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Adolescent Smoking Behaviour of Depok City Year 2024

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Abstract. Tobacco use remains a significant public health issue in Indonesia. Adolescents are considered capable of making their own decisions, including the choice to smoke. According to the Global Adult Tobacco Survey (GATS) 2021, the smoking prevalence in Indonesia is 33.5%, equivalent to 68.8 million people. This study aims to analyze the factors influencing smoking behavior among adolescents. The results of this study emphasize the importance of greater attention and action to smoking prevention efforts among adolescents, especially among males and those in the older age group. The interventions focused on health education and raising awareness of the dangers of smoking which need to be enhanced, as well as involving family and schools to create a supportive environment therefore the adolescents can make healthier decisions. Furthermore, these results can serve as a basis for the development of more effective policies to address the issue of smoking among adolescents in Indonesia. The research employed a descriptive quantitative method with a cross-sectional design. A total of 5,181 respondents were selected using simple random sampling, and data were collected using a questionnaire. The findings reveal that daily smoking behavior among adolescents is still relatively high, with 11.7% of respondents smoking every day. The majority of respondents were male (70.78%), with the largest age groups being 15 years (21.3%) and 14 years (20.6%). Bivariate analysis using the Chi-Square test indicated a significant relationship between smoking behavior and both age and gender, with a p-value of 0.000 ($p < 0.05$). These results suggest that male adolescents and older age groups are more likely to engage in smoking behavior than their counterparts.

Keywords: Health Education; Influencing Factors; Prevention Policies; Smoking Awareness; Smoking Behavior.

1. INTRODUCTION

According to the World Health Organization (WHO), the mortality rate attributable to smoking has reached 30%, equivalent to approximately 17.3 million deaths (Wawan & Dewi, 2010). This figure is projected to increase to 23.3 million deaths by 2030. The Global Burden of Disease study, as of November 2023, estimated that 8.7 million individuals died prematurely due to tobacco use. Of these, more than 7 million deaths were attributed to direct tobacco use, while the remaining 1.3 million were non-smokers who died as a result of exposure to secondhand smoke (Adit, 2002).

Tobacco use significantly increases the risk of several non-communicable diseases (NCDs), contributing to 59.6% of cases of cancer of the trachea, bronchi, and lungs; 59.3% of Chronic Obstructive Pulmonary Disease (COPD) cases; 28.6% of cardiovascular disease; 20.6% of Diabetes Mellitus (DM); and 19.7% of stroke cases (Wawan & Dewi, 2010; Ferdy et al., 2026). In high-income countries, smoking accounts for more than 70% of COPD cases. In low- and middle-income countries, household air pollution is responsible for 30–40% of COPD cases, with smoking contributing a comparable proportion. Individuals living with COPD are at elevated risk for developing lung cancer, cardiovascular disease, and type 2 diabetes. Moreover, tobacco smoke has a substantial impact on lung development in children, thereby

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increasing their risk of developing COPD later in life (Akmal et al., 2017; Rahmawati et al., 2025). In Indonesia, the prevalence of active smokers continues to rise.

According to the 2023 Indonesian Health Survey (*Survei Kesehatan Indonesia*/SKI) conducted by the Ministry of Health (Kementerian Kesehatan/Kemenkes), approximately 70 million individuals in Indonesia are active smokers, with 7.4% of them aged 10–18 years indicating a substantial proportion of children and adolescents (Al et al., 2023; Nugraheni & Haiya, 2025). The high prevalence of active smoking poses significant public health risks, not only to the smokers themselves but also to passive smokers who are exposed to secondhand smoke.

The 2021 Global Adult Tobacco Survey (GATS), conducted by the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC), reported that there are approximately 120 million passive smokers in Indonesia (Arikunto, 1988). Data from the Central Statistics Agency (BPS) in Depok indicated that 26.83% of the population aged 15 years and older are smokers, with an average consumption of 72 cigarettes per week. This high rate of tobacco use significantly increases the risk of secondhand smoke exposure for non-smokers in the surrounding environment.

The 2013 Basic Health Research (Riskesdas) survey reported that 36.3% of individuals aged over 15 years smoked or chewed tobacco, while the 2018 Riskesdas found a slight decrease to 33.8%. The 2023 SKI further revealed that the prevalence of smoking among individuals aged ≥10 years within the last month was 22.46%, with a regional prevalence of 27% in West Java. The majority of smokers are male, with active smoking among men reaching 43.8% (Aulia, 2015).

The prevalence of smoking among adolescents aged 10–18 years in Depok City has become a serious public health issue. According to a survey conducted by the Health Office of Depok City in 2022, the rate of adolescent smokers reached 13%, an increase from 10% in the previous year. In addition, the Depok Regional General Hospital (RSUD) recorded about 1,200 cases of respiratory diseases caused by smoking in 2022, an increase of 15% compared to 2021. Data shows that the prevalence of smoking among adolescents has increased by 2% to 3% per year over the past five years. These results indicate the need for more effective prevention strategies to reduce smoking rates while also raising health awareness among adolescents (Dinas Kesehatan Kota Depok, 2025).

In the context of age and gender distribution among teenage smokers, data from the Global Youth Tobacco Survey (GYTS) indicates an increase in smoking prevalence among Indonesian teenagers. According to the 2019 GYTS survey, about 29% of male adolescents

and 8% of female adolescents aged 13-15 reported having smoked at least once in their lifetime. Furthermore, the 2013 Basic Health Research (Riskesdas) recorded that 36.3% of individuals aged over 15 engaged in smoking or tobacco use, while the 2018 Riskesdas noted a slight decrease in this figure to 33.8%. The 2023 Indonesian Health Survey (SKI) shows that the prevalence of smoking among individuals aged ≥10 in the last month reached 22.46%, with the highest regional prevalence in West Java reaching 27%. The majority of smokers are male, with the proportion of active smokers among men reaching 43.8%. This data emphasizes the need for serious attention to the trend of smoking among teenagers, and urges the development of prevention and education efforts to reduce prevalence and health impacts (World Health Organization & Ministry of Health Republic of Indonesia, 2020).

The increasing consumption of cigarettes contributes significantly to rising socio-economic costs. These costs include not only direct expenditures on cigarettes but also healthcare costs associated with smoking-related illnesses and productivity losses due to smoking-related morbidity and premature mortality. Various empirical studies indicate that tobacco use is more prevalent among poorer populations (33.9%) compared to wealthier groups (34.4%). Research conducted by Kosen, as cited in Ghany (2021), estimated that tobacco-related expenditures in Indonesia in 2010 amounted to approximately 231.27 trillion rupiah. This figure includes 138 trillion rupiah spent on cigarette purchases, 2.11 trillion rupiah on inpatient and outpatient medical treatments, and 91.16 trillion rupiah in productivity losses due to premature death (Azwar, 2010).

Despite the health risks, smoking remains socially normalized in many parts of Indonesia. Smokers often regard smoking as a personal right, which may lead to defensiveness or confrontation when challenged. Although many smokers acknowledge the health hazards associated with smoking, a significant number remain unwilling or unable to quit due to addiction or social influences (Badan Kebijakan Pembangunan Kesehatan, 2023). Consequently, behavior that is widely recognized as harmful has been reinterpreted as socially acceptable and even pleasurable. Exposure to secondhand smoke is also commonly overlooked in Indonesia. According to the World Health Organization (WHO), passive smokers individuals who unintentionally inhale cigarette smoke from those around them are at substantial risk of developing serious health issues, including heart disease, lung cancer, and respiratory disorders, despite not actively smoking themselves (Badan Pusat Statistik, 2024). WHO further reports that only about 15% of cigarette smoke is directly inhaled by the smoker, with the remaining 85% dispersed into the surrounding air and potentially inhaled by others. According to the 2023 Health Service Report, the number of smoking-related disease cases in

Indonesia includes: asthma (5,769 cases), stroke (2,150), heart disease (19,066), cancer (636), lung cancer (116), and chronic obstructive pulmonary disease (COPD) (92 cases).

Adolescent smoking behavior remains a significant public health concern in Indonesia. The prevalence of smoking continues to rise, particularly among children and adolescents. According to the 2021 Global Adult Tobacco Survey, the number of adult smokers in Indonesia increased by 8.8 million over the span of a decade from 60.3 million in 2011 to 69.1 million in 2021. Alarmingly, in 2020, approximately 21 million adolescents aged 13–15 were reported to be smokers. Concurrently, the number of passive smokers has surged to 120 million people. These trends underscore the escalating public health threat posed by tobacco use, especially as the age of smoking initiation continues to decrease. Despite the well-documented dangers of smoking due to its content of addictive and toxic substances many teenagers remain drawn to cigarettes. This attraction is often reinforced by advertising that portrays smoking as desirable or sophisticated. Cigarettes are a major risk factor for non-communicable diseases (NCDs), including cancer, cardiovascular disease, and chronic obstructive pulmonary disease (COPD) (Agustina et al., 2024). Passive smokers are also at increased risk for a range of health complications and even premature death. The World Health Organization Akmal et al. (2017) reports that approximately 8 million people die annually from tobacco use, including 7 million active smokers and 1.3 million passive smokers. Research by Cao et al. (2015) indicates that passive smoking is associated with an elevated risk of various conditions, such as invasive meningococcal disease in children, cervical cancer, Neisseria meningitidis and Streptococcus pneumoniae carriage, lower respiratory infections in infancy, and food allergies (Global Health Metrics, 2020). Additionally, Yasmeen et al. (2022) found that pregnant women exposed to cigarette smoke were more likely to deliver infants with low birth weight (<2,500 grams).

Adolescence is a critical developmental stage during which identity and lifestyle habits are formed, making young people particularly susceptible to external influences. These include peer pressure, exposure to cigarette advertisements and promotions across various media, the family environment especially if family members smoke and adolescent curiosity and a desire for self-exploration. Lifestyle changes and social pressures also contribute to the increasing prevalence of smoking among youth. Early smoking initiation is especially concerning because of its long-term health consequences, such as respiratory disorders (e.g., bronchitis and asthma), decreased cognitive function affecting academic performance, nicotine addiction persisting into adulthood, and heightened risk of chronic diseases like lung cancer and heart disease (Simbar et al., 2025).

To address this issue, the government of Depok City enacted Regional Regulation No. 2 of 2020, amending Regulation No. 3 of 2014 on Smoke-Free Areas. A study conducted by the Health Department of Depok City in 2021 found that the implementation of this Regional Regulation has a significant impact on the smoking behavior of adolescents. The report noted that after the implementation of the regulation, there was a 5% decrease in smoking prevalence among adolescents within one year, compared to the previous period. Qualitative analysis in the report also showed that adolescents' awareness of the dangers of smoking and the importance of maintaining health has increased. In addition, the active role of the community and health education programs in schools were considered to positively contribute to this behavioral change. Thus, Regional Regulation No. 2/2020 has proven effective as a preventive measure against smoking among adolescents in Depok City.

This regulation is intended to support tobacco control efforts aimed at protecting children and adolescents from the dangers of smoking and secondhand smoke. Measures implemented include the designation of smoke-free zones in schools and public places, anti-smoking campaigns highlighting health risks, and restrictions on cigarette advertising and promotion particularly those targeting youth. However, the effectiveness of these initiatives remains limited, as evidenced by the persistently high prevalence of smoking among teenagers. Therefore, further research is needed such as surveys on smoking behavior among adolescents in Depok City to explore the relationship between youth smoking patterns and associated demographic and psychosocial factors. In the context of Erikson's development theory, which emphasizes the importance of psychosocial development stages throughout life, age and gender are chosen as the variables studied in smoking behavior because both affect identity, self-perception, and individual choices. During adolescence, individuals are at a developmental stage where they begin to form their identity and seek social affiliation, which is often influenced by peer pressure and gender norms. Additionally, there are significant differences in how males and females approach health risks, including smoking, which can be influenced by social, cultural, and biological factors. By understanding the dynamics of age and gender, we can identify and design more effective interventions to prevent smoking behavior and enhance health awareness among adolescents.

2. RESEARCH METHOD

This study employed a quantitative research design using a descriptive correlational approach with a cross-sectional study design. The independent variable was student characteristics, while the dependent variable was smoking behavior. In this study, the independent variables include student characteristics, namely: 1) Age: Indicates the age distribution of smoking students and its relationship with smoking behavior. 2) Gender: Allows for the analysis of differences in smoking behavior between males and females. 3) Type of Cigarette: Includes the use of conventional cigarettes, e-cigarettes, and other tobacco products to understand student preferences. 4) Smoking Frequency: Describes how often students smoke, whether daily, weekly, or monthly. 5) Age of First Smoking: Provides insight into when students first tried smoking. As dependent variables, smoking behavior is measured by the following indicators:1) Smoking Intensity: The number of cigarettes smoked by students in a certain period, such as per day or per week. 2) Smoking Frequency: How often students smoke, categorized into daily, weekly, or monthly. 3) Age When Starting to Smoke: Indicates the age when students first try smoking. 4) Duration of Smoking Habit: Measures how long students have been smoking, reflecting the extent to which they are exposed to this habit. 5) Social Context of Smoking: Situations in which students smoke, such as at home or with friends, which can influence their behavior. By combining student characteristics and smoking behavior indicators, this research aims to examine the relationship between individual factors and smoking habits among adolescents.

Both Variables were Measured and Collected Simultaneously

The study population consisted of all junior high school (or equivalent) and senior high school (or equivalent) students in Depok City held from November 19 to November 29, 2024, aged between 11 and 21 years. Using Slovin's formula to determine sample size, it was calculated based on the total population: 87,153 junior high school students and 70,564 senior high school students. The final sample size was 4,845 students. A stratified sampling technique was used, with stratification based on the 63 sub-districts in Depok City. From each sub-district, a selection of schools was randomly chosen to ensure proportional representation.

The analysis methods applied in this research are univariate and bivariate, utilizing SPSS to analyze the respondents' data. Univariate analysis provides an overview of the demographic characteristics of the respondents, most of whom are male aged between 14 and 15 years and have parents with a high school education. Meanwhile, bivariate analysis through the Chi-Square test reveals a significant relationship between smoking behavior and age ($p < 0.05$) and gender ($p < 0.05$).

However, no significant relationship was found between smoking behavior and knowledge about the dangers of smoking ($p = 0.230$). Conversely, a significant relationship exists with exposure to smokers in the school environment and sources of exposure at home ($p < 0.05$). Thus, this analysis provides meaningful insights into the factors influencing smoking behavior among adolescents and can serve as a foundation for developing more effective interventions and educational programs.

Data collection was conducted through direct interviews using a structured questioner, where validity and reliability testing were not carried out beforehand because the questionnaire was adopted from a smoking behavior survey on adolescents released by the Ministry of Health.

3. RESULT AND DISCUSSION

Univariate Analysis

Table 1. Distribution of Age, Sex, Cigarettes Consumption, and Type of Cigarettes.

Sex	Frequency (n)	Percentage (%)
Male	3667	70.8
Female	1514	29.2
Age		
11	5	.1
12	219	4.2
13	806	15.6
14	1067	20.6
15	1106	21.3
16	917	17.7
17	763	14.7
18	260	5.0
19	31	.6
20	6	.1
21	1	.0
Cigarettes Consumption		
< 12 sticks/day	696	40.8
> 12 sticks/day	345	20.2
< 12 sticks/week	426	25.0
> 12 sticks/week	240	14.1
Type of Cigarettes		
Conventional Cigarettes	1530	79.1
Electronic Cigarettes	213	11.0
Both	182	9.4
Others	10	.5

Based on Table 1, the majority of respondents in this study were male, accounting for 70.78%, while female respondents comprised 29.22%. This indicates that male participants were more prominently represented in the study. In terms of absolute numbers, out of a total of 5,181 respondents, 3,667 (70.8%) were male and 1,514 (29.2%) were female. Regarding age

distribution, respondents aged 15 years represented the largest group at 21.3%, followed by those aged 14 years at 20.6%, suggesting that participants aged 14–15 years were more involved in the study compared to younger participants, particularly those aged 11 years. Among the 1,707 respondents who reported smoking, 696 individuals (40.8%) smoked fewer than 12 cigarettes per day, while 345 respondents (20.2%) smoked more than 12 cigarettes per day. Additionally, 426 respondents (25%) reported smoking fewer than 12 cigarettes per week, whereas 240 individuals (14.1%) smoked more than 12 cigarettes per week. These findings suggest that the majority of smoking respondents consume fewer than 12 cigarettes per day, indicating lower daily cigarette intensity among most smokers.

Regarding the type of cigarettes used, data from 1,935 respondents show that conventional cigarettes were the most commonly used form, with 1,530 respondents (79.1%) reporting their use. Electronic cigarettes were the second most frequently used, reported by 213 respondents (11%). A further 182 respondents (9.4%) indicated using both conventional and electronic cigarettes, while 10 respondents (0.5%) reported using other types. These results indicate that conventional cigarettes remain the predominant form of tobacco consumption among the respondents (79,1%). The majority of respondents (79.1%) tend to prefer conventional cigarettes as the main form of tobacco consumption due to several factors. First, deeply rooted habits and traditions make the transition to alternative forms difficult. In addition, conventional cigarettes are easier to access and are usually more affordable compared to other tobacco products. Preferences for the taste and sensations offered, unclear perceptions regarding health risks, and social support from the immediate environment also contribute to this choice. A lack of knowledge about healthier alternatives also serves as a barrier for smokers to consider other products. Thus, this combination of factors explains why conventional cigarettes remain the primary choice for respondents in tobacco consumption.

Data analysis shows that there is a significant spike in smoking behavior at the ages of 14-15, which is a critical period when many teenagers begin to be exposed to and try smoking. Factors such as social pressure and peer influence contribute to this tendency. Furthermore, segment analysis of respondents indicates that daily smokers predominantly use conventional cigarettes, with a proportion exceeding 85%. In contrast, among occasional smokers, the use of electronic cigarettes is higher, reaching 15%. These findings suggest that daily smokers have a strong preference for conventional cigarettes, possibly due to established habits and better availability. Therefore, there is a need for more targeted preventive interventions for teenagers in this age range to reduce the increasing tendency to smoke.

Table 2. Smoking Behaviour Frequency.

Smoking Behaviour	Frequency (n)	Percentage (%)
Yes, Everyday	605	11.7
Yes, Occasionally	1018	19.6
Have tried smoking, even just one puff	1156	22.3
Do not smoke / have never tried smoking	2402	46.4
Total	5181	100.0

Based on the research findings from a total of 5,181 respondents, 2,042 individuals (46.4%) reported that they have never smoked or have never tried smoking. This group was followed by 1,156 respondents (22.3%) who indicated they had tried smoking, 1,018 respondents (19.6%) who reported occasional smoking, and 605 respondents (11.7%) who stated that they smoke daily. These results suggest that a significant proportion of respondents (46.4%) exhibit low-intensity smoking behavior, having never smoked. In contrast, daily smoking behavior was reported by 605 individuals, representing 11.7% of the total respondents.

Bivariate Analysis

Bivariate analysis is a statistical method used to examine the relationship between two variables. When both variables are categorical either nominal or ordinal the Chi-Square (χ^2) test is commonly employed to determine whether a statistically significant association exists between them.

Table 3. Chi-Square Result of Age and Smoking Behaviour.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	336.632a	33	.000
Likelihood Ratio	318.086	33	.000
Linear-by-Linear Association	157.601	1	.000
N of Valid Cases	5118		

a. 17 cells (35.4%) have expected count less than 5. The minimum expected count is .12

Based on Table 3, the results of the bivariate analysis using the Chi-Square test indicate a significant relationship between smoking behavior and the age of respondents. The Chi-Square test yielded a p-value of 0.000 ($p < 0.05$), demonstrating that the association between smoking behavior and age is statistically significant.

Table 4. Chi-Square Result of Age and Smoking Behaviour.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1102.623a	3	.000
Likelihood Ratio	1258.638	3	.000
Linear-by-Linear Association	986.507	1	.000
N of Valid Cases	5181		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 176.79.

Based on Table 4, the results of the bivariate analysis using the Chi-Square test indicate a significant relationship between smoking behavior and the gender of the respondents. The Chi-Square test produced a p-value of 0.000 ($p < 0.05$), indicating that the association between smoking behavior and gender is statistically significant.

Discussion

Smoking behavior is significantly associated with both age and gender. Univariate analysis showed that 70.8% of the respondents were male, while 29.2% were female, indicating a higher prevalence of smoking among male adolescents. In general, male adolescents tend to smoke more frequently than females. This finding is consistent with previous studies, such as Hoang (2019) and Taheri (2015), both of which reported a significant relationship between gender and smoking behavior.

Additionally, smoking behavior tends to increase with age. Several studies have found that the initiation of smoking typically occurs between the ages of 11 and 13, often driven by curiosity and influenced by the surrounding social environment including role models such as parents, family members, and peers. Once an individual tries a cigarette, the risk of developing an addiction increases. The prevalence of smoking escalates with age, and by age 15, a significant number of adolescents are reported to have already consumed cigarettes. Age is therefore a critical factor in understanding smoking behavior. During adolescence, individuals are in a phase of self-exploration and are highly influenced by their social environment, both positively and negatively, as they transition into adulthood.

Smoking, often perceived as a socially accepted behavior, is associated with various health risks and is a major factor contributing to non-communicable diseases (NCDs). Research has shown that most heavy smokers began smoking during adolescence, and it is rare for individuals to initiate heavy smoking in adulthood. Adolescents tend to exhibit strong curiosity and are more susceptible to external influences. Contributing factors include limited access to accurate information about the dangers of smoking, misconceptions regarding its effects, exposure to cigarette advertising, and peer pressure. The results of this study support these observations. Among the respondents, 696 individuals (40.8%) were classified as moderate smokers (<12 cigarettes per day), 426 individuals (25%) as light smokers (<12 cigarettes per week), and 345 individuals (20.2%) as heavy smokers (>12 cigarettes per day). Adolescent peer groups that promote smoking as a form of self-expression can foster a sense of indifference toward health risks. Often, the social environment downplays or ignores information about the dangers of smoking, reinforcing smoking behavior as socially acceptable within the group. In Depok City, the effectiveness of the Smoke-Free Area (KTR) program needs to be evaluated

to understand its impact on reducing smoking rates. Despite efforts to create a smoke-free environment, there are still various challenges, especially in terms of public awareness and compliance with these regulations. The urban environment in Depok, which provides easy access to cigarettes and is influenced by peers, can worsen this situation. On the other hand, prevention initiatives focusing on health education within schools and communities can help strengthen the positive outcomes of the KTR program. The evaluation results of the implementation of Regional Regulation No. 2 of 2020 regarding KTR show that although the prevalence of smoking among adolescents has decreased, there are still challenges in terms of compliance and social acceptance of the regulations. A study conducted by the Depok City Health Office noted that there was about a 5% decrease in the prevalence of smoking among teenagers after the implementation of this policy. However, to maximize the positive impact of smoke-free areas (KTR), continued efforts are needed to raise public awareness and strengthen law enforcement. Therefore, a more comprehensive approach becomes important to address the issue of smoking among teenagers in Depok.

Furthermore, smoking is still widely perceived as a symbol of maturity or masculinity, particularly among males. Research by Aliyah (2011) and Al-Zalabani & Kasim (2015) found that adolescents whose parents or family members smoke are more likely to become smokers themselves, with boys being 1.5 times more likely to start smoking during college age. According to Erikson's theory, adolescent smoking is linked to the psychosocial crisis of identity formation, during which individuals seek to define themselves. This developmental stage is often marked by a disconnect between psychological maturity and social expectations, leading some adolescents to adopt smoking as a form of self-affirmation. As Brigham (1991) noted, adolescent smoking behavior may be symbolic representing maturity, strength, leadership, or attractiveness to the opposite sex (Brigham, 1991). Although this research identifies the relationship between family influence and the perception of smoking as a symbol of maturity among adolescents, there are limitations in the approach taken, particularly regarding the lack of analysis of broader social and cultural variables as well as individual psychological dynamics. Therefore, it is recommended to conduct further research to gain a more comprehensive understanding of the factors influencing smoking behavior in adolescents (Barton et al., 1982).

4. CONCLUSION AND SUGGESTIONS

The prevalence of smoking among adolescent students in Depok City is 11.7%, with a significant majority being male and the highest proportion aged 15 years. Among those who smoke, 40.8% are considered moderate smokers. This study identified a significant relationship between smoking behavior and both age and gender. To effectively reduce smoking behavior among adolescents, several key strategies are recommended.

Firstly, enhancing education on the harmful effects of smoking is crucial. Comprehensive health education should be integrated into the school curriculum and extracurricular activities to raise awareness about the dangers of smoking. Additionally, providing accessible smoking cessation programs and counseling services will support adolescents who wish to quit. Secondly, the role of families and peer groups must be strengthened. Families and peers are vital in shaping adolescent behavior, and empowering these social units to provide positive reinforcement and discourage smoking is essential.

Third, enforcing stricter regulations on cigarette advertising is necessary, particularly in electronic media, which is a major source of exposure for adolescents. Public awareness campaigns should accompany these regulatory measures to educate communities about the risks of tobacco use. Moreover, smoking prevention strategies should adopt gender-sensitive approaches. Health education for male adolescents, who show a higher smoking prevalence, should emphasize the long-term risks of smoking, while campaigns for female adolescents should focus on dispelling myths and reinforcing protective behaviors. Lastly, schools must implement and monitor Smoke-Free School policies by conducting regular supervision, displaying no-smoking signage, and applying sanctions for violations. This will create a supportive environment that discourages smoking. Promoting anti-smoking campaigns within the school environment will not only raise awareness among students but also engage teachers and the broader school community in fostering a culture of health and prevention.

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