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High school students' attitudes and knowledge on substance abuse

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Abstract

Background: Adolescents are particularly vulnerable due to peer pressure and risk-taking behaviors, making substance addiction a serious public health concern. Although there are studies conducted worldwide, there is little data on the attitudes and knowledge of Central Indian high school students on substance misuse. Therefore, the purpose of this study was to evaluate students' knowledge and perspectives regarding substance usage.
Methods: Students from rural and urban areas in the Indian district of Indore, ages 13 to 17, participated in a cross-sectional survey. Participants and schools from standards IX, X, XI, and XII were chosen using stratified random sampling. Two validated questionnaires were used to gather data: CSR's Evaluation Instrument for Knowledge on Effects of Alcohol, Tobacco, and Other Drugs and Dr. Om Prakash's "Knowledge and Attitude Addiction **Questionnaire for Adolescents."** Descriptive and inferential statistics were used to examine the data; a p-value of less than 0.05 was deemed statistically significant.
Findings: Of the 300 pupils, 55.7% came from rural areas and 61.3% were male. 70.7% of students in rural areas were aware of the risks associated with substance usage, compared to 55.1% in urban areas ($p = 0.041$). Addiction was a greater concern for women (93.1% vs. 78.3%, $p < 0.001$). Attitudes were influenced by a family history of substance abuse, and the main source of information was the media.
Conclusion: To address knowledge gaps and misunderstandings concerning substance addiction among teenagers, the study emphasized the necessity for focused, gender-sensitive interventions, with an emphasis on school-based programs and mass media.

1. Introduction

The excessive or destructive use of a drug in ways that are harmful to a person, society, or both is known as substance abuse. It includes both psychological and physical reliance. Long-term use can lead to physical dependence, which changes physiological states and causes withdrawal symptoms when stopped. On the other hand, psychological dependence refers to a strong desire to keep using drugs even in the absence of physical signs of reliance. One In both industrialized and developing nations, substance misuse has become one of the most urgent social, economic, and healthcare issues. With an estimated 100.4 million cases in 2016, alcohol dependence was the most common substance use disorder worldwide. Two Substance addiction has been shown to vary by area in India. Alcohol usage (5.3%) was higher than alcohol abuse (3.76%) in Andhra Pradesh, according to a study evaluating the prevalence of substance abuse across states and union territories. Gender disparities were also seen, with

males consuming more alcohol and tobacco (6.71% alcohol and 4.06% tobacco) than females (3.4% tobacco and 3.06% alcohol).3 According to the United Nations Office on Drugs and Crime's (UNODC) World Drug Report 2021, there were approximately 275 million drug users worldwide in 2020.

It is disturbing to see that approximately 36.3 million people (13%) have drug use disorders. Even still, only 1 in 7 people got proper care. Concerns over the normalization of substance use among teenagers are also raised by the report's 40% decrease in adolescents' perceptions of cannabis as hazardous.4

Substance misuse has detrimental effects on people's health as well as the welfare of society. Vital organs like the liver, heart, brain, and lungs are physiologically harmed by it. Strokes, convulsions, mental disorientation, and memory and attention problems are among the related health issues. It impairs immunity, making one more vulnerable to diseases and infections. Substance misuse damages social networks, ruins relationships, and frequently puts people in financial hardship.5

Globally, the use of illegal substances has been increasing, with a concerning trend of teenagers starting to use them sooner6. Adolescence is marked by experimentation, risk-taking, and susceptibility to peer pressure. Unfortunately, there are serious consequences associated with some of these activities for both the individual and society.7

According to studies, teenagers frequently start experimenting with drugs like tobacco and inhalants before moving on to alcohol and other addictive substances by their third decade of life.8 Tobacco and alcohol are the most often abused substances among children and adolescents, followed by inhalants and cannabis, according to a National Commission for Protection of Child Rights survey. According to reports, the average age of onset was 12.3 years for tobacco, 12.4 years for inhalants, 13.4 years for cannabis, and 13.6 years for alcohol. Then, between the ages of 14.3 and 14.9, more complicated drugs including heroin, opium, and prescription opioids were introduced. The average age at which injection drug use started was 15.1 years. Adolescent substance misuse is closely linked to scholastic challenges, such as poorer grades, truancy, and school dropouts.7, 10

The development of social, academic, and life skills is hampered by early substance use, which calls for primary and secondary preventive measures.11 Interventions aimed at this demographic are crucial since India has one of the highest percentages of children and adolescents (45% of the population is under the age of 18; 35.3% is between the ages of 5 and 19).12,13

Ghada Waly, executive director of UNODC, highlighted the connection between increased drug use rates and low perceived danger, emphasizing the significance of closing this perception-reality gap to protect public health.4 It has been determined that schools are the best places for these kinds of interventions.14. By utilizing peer influence, which is frequently greater than that of adults, peer-led health education initiatives have been successful in primary prevention.15. These programs are based on the idea that friends ask friends for guidance and are impacted by the attitudes and actions of the group.16.

Research on child and adolescent substance use in India is still scarce, despite the startling rates of drug usage among young people and the availability of studies carried out outside. The majority of the data that is currently accessible comes from isolated, small-scale regional studies, which do not offer a

thorough grasp of the problem. India has started a number of initiatives to increase public awareness about substance usage.17. Nevertheless, the extent and quantifiable effectiveness of these initiatives are still unknown, underscoring the need for more focused interventions and assessments.

By evaluating high school students' understanding and viewpoints regarding substance usage, this study attempts to close the knowledge and attitude gap regarding students in southern India. The results of this study are anticipated to aid in the creation of evidence-based treatments aimed at young people in the area, given the high incidence of substance misuse in India and the growing vulnerability of teenagers. Therefore, the purpose of this study was to evaluate high school students' attitudes and understanding regarding the negative consequences of substance usage.

Materials and Methods

High school students in the Indore area of Madhya Pradesh, India, between the ages of 13 and 17 participated in this cross-sectional survey. Both male and female students enrolled in standards IX, X, XI, and XII made up the sample. The Institutional Ethics Committee granted ethical clearance (approval number UG/SRS/685/21) before to the study's start in order to guarantee adherence to ethical standards and procedures.

The study population was chosen using a stratified random selection procedure. Random sampling was used to select two schools from each of the Indore district's rural and urban areas. To ensure an impartial selection process and improve the sample's representativeness, a minimum of thirty students from standards IX and X and thirty students from standards XI and XII who were present on the day of data collection were chosen from these chosen schools using simple random sampling. In order to ensure voluntary involvement, written informed consent was sought from parents and participants. Additionally, written permits were obtained from the school authorities.

The study included students of both genders, ages 13 to 17, who gave their informed consent and showed a desire to participate.

Students having conditions that made it difficult for them to understand or answer the questionnaire, as well as those with learning disabilities, were not included.

Participants were informed of the study's relevance and goal, with a focus on secrecy and anonymity to promote truthful answers.

The study took into account a number of factors, such as age, gender, socioeconomic level, family structure, standard education, exposure to drugs, and family members' past drug use. The impact of these factors on students' attitudes and knowledge about substance misuse was examined. The study used two main tools to gauge participants' attitudes and knowledge on substance abuse:

The Knowledge and Attitude Addiction Questionnaire for Adolescents (KAAQA) developed by Dr. Om Prakash: This 11-item, self-report, semi-structured questionnaire was created in response to a number of de-addiction awareness campaigns aimed at schoolchildren. It assesses teenage attitudes and views around addiction in an efficient manner.8.

CSR's Knowledge Assessment Tool for Alcohol, Tobacco, and Other Drug Effects: This questionnaire was modified to gauge participants' understanding of the hazards to their bodies and minds that come with frequent substance use. Participants' thoughts about people who engage in substance misuse behaviors were used to analyze the responses.18.

Since English was the primary language of teaching at the chosen schools, the instruments were administered in that language. To ensure that every participant fully understood the questionnaire items, clarification was given in Telugu as needed for improved comprehension. To ensure clarity and understanding, participants received comprehensive instructions prior to the questionnaire being administered.

To prevent peer pressure, the questionnaire was given out in classes under supervision. Researchers and teachers were on hand to help if needed.

Version 21.0 of the Statistical Package for the Social Sciences (SPSS) program was used to enter and analyze the collected data. The replies and demographic information were summarized using descriptive statistics like percentages and frequencies. The Chi-square test and other analytical tools were used to evaluate correlations between category data.

Statistical significance was defined as a p-value of less than 0.05.

The Declaration of Helsinki's ethical guidelines were followed in this investigation. Anonymity was guaranteed to participants, and all information was handled discreetly.

Results

A total of 329 students took part in the study; however, 29 responses were disqualified for incomplete forms and incorrect answer marking. As a result, 300 legitimate responses in all were examined and contrasted.

Of the 300 responses, 127 students (42.3%) were between the ages of 12 and 14, 173 students (57.7%) were between the ages of 15 and 17, 184 students (61.3%) were male, and 116 students (38.7%) were female; 133 students (44.3%) were from urban areas, while 167 students (55.7%) were from rural areas.

The participants' assessments of the hazards of substance addiction according to gender and geography are shown in Table 1. There were no significant geographical (p=0.738) or gender (p=0.14) variations in the 60.3% of men and women who thought smoking tobacco was a major danger. There was no significant gender difference (p=0.244) in the perception of chewing tobacco as a major risk among 64.7% of boys and 57.8% of females. However, there was a significant regional variance (p=0.041), with urban students reporting higher risk. Alcohol intake was viewed as a major risk by 58.2% of men and 48.3% of women, with no significant gender (p=0.422) or regional differences (p=0.085). There was no significant gender (p=0.803) or geographical variations (p=0.066) in the perception of other drugs as a major risk, with 53.8% of men and 53.4% of women.

60.3% of participants acknowledged that smoking one or more packs of cigarettes a day posed a major health risk when asked about their general understanding of the negative consequences of alcohol, tobacco, and other drugs. However, 12.3% were unsure and 21% thought there was just minor risk. Of the participants, 62% thought chewing tobacco on a daily basis posed a significant risk, 16.3% thought there was some risk, and 14.3% were unclear. Of the group as a whole, 54.3% recognized that drinking alcohol posed serious health hazards, 22% identified some danger, and 13% were unsure. 53.6% of respondents said there was a high risk associated with drugs including marijuana, cocaine, heroin, and LSD, 13.6% thought there was some risk, and 24.6% were unclear.

Table 2 provides information about the sources of addiction-related information. With no discernible difference (p=0.083), the majority of pupils in both rural (82.63%) and urban (74.43%) areas had heard or read about substance misuse. Students in rural areas had a considerably greater level of mass media

awareness (70.65%) than students in urban areas (57.89%) (p = 0.021). With no discernible differences, the majority of students identified substance misuse as a social evil (rural: 68.86%, urban: 69.92%; p=0.843) and a physical or medical sickness (rural: 79.64%, urban: 78.95%; p=0.883). Although 88.72% of urban students and 95.20% of rural students agreed that it had negative physical impacts, this difference was statistically significant (p = 0.036). There were no discernible geographical differences in the availability of medications and treatment alternatives (p=0.649 and p=0.537, respectively).

Table 1: Knowledge about substance abuse assessed on the basis of gender and region

	Gender and region comparison		No risk	Little risk	Some risk	Great risk	Can't say	Total	P-value
			n (%)	n (%)	n (%)	n (%)	n (%)		
Smoking tobacco	Gender	Male	4 (2.2%)	7 (3.8%)	36 (19.6%)	111 (60.3%)	26 (14.1%)	184	0.14
		Female	7 (6.0%)	1 (0.9%)	27 (23.3%)	70 (60.3%)	11 (9.5%)	116	
		Total	11 (3.7%)	8 (2.7%)	63 (21.0%)	181 (60.3%)	37 (12.3%)	300	
	Region	Rural	8 (4.8%)	4 (2.4%)	36 (21.6%)	97 (58.1%)	22 (13.2%)	167	0.738
		Urban	3 (2.3%)	4 (3.0%)	27 (20.3%)	84 (63.2%)	15 (11.3%)	133	
		Total	11 (3.7%)	8 (2.7%)	63 (21.0%)	181 (60.3%)	37 (12.3%)	300	
Chewing tobacco	Gender	Male	3 (1.6%)	9 (4.9%)	26 (14.1%)	119 (64.7%)	27 (14.7%)	184	0.244
		Female	0	10 (8.6%)	23 (19.8%)	67 (57.8%)	16 (13.8%)	116	
		Total	3 (1.0%)	19 (6.3%)	49 (16.3%)	186 (62.0%)	43 (14.3%)	300	
	Region	Rural	3 (1.8%)	14 (8.4%)	30 (18.0%)	92 (55.1%)	28 (16.8%)	167	0.041
		Urban	0	5 (3.8%)	19 (14.3%)	94 (70.7%)	15 (11.3%)	133	
		Total	3 (1.0%)	19 (6.3%)	49 (16.3%)	186 (62.0%)	43 (14.3%)	300	
Drinking alcohol	Gender	Male	5 (2.7%)	12 (6.5%)	36 (19.6%)	107 (58.2%)	24 (13.0%)	184	0.422
		Female	6 (5.2%)	9 (7.8%)	30 (25.9%)	56 (48.3%)	15 (12.9%)	116	
		Total	11 (3.7%)	21 (7.0%)	66 (22.0%)	163 (54.3%)	39 (13.0%)	300	
	Region	Rural	9 (5.4%)	13 (7.8%)	43 (25.7%)	81 (48.5%)	21 (12.6%)	167	0.085
		Urban	2 (1.5%)	8 (6.0%)	23 (17.3%)	82 (61.70%)	18 (13.5%)	133	
		Total	11 (3.7%)	21 (7.0%)	66 (22.0%)	163 (54.3%)	39 (13.0%)	300	
Other drugs	Gender	Male	3 (1.6%)	12 (6.5%)	25 (13.6%)	99 (53.8%)	45 (24.5%)	184	0.803
		Female	4 (3.4%)	5 (4.3%)	16 (13.8%)	62 (53.4%)	29 (25.0%)	116	
		Total	7 (2.3%)	17 (5.7%)	41 (13.7%)	161 (53.7%)	74 (24.7%)	300	
	Region	Rural	6 (3.6%)	7 (4.2%)	23 (13.8%)	82 (49.1%)	49 (29.3%)	167	0.066
		Urban	1 (0.8%)	10 (7.5%)	18 (13.5%)	79 (59.4%)	25 (18.8%)	133	
		Total	7 (2.3%)	17 (5.7%)	41 (13.7%)	161 (53.7%)	74 (24.7%)	300	

* P value <0.05 is statistically significant. The chi-square test was used.
† CSR's Evaluation Instrument for Knowledge on Effects of Alcohol, Tobacco, and Other Drugs

However, compared to urban students (53.38%) (p=0.002), rural students (70.65%) were much more likely to think that substance usage is preventable. The perspectives of participants in rural and urban areas toward substance addiction are contrasted in Table 3. There was no discernible difference (p=0.591) between the majority of rural students (89.22%) and urban students (87.22%) regarding their fear of substance usage. Compared to urban students (78.95%), rural students (88.02%) were more likely to voice concerns about substance misuse (p=0.033). There was no discernible difference between rural

(92.81%) and urban (91.73%) pupils' reports of taking precautions against substance usage (p=0.726). Regarding keeping in touch with people who might be involved in substance misuse, both groups gave comparable answers; there was no discernible difference between rural students (19.76%) and urban students (15.04%) (p=0.287).

In terms of openness when talking about addiction, more urban students (52.63%) than rural students (41.92%) said they rarely discussed addiction; however, this difference was not statistically significant (p=0.127). The differences in attitudes between male and female students are examined in Table 4. There was no discernible gender difference (p=0.349), despite the fact that the majority of students (male: 86.96%, female: 90.52%) were fearful of substance misuse. Concerns over substance misuse, however, differed significantly by gender, with 93.10% of women and 78.26% of men expressing such concerns (p<0.001). Although this difference was not statistically significant (p=0.083), more women (95.69%) than men (90.21%) reported taking precautions against substance addiction.
Regarding keeping in touch with people who are at risk of substance usage, male and female students gave similar answers (p=0.278). There was a significant gender difference when asked about talking about addiction; more men (52.72%) than women (37.07%) reported never talking about addiction (p=0.003). Participants' perceptions were subsequently evaluated by two more questions: Regarding the assumption that substances help handle stress, 36% disagreed and 29.3% were unclear; 37.7% said that trying a substance once could result in addiction, while 35% were unsure and 15% saw no risk.

Table 2: Sources of knowledge about substance abuse assessed on the basis of region

KAAQA questions	*Rural*		*Urban*		*P-value*
	Yes / True (%)	*No / False (%)*	*Yes / True (%)*	*No / False (%)*	
Have you heard or read it?	138 (82.63%)	29 (17.36%)	99 (74.43%)	34 (25.56%)	0.083
Know through mass media	118 (70.65%)	49 (29.34%)	77 (57.89%)	56 (42.11%)	0.021
Is physical/medical illness	133 (79.64%)	34 (20.35%)	105 (78.95%)	28 (21.05%)	0.883
Is a social evil	115 (68.86%)	52 (31.13%)	93 (69.92%)	40 (30.08%)	0.843
Usage is harmful to the body	159 (95.20%)	8 (4.79%)	118 (88.72%)	15 (11.28)	0.036
Medicines are available	105 (62.87%)	62 (37.12%)	87 (65.41%)	46 (34.59%)	0.649
Is preventable	118 (70.65%)	49 (29.34%)	71 (53.38%)	62 (46.62%)	0.002
Is treatable	92 (55.08%)	75 (44.91%)	78 (58.65%)	55 (41.35%)	0.537

‡ P value <0.05 is statistically significant. The chi-square test was used.
§ KAAQA - Knowledge and Attitude Addiction Questionnaire for Adolescents

Table 3: Attitudes toward substance abuse assessed based on region

KAAQA questions	Rural				Urban				P-value
	Yes	%	No	%	Yes	%	No	%	
Afraid	149	89.22	18	10.78	116	87.22	17	12.78	0.591
Concerned	147	88.02	20	11.98	105	78.95	28	21.05	0.033
Takes precautions	155	92.81	12	7.29	122	91.73	11	8.27	0.726
Gathers knowledge	0	0	167	100	0	0	133	100	-----
Maintain contact	33	19.76	134	80.24	20	15.04	113	84.96	0.287
How open do you discuss addiction?	Never	Occasionally	Often	Very frequently	Never	Occasionally	Often	Very frequently	
	70 (41.92%)	46 (27.54%)	19 (11.38%)	32 (19.16%)	70 (52.63%)	26 (19.55%)	19 (14.28%)	18 (13.53%)	0.127

‖ P value<0.05 is statistically significant. The chi-square test was used.
¶ KAAQA - Knowledge and Attitude Addiction Questionnaire for Adolescents

The presence of substance use among participants' family members was evaluated using a YES/NO question. The results showed that 11.3% of individuals had family members who used drugs, whereas 88.7% of participants said there was no substance use in their household.

In conclusion, compared to urban students, rural students demonstrated a higher awareness of the negative effects of narcotics and the prevention of addiction.Gender differences showed that although females were less at ease talking about relevant concerns than boys, they showed greater concern about addiction. Targeted educational interventions are necessary since a sizable portion of individuals lacked clear perspectives regarding the hazards associated with substance use.

Discussion

The purpose of this study was to evaluate high school students' attitudes and knowledge regarding substance usage in both rural and urban parts of the Indore district. The results highlight the significance of focused treatments and awareness campaigns by illuminating notable differences in knowledge, attitudes, and perceptions of substance use dangers based on geography and gender.

300 valid responses were included in the study, with 42.3% of participants being between the ages of 12 and 14 and 57.7% being between the ages of 15 and 17. Of the sample, 38.7% were female and 61.3% were male. Strong comparisons based on geographic differences were possible because there were more rural participants (55.7%) than urban ones (44.3%).

Students in rural and urban areas have quite different levels of knowledge about the negative consequences of substance addiction. Urban students (70.7%) showed greater awareness than rural students (55.1%), despite the fact that 62.0% of respondents thought chewing tobacco constituted a substantial risk.

Remarkably, 3% of rural students thought there was no risk, indicating knowledge gaps ($p = 0.041$). The study by Tsering D et al. found similar results, with urban students showing greater awareness of the

negative effects of tobacco use than their rural counterparts.19. This implies that outreach initiatives aimed at rural areas need to be strengthened.

The main information source was found to be mass media, with rural participants (70.65%) depending more on it than urban students (57.89%) ($p = 0.021$). This is consistent with research by Tsering D et al., who found that the main source of information was the mass media.19. Additionally, there were notable differences in preventive awareness between the groups. Rural students (70.65%) were more optimistic than urban students (53.38%) ($p < 0.05$), despite the fact that 63% of the general community thought addiction was preventable. This highlights the necessity of preventive programs aimed at cities in order to close the knowledge gap.

Table 4: Gender-based attitudes

KAAQA questions	Male				Female				p-value
	Yes	%	No	%	Yes	%	No	%	
Afraid	160	86.96	24	13.04	105	90.52	11	9.48	0.349
Concerned	144	78.26	21.74	13.3	108	93.10	8	6.90	<0.001
Takes precautions	166	90.21	18	9.79	111	95.69	5	4.31	0.083
Gathers knowledge	0	0	184	100	0	0	116	100	-----
Maintain contact	36	19.57	148	80.43	17	14.65	99	85.35	0.278
How open do you discuss addiction?	Never	Occasionally	Often	Very Frequently	Never	Occasionally	Often	Very Frequently	0.003
	97 (52.72%)	32 (17.39%)	21 (11.41%)	34 (18.48%)	43 (37.07%)	40 (34.48%)	17 (14.65%)	16 (13.8%)	

** P value<0.05 is statistically significant. The chi-square test was used.
* KAAQA - Knowledge and Attitude Addiction Questionnaire for Adolescents

According to the results, rural students (88.02%) were more concerned about the hazards of addiction than urban students (78.95%) ($p = 0.033$). Gender-based views showed similar patterns, with women (93.10%) expressing greater anxiety than men (78.26%) ($p < 0.001$).

This increased concern among females is consistent with research by Prakash O et al. showing that female students were more conscious of and concerned about addiction than male students.8 However, 52.72% of men and 37.07% of women expressed a reluctance to have candid conversations about addiction-related topics. This is consistent with research by Singh M. et al., which shows that stigma and a lack of safe spaces are obstacles to communication.20

When asked about their opinions on particular substances, 60.3% of respondents thought everyday smoking was very dangerous. By contrast, 62% of respondents said chewing tobacco was extremely dangerous, 54.3% said drinking alcohol was extremely dangerous, and 53.6% said using illegal drugs

was extremely dangerous. These findings are in line with WHO research from 2018, which discovered that a sizable portion of young people worldwide underestimate the health dangers connected to substance use.21.

In terms of the risk of addiction, 35% were doubtful and 37.7% said that using drugs once could result in addiction. Only 15% of respondents said there was no risk. Furthermore, 36% disagreed with the notion that drugs could aid in stress management, while 29.3% were unsure. These results are similar to research by Tikoo VK et al. that identified stress management and addiction beliefs as areas in need of help.Participants' attitudes and knowledge were also impacted by a family history of substance use. Research by Vendhan G et al. revealed similar trends, indicating that family substance use is a risk factor for young experimentation.22

The study emphasizes the need for increased outreach in metropolitan areas while highlighting the efficacy of mass media in spreading information. Ongoing awareness programs appear to have a greater impact in rural areas, as seen by the higher levels of concern and knowledge displayed by these people. Gender-sensitive methods are also required due to gender differences.

Recommendations

According to Mellanby AR et al., it is crucial to create school-based educational programs with interactive and peer-led learning methodologies in order to successfully manage substance misuse among high school students.16. Campaigns for targeted awareness should be created, concentrating on urban audiences through interactive platforms and rural populations through mass media. A helpful atmosphere can be created by eliminating stigma through workshops, family counseling, and support groups. To address differences in attitudes and concerns, gender-specific interventions should also be created. Long-term effects require a focus on early intervention techniques, such as early detection programs and preventive education, beginning at younger ages.

This study's huge sample size from both rural and urban locations, which allows for meaningful comparisons, is one of its merits. The reliability and validity of the results are increased by the use of validated questionnaires and ethical considerations. Nevertheless, the study's shortcomings include the exclusion of students with learning disabilities, which may have an impact on the findings' generalizability, and its cross-sectional design, which restricts causal inference. Furthermore, social desirability bias may have an impact on self-reported statistics.

Conclusion

The results of this study highlight the necessity of focused, gender-sensitive treatments as well as improved school-based initiatives that make use of peer-led strategies. Although mass media has been successful in increasing awareness, especially in rural regions, urban-focused tactics still require refinement.

It's crucial to dispel myths, encourage candid communication, and lessen stigma by involving families and the community. The implementation of evidence-based interventions to prevent substance addiction among adolescents and guarantee long-lasting beneficial outcomes can be facilitated by collaborative efforts between educational institutions, healthcare providers, and legislators.

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