools and families.

Keywords: Adolescent Smoking; Cross Cultural Differences in Smoking; Prevalence of Smoking

Abbreviations: ESPAD: European School Survey Project on Alcohol and Other Drugs; EMR: Eastern Mediterranean.

Introduction

Adolescence has never been an easy period for kids, parents, and societies. It is a stage where teenagers are vulnerable to substance abuse. Unfortunately, many adolescents repeatedly consider experimenting with drugs especially cigarette to be an integral part of their developmental growth. Some begin experimenting with cigarettes due to their friends' influence or after listening or watching a song or video referencing it. Some even experiment it by stealing from their parents and other significant others. Regardless of how it begins, cigarette smoking is a risky behavior in that developmental stage.

Despite the well-known health consequences of smoking, adolescents and youth smoking is still a problem that impinges countries worldwide because of its harmful

consequences and the addiction it causes [1]. Roughly, 1 million adolescents below the age of 18 start smoking each year [2] and annually, smoking accounts for 6 million deaths worldwide [3]. The purpose of this review is to present data on the extent of tobacco use in adolescence, the situations facilitating smoking initiation at that early age, the trends and the prevalence, the risk factors and the available policies aimed at prevention of early age smoking.

Adolescent Smoking, Trend and Prevalence

Not until the launch of the European School Survey Project on Alcohol and Other Drugs (ESPAD) in 1995 to provide data on substance use and to serve as an anchor to monitoring substance use between 15 to 16 years old students in Europe, it was difficult to obtain a comprehensive reliable data to understand the smoking situations and patterns across Europe. To understand adolescent smoking trends, ESPAD 2015 findings along with other independent studies

were used [4].

The ESPAD Situation in 2015

Availability of Tobacco Substances to Adolescents

With the availability and access of tobacco products to students age 15 and 16, Austria, Liechtenstein, and Denmark recorded the highest with 79 %, 77 %, and 76 % respectively. However, low figures of availability of tobacco were found in Moldova (22 %) and less than 40 % were observed in other countries in the eastern part of Europe (Macedonia (38 %), Romania (37 %) and Ukraine (39 %)). In general, perceived availability of tobacco to the different genders was slightly same (boys 62 % and girls 60 %). This implies that though in Europe measures are taken to reduce adolescents' access to tobacco, surprisingly availability of tobacco substances to adolescents is still rising.

ESPAD Lifetime Prevalence Rates of 2015

Adolescents' lifetime prevalence rates of cigarette smoking ranged between 16% to 66%. Out of the 35 ESPAD countries, 15 countries recorded for at least one in many attempts, above half of their students tried smoking. With Czech Republic (66%), Lithuania (65%), Croatia and Slovakia (62 % each) accordingly recorded the highest prevalence while the lowest rates were found in Iceland (16%), Norway (28%) and Malta (29%). In general, the average prevalence of cigarette was below 46 % for all ESPAD countries. With regards to gender differences, though across Europe boys are perceived more likely to have tried cigarettes than girls, smoking for both genders was almost the same boys (47%) and girls (44 %). Despite these close figures for both genders, there were discrepancies in some countries with Moldova (50% for boys and 15% for girls), Georgia (54% and 30%) and Albania (49% and 27%). The gender differences where girls reported higher rates were found in Monaco (61% for girls and 51% for boys), Bulgaria (60% and 51%) and Malta (33% and 25%). Whereas regarding daily cigarette use, the 2015 ESPAD reported 12% of students across 35 countries in Europe smoked every day in the last 30 days.

In other studies on adolescents rare and regular smoking, Grimshaw [5,6] found the rare and regular smoking rate as 24.7% among 15-19 year age group in England while the studies of Kemppainen U, et al. [7] among ninth-grade students from Russia and Finland, rare or regular smoking rate among students were found at 9% in girls and 31% in boys in Russia. However, in Finland girls were found to smoke more than boys with 27% in girls compared to 23% in boys. Besides that, in Taiwan, Chen et al. [8] reported 34% of high school students had smoked cigarettes at some point in their lives and 10.1% of these students have become regular smokers. In Japan, Takakura [9] also found the rate

of students smoking to be 17.4% even though in Hong Kong, the rate of smokers in the 13-18 age groups was reported to be 30.5% [10]. This rate was also found to be 26% in the 13-18 age groups in Korea [11]. This denotes that the rate of regular smoking in adolescents cut across Europe and Asia.

Even though there is a widespread belief that the United States is where adolescents are expected to be exposed to cigarettes, unexpectedly, in 2006, 6.8% of students between the aged brackets of 11-14 were smokers [12]. Among 13 to 15-year-old boys in 2011, the smoking prevalence was 7-15.9% [13] although in 2013, 22.9% of high school students reported the use of at least one product of tobacco, while 12.6% reported the use of two or more products of tobacco [14]. Nevertheless, in Canada between 2004-2005, 1.7% of students aged 10-15 were smokers, whereas between 13 to 15 age group, smokers constituted 7-15% [12,15]. It attests to the fact that as adolescents age increases, unhealthy habits of smoking increases. Conversely, in the year 2011, 7-15.9% students age 13-15 were reported to be smokers in Germany, Greece, the US, Turkey, and Serbia. However, In the UK, the smoking prevalence was about 7% for both sexes in 2011 [13]. In the African continent, generally adolescent smoking was reported as 15.5% [16].

In the Arab world, though smoking is an unacceptable social behavior in Saudi Arabia due to Islamic Shari'ah rules especially among females [17]. Globally, Saudi Arabia is ranked 23rd in terms of tobacco consumption [18]. The overall prevalence of adolescent smoking in Saudi Arabia varies from location to location. For example: Studies among high school students in Riyadh reported smoking prevalence to be 30% [19]. In the city of Al Hassa, 22% of high school students were reported to be smokers as at 2011 [20]. Whereas in 2009, the prevalence of smoking in high school students in Madinah also ranged from 12% to 29.8% [21].

Throughout UAE, the Global Youth Tobacco Survey (GYTS) in 2013 on adolescents aged 13-15 years reported higher prevalence rates for ever smoking to be 29.7% while the prevalence for current smoking was reported to be 10.5% [3]. Likewise, a similar study by (GYTS) in Jordan in 2009 estimated the prevalence of ever smoking among Jordanian adolescents age 13-15 as 39% [22]. These rates are scary thus implying in years to come one can barely identify few adults who do not smoke in the Arab world.

Early-Onset of Smoking

According to the 2015 ESPAD report, in Europe, more than one in five students 23% had smoked cigarettes at the age of 13 or younger. The proportions were found to be from 46 % in Estonia and 45 % in Lithuania and 9-13 % in Macedonia, Iceland, Malta, and Norway. On average in most countries,

more boys were found to have smoked cigarettes at the age of 13 or younger than girls. The highest discrepancy between both genders was found in Moldova (33% for boys and 8 % for girls). Estonia and Lithuania recorded the highest rate among boys with (50-51%) while the Czech Republic and Latvia had the highest rates among girls (40-41%). On average, students who began smoking on a daily basis at the age of 13 or younger were 4 %. However, the rates were high in Estonia and Slovakia (8%) and low in Norway (1%).

In the US, smoking gradually increases as a child grows. Students smoke less at the ages 13–15 (6.8%) than 15–18 (19.8%) [12,23]. However, in a typical middle-class American family, the mean age of early smoking was found to be 8.5 with a range between 6 and 11 years old [15]. Similarly, in most countries, smokers begin to use tobacco before age 18 [24,25]. Among adolescents who smoke, one-quarter smoked their first cigarette before the age of 10. Simons-Morton, et al. [26] also found the rate of smoking initiation among adolescents to be during middle school from less than 10% of sixth graders to nearly 20% of eighth-graders.

Nihaya, et al. [27] reported the age of onset of smoking to range between 10–12 years in Jordan with majority of adolescent starting at the age of 12 while the most smoke up to 5 cigarettes per day and some smoke at least two packets of cigarettes per week. Whereas in Africa, [28] found adolescent smokers started smoking before 14 years of age.

Causes of Adolescent Smoking

Why do adolescents pick up that cigarette in the first place? Many factors play entangling roles to influence or decide whether an adolescent smokes or not. The reason why a child or an adolescent begins smoking varies and differs by gender, culture, race and educational level [29]. For instance, tobacco smoking in Iraq is associated with the social and cultural environment that instigates and influences an individual to cigarette smoking [30]. Peer group has remained the most commonly attributed factors that play a key role in adolescents smoking decisions [31,32]. Some studies indicated that indirect peer pressures can be as relevant to smoking as direct pressures [33,34]. This unspoken pressure of seeing or hearing others are smoking brainwashes an adolescent to follow suit to fit into the group.

Contrary to peer influence, [35] are of the view that the home remains the first learning classroom for children; casual smoking by parents and parental attitudes towards smoking has a strong influence on adolescent smoking at the initiation stage. This initiation process could start as a way of imitating parental behaviors especially when parents leave the home. Engels, et al. [36] also found more evidence for the influence of parents on adolescents smoking than that

of peers. Though they found the smoking status of friends to influence smoking initiation from their cross-sectional data, it has a lower impact on adolescent smoking behavior 5 years later. Still on parental influence, in 2008, out of 675000 of 15-year-old in England and Wales, approximately 23000 attributed their smoking initiation as a result of been exposed to smoking in the home [37]. To determine whose smoking attitude influences adolescents more at home, a 1-year longitudinal suggested a slightly greater impact of the mother's smoking behavior than that of the father to influence smoking initiation in Portugal and Denmark. However, according to in Barcelona, smoking initiation was only determined by friends' smoking behaviors [38].

In a systematic review and meta-analysis of the magnitude of these effects by Leonardi-Bee J, et al. [39], there is also increasing evidence that contact with other smokers, especially in the family, is a determinant of the risk of smoking uptake. Sibling smoking has also been reported to be a strong and significant determinant of the risk of smoking uptake by children [40]. Role models have a dumfounding effect on the lives of adolescents in our societies. These role models are significant others such as movie stars, T.V personalities, teachers, etc. who lay foundations for adolescent's behaviors. To ascertain the roles of these role models on adolescents smoking initiation and uptake, it is perhaps not fascinating that cross-sectional [41-43], and Longitudinal [44,45] studies have found an alliance between exposure to movie smoking and smoking initiation among adolescents. Some studies also attributed students smoking to their perceptions of teacher smoking [46].

How adolescents perceive smoking is also a catalyst that influences their attitudes towards smoking. In a longitudinal study to attest whether adolescents' perceptions of smoking-related risks or benefits predicted smoking initiation, it was found that the belief that smoking is generally risky to one's health predicted levels of 30-day smoking behaviors of adolescents for 1 year [47] and the belief that smoking is associated with cancer or heart disease deters smoking onset for 3 years [48]. The risk of smoking initiation can also be due to social causes in order to participate in social groups. Aghi observed that male youth are allured by the macho image smoking projects and they account 'appearing macho' as the reasons for the use of tobacco.

Recommendations

Whether or to what extent tobacco policy changes impacted adolescent smoking has remained difficult to ascertain. However, Hawkins SS, et al. [49] observed adolescents to be the most sensitive to price so cigarette tax was associated with a decrease in frequent smoking for adolescents whereas smoke-free legislation reduced smoking rates overall.

There is adequate evidence to suggest that primary care clinicians' interventions such as providing education and brief counseling prevent initiation of tobacco use in school-age children and adolescents [50,51]. These education and counseling interventions can center on how smoking gives bad breath, how it leads to hair smell, how it turns fingers and teeth yellow and how smoking can also cause chronic cough.

Guidance to Internet sources of information is also known to be an effective counseling program that can help address an adolescent's attitudes, knowledge and beliefs about smoking and its effects, especially when they are influenced by social factors, such as tobacco referencing. This can strengthen their competence and social skills, thus helping them to decline to smoke [50]. Family-based interventions can also have a positive impact on the prevention of smoking [52]. This can be in form of constantly disapproving smoking and in situations where parents smoke, reminding children of how unhappy you are and how you are trying to quit smoking for good can be a key feature of an effective intervention within the family setting. Combining school and community-based interventions have demonstrated to be effective interventions in reducing long-term smoking rates [53]. These school-based interventions can target both social competence and social skills development while community-based interventions can be in form of campaigns to inform adolescents on the risks of smoking, combined with not only enacting local legislation to regulate the age of access and smoking in public places and schools but reinforcing them.

Conclusion

It is clear that habitual smoking by adolescents is not as a means of meeting their physiological needs but as a desire for social growth. It is with no doubt that parents, peers and role models such as teachers, movie stars and TV personalities continue to influence their attitudes towards tobacco. This significant influence leads adolescents to establish specific norms of their own discretion and become addicted to smoking. Rather than simply expecting the government to be the forerunner in addressing these challenges, it is time for parents to work with schools and the communities to find lasting solutions on how to drastically reduce adolescent smoking. Rather than forcing the social norm that topics on smoking should not be discussed with kids, it is better to fully explain the harmful effects of smoking on adolescents' physical growth and mental soundness at an early stage since the evidence shows smoking initiation starts as early as elementary school.

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