Cigarette smoking curiosity and its correlates among never-smoking US middle and high school adolescents: Analysis of the 2020 National Youth Tobacco Survey

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ABSTRACT

INTRODUCTION The tobacco epidemic is driven by the increasing number of adolescents and youths in the population of smokers. This study aimed to describe cigarette smoking curiosity and its correlates among US middle and high school adolescents that had never smoked using the 2020 National Youth Tobacco Survey.

METHODS A stratified, three-stage cluster sampling technique was used to enroll 14531 middle and high school students from 180 schools in the US. Cigarette smoking curiosity was measured using the dichotomized responses for the question on curiosity to smoke cigarettes. Data on respondents' perception of the harm contained in cigarettes, and sources of exposure to cigarette smoking (peer group or audiovisual) were also collected. Data analysis was done using STATA version 17. Stepwise and binary logistic regression analyses were conducted. Statistical significance was set at $p<0.05$.

RESULTS Overall, the mean age of the 14531 respondents was 14.31 ± 2.09 years, and the mean age of the 12837 (87.86%) respondents that had never smoked was 14.15 ± 2.06 years. Among the 12837 (87.86%) youths that had never smoked a cigarette, 1500 (11.68%) were curious about smoking a cigarette. Among the 1709 (54.72%) respondents in middle school, 796 (53.14%) had a cigarette smoking curiosity, and of the 1413 (45.28%) respondents in high school, 702 (46.86%) had a cigarette smoking curiosity ($\chi^2=2.921$; $p=0.047$). In the final model, youths enrolled in middle school had 21% fewer odds to develop a cigarette smoking curiosity compared to those in high school (AOR=0.7848; 95% CI: 0.7159–0.8604, $p<0.001$).

CONCLUSIONS There is a high prevalence of cigarette smoking curiosity among US middle and high school students. Anti-tobacco messages should be designed to include in smoking prevention programs, as well as smoking refusal skills training among adolescents.

INTRODUCTION

The use of cigarettes and other combustible tobacco products has been described as one of the leading causes of communicable diseases globally[1]. Variations exist in the prevalence of tobacco smoking across the regions of the World. While smoking prevalence is increasing in low-income and lower middle-income countries, it is declining in high income countries including the US[2,3]. Despite the declining trend, tobacco consumption remains a leading cause of mortality in the US since 1964[4,5]. The tobacco epidemic is driven by the increasing number of adolescents and youths in the population of smokers, with more than 2800 adolescents initiating smoking daily[1,3]. Nicotine addiction has been reported to be highest if smoking is commenced during teen age. Available evidence from literature has shown that exposure to smoking at an age of 11 years could increase one's susceptibility to smoking by up to three years or more[6].

Even when there are no plans to initiate smoking, curiosity still shows interest. Curiosity can cause impulsive conduct as well as attention to stimuli that are related to behavior, like advertising[7,8]. It has been established across literature that adolescents who do not express conviction and commitment against future cigarette smoking are more susceptible to initiate smoking compared to their

counterparts with conviction[7-10]. Therefore, curiosity may act as a precursor to experimentation and established use in young people who may otherwise be susceptible to smoking cigarettes. During a 6-year follow-up period, adolescents who were curious about cigarettes had roughly a 3-fold higher risk of increased susceptibility or smoking experimentation than those who were not[8].

Many other factors have been reported to influence cigarette smoking intention, and these include the perceived risk associated with nicotine consumption, perceived benefits of tobacco, exposure to tobacco products through family and peer groups, exposure to smoking within school premises, and exposure to tobacco advertisements[5,9-12]. The theory of planned behavior elucidates that behavior is an outcome of the intention to engage in such behavior and the perceived control an individual demonstrates over the behavior. Although intention and actual behavioral intention may not always exhibit a perfect relationship, the intention is often used as a proxy for actual behavior in many instances[6]. Adolescents and youths in the US are particularly at high risk for initiating cigarette smoking in the future[2,3].

Many studies have described the pattern and behavioral intention to initiate the use of a variety of tobacco products among adolescents and youths in the US using the previous data published by the National Youth Tobacco Survey (NYTS). However, there exists a paucity of literature on cigarette smoking intention among this population using recent data available from the 2020 NYTS, and this study attempts to bridge this gap in the literature. A study in this regard is important to develop effective interventions targeted at adolescents during the pre-cigarette smoking initiation stage to reduce the prevalence of cigarettes during adolescence as well as smoking-related complications during adulthood. This study, therefore, aimed to describe cigarette smoking curiosity and its correlates among US middle and high school adolescents that had never smoked, using the 2020 NYTS.

METHODS

Study design and setting

A descriptive cross-sectional study was conducted. This study utilized the data collected in the 2020 NYTS in the US[13]. The US consists of a highly diverse population, with a good mix of racial, ethnic, and cultural groups[14]. Population groups living in the US include but are not limited to the following: Hispanics, Africans, African American, American Indians, Aleuts, and Eskimos[14].

Selection and description of participants

The NYTS was conducted among a representative sample of currently enrolled middle and high school students in the 50 states of the US and the District of Columbia. A stratified, three-stage cluster sampling technique was used to enroll the respondents. The sampling technique was probabilistic, and sampling was conducted without replacement at all stages. In stage one, stratification of primary sampling units (counties, portion of counties, or group of counties) into urban and non-urban areas was done using aggregate school population in specified grades (100 counties or groups of counties). In stage two, secondary sampling units (defined as schools) in each primary sampling unit were stratified into small, medium, and large subgroups, as well as high school versus middle school (240 large schools, 50 medium schools, and 30 small groups). In stage three, the enrolled classes constituted the primary sampling unit. At this stage, two classes were selected per grade in 50% of each large school, while one class was selected per grade in other school groups[13].

Sample size

Overall, a total of 14531 students from 180 schools participated in the survey. The total sample size was representative in terms of minimal potential bias and variances. The final sample comprised 361 schools; 180 participated before the commencement of school closures, thus yielding nearly a 50% school participation rate. Of the 16634 students enrolled in the participating schools, a total of 14531 questionnaires were completed, thus yielding a completeness rate of 87.4%[13]. Ethical approval was not required since this study utilized secondary data. However, the NYTS was conducted in line with the Declaration of Helsinki[13].

Data collection

Data collection commenced on the 16 January 2020 and was expected to span till 15 May 2020. However, survey administration was concluded on the 16 March 2020 due to nationwide school closures necessary to halt the transmission of SARS-CoV-2. Data collection was conducted electronically, using a programmed survey application on tablets provided to participants, and lasted 35–45 minutes. Complementary surveys were organized for students and classes that were unable to participate in the initial data collection[13].

Data collection instrument

As with previously completed surveys, the 2020 NYTS collected data on key short-term, intermediate, as well as long-term tobacco prevention and control outcome indicators. The data collection instrument for the 2020 NYTS was made up of 117 questions. The questionnaire had two sections. In section A, information on respondents' sociodemographic characteristics (age, sex, grade, and ethnicity) was obtained. Section B covered specific areas on the prevalence of use of tobacco products (cigarette, e-cigarette, shisha, etc.), knowledge and attitude towards tobacco use, exposure to media content and advertisement promoting or dissuading tobacco use, access to tobacco products among minors, nicotine dependence, tobacco cessation attempts, exposure to secondhand smoke, perceptions of the harm in tobacco use, exposure to tobacco product-related warnings, as well as tobacco use prevention strategies in the school curricula[13].

Study measures and variables

Since the present study was focused on cigarette smoking, only questions related to tobacco smoking were included in the analysis. The measures used in the study included are as follows.

Categorization into grades

Respondents who belonged to grades 6–8 were categorized as 'middle school' students, while those who belonged to grades 9, 10, 11, 12, or ungraded classes, were designated 'high school' students.

Smoking status

One question was used to determine respondents' smoking status: 'Have you ever smoked a cigarette, even one or two puffs?' with response dichotomized into 'yes' or 'no'. All adolescents who selected the option 'no' were defined as 'never smokers', while those who selected the option 'yes' were defined as 'ever smokers'.

Cigarette smoking curiosity

This was measured using the question on curiosity about smoking a cigarette (question 31) with responses: 'definitely not', 'probably not', 'probably yes', and 'definitely yes'. Answers were thereafter dichotomized into 'yes' (combining 'definitely yes', 'probably yes', and 'probably not', and 'no' implying 'definitely not'. 'Probably yes' and 'probably not' were included in the coded 'yes' category because they carried a degree of likelihood that they were curious to smoke a cigarette.

Perception of the harm contained in cigarettes

For the question 'How strongly do you agree that all tobacco products are dangerous?', responses were arranged in four categories: strongly agree, agree, disagree, and strongly disagree. Each category was placed in the closest dichotomized code. Thus, 'strongly agree' and 'agree' were placed in the 'strongly agree' code, while 'disagree' and 'strongly disagree' were placed in the 'strongly disagree' code.

Peer-group exposure to cigarette smoking

For the question 'If one of your best friends were to offer you a cigarette, would you smoke it?', all respondents that selected 'definitely yes', 'probably yes', or 'probably not' implied 'yes', while the option 'definitely not' implied 'no'. 'Probably yes' and 'probably not' were included in the coded 'yes' category because they carried a degree of likelihood that they were curious to smoke a cigarette.

Audiovisual exposure to cigarettes

Audiovisual exposure to cigarettes was defined as exposure to ads or promotions for cigarettes or other tobacco products on either television or streaming services, or at a supermarket, gas station, or convenience store, while print media exposure to cigarettes was defined as exposure to ads or promotions for cigarettes or other tobacco products in newspapers and magazines.

Statistical analysis

A weighting factor was applied to the response obtained from each student to adjust for non-response. To ensure national representatives, weights were thereafter adjusted. Data analysis was done using STATA version 17[15]. Descriptive statistics were summarized using frequencies and weighted percentages. Bivariate analyses were conducted to determine the association between cigarette smoking curiosity as well as tobacco smoking exposure-related characteristics and sociodemographic characteristics of the survey respondents. Stepwise binary logistic regression analyses were conducted on statistically significant variables at the bivariate level to determine the best predictors of cigarette smoking curiosity among the survey participants. Statistical significance was set at $p<0.05$.

RESULTS

Overall, the mean age of the 14531 respondents was 14.3 ± 2.1 years.

The mean age of the 12837 (87.86%) respondents that had never smoked was 14.15 ± 2.06 years. Among them, 5701 (43.86%) were belonged to the 13–15 years age group, while 3758 (32.28%) belonged to the ≥16 years age group. In total, 7153 (50.50%) respondents were males, while 7339 (49.20%) were females. Among the population that had never smoked cigarettes, 6291 (50.24%) were males, and

Table 1. Sociodemographic characteristics of youths that had never smoked cigarettes in the 2020 National Youth Tobacco Survey in the United States (N=12837)

Characteristics	n	%*
Age (years)		
9–12	3353	23.66
13–15	5701	43.86
≥16	3758	32.28
Sex		
Male	6291	50.24
Female	6516	49.52
Grade		
Middle school	6601	46.62
High school	6227	53.31
Race		
Mexican/Mexican American/ Chicano/ Chicana	2070	13.85
Hispanic/Latino/Latina/Spanish	1523	10.90
Other (Puerto Rican and Cuban)	507	3.43

*Totals in each category do not sum up to 12837 (100%) due to non-response; 25 (0.20%) youths did not provide their ages, 30 (0.24%) did not provide their sex, 9 (0.07%) did not state their grade, and 8737 (71.81%) did not state their race.

6227 (53.31%) belonged to high school (Table 1).

Among the 12837 (87.9%) interviewed youths that had never smoked a cigarette, 1500 (11.68%) were curious about smoking a cigarette. Among them, 354 (23.60%) were curious about smoking soon only, while 1146 (76.40%) were curious about smoking.

Table 2 shows the association between cigarette smoking curiosity and cigarette smoking exposure-related characteristics among the surveyed youths. Overall, 3126 youths responded to the question on curiosity to smoke a cigarette. In all, 782 (52.31%) males were curious about smoking a cigarette compared to 713 (47.69%) females ($\chi2$=5.946, p=0.015). Also, 796 (53.14%) youths enrolled in middle school were curious about smoking a cigarette compared to 702 (46.86%) youths enrolled in high school ($\chi2$=2.921, p=0.047). Among the 1265 (40.7%) youths that had gained exposure to cigarette via print media, 644 (42.93%) were curious about smoking a cigarette. Among the 1861 (59.73%) youths with no exposure to cigarette via print media, 856 (57.07%) were curious about smoking a cigarette ($\chi2$=7.281, p=0.004).

Table 3 shows the predictors of cigarette smoking intention among the interviewed respondents. In the final model, youths enrolled in middle school had 21% fewer odds to be curious to smoke a cigarette compared to those in high school (AOR=0.79; 95% CI: 0.72–0.86, p<0.001). Youths that had exposure to cigarettes via print media had 21% higher odds to be curious to smoke a cigarette compared to their counterparts with no print media exposure to cigarettes (AOR=1.2; 95% CI: 1.10–1.32, p<0.001).

Table 2. Association between curiosity to smoke cigarettes and cigarette smoking exposure-related characteristics among respondents in the 2020 National Youth Tobacco Survey in the United States

Characteristics	Curious to smoke cigarettes			χ^2	p
	Yes	No	Total		
	n (%)	n (%)	n (%)		
Sex					
Male	782 (52.31)	779 (47.94)	1561 (50.03)	5.946	**0.015**[a]
Female	713 (47.69)	846 (52.06)	1559 (49.97)		
Grade					
Middle school	796 (53.14)	913 (56.18)	1709 (54.72)	2.921	**0.047**[b]
High school	702 (46.86)	712 (43.82)	1414 (45.28)		
Race					
Mexican/Mexican American/ Chicano/ Chicana	325 (52.93)	244 (48.51)	520 (48.69)	2.2162	0.328[b]
Hispanic/Latino/Latina/Spanish	220 (35.83)	195 (38.77)	415 (38.86)		
Other (Puerto Rican and Cuban)	69 (11.24)	64 (12.72)	133 (12.45)		
If one of your best friends were to offer you a cigarette, would you smoke it?					
Yes	1115 (74.53)	271 (16.63)	1386 (43.90)	1100.000	**<0.001**[a]
No	381 (25.47)	1,359 (83.37)	1740 (56.10)		
How strongly do you agree that all tobacco products are dangerous?					
Strongly agree	1187 (79.13)	1474 (90.65)	2661 (85.22)	81.752	**<0.001**[b]
Strongly disagree	313 (20.87)	152 (9.35)	465 (14.78)		
Audiovisual exposure to cigarettes					
Yes	1435 (95.67)	1566 (96.31)	3001 (95.87)	0.8411	0.204[a]
No	65 (4.33)	60 (3.69)	125 (4.03)		
Print media exposure to cigarettes					
Yes	644 (42.93)	621 (38.19)	1265 (40.27)	7.281	**0.004**[b]
No	856 (57.07)	1005 (61.81)	1861 (59.73)		

a Chi-squared test. b Fisher's exact test.

Table 3. Logistic regression models showing the predictors of curiosity to smoke cigarettes among respondents in the 2020 National Youth Tobacco Survey in the United States

Variables		Model 1			Model 2		
		AOR	95% CI	p	AOR	95% CI	p
Sex	Male	0.9686	0.8838–1.0616	0.495			
	Female (Ref.)	1					
Grade	Middle school	0.7843	0.7153–0.8590	**<0.001**[a]	0.7848	0.7159–0.8604	**<0.001**[a]
	High school (Ref.)	1			1		
If one of your best friends were to offer you a cigarette, would you smoke it?	Yes (Ref.)	1			1		
	No	0.0764	0.0683–0.0855	**<0.001**[a]	0.0759	0.0679–0.0849	**<0.001**[a]
How strongly do you agree that all tobacco products are dangerous?	Strongly agree (Ref.)	1					
	Strongly disagree	1.0573	0.9170–1.2190	0.443			
Print media exposure to cigarettes	Yes	1.2047	1.0961–1.3241	**<0.001**[a]	1.2056	1.0973–1.3245	**<0.001**[a]
	No (Ref.)	1			1		
Model performance		AIC=11794.22 BIC=11838.94 R^2=0.1687 Log likelihood= -5891.11		**<0.001**[a]	AIC=11791.34 BIC=11821.15 R^2=0.1686 Log likelihood= -5891.67		**<0.001**[a]

a Statistically significant. AOR: adjusted odds ratio.

DISCUSSION

Findings from this study revealed that 11.5% of youths in the US had ever smoked cigarettes. This proportion is less than the prevalence (30.5%) reported in a study conducted among middle and high school students in the main urban areas of Chongqing in China, but lower than the 6.6% reported in a cross-sectional study conducted among 16500 junior high school students in Shanghai[16,17]. From this study, the prevalence of cigarette smoking curiosity was found to be 10.3%, with 76.4% of respondents intending to initiate smoking in the next year. This finding highlights the inclination towards smoking initiation among adolescents and youths. The prevalence of smoking curiosity in this study is similar to the findings of studies conducted in Malaysia (10.7%)[18], but lower than the prevalence of smoking curiosity and intention reported in the 2015 Global Youth Tobacco Survey in the Philippines and Turkey (25% and 16.2%, respectively)[6,19]. A likely explanation for the differences in the prevalence of smoking curiosity is the differences in the age group and sex ratio of the respondents, as well as the differences in cultural and geographical contexts.

In this study, we found that youths enrolled in high school are at higher odds to have cigarette smoking curiosity compared to those enrolled in middle school. This is likely because high school students are older and are more likely to engage in risky behavior compared to middle school students that belong to a younger age group. It has been reported in the literature that risk-taking behavior is associated with both smoking stages and worsening smoking patterns[7,20], especially among older adolescents. A likely explanation for this finding could be due to the exposure of nearly 96% of adolescents to audiovisual sources of information on cigarettes. Therefore, it is evident that broadcasting tobacco-related information across audiovisual channels may encourage adolescents and youths to try these products. With no significant difference found regarding cigarette smoking curiosity among males and females, similar programs and policies for structuring tobacco-related information as an 'adults-only content' should be initiated for both sexes.

In addition, youths with a poor harm-perception of the danger posed by tobacco products had higher odds of smoking curiosity compared to those with good harm-perception. This finding elucidates that young people are likely to underestimate the harm associated with cigarette consumption, the risk of addiction to nicotine, as well as an underestimation of the health and economic consequences of smoking in the long run[6,21]. Poor perception of the harm associated with cigarette smoking could again be due to the wrong information provided to both ever smokers and never smokers[21]. This could be because of the distorted and/or incomplete information provided by the tobacco industry. Not only does the tobacco industry conceal details on the

health benefits of tobacco use, but also many opportunities are also used to promote the safety of their products among the young population[21]. The long period between the period when smoking is initiated and the onset of illness, obscures the direct link between smoking and cardiovascular diseases compared to other risk behaviors with almost immediate evident effects.

This study revealed peer pressure (evident through acceptance of a cigarette if offered by a friend) and exposure to cigarettes via audiovisual and print media as important predictors of cigarette smoking curiosity. In fact, nearly all the interviewed youths had been exposed to cigarettes via audiovisual media, and nearly 43% had been exposed to cigarettes via print media. The World Health Organization necessitates the inclusion of text warnings on the lower 30% of every cigarette pack only[22], and in other places tobacco adverts are often concluded with the statement 'Smokers are liable to die prematurely'[23]; the dangers of tobacco smoking need to be reinforced among youths and in school settings to improve the health condition of middle and high school students.

Limitations

The NYTS was a cross-sectional survey, thus temporality of the association between cigarette smoking and smoking curiosity among youths could not be determined[15]. The present study investigated cigarette smoking intention among only youths that had never smoked cigarettes in the US, thus the results may not be generalizable to those that have ever smoked cigarettes or youths that have withdrawn from cigarette smoking (who are also likely to initiate smoking in the future).

CONCLUSIONS

Considering that the intention to smoke cigarettes is a noteworthy predictor of the consumption of cigarettes and other tobacco products among adolescents, it is essential to further reduce the prevalence of intention to initiate smoking. Factors that are likely to promote cigarette smoking intention such as poor perception of the harm contained in tobacco products, peer pressure, and environmental exposures to cigarettes through audiovisual and print media, need to be researched and useful interventions undertaken. Firstly, media advocacy and school courses should be expanded to include smoking prevention programs, as well as smoking refusal skills training among adolescents. To promote adolescent and young people's health in the US, the promotion of anti-tobacco messages across audiovisual and print media platforms (radio, television, billboards, magazines, posters, movies, and the internet) needs some consideration. It is also important that public health messages are designed to intensify information on the risks associated with cigarette consumption.

REFERENCES

1. Osuh ME, Fagbule OF, Olatunji YD. Prevalence and predictors of susceptibility and future intention to smoke cigarettes among school-going adolescents in Ibadan, Nigeria. Pan Afr Med J. 2020;37:230. doi:10.11604/pamj.2020.37.230.24174
2. U.S. Department of Health and Human Services. Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2012. Accessed September 23, 2022. https://www.ncbi.nlm.nih.gov/books/NBK99237/pdf/Bookshelf_NBK99237.pdf
3. Bunnell RE, Agaku IT, Arrazola RA, et al. Intentions to Smoke Cigarettes Among Never-Smoking US Middle and High School Electronic Cigarette Users: National Youth Tobacco Survey, 2011–2013. Nicotine Tob Res. 2015;17(2):228-235. doi:10.1093/ntr/ntu166
4. U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014. Accessed April 20, 2014. https://www.ncbi.nlm.nih.gov/books/NBK179276/pdf/Bookshelf_NBK179276.pdf
5. Patiño-Masó J, Font-Mayolas S, Salamó A, Arboix M, Sullman MJ, Gras ME. Predictors of intentions to use cigarettes and electronic-cigarettes among high school students. J Multidiscip Healthc. 2019;12:591-599. doi:10.2147/JMDH.S208031
6. Tamayo R LJ. Factors associated with the intention to continue using tobacco among adolescents: A secondary analysis of the 2015 Global Youth Tobacco Survey in the Philippines. Popul Med. 2021;3(November):1-6. doi:10.18332/popmed/143526
7. Mohammadpoorasl A, Nedjat S, Yazdani K, Fakhari A, Foroushani AR, Fotouhi A. Intention to Start Smoking and its Related Factors in Never Smoked Adolescents in Tabriz, 2010. Int J Prev Med. 2012;3(12):880-886. doi:10.4103/2008-7802.104860
8. Kremers SPJ, de Vries H, Mudde AN, Candel M. Motivational stages of adolescent smoking initiation: predictive validity and predictors of transitions. Addict Behav. 2004;29(4):781-789. doi:10.1016/j.addbeh.2004.02.007
9. Babatunde LS, Babatunde OT, Oladeji SM, Ashipa T. Prevalence and determinants of susceptibility to cigarette smoking among non-smoking senior secondary school students in Ilorin, North Central Nigeria. Int J Adolesc Med Health. 2018;30(5):20160099. doi:10.1515/ijamh-2016-0099
10. Odukoya OO, Odeyemi KA, Oyeyemi AS, Upadhyay RP. Determinants of Smoking Initiation and Susceptibility to Future Smoking among School-Going Adolescents in Lagos State, Nigeria. Asian Pac J Cancer Prev. 2013;14(3):1747-1753. doi:10.7314/apjcp.2013.14.3.1747
11. Aryal UR, Bhatta DN. Smoking Susceptibility and Intention

to Smoke among Secondary School Adolescents in Nepal. J Nepal Health Res Counc. 2015;13(29):26-30. Accessed September 23, 2022. https://www.researchgate.net/publication/305406536_Smoking_Susceptibility_and_Intention_to_Smoke_among_Secondary_School_Adolescents_in_Nepal
12. Ra JS, Cho YH. Psychosocial Factors Associated With Smoking Intention in Korean Male Middle School Students. J Sch Nurs. 2017;33(5):355-363. doi:10.1177/1059840516671782
13. National Youth Tobacco Survey (NYTS). Centers for Disease Control and Prevention. Updated March 14, 2022. Accessed April 1, 2022. https://www.cdc.gov/tobacco/data_statistics/surveys/nyts/index.htm
14. United States. Britannica. October 26, 1998. Updated October 9, 2022. Accessed April 1, 2022. https://www.britannica.com/place/United-States
15. StataCorp. Stata Statistical Software: Release 17. StataCorp LLC; 2021. Accessed September 23, 2022. http://www.stata.com/
16. Xu X, Chen C, Abdullah AS, et al. Smoking related attitudes, motives, and behaviors of male secondary school students in an urban setting of China. Springerplus. 2016;5(1):2021. doi:10.1186/s40064-016-3694-z
17. Ertas N. Factors associated with stages of cigarette smoking among Turkish youth. Eur J Public Health. 2007;17(2):155–161. doi:10.1093/eurpub/ckl095
18. Hock LK, Ghazali SM, Cheong KC, et al. Prevalence and Factors Associated with Smoking Intentions among Non-smoking and Smoking Adolescents in Kota Tinggi, Johor, Malaysia. Asian Pac J Cancer Prev. 2014;15(10):4359-4366. doi:10.7314/apjcp.2014.15.10.4359
19. Wu Y, Fan H, Guo Z, Wei L. Factors Associated With Smoking Intentions Among Chinese College Students. Am J Mens Health. 2019;13(1). doi:10.1177/1557988318818285
20. Mohammadpoorasl A, Fakhari A, Shamsipour M, Rostami F, Rashidian H. Transitions between the stages of smoking in Iranian adolescents. Prev Med. 2011;52(2):136-138. doi:10.1016/j.ypmed.2010.11.024
21. Jha P, Chaloupka FJ, eds. Tobacco control in developing countries. Oxford University Press; 2000. Accessed 25 May 2021. https://documents1.worldbank.org/curated/en/602821468330954036/pdf/709670WP0tobac00Box370064B00PUBLIC0.pdf
22. World Health Organization. WHO Framework Convention on Tobacco Control. World Health Organization; 2005. Accessed 25 May 2021. http://apps.who.int/iris/bitstream/handle/10665/42811/9241591013.pdf
23. U.S. Department of Health and Human Services. National Health and Nutrition Examination Survey: NHANES III (1988-1994). Centers for Disease Control and Prevention. Accessed September 23, 2022. https://wwwn.cdc.gov/nchs/nhanes/nhanes3/default.aspx

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OSI and AAA contributed equally to the conceptualization, analysis, and writing of the manuscript. Both authors approved the final version of the manuscript.

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