

A Southern addiction evaluation project: investigating the impact of addiction through a survey HBSC based

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Abstract

Background. Adolescence is a critical phase of development characterized by numerous physical, psychological and social changes. During this stage, individuals may engage in experimentation and risky behavior, leading to increased vulnerability to addiction. This article aims to present the results of a survey based on the HBSC (Health Behavior in School-aged Children) surveillance model in a province of Southern Italy for primary and secondary school students.

Methods. We conducted a prospective study from March 2020 to April 2023 through the administration of a questionnaire to students of the healthcare faculties of the University of Messina and primary and secondary school students, composed of 19 items and based on HBSC surveillance.

Results. We collected a total of 664 questionnaires. We found that smoking habits increase with age: approximately 31% of secondary school students declare they are real smokers compared to 40% of HCP students. At least once, in the three study groups, students experienced alcohol consumption at different rates, with younger students having a greater propensity to drink than older students. Fortunately, in our sample, no middle school students had tried cannabis. At the same time there is a surprising decrease in gambling in all categories compared to national data.

Conclusions. The presence of addictive behaviors in our sample was found to be widespread despite being in line with the national trend. Furthermore, we have observed a reduction in recent years which needs to be investigated to assess the reasons. Primary prevention is probably the main weapon in the hands of politicians and must be applied early in school and community settings to reduce prevalence. *Clin Ter 2024; 175 (2):144-152 doi: 10.7417/CT.2024.5047*

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Introduction

Substance use disorders pose significant challenges to individuals, families, and societies worldwide. The incidence and prevalence of these phenomena is crucial to determine underlying factors and to involve policymakers, healthcare

workers, and researchers to modify and limit this issue). At this moment, few articles explored the intergenerational differences in addiction, but several studies have been conducted on other characteristics or on a single generation. Generation Y, also known as Millennials (born 1980-1994) (1), represents a generation of transition between past and future: they lived the birth of the Internet and witnessed the progressive spread of social networks; they are the first digitalized generation, which has experienced the breaking down of cultural barriers thanks to the “network”. As a result, they are adventurous, open-minded people, citizens of the world, who love to explore different cultures and languages. They are a generation of “idealists” and they learnt a narcissistic component from their parent and for these reasons, Millennials have been often defined as an impatient generation.

On the other hand, those born from 1995-2010 (Generation Z) onwards are more pragmatic, completely immersed in digital. Young people from Generation Z use 5 devices on average (compared to 3 for Millennials), and for them the visual dimension is much more important than the textual one, which is still relevant for Millennials.

Another aspect that strongly differentiates Generation Z from the previous one is the strong spirit of resourcefulness: if Millennials are waiting to be discovered, the young people of Generation Z are “ready to work hard just to succeed”. They are even more environmentally friendly than millennials and wish to directly have a positive impact on people’s lives, personally leaving an innovative mark on the world.

Here below we try to synthesize the main results about the addiction in the world and in the two generation. First, we must remember that the Internet revolutionized education and social communication in the 21st century. A review analyzing the growing literature identifying several adolescents and young adults with pathologically excessive Internet use leading to many potential consequences. They concluded that the potential negative consequences of Internet use must be taken in place. (2)

The prevalence of alcohol use disorders is estimated to be around 1.4 percent of the population. At the country level, as shown in the chart, this ranges from around 0.5 to 5 percent

of the population (3). It has been estimated that the global prevalence is highest in those aged between 25 and 34 years old (for which around 2.5% of the population).

Furthermore, regional variations were observed, with higher rates in Europe and lower rates in Africa and Asia (4). In Italy, alcohol consumption rate was represented as 7,8 liters of pure alcohol per person aged 15 or older in 2018 (3). Moreover, in 2016 the percentage of the Sicilian population aged over 11 years who had consumed at least one alcoholic drink during the year was 64.7% (5).

Regarding tobacco dependency, a study by Goodchild et al. reported a global prevalence of 22.8%. Notably, smoking rates were higher among males in most regions (6).

In our country, a study reports that there will be almost 800,000 more smokers than in 2019 and an increase of three-fold the consumption of heated tobacco products. In Sicily a recent study reported a prevalence of 25%, according to national data (7).

In terms of illicit drug use, the Global Burden of Disease (GBD) group research highlighted a significant global problem, with opioid and cannabis being the most abused substances. The global incidence of opioid dependence was estimated at 0.37%, with variations between countries due to different drug use patterns, availability, and socio-economic factors (8). In 2017 a general population survey in Italy on drugs found that one-third of the Italian population aged 15-64 years had used a psychoactive substance at least once in their lifetime and one in ten had done so in the last year. Regarding gender, the majority of users are male. Cannabis is the most widely used substance, with one out of ten people having used it at least once in the last year. The use of cocaine, opioids and spice (synthetic cannabinoids) is lower. Among adults reporting the use of illegal psychoactive substances in 2017, the 10% reported polydrug use. The 2017 school survey among students aged 15-19 years reported that cannabis is the most used substance among adolescents. One-third reported having used cannabis at least once in their lifetime (9).

Adolescence is a developmental phase marked by increased autonomy and experimentation. This transition period often exposes adolescents to various risk factors, leading to the adoption of risky behaviors. Such behaviors can include substance abuse, engaging in unsafe sexual practices, reckless driving, self-harm, and involvement in delinquent activities (10).

Identifying and understanding these at risk behaviors is crucial for developing effective intervention strategies to promote adolescent well-being (11) in order to identify risk factors and corrective measures. In fact, adolescent addiction represents a significant global concern with adverse effects on physical and mental health, academic performance, social relationships, and the overall well-being of individuals (12).

The most abused substances by adolescents are represented by alcohol, tobacco, marijuana, and opioids (13). Various individual, familiar and environmental factors can contribute to developing substance abuse disorder in adolescents. Family history of addictions, peer pressure, inadequate parental monitoring, socio-economic status and the availability of said substances are identified as prominent risk factors (14).

Alcohol abuse among adolescents is a growing public health issue and epidemiological studies have reported an alarming rise in abuse also among teenagers (15). Early initiation of drinking increases the risk of developing both short and long-term alcohol-related problems (16-17) as impaired judgment, increased risk-taking behaviors, accidents, violence, and poor academic performance (18). Long-term effects encompass heightened vulnerability to substances, abuse disorders, brain development disruptions, cognitive impairments, and increased likelihood of alcohol-related problems in adulthood (18).

Regarding cigarettes smoking among adolescents has reached an alarming rate with detrimental consequences for their health and well-being (19-20). Furthermore, smoking during adolescence is associated with reduced lung function, asthma exacerbation, and susceptibility to infection (21). These health risks persist into adulthood, reinforcing the need for preventive measures. Various social, cultural, and environmental factors contribute to the initiation and maintenance of smoking among adolescents: peer influence, exposure to parental smoking, tobacco marketing and media portrayal of smoking play crucial roles in shaping adolescent smoking behaviors (22-23).

The past decade has witnessed an increase in the prevalence of cannabis abuse among teenagers, raising significant concerns among parents, educators, and healthcare professionals (24). Despite efforts to reduce its accessibility, cannabis remains readily available to adolescents and has become a popular choice, especially in rural realities (25). Several studies enhanced the correlation between adolescent cannabis abuse and adverse effects on cognition, particularly in areas such as memory, attention, and executive functioning (26-27).

About the abuse of opioids among adolescents, several studies have reported an alarming rise in opioid abuse among adolescents (20-21).

Multiple factors contribute to opioid abuse among adolescents; family history of substance abuse, particularly parental opioid misuse, has been identified as a significant risk factor (22); additionally, adolescents with mental health issues, such as depression and anxiety, are more susceptible to opioid abuse (23). Peer influence, availability of opioids and exposure to media promoting drug abuse, also play vital roles (24-25).

Behavioral addiction

Recent literature has raised the attention about the evolution of behavioral addiction as social media and gambling one (26).

As regards social media they have become an integral part of modern adolescent life. However, their excessive use and abuse are raising concerns among researchers and parents alike (27). Research consistently suggests that the abuse of social media among adolescents can have significant detrimental effects on their mental health, well-being, and social interactions (28-29) due to constant comparisons, cyberbullying, and exposure to inappropriate content (30). Additionally, the addictive nature of social media could negatively impact academic performance, as it often becomes a source of distraction and reduced productivity (30).

Gambling has become increasingly prevalent among adolescents. Recent literature has highlighted that the life-time prevalence of problem gambling among adolescents ranged from 0.2% to 12.3%, with rates varying across different countries (31- 33). In Italy, according to recent data 70.8% of adolescents had gambled at least once in the previous year, with more than 68% of minors declaring that they had gambled. Regarding gender, results show that males gambled more, more frequently, spent more, and presented more gambling-related problems than females. About age, adolescents of age gambled more on some games that involved going to places to bet than minors but no differences between minors and of-age adolescents emerged on the amount of money spent and in being a regular gambler or not. However, gender and age differences emerged only in the non-regular group, whereas in the regular-gambling group, males and females and minor and of-age adolescents did not differ on any aspect analyzed. In Sicily, on a sample of 620 students 34% bet at least one time, but the prevalence of gambling addiction is low (score over 4 was detected only in 3% of the sample). According to other studies in terms of engagement in or frequency of gambling, men gambled more than women. The main reason is to win (14%), followed by having an easy way of earning money (10%) or for fun (35%) (34.)

The availability of online gambling platforms has even more contributed to the accessibility and popularity of gambling activities among adolescents (35). Various risk factors that contribute to adolescent gambling have been identified. These include personal characteristics (e.g., male gender, sensation-seeking personality traits), familial factors (e.g., parental gambling behavior, family dysfunction), peer influence, and environmental factors (e.g., gambling advertisements, easy access to gambling venues) (36). Adolescent gambling has been associated with a wide range of negative consequences, including increased rates of depression, anxiety, substance abuse, delinquency, and academic difficulties. Longitudinal studies have demonstrated that early onset of gambling is a significant predictor of later gambling and related negative outcomes (37).

Even healthcare providers (including doctors, nurses, and other healthcare practitioners) are not immune to the various forms of addiction that can affect individuals from all walks of life (38).

Due to their unique access to medicines, high-stress levels, long working hours and exposure to traumatic events, healthcare professionals face numerous challenges that can contribute to addiction (39).

Studies have consistently reported a higher prevalence of addiction among healthcare providers compared to the general population (41). The risk factors associated with addiction in this population include high-stress work environments, easy access to controlled substances, job dissatisfaction, burnout, and a history of personal or family addiction. Furthermore, healthcare providers often face unique ethical and moral dilemmas that can contribute to substance misuse or gambling addictions (42). Addictions among healthcare providers can have severe consequences, including compromised patient care, medical errors, professional misconduct, legal issues, mental health problems, and impaired physical health.

The stigma associated with addiction often prevents afflicted providers from seeking help, exacerbating the problem, and increasing the likelihood of adverse outcomes (43).

The relevant literature indicates a significant prevalence of addictions among healthcare providers, which can have detrimental consequences for both the providers and their patients (44).

On these premises, the aim of our study was to assess addictions among two generation, millennial and Gen Z in a province of southern Italy, focusing both on the impact of the career and on the generational differences of the groups under consideration.

Materials and methods

We conducted a prospective study from March 2023 to April 2023.

The project was developed in two phases: the first one involved students of the health care area by administering an anonymous ad hoc questionnaire through Google Forms®;

the second one provided for the face-to-face administration of the same questionnaire in primary and secondary schools in the district of Messina.

The questionnaire consists of a socio-anagraphic section (place of residence, age and sex); the part relating to questions for a total of 19 items, taken from the HBSC international survey is divided into: the first section related to tobacco consumption (3 items); the second one on alcohol intake (5 items) and finally, a third one comprising 3 additional items to investigate marijuana abuse, the use of other drugs (3 items) and gambling (4 items).

The study was developed in compliance with the Helsinki declaration and, after obtaining the informed consent signed by the parent for minor students, we collected the questionnaire. Students over the age of 18, who agreed to take part in the survey, replied through the online questionnaire.

Results

It has been analyzed a sample of 664 students. We performed a survey on 202 people from middle school, 219 from high school and 234 HealthCare Professional students (HCP). It emerged that the average age is 12.2 ± 0.75 SD for middle school students, 14.43 ± 1.52 SD for high schoolers and 23 ± 4.4 SD for HCP. Taking gender into consideration, male responders outnumbered female responders in every category taken in the exam. Distribution of the study sample according to socio-demographic data was represented in Table 1.

Table 1. Distribution of the study sample according to socio-demographic data.

	n	%
Mean age $\pm$ SD		
Less than 8 years of instruction	12.2 $\pm$ 0.75	
More than 8 years of instruction	14.43 $\pm$ 1.52	
Healthcare workers	23 $\pm$ 4.4	
Sex		
Male	319	48.04
Female	242	36.44
Live in...		
Suburbs	133	46.02
Center	156	53.9

The greatest variability regarding the place of residence has emerged in the involvement of HCPs as they come from several areas in Sicily. Most of them live in a big center, but a large part come from suburbs (about 47% of the study sample).

Those who live in a big center were variously distributed (Messina $n = 70$; Catania $n = 30$; Palermo $n = 11$; Ragusa $n = 4$; Siracusa $n = 5$; Trapani $n = 2$; Agrigento $n = 6$; Enna $n = 2$; Caltanissetta $n = 1$) (Fig. 1).

Here below we reported the results of our questionnaire by questions.

Do you smoke cigarettes?

Young people gave the use of tobacco a relational function, linked to the feeling of maturity and independence or of belonging to the peer group, which can affect the adoption of behaviors at risk to health during adolescence. In this survey, 31% ($n = 67$) of responders in high school and 5% ($n = 11$) of middle school students reported smoking tobacco. Investigating students in the health professions, about 40% ($n = 96$) of the study sample claim to be active smokers. All the percentages under examination are statistically relevant for the item studied ($p^{\text{value}} < 0.001$).

At what age did you start smoking?

The sooner they start smoking, the greater the risk of becoming a regular user, with the consequent health damage associated with this behavior. Among the responders who reported active smoking, the age at onset increased with the increasing age, particularly among middle schoolers $11.63 \pm \text{SD } 1.12$; in high schoolers is $14.42 \pm \text{SD } 1.51$; among HCP is $16.39 \pm \text{SD } 2.65$.

How many days have you smoked in the last month?

Through this question, we investigated how many days on average during the month they smoked tobacco.

For middle school students who had answered affirmatively to the said question, the group of people studied claim to have smoked 1-2 days in a month, about 4% ($n = 2$), thus considering it as a test moment of smoking, but about 3% ($n = 3$) of the group reported an increase in the average monthly days of smoke intake to 10-19 average days ($p^{\text{value}} < 0.001$). In the high school sample, those who declared that they are active smokers, they are distributed mainly on the answer "1-2 days per month" (8.22%; $n = 18$; $p^{\text{value}} < 0.001$). Compared to the previous category, the percentage of population who smoked tobacco for 20-29 days is (2.74%; $n = 6$; $p^{\text{value}} < 0.001$). Finally, looking at the data from HCPs, the percentages increase dramatically up to 35.42% for smokers who smoked "daily" ($n = 34$; $p < 0.001$) and "almost every day" (25.00%; $n = 24$; $p < 0.001$) (Table 2).

At what age did you start drinking?

Similar results to those expressed on tobacco consumption, in terms of age at onset, were also compared to those relating to the use of alcohol, which observe the study sample to be starting at a very young age, in middle school ($11.63 \pm 1.12 \text{ SD}$) and relatively late in high school ($14.59 \pm 1.94 \text{ SD}$)



Fig. 1. Distribution of responders in the main cities of Sicily

Table 2. Percentage of smokers, age at onset and smoking habits in the investigated sample by cohort

	Healthcare workers (HCWs)	More than 8 years of age	Less than 8 years of age
Actual Smoker	40% (96)	31% (67)	5%(11)
Age at onset	16.39± SD 2.65	14.42± SD 1.51	11.63 ± SD 1.12
Average number of smoking days			
1-2	11.46% (11)	8.22%(18)	4% (2)
3-5	7.29% (7)	5.02%(11)	2 %(1)
6-9	10.42% (10)	1.37%(3)	0 %(0)
10-19	18.75%(18)	6.85% (15)	3 %(3)
20-29	25.00% (24)	2.74%(6)	0% (0)
>30	35.42% (34)	0 (0%)	0%(0)

Table 3. Percentage of alcohol consumption, age at onset and drinking habits in the three cohorts in study

	HCP	HIGH SCHOOL	MIDDLE SCHOOL
Actual alcohol drinker	68% (165)	50% (108)	5% (13)
Age at onset	16.43±2.06	14.59 ±1.94	11.63±1.12
Average number of days of alcohol consumption			
1-2	35.2% (77)	21.5% (47)	0% (0)
3-5	21.9% (48)	9.6% (31)	4.5% (9)
6-9	10.5% (23)	8.2% (18)	0.5% (1)
10-19	6.4% (14)	6.8% (15)	0.5% (1)
20-29	0.9% (2)	0.9% (2)	0% (0)
>30	0%(0)	1.4% (3)	0%(0)

Regarding alcohol consumption, it has been observed that future healthcare workers have a higher alcohol consumption rate than high school students (Table 3).

What kind of alcohol do you drink most?

We also investigated the type of alcohol consumed for each category. Certainly, the first approach to the intake of alcohol is represented by simple spirits such as beer and wine, in particular for high school students the most consumed alcohol is beer which scored 3.20%, in middle school, wine, 6% of answers. The group of students in the healthcare professions who responded positively to the habitual consumption of alcohol showed a higher preference for spirits, about 41% of the answers. Although the data found are in line with those in the relevant literature, the data is not statistically significant ($p>0.05$).

Have you ever been drunk?

We asked the students if they had ever gotten drunk. In the three cohorts in the study, all of them experienced drunkenness at least once, albeit at different rates: in the HCP

group 22.63% ($n= 55$; $p<0.001$); in the high school group 18.72% ($n = 41$; $p< 0.001$); in the middle school group 2% ($n = 4$; $p<0.001$).

In HCP the 13.17% of the sample replied affirmatively ($n= 32$; $p< 0.001$) whereas among high school students the percentage was 6.84% ($n= 15$; $P<0.001$).

As regards binge drinking, we reported the data in appendix 1 (Fig. 1 suppl) and we can state that the highest value of binge drinking was reported by HCP.

How many times have you bet money in the last month?

Although the number of gamblers is lower than other addiction phenomena in analysis (HCP: 28%; HS: 27%; MS: 18%; all with $p< 0.001$), it remains a particularly alarming phenomenon, especially among younger people. In our sample, the starting age for betting in the cohort of 11-13 years is 11.5 ± 1.31 at least once (7.9%). the more they age the more they bet in a month (to the option > 10 days/month 3% of HCPs and 5% of high school students) (Table 4).

Table 4. Percentage of gamblers, age at onset and bet habits in the three cohorts in study.

	HCP	HIGH SCHOOL	MIDDLE SCHOOL
Gamblers	28%	27%	18%
Age at onset	17.84 ± SD 3.27	13.92 ± 2.35	11.5 ± 1.31
Number of days spent on bet			
Never	67% (163)	72.1% (158)	6.9% (14)
Once	5% (12)	5.5% (12)	7.9% (16)
2-3	7% (17)	7.3% (16)	1.0% (2)
4-10	3% (7)	1.8% (4)	0.5% (1)
>10	3% (7)	5% (11)	0% (0)

Have you ever smoked marijuana?

In our sample, no middle school student has ever taken cannabis. About 10% of high school students have tried marijuana, of which only 51% have said yes (n=11). A similar distribution, but in a lower percentage, is present in the cohort of future health workers (2-3 times: 12%; n=9) (Table 5).

Discussion

Addiction among adolescents is a significant public health concern, representing a complex problem that requires comprehensive understanding and effective intervention (44).

In our study we highlighted that with the increase of age the negative behaviors increased with more consumption of smoke, alcohol and Cannabis sativa, with the exception of betting more frequently in the younger.

As regards to the use of Cannabis sativa, it must be pointed out that one of the noticeable problems is the marketing of cannabis-based products that could entice teenagers to start smoking cannabis (45). This could justify the early onset of such habits in the target group (age at onset 15.73±1.76 SD) under investigation in our study. As for the students in the healthcare professions, the use of cannabis is more widespread, although the onset occurred later than in

high school groups. As with all the phenomena observed in this study, the striking difference is given by the early start in cannabis use of the new generations and by an increasingly premature approach to drug use and abuse. Probably the first approach to this culture is likely to point to the improper media use and time spent on the internet (46).

The high use of cannabis in high school students is at worrying levels. A recent review suggests heavy alcohol and cannabis use during adolescence are related to small to moderate disruptions in brain structure and function, as well as neuro-cognitive impairment, especially at young age (47). However, from the analysis of data of marijuana consumption habits Messina versus Italy- HBSC 2022 we obtained the same percentage of use in Messina rather than Sicily and Italy (48). Comparing our data with the most recent edition of the national HBSC survey, the percentage gap shows an increase in the male cohort (percentage difference Italy vs Messina + 9.82%) and a surprising decrease in the female population (Italy vs Messina -37.5%) (48). Moreover, compared to the national data of the HBSC 2022 survey, the data found are in line, although the cohort of females has a slightly decreasing trend compared to the national and regional data (Italy: M:20,9 F: 29,2 vs Messina: M: 20,4 F: 20,9) (48).

On smoking habits, the new generations start smoking earlier than the cohort of health care professionals. On the other hand, about 35% of future healthcare workers are regular smokers, as the PASSI study group also claims (49).

Table 5. Percentage of Cannabis sativa smokers, age at onset and habits in the three cohorts in study.

	HCP	HIGH SCHOOL	MIDDLE SCHOOL
Active Smokers	17.2%	10%	-
Age at onset	17.44 ± 2.46	15.73 ± 1.76	-
How many times have they smoked cannabis in the last 30 days			
ONCE	7% (16)	51% (11)	0% (0)
2-3	12% (9)	3.19% (7)	0% (0)
4-10	7% (17)	2% (4)	0% (0)
>10	0% (0)	0% (0)	0% (0)

Smoking habits in our sample was lower than in Sicily and Italy. The amount of Italian students who claim to have consumed alcoholic beverages in the last 30 days increases with age from 9% and 5%, respectively, of boys and girls of 11 years, 23% and 24% of thirteen years and over 50% in the fifteen (50% among males and 54% among females) (48). In our sample, active drinkers account for 68% ($n=165$; $p<0.001$) of the study sample (50). The rate of regular drinkers among high school students is alarming, (50%; $n=108$; $p<0.001$) as observed in other studies (51).

Moreover, our findings confirm a growing trend in the lower age groups, even if our province rate is below the national and regional average (percentage variation Messina vs Sicily: -2.20%; Messina vs Italy: -4.20%).

Among the cohorts in the studio who asked "How many times have you taken alcohol in the last thirty days?" they selected "4-10 times", the risk of binge drinking is increased: adolescents, although they may drink less often, tend to consume higher quantities of alcohol per occasion compared to adults (53). This confirms an observed trend in recent literature, stressing the importance of proper influence on adolescents, as subjects are psychologically more exposed to social acceptance (53).

About the gambling addiction, surprisingly, comparing the data with the national scenario, it emerges, as compared to the national and regional average recorded in the previous HBSC, that students showed less interest in gambling (percentage changes: Messina vs Sicily: -37.28%; Messina vs Italy: -52.19%) (48).

Probably, the limited amount of money, for certain age groups, reduces the risk of developing certain types of addictions (53).

Furthermore, another variable to be taken into account is the socio-geographical data, where social inequalities and level of education of the parents could adversely affect their children, leading to a greater ease to the development of gambling addictions (54,55). In our sample such as indicated in other evidence by the literature showed an higher use in our district.

Conclusions

Effective prevention programs targeting adolescents should focus on enhancing protective factors, building resilience, and promoting healthy coping mechanisms. Early identification and intervention in school and community settings are crucial to reduce the harm associated with addictive behaviors. Evidence-based treatment approaches, including cognitive-behavioral therapy and motivational interviewing, have shown promising in addressing adolescent addictions (56). Numerous studies emphasize the crucial role of parental involvement in preventing adolescent addictions (57-59). School-based prevention programs play a vital role in educating adolescents about the risks of addiction and providing them with necessary coping skills (60). A study by Collins et al., showed that media literacy interventions decrease the intention to use substances among adolescents (61). Incorporating media literacy into prevention programs equips teenagers with the skills to recognize harmful messages and make informed decisions. Adolescents with mental health

issues are particularly vulnerable to developing addictions. Preventive measures must include targeted interventions for this high-risk group. Recent literature revealed that providing mental health support and coping strategies significantly reduced substance use among socially disadvantaged teenagers (62-63).

In addition, the approach in telemedicine, use of apps on smartphones have shown promising solutions in dealing with adolescent addictions (64). Implementing these strategies collectively will contribute to the formation of resilient, healthy, and addiction-free adolescent populations (65). As regards nursing students, information and training campaigns on addiction prevention and associated risks should be organized in the university and hospital environment, educating on the economic and social costs of abused diseases on public health (66-67).

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