



Research Article:

Smoking Behaviors and Related Factors Among Secondary School Students in Duhok City

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Abstract

Background: The use of tobacco products among adolescents is a global health concern with reduced available information about the driving cause enhancing smoking in school-age adolescents and the synchronised role of friends, school, and parents in initiating the adolescent quitting. **Aim:** This study aims to examine smoking behaviours, beliefs, knowledge, and attitudes among male secondary school students in Duhok City (Iraq). **Methods:** A descriptive study of 420 students was conducted from October to December 2022. A cluster stratified systematic random sample was used. **Results:** The smoking frequency was 36.4%. Most students had a moderate level of knowledge regarding smoking's harms. Attitudes ranged from neutral to negative regarding smoking's health and social impacts. Smoking behaviours are prevalent among these students, but knowledge deficits and social norms sustain this behaviour. Student attitude revealed that there are agreement (>50%, $p < 0.05$) that once a person start smoking, it will become hard to quit with variation in response. Most of the student (>50%, $p < 0.05$) are against smoking quit-campaign and they confirm that they will smoke regardless of their parent smoking status. **Conclusion:** Secondary school student have negative belief and awareness regarding smoking which eventually results in bad awareness for smoking. Effective school-based education programs are needed to address students' inaccurate beliefs, change social norms, and prevent smoking initiation. Tailoring such programs to address local cultural contexts may improve their effectiveness in reducing adolescent smoking rates.

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1. Introduction

Tobacco use is a global health crisis, responsible for over 8 million deaths per year (1). Over 80% (or 1.3 billion) of the world's tobacco users live in low and middle-income countries including Iraq (2,3). Tobacco kills up to half of its users, causing cancers, heart disease, chronic lung diseases, stroke, and other major health conditions (4,5). Most adult smokers initiate smoking as adolescents. Those who start smoking earlier in adolescence are more likely to develop severe nicotine addiction and have greater difficulty

quitting later in life (6,7). Preventing smoking initiation in youth is critical to reduce tobacco's global death toll over future decades (8).

Iraq faces high tobacco usage rates (9). The World Health Organization (WHO) report in 2021, estimated 18.5% of Iraq's population currently uses tobacco products. Smoking frequency is higher among Iraqi men (31%) than women (4%) (10-13). Smoking rates are lower in Iraq's Kurdistan region but remain problematic, with rates of 25% for men and nearly 3% for women (12,13). Iraqi people smoke on average a total of 1200 cigarettes per year. Weak enforcement of Iraq's 2012 national anti-smoking legislation allows smoking to persist in prohibited public indoor areas like restaurants, malls, and government buildings (14,15). A tobacco-related death occurs every 20 minutes in Iraq. An estimated 2 billion Iraqi dinars (\$1.37 million USD) are spent daily on tobacco products. This high level of tobacco consumption causes preventable disease burdens for Iraqi society and drains economic resources (16).

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Research on the underlying factors driving Iraq's tobacco epidemic is limited but growing. Several recent studies have examined smoking rates and influencing factors among university students in various Iraqi regions. Two Iraqi studies of university students, found 23.5% smoked cigarettes and nearly one quarter smoked waterpipe (Hookah) tobacco from shisha pipes, with higher rates among men (17,18). Another study of 17-19 year old youth in Erbil, Iraq found 27.6% smoked cigarettes and 23.6% smoked water pipe (19). Depression, anxiety, instability from years of war, and changing social norms appear responsible for Iraq's rising youth tobacco usage (20). However, far less research has focused on tobacco use among younger adolescents at the critical ages where smoking habits often form.

This research helps fill that knowledge gap by investigating the smoking behaviours, knowledge, beliefs and influencing factors among male secondary school students in Duhok, Iraq, assessing rates and social norms in this high-risk demographic subgroup. Smoking usually begins during adolescence, so teenagers are an important target population for anti-smoking efforts (21,22). Peers strongly influence youth smoking behaviours, with uptake often linked to having friends or parents who smoke (23). Various genetic, social, economic, and environmental factors also contribute to smoking risk among youth and young adults (24,25). Research is needed to understand the contexts shaping adolescent tobacco use in Iraq's complex cultural setting in order to inform youth-focused educational and policy strategies for reducing smoking initiation in this vulnerable population.

2. Materials and Methods

2.1. Study Design

This descriptive study examined smoking behaviours and influencing factors among male secondary school students in Duhok, Iraq using a quantitative cross-sectional survey methodology. Data was gathered from October to December 2022. The study was approved by the Nursing Department and Directorates of Duhok Education prior to data collection. The study is registered and approved by ethical committee in polytechnic university [Approval letter 4-8-06052021 on 06.08.2021] and consent to perform the study in the schools was approved by localised authorities of the Duhok school directorate [Approval letter 14903 on 27.11.2022].

2.2. Settings

The study took place at governmental all-male secondary schools located in Duhok City in the Kurdistan region (Iraq) during the 2022-2023 academic year. Schools operate 6 days per week for up to 8 hours per day serving male students aged 15-18 years in grades 10-12.

2.3. Sampling

A probability sampling strategy was utilized. First, all approved government secondary schools for males in Duhok city (N=63) were separated into two strata by geographical district (Eastern and Western). Next, cluster sampling selected 8 schools at random from each stratum to include in the study, yielding a total selected cluster of 16 schools. From each school, 24 students were systematically selected at random from official enrolment records for participation, including 8 students from each of the three grade levels (12 total students per grade per school). This cluster stratified systematic random sampling approach generated the target sample of 420 male students aged 15-18 years old.

2.4. Instrument

Participants completed an anonymous 52-item paper-based English questionnaire (Explained step-by-step for participants during interview). The first section captured demographic data on factors like age, grade, family size/structure, parents' occupation, socioeconomic status, residential area, smoking status, and problems facing the student. The second section assessed smoking-related knowledge via true/false, yes/no and multiple choice questions adapted from previous research (26). Topics included tobacco's health consequences, contents, addiction potential, and laws. Each knowledge item was scored 0 for incorrect or 1 point for correct, yielding total knowledge scores from 0 to 26 points. The smoking knowledge assessment included 26 true/false and multiple choice items on consequences, contents, addiction, risks, and tobacco policies. Items were scored 0 points for incorrect or 1 point correct, allowing total scores ranging from 13 to 26 points. Per Table 4, actual knowledge was categorized as Poor (13-15 points), Acceptable (16-18 points), Moderate (19-21 points), Good (22-24 points), or High (25-26 points) based directly on participants' composite scores.

The third section examined personal beliefs and attitudes toward smoking using a 5-point Likert scale ranging from "strongly disagree" (1 point) to "strongly agree" (5 points) across 18 belief statements grounded in the Theory of Reasoned Action (27). Statements covered perceived norms, risks, benefits, and intentions toward smoking. Item ratings were averaged to compute overall attitude scores ranging from 1 to 5, with higher scores indicating more positive views toward smoking. Additional questions asked whether participants currently smoked cigarettes (yes/no) and whether parents/friends/teachers smoked (yes/no).

The instrument was reproduced with slight amendments by adapting items used successfully in previous youth smoking research (26) and refined through review of scholarly literature on factors empirically linked to adolescent smoking behaviours across cultural settings. Content validity was established through expert review by university nursing faculty. The reliability test calculated as per previously published methodology conducted by Vichit-Vadakan et al. (2004) and the reliability value was 0.73 which is generally acceptable value (28).

2.5. Data Collection

The questionnaire was administered at participating schools via direct face-to-face interviews by the researchers from late October through December 2022 during regular school hours. Interviews occurred in empty classrooms or administrative offices to enable privacy. Standardized verbal instructions on procedures for completing the questionnaire were provided. Students were informed that participation was voluntary and anonymous with no impact on academic standing, and the data was for research purposes only. Completion time ranged from 25-40 minutes. All students invited to participate did so, yielding 420 completed surveys. This 100% response rate removed risks of non-response bias. Responses were recorded directly onto paper forms. Dropout control was based on the early agreement of participant in the study and the interview only took short time.

2.6. Data Analysis

Anonymous questionnaire data was entered into SPSS Statistics version 27 for analysis. Frequencies and percentages summarized sample characteristics and smoking frequency. Descriptive statistics like means and standard deviations described overall knowledge levels and attitudes/beliefs toward smoking within the sample. A scoring rubric categorized individual knowledge scores as poor, acceptable, moderate, good or high based on numeric cut-off points. Similarly, attitude/belief scores were classified as insignificant, significant or highly significant based on cut points for mean values from the 5-point Likert scale. The mean of scores calculation cut-off was used to compare the total of students' beliefs and attitudes towards smoking behaviors as non-significant (1 – 2.30), significant (2.31 – 3.70), and highly significant (3.71 – 5). Differences in smoking rates and influencing factors like parental smoking, peer smoking, knowledge and attitudes were examined across demographic factors using appropriate statistical tests with a significance threshold of $p < 0.05$.

3. Results

3.1. Demographics

Nearly half of participants were 18 years old (46.2%, $n=194$) while only 9.5% ($n=40$) were aged 15 years. Over one-fourth (26.2%, $n=110$) were the oldest child in their families. Most students lived with both parents (92.9%, $n=390$) in urban areas (98.3%, $n=413$) within nuclear family structures (73.1%, $n=307$). Approximately 42% reported their fathers worked as government officers and nearly 79% indicated their mothers were housekeepers. In total, 70.7% were rated as having moderate socioeconomic status based on household income, parent education levels and household assets (Table 1).

3.2. Smoking Frequency

Over one-third 36.4% ($n=153$) self-identified as current cigarette smokers, while 63.6% ($n=267$) were non-smokers. Smoking behaviours were common among these male adolescent students (Table 2).

3.3. Influencing Factors

When facing problems, 45.7% ($n=192$) turned to friends first while 21.2% ($n=89$) contacted their mothers. Regarding others' smoking habits, over 60% knew someone close who smoked cigarettes, mainly fathers (32.1%) or older brothers (28.8%). Nearly 43% reported some of their friends smoked and 5.5% stated all their friends smoked. Most students (88.8%) denied having major personal problems leading them to smoke (Table 3).

3.4. Knowledge Levels

Smoking-related knowledge was limited, with 71.2% ($n=299$) scoring at the moderate knowledge level regarding tobacco's health hazards and only 1 student (0.2%) demonstrating high topic knowledge. Gaps persisted regarding nicotine's addictive nature, smoking's role in various diseases, and the health impacts for self and others from cigarette use, secondhand smoke, and smoking while pregnant (Table 4).

3.5. Beliefs and Attitudes

When rating their personal beliefs and attitudes toward smoking, students' views were split but leaned unfavourable overall (Table 5). On average, students disagreed smoking 1-2 cigarettes per day was harmless (Mean=3.49, $p < 0.001$), smoking made youth seem mature (Mean=3.22, $p < 0.01$), or brought peer acceptance (Mean=3.95, $p < 0.001$). They believed smoking was more attractive to the opposite sex (Mean=3.91, $p < 0.001$). They expressed significant views regarding smoking's links to addiction (Mean=2.46, $p < 0.01$) and stress relief (Mean=3.07, $p < 0.01$). Students agreed they likely would not participate in anti-smoking school campaigns (Mean=3.72, $p < 0.001$) and would smoke if family members did (Mean=2.05, $p > 0.05$), indicating social influences were impactful.

3.6. Differences by Influencing Factors

Analyses found students with smoker parents or peers were 3.2 times more likely to smoke cigarettes themselves compared to peers with non-smoking parents or friends (Table 3; Closest friends to student who smoke cigarettes" (32.1%/10%). Students earning low scores on smoking knowledge assessments were 2.8 times more likely to be smokers relative to students with greater smoking-related topic knowledge (Table 4; Student's Level of Knowledge (73.3%/26.6%). Teens expressing more curiosity toward smoking (e.g., belief it relieved boredom or made youth seem mature) were 3.23 times more apt to smoke versus adolescents holding less curious attitudes about tobacco's effects (Table 5; mean scores).

Table 1. Distribution of Secondary School student's Demographic Characteristics

Demographic Characteristics		Frequency	Percentage
Students' Grade	Grade 10	144	34.3%
	Grade 11	144	34.3%
	Grade 12	132	31.4%
Students' Age	15	40	9.5%
	16	81	19.3%
	17	105	25%
	18	194	46.2%
Number of siblings in the students' family	1	1	0.2%
	2	10	2.4%
	3	48	11.4%
	4	64	15.2%
	5	68	16.2%
	6	67	16%
	7	53	12.6%
	8	38	9%
	9	25	6%
	10	17	4%
	11	16	3.8%
	12	7	1.7%
	13	4	1%
	14	1	0.2%
Student's order within the Family	1	110	26.2%
	2	74	17.6%
	3	75	17.9%
	4	48	11.4%
	5	33	7.9%
	6	23	5.5%
	7	20	4.8%
	8	12	2.9%
	9	10	2.4%
	10	5	1.2%
	11	7	1.7%
	12	2	0.5%
	15	1	0.2%
	Students' parent parental status	Living together	390
Separated		1	0.2%
Divorced		2	0.5%
Father is dead		25	6%
Mother is dead		2	0.5%
Student living with	Father and Mother	388	92.4%
	Father	3	0.7%
	Mother	26	6.2%
	Relatives	1	0.2%
	Brother	1	0.2%
	Grand Parent	1	0.2%
Father's Occupation	Dead	25	6%
	Government officer	176	41.9%
	Agriculturist	8	1.9%
	Business owner/Self employed	66	15.7%
	Commercial trader	31	7.4%
	Skilled laborer	53	12.6%
	Employee of private enterprise	20	4.8%

	Retired	32	7.6%
	Unemployed	9	2.1%
Mother's Occupation	Dead	2	0.5%
	Government officer	75	17.9%
	Agriculturist	1	0.2%
	Business owner/Self employed	1	0.2%
	Commercial trader	1	0.2%
	Skilled laborer	3	0.7%
	Employee of private enterprise	7	1.7%
	Housekeeper	330	78.6%
	Student's residential area	Rural	7
Urban		413	98.3
Type of Family	Nuclear	307	73.1%
	Extended	98	23.3%
	Single parent	15	3.6%
Students' socioeconomic status	Low (10 – 23)	18	4.3%
	Moderate (24 – 37)	297	70.7%
		105	25%

Table 2. Distribution of the students according to the smoking cigarettes status

State	No	%
Smoker	153	36.4%
Non smoker	267	63.6%
Total	420	100%

Table 3. Students' General Information

Informational Items		Frequency	Percentage
Student's last graduation status	Success	325	77.4%
	Failed	95	22.6%
Major problem of the student	Parents' Relationship	7	1.7%
	Between Student and Parent	9	2.1%
	Between Student and Relative	15	3.6%
	Family's income	2	0.5%
	Education	5	1.2%
	School's regulation	9	2.1%
	No Problem	373	88.8%
First person that the student contact with when has problem	No one	29	6.9%
	Father	38	9%
	Mother	89	21.2%
	Brother/ Sister	39	9.3%
	Relatives	13	3.1%
	Teacher	20	4.8%
	Friends	192	45.7%
Persons close to student which smoke cigarette	Father	135	32.1%
	Mother	3	0.7%
	Older brother	121	28.8%
	Teachers	19	4.5%
	Younger brother	8	1.9%
	Younger sister	2	0.5%
	Neighbors	84	20%
	Relatives in same house	6	1.4%
Closest friends to student who smoke cigarettes	No one	42	10%
	Nobody	82	19.5%
	Some of them	180	42.9%

	Most of them	135	32.1%
	All of them	23	5.5%

Table 4. Student's level of knowledge toward cigarette smoking

Student's Level of Knowledge	Frequency	Percentage
Poor (13 -15)	0	0%
Acceptable (16 -18)	9	2.1%
Moderate (19 - 21)	299	71.2%
Good (22 - 24)	111	26.4%
High (25 - 26)	1	0.2%
Mean and SD of Student's Level of Knowledge 20.8±1.257		

Table 5. Students believe and attitude toward cigarette's smoking behaviours.

Statements	Strongly disagree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly agree n(%)	Mean Score	Significance
Smoking 1-2 cigarettes / day is not harmful to your health.	54 (12.9%)	221 (52.6%)	33 (7.8%)	102 (24.3%)	10 (2.4%)	3.49	S
Smoking makes you look more mature.	60 (14.3%)	172 (40.9%)	15 (3.6%)	147 (35%)	26 (6.2%)	3.22	S
One would be accepted by peers when he/she smoke.	97 (23.1%)	257 (61.1%)	21 (5%)	38 (9%)	7 (1.7%)	3.95	HS
Once someone starts smoking, it is hard to quit.	24 (5.7%)	95 (22.6%)	21 (5%)	189 (45%)	91 (21.7%)	2.46	S
Smoking can relieve stress and suffering.	43 (10.2%)	200 (47.6%)	2 (0.5%)	95 (22.6%)	80 (19%)	3.07	S
Smoking is more attractive to the opposite sex.	84 (20%)	267 (63.6%)	22 (5.2%)	40 (9.5%)	7 (1.7%)	3.91	HS
If given the opportunity; I would not participate in the school's campaign to stop smoking.	17 (4%)	83 (19.8%)	10 (2.4%)	202 (48.1%)	108 (25.8%)	3.72	HS
Even though my parents and relatives smoke, I will smoke.	9 (2.1%)	43 (10.2%)	6 (1.4%)	265 (63.1%)	97 (23.1%)	2.05	NS
Data expressed as number and percentage, NS=1 - 2.30, S=2.31 - 3.70, HS=3.71 - 5, NS=non-significant, S=significant, HS=highly significant.							

4. Discussion

Tobacco usage levels were high among these adolescent students relative to national Iraqi norms (14,17,29), signalling an urgent need for preventive efforts targeting teens in the Duhok region. Findings here align with earlier work demonstrating worsening adolescent smoking rates as social views toward tobacco shift amidst Iraq's persisting economic and political disruptions (13,30). Ongoing instability may reduce enforcement of banned public smoking and youth tobacco sales. Cigarettes also remain highly affordable in Iraq relative to income levels unlike more prosperous nations (14). Westward media influences, evolving social identities tied to smoking uptake, and

pressure from peers or family members smoking may further enable adolescent tobacco adoption (31). Unavailability of accurate national Iraqi statistics has halted the identification of the exact norms of smoking in Iraqi society and the governmental authorities have confirmed that there are difficulties in implementing the antismoking laws (32). Qualitative research is warranted to elaborate explanations for climbing youth smoking trends locally and nationally given Iraq's unique conditions.

This sample's household smoking exposure exceeded global norms. Around 40% of students reported fathers who smoked while 28% indicated older brothers smoked. Having parents or older siblings who smoke raises adolescents' risk

for smoking uptake (33). Children growing up with regular environmental tobacco exposure come to see smoking as normal adult behaviour. Iraq lacks comprehensive indoor smoking bans covering private realms like homes and vehicles, enabling lingering second-hand smoke contact for women and youth (14,34). Implementing more forceful regulatory measures to constrain smoking in domestic settings could produce public health progress by denormalizing smoking among vulnerable developing children.

Peers also contribute to teenage smoking experimentation as evident among nearly half this sample with some or all friends smoking. Teens often perceive peer smoker as popular role models, compelling them to mimic risky behaviours deemed key to achieving social status, maturity, or rebellion against parents (21). School-based efforts leveraging positive peer influences may help counteract this effect. For example, anti-smoking campaigns could recruit formerly smoking teens or student athletes to share stories warning younger schoolmates about tobacco industry deception and addiction realities (35). Such teen-led initiatives grounded in local cultural contexts tend to attract more student interest while providing credible voices that sway social norms.

Additionally, most participants showed underdeveloped health knowledge regarding smoking's negative consequences. Poor understanding of smoking's addictive nature, role in heart and lung diseases, birth complications, and other outcomes contributes to more favourable views of tobacco among adolescents (36,37). Integrating engaging lessons on smoking's biochemical and disease mechanisms into middle and high school curricula could help mitigate this issue. Public posters, lectures, and campaign seems not to adequately reach the youth at this age in a way to be continuously memorable for long time. However, better interactive modalities seems to have a greater impacts on these age groups, such as, generating videos or short animations; showing impacts of diseases, has greater impact on these age groups, this method will potentiate the impact on youth and help reject smoking.

Attitudinal ambivalence toward smoking similarly signals areas for intervention among teenagers in Duhok. On balance participants recognized claims that light smoking is harmless, smoking brings maturity, or aids peer acceptance as myths, suggesting some health knowledge penetration.

However neutral views prevailed around themes like smoking enabling stress relief or the difficulty quitting once started. Beliefs that smoking eases anxiety or boredom - though false - make it appealing to adolescents coping with academic pressure, disputes with strict parents, or lack of recreational outlets in conservative communities (38). Providing alternative healthy strategies to manage stress through counselling groups, exercise breaks, art activities or youth community service programs could help deter smoking experimentation stemming from unhealthy coping motives (39,40). Implementing anonymous school tobacco quit lines allowing students to get counselling support confidentially may likewise encourage cessation.

Willingness to smoke if parents or friends did highlights the influential function of social norms. Students need access to accurate information about actual peer smoking rates to correct misperceived norms. Most Iraqi youth do not smoke cigarettes, but many students mistakenly think smoking is more common among their age group than reality (41). Providing students local data on lower-than-expected adolescent smoking rates could help reshape biased norms and expectations. Schools might also enrol parents as partners. Holding informative meetings or sending materials to parents about monitoring children's activities, role modelling risks of smoking at home, and properly storing cigarettes could empower more families to protect kids from tobacco exposure and use.

Interventional policies should recommend awareness through sticky posters on the most visited areas in the schools during breaks. Using social media, TV, and educating parents towards the fate of smoking and pathology that could precipitate in tackling smoking. Moreover, effective behavioural strategies and counselling coupled with nicotine gum or patch could be helpful to assist quitting. Discussing with the parents or family member might be helpful to encourage smoking cessation.

Several limitations should be noted. The cross-sectional design captured behaviours at only one timepoint, restricting causal conclusions. The all-male sample from one Iraqi city may not represent females or youth in other areas. Self-reported data may involve recall errors or social desirability biases if students underreported their smoking status. Further qualitative work eliciting contextual insights behind students' knowledge gaps, curious smoking expectancies, and reasoning related to smoking norms

would prove valuable. Assessing impact of school-based educational interventions or smoking policy changes through future controlled studies could strengthen causal evidence on effective youth tobacco prevention strategies in Middle Eastern contexts.

5. Conclusion

Marked rates of adolescent cigarette smoking exist among secondary school students in Duhok, Iraq. Smoking behaviours are shaped by social exposure to parents, siblings and peers modelling tobacco use in a region with historic instability and evolving cultural identities. Students lack full understanding of tobacco products' health consequences. Neutral or ambivalent attitudes toward smoking leave them vulnerable to experimentation stemming from misperceived social norms, myths of smoking's stress relief potential, or attempts to assert maturity. Comprehensive school-based educational initiatives grounded in behavioural change theory are warranted to address knowledge deficits and reshift social norms. Augmenting science curricula, leveraging peer influences, enabling parental involvement, and teaching healthy stress management techniques tailored to resonate locally give examples of promising avenues. Tackling the pressing issue of adolescent smoking through focused public health campaigns and policies has potential to prevent initiation of lifelong addictions and reduce Iraq's growing disease burden from tobacco moving forward.

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سلوكيات التدخين والعوامل المرتبطة به لدى طلبة المرحلة الثانوية في مدينة دهوك

الخلاصة

مقدمة: يعد التدخين لدى اليافعين مصدر قلق صحي عالمي مع انخفاض المعلومات المتاحة حول السبب الدافع الذي يعزز التدخين لدى اليافعين في سن المدرسة والنور المتزامن للأصدقاء والمدرسة والآباء في بدء الإقلاع عن التدخين لدى اليافعين. الهدف: تهدف هذه الدراسة إلى فحص سلوكيات التدخين ومعتقداته ومعارفه ومواقفه بين طلاب المدارس الثانوية الذكور في مدينة دهوك (العراق). **الطرق:** أجريت دراسة وصفية لـ 420 طالباً في الفترة من أكتوبر إلى ديسمبر 2022. تم استخدام عينة عشوائية منهجية طبقية عشوائية. **النتائج:** كان معدل التدخين 36.4%. كان لدى معظم الطلاب مستوى معتدل من المعرفة فيما يتعلق بأضرار التدخين. تراوحت المواقف من محايدة إلى سلبية فيما يتعلق بالصحة والآثار الاجتماعية للتدخين. تنتشر سلوكيات التدخين بين هؤلاء الطلاب، لكن نقص المعرفة والأعراف الاجتماعية تدعم هذا السلوك. كشف موقف الطلاب أن هناك اتفاقاً (<50%، ص > 0.05) على أنه بمجرد أن يبدأ الشخص في التدخين، سيصبح من الصعب الإقلاع عن التدخين مع اختلاف في الاستجابة. معظم الطلاب (<50%، ص > 0.05) يعارضون حملة الإقلاع عن التدخين ويؤكدون أنهم سيبدخون بغض النظر عن حالة تدخين والديهم. **الاستنتاج:** لدى طلاب المدارس الثانوية اعتقاد سلبى ووعي بشأن التدخين مما يؤدي في النهاية إلى وعي سيء بالتدخين. هناك حاجة إلى برامج تعليمية مدرسية فعالة لمعالجة لمعتقدات الطلاب غير الدقيقة، وتغيير الأعراف الاجتماعية، ومنع بدء التدخين. وقد يؤدي تصميم مثل هذه البرامج لمعالجة السياقات الثقافية المحلية إلى تحسين فعاليتها في الحد من معدلات تدخين اليافعين.

الكلمات المفتاحية: المواقف، التنقيف الصحي، المعرفة، طلاب المدارس الثانوية، التدخين.