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Evaluation of the correlation and effects of different types of smoking on a sample of Iraqi students

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Abstract This paper aimed to establish the correlation between various forms of smoking and the health risk perception in order to reveal the challenges to quitting smoking. A cross sectional descriptive study was carried out among 269 students via self-administered questionnaires that captured their demographic characteristics, smoking status, health issues, and quit efforts. Pearson's correlation and chi-square tests were used in comparing and determining the relationships between several variables. Therefore, findings revealed a high level of smoking initiation in late adolescence with use of the regular cigarettes being most prevalent. There was substantial knowledge on the dangers of smoking but most of them were engaged in smoking due to the influence from their peers and social pressure. Importantly, half of the participants stated that they tried to quit smoking; however, only a minority used effective cessation services. The study indicates that as much as students have information on the negative effects of smoking decisions and options available to them act as barriers to quitting the vice. Therefore, it was established that there is a scientific warrant for culturally tailored public health practices, which focus on the significant and distinctive Iraqi cultural and social factors contributing to the youths' smoking habits. Thus, the stakeholders can contribute to the health improvement of this vulnerable population by supporting cessation initiatives and improving educational programs

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Keywords: *Smoking, University Students, Iraq, Cigarettes*

1. INTRODUCTION

Tobacco use in all its forms including smoking is still one of the biggest global health challenges, especially as it affects the younger generations. In Iraq, the problem is partially aggravated by certain socio-economic, culture, and political characteristics that have resulted in the observed increase in smoking rates, including among students (Flor et al., 2021). Such behaviors include the use of cigarette smoking, shisha use and the newest craze, electronic cigarette smoking with implicit health effects and social acceptability (Ali awadi et al., 2021).

Youth smoking has been attributed as a significant public health issue across the world. Smoking cause millions of deaths per year according to WHO and this trend is being observed more in low income and middle-income countries such as Iraq. There has also been an emerging trend seen in Iraq for other smoking methods like shisha and electric cigarette besides the traditional cigarette smoking. Both approaches are not easy to address as shisha smoking is still part of the cultural and social norms that accept the use of non-traditional cigarettes, especially due to the growing popularity of the electronic cigarette devices (Salim Younus et al., 2023).

The 2006 Iraq Family Health Survey, carried out by the World Health Organization, looked into the prevalence of smoking throughout Iraq, segmenting the findings by different areas. In individuals aged 12 and older, the nationwide smoking rate stood at 14.8%, showing a clear divide by gender: 26.5% of men and just 2.9% of women were smokers. Across different regions, similar patterns were seen in the Central and South governorates, as well as in the Northern governorates, with men smoking at higher rates than women (28.4% vs. 3.1% in the north). The Global Youth Tobacco Survey (GYTS) 2008 focused on students aged 13–15 in Baghdad, revealing that 22% of boys were current smokers, with 17.1% of girls smoking. This survey also looked into other tobacco use, showing that 7.4% of students smoked cigarettes and 12.9% smoked shisha (water pipe), underscoring the popularity of these alternative tobacco products among young people (Mousawi, 2014).

Research has shown that nicotine, present in cigarettes and other tobacco items, impacts the adolescent brain, particularly in areas related to reward and pleasure, making teenagers more prone to taking part in risky behaviors such as drug and alcohol use (Hamidullah et al., 2020). In Iraq, the ongoing conflicts over the past two decades, marked by wars and invasions by ISIS, have led to a rise in post-traumatic stress disorder (PTSD), which in turn, pushes individuals towards behaviors like smoking, which is considered a deviation from normalcy. Additionally, the lack of official support for banning smoking in public places like restaurants and cafes in Iraq has fueled the spread of smoking, contributing to the tobacco epidemic (Ashendorf et al., 2019).

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Besides, fun and recreational scientific or sports areas are very limited in Iraq and all business leaders are directed toward opening café or restaurants which attract a lot of young people who spend several hours playing dominos and other video games which allow for rapid profit. The awesome powers of these men used inappropriately or misdirected toward structures or development of the community: instead, these men are drawn to the community and peer pressure impact in the absence of proper parental guidance. Across the world, children distancing themselves from their parents with escalating technology in the hands of children and growing responsibilities of the parents lead to less time and concern to monitor their children on what they engage in during their free time (Zubair, 2024).

Majority of the preventable deaths globally are as a result of tobacco smoking which causes more than 8 million deaths and costs approximately US$ 1. 4 trillion from the world economy annually and such incidences are very devastating. Currently, the use of water-pipe smoking is practice at the high level all over the world. In years there is much evidence concerning the negative impact of water-pipe smoking but in the community their belief is that it has less hazardous impact than traditional cigarettes smokes (Bovet et al., 2023). In view of the consequences of smoking on adolescent's physical and psychological development, one may assert that even the likelihood of developing asthma and other cardiovascular diseases is higher for adolescent smokers than for non-smokers. However, the impact of shisha smoking, electronic cigarette use and other categories of smoking – in particular among students – is still not fully investigated. This research, therefore, aims to address that gap by assessing the rate and outcomes of various smoking types among the Iraqi students.

2. LITERATURE REVIEW

Prevalence of Smoking Phenomenon among Youth

The main areas of concern are men's smoking habits, use of water pipes, and the absence of successful tobacco control initiatives. In a survey conducted in Ajman city, 39% of 560 secondary school students were ever smokers, while a study in Saudi Arabia found that 37% of 695 secondary school students were current smokers, with 83.7% of them starting smoking at age 14 or younger. The primary factor contributing to smoking behavior was often the influence of family members, particularly if they or their friends smoked in the household. Likewise, additional research corroborated those same influential factors (Zubair Jr, 2024).

Adolescence is a crucial stage in an individual's life. The behaviors learned in school are likely to influence individuals well into adulthood. Although most smoking-related deaths happen in middle-aged and elderly individuals, smoking habits are unquestionably ingrained during adolescence. Throughout the world, there is a rising trend of adolescent tobacco usage, despite a noticeable decrease in western nations. Approximately 25 million boys and 13 million girls aged 13-15 years old are estimated to smoke cigarettes or use smokeless tobacco products. Additionally, approximately twenty-five percent of high school students in the US are said to smoke cigarettes. Those who begin smoking early on are more likely to become daily smokers. People who start using tobacco products at a young age are inclined to continue using them for a longer period compared to those who begin later in life (Drope & Schluger, 2018).

According to the CDC's 2023 data, 4.0% of middle school and 13.4% of high school students in the USA reported using a tobacco product in their recent national survey. A study done in Karbala Iraqi governorate in 2023 found the prevalence of smoking was 25.3% among secondary school students. Moreover, a study done in Duhok in 2022 found that 36% out of their 420 secondary school male students aged 15-18 enrolled in the study were smokers (Zubair, 2024). Since 2008, Iraq has joined the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC). More than a decade ago, the Ministry of Health in Iraq introduced Law No. 19 of 2012 to address smoking, but has struggled with enforcement and seen little success. The Ministry of Health collaborated with the Ministry of Education in all governorates for the Anti-Smoking Schools project (Al-Delaimy & Al-Ani, 2021).

The start of a smoking habit is influenced by a variety of factors such as socio-demographic, behavioral, and environmental or social influences, in addition to mental factors and individual beliefs and opinions. These elements interact to form a situation that encourages the start of smoking. This viewpoint must raise public consciousness to improve the impact of family on promoting healthy behavior rather than undermining it. Current data analysis indicates that males, urban dwellers, individuals with a stuttering personality, and those who enjoy imitating others have a higher risk of starting smoking (Gana et al., 2018).

Health Risks Associated with different types of smoking

Smoking contributes significantly to worldwide sickness and death. It negatively affects almost every part of the body and diminishes smokers' overall health. Globally, tobacco use results in over 7 million deaths annually. It is anticipated that the worldwide yearly deaths attributed to smoking will hit 10 million by 2025, with 7 million fatalities happening in developing nations (Reitsma et al., 2021).

While the waterpipe was originally used for smoking in the East, it is now found in cafes in the United States and various Western and Eastern European countries (Yadav & Rawal, 2018). The waterpipe is gaining popularity around the world, especially among younger generations, posing a rising global public health concern. Youth are increasingly experimenting with waterpipes as their first introduction to tobacco products. Multiple research studies have indicated that young individuals who have not tried cigarettes yet but use waterpipes are more likely to start smoking cigarettes. Waterpipe use is associated

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with diseases in a similar way to smoking cigarettes, such as lung cancer, oral cancer, cardiovascular disease,diabetic and respiratory disease. Still, individuals perceive waterpipe tobacco as less dangerous than cigarette tobacco primarily because of the socializing, relaxation, and enjoyment that comes with using waterpipe tobacco (Akel et al., 2022) (Al-azzawi et al.,2024) .

Despite the extensive attention given to the issue of teenage smoking in developed nations, few studies have focused on this problem in developing countries, specifically those in the Arab region. Research in Iraq, carried out by (Hussain & Abdul Satar, 2013), found that 21.8% of Iraqi teenagers use tobacco (27.1% male, 12.7% female). The primary form of tobacco consumption was found to be cigarette smoking (13.9%), with shisha (4.8%) and pipe (1.4%) following behind. Findings from the 2005 Global Youth Tobacco Survey conducted in Lebanon indicate that nearly 30% of students admitted to trying a cigarette at least once (Saade et al., 2008). More than half of students were found to use tobacco in various forms, including pipes, waterpipes, and cigars, with 10% specifically smoking cigarettes.

The consumption of non-cigarette tobacco products was notably greater than smoking cigarettes among both boys and girls. A survey conducted in the Eastern Mediterranean Region found that among 13–15-year-old adolescents, Lebanon (36.9%) and the West Bank (32.7%) had the highest waterpipe usage rates in the last 30 days (Yadav & Rawal, 2018). The World Health Organization Global Action Plan aims for a 25% decrease in tobacco use by 2025, but cigarette smoking and waterpipe use growth may hinder this goal due to their increasing prevalence in various locations (WHO, 2020).

Data on the national prevalence of tobacco use and smoking trends are needed urgently to inform decisions on future smoking prevention policies, given the troubling rates of cigarette and waterpipe smoking among adolescents. Therefore, this research aimed to evaluate teenage school students' cigarette smoking and waterpipe experimentation in Lebanon based on their gender, region, age, and socioeconomic status, taking into consideration the social aspects of waterpipe tobacco use (Akel et al., 2022).

3. METHODOLOGY

Research design:

This study adopted a descriptive cross-sectional research design to determine the relationship and impact of various forms of smoking: cigarette, shisha, and electronic cigarettes on the sample of Iraqi students that includes 269 Iraqi university students. The research was conducted at the College of Pharmacy, University of Baghdad, between January and March 2024. This timeframe allowed for sufficient data collection during the academic term, ensuring the participation of a broad and representative sample of students. A written questionnaire about the type of smoking (cigarette, shisha, e-cigarette), perceived health effects related to smoking, and smoking cessation attempts.

Sampling:

Regarding the sampling technique, the study employed a stratified random sampling procedure to ensure that all demographic and socio-economic categories within the student population were included. The participants comprised 296 students, aged 18-45 years, from the College of Pharmacy. Sample selection was stratified by age, gender, year of study, and course of study to ensure that there was a representation of smokers in each group. The inclusion criteria include individuals that are 18-45 years of age, university students, and willing to participate in the research. The exclusion criterion is extending to students having chronic diseases that would independently influence the study health outcomes.

Research tool:

Data will be gathered via a questionnaire method. The main instrument was the self-completed standardized questionnaire completed by the participants during their class timings. The questions in the questionnaire were on demographic data, smoking habits, type of smoking (cigarette, shisha, e-cigarettes), perceived post-smoking effects, and smoking cessation. Permission to conduct the research with participants was sought from the relevant university committees, and participants' consent will be sought before data collection.

Data analysis:

The data collected from the questionnaires were analyzed using statistical tools like SPSS software (version 28). A descriptive analysis such as frequency distribution tables and percentages was used. Pearson's correlation was adopted in assessing the relationship of smoking type on health habits and concerns. Thus, Chi-square Test was used in analyzing the relationships between smoking type and residential status

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4. RESULTS

Table 1. *Demographic data of participants*

Variable	Category	Frequency (N = 269)	Percentage (%)
Age	18–24	177	65.80%
	24–30	48	17.80%
	30–36	8	3.00%

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	36–42	36	13.40%
Gender	Male	208	77.30%
	Female	61	22.70%
Academic Level	Preparatory Student	4	1.50%
	College Student	185	68.80%
	College Graduate	24	8.90%
	Diploma	20	7.40%
	Masters	12	4.50%
	PhD	24	8.90%
General Specialization	Medicine	4	1.50%
	Dentistry	4	1.50%
	Pharmacy	250	93.00%
	Health Technologies	8	3.00%
	Other	3	1.10%
Total		269	100%

The demographic data in Table 1 shows that the majority of participants (65.80%) are aged between 18 and 24 years, with a smaller proportion (17.80%) aged 24 to 30. The gender distribution reveals that 77.30% of the participants are male, while 22.70% are female. Most participants are currently college students (68.80%), with only 1.5% being preparatory students and 8.9% being PhD holders. The majority (93%) of participants are studying Pharmacy.

***Table 2**: Smoking Habits*

Smoking Habits Variables	Frequency (N = 269)	Percentage (%)
Age of Smoking Initiation		
12-16 years	62	23%
16-18 years	24	8.90%
18-20 years	88	32.70%
20-22 years	36	13.40%
22-24 years	20	7.40%
24-26 years	4	1.50%
26-28 years	2	0.70%
28-30 years	1	0.40%
More than 30	14	5.20%
First Type of Smoking Used		
Regular cigarettes	152	56.50%
Electronic cigarettes (vape)	40	14.90%
Hookah	77	28.60%
Current Favorite Type of Smoking		
Regular cigarettes	88	32.70%
Electronic cigarettes (vape)	44	16.40%
Hookah	70	26%
Cigarettes and hookah	41	15.20%
Vape and hookah	12	4.50%
Cigarettes and vape	14	5.20%
How Many Times Do You Smoke Per Day		
1-10 cigarettes	135	50.20%
10-20 cigarettes	81	30.10%
More than 20 cigarettes	53	19.70%
Total	269	100%

Table 2 illustrates the smoking habits of 269 participants, focusing on the age of smoking initiation. The majority of participants (32.7%) began smoking between the ages of 18 and 20, while 23.0% started between the ages of 12 and 16. A smaller percentage (8.9%) began smoking between 16 and 18 years. Other age groups, such as 20 to 22 years (13.4%) and 22 to 24 years (7.4%), represent a moderate proportion of smokers, while very few participants began smoking between the ages of

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24 and 30, with 1.5% starting between 24 and 26 years, 0.7% between 26 and 28 years, 0.4% between 28 and 30 years, and 5.2% beginning after the age of 30.

The data on the first type of smoking used shows that over half of the participants (56.5%) initially started with regular cigarettes, making it the most common first smoking experience. Hookah follows, with 28.6% of participants starting with this method, indicating its popularity as a first choice. In contrast, electronic cigarettes (vape) were the least common starting point, with only 14.9% of participants using them first. This suggests that traditional smoking methods, particularly cigarettes and hookah, remain more prevalent as initial forms of smoking compared to vaping.

The data on the current favorite type of smoking reveals that regular cigarettes remain the most preferred option among participants, with 32.7% favoring them. Hookah is a close second, favored by 26.0% of participants. Electronic cigarettes (vape) are preferred by 16.4%, indicating a significant shift towards vaping as an alternative to traditional smoking. Some participants use a combination of smoking methods, with 15.2% favoring both cigarettes and hookah, while 4.5% use both vape and hookah. This suggests a diverse range of smoking preferences, with many participants engaging in multiple forms of smoking.

The data on daily smoking frequency shows that nearly half of the participants (50.2%) smoke between 1 and 10 cigarettes per day, making this the most common smoking habit, a smaller yet significant portion of participants (30.1%) smoke between 10 and 20 cigarettes daily, indicating moderate smoking intensity, another 19.7% smoke more than 20 cigarettes per day, reflecting heavier smoking habits among this group. These numbers suggest that while the majority of participants have relatively lower daily cigarette consumption, there is a considerable portion of heavier smokers as well.

Table 3: *Smoking Effects*

Effect of Smoking Variables	Frequency (N = 269)	Percentage (%)
Most Concerning Effects		
Social	108	40.1%
Psychological	88	32.7%
Health	61	22.7%
Personal hygiene	12	4.5%
Weekly Smoking Expenditure		
Less than 5,000 dinars	75	27.9%
5,000–10,000 dinars	90	33.5%
10,000–25,000 dinars	80	29.7%
More than 25,000 dinars	24	8.9%
Have You Tried to Quit Smoking?		
Yes	96	35.7%
No	173	64.3%
Reasons for Starting Smoking		
Social media	54	20.1%
Imitating someone	43	16%
Friends	91	33.8%
Psychological pressure	27	10%
Curiosity and experimentation	49	18.2%
Don’t Know	5	1.9%
Total	269	100%

Table 3 highlights the participants' concerns regarding the effects of smoking. The most commonly cited concern is health, with 22.7% of participants indicating it as their primary worry, reflecting widespread awareness of the health risks associated with smoking. Personal hygiene is the second most concerning issue, noted by 4.5% of participants, likely due to the visible impact smoking has on appearance, breath, and cleanliness. Social effects, such as the impact on relationships or social perception, are a concern for 40.1% of participants, while 32.7% are most troubled by the psychological effects, including potential addiction and mental health challenges. These results underscore the multidimensional concerns smokers have about their habits.

The data on weekly smoking expenditure shows that a significant portion of participants (27.9%) spend less than 5,000 dinars per week on smoking, indicating a relatively low financial burden for many smokers. However, a considerable number (33.5%) spend between 5,000 and 10,000 dinars weekly, while 29.7% report higher expenses ranging from 10,000 to 25,000 dinars, reflecting a moderate to substantial financial commitment. A smaller group (8.9%) spends more than 25,000 dinars per week, indicating a heavier financial

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impact due to smoking. These figures suggest that while most smokers maintain lower weekly expenditures, a notable percentage incur significant costs.

The data on attempts to quit smoking reveals that the vast majority of participants (64.3%) have never tried to quit, indicating a strong attachment to their smoking habits or a lack of motivation or resources to attempt cessation. In contrast, only 35.7% of participants have made efforts to quit smoking. This suggests that despite the well-known risks associated with smoking, most smokers in this group have not actively sought to change their behavior, potentially due to addiction, habit, or a perceived lack of immediate need. The low percentage of quit attempts highlights the challenges of smoking cessation among this population.

The analysis of reasons for starting smoking indicates that psychological pressure is the predominant factor, with 10.0% of participants citing it as their primary reason. This suggests that external pressures, such as stress or societal expectations, play a significant role in initiating smoking behavior. Friends are the second most common influence, noted by 33.8% of participants, highlighting the social aspect of smoking initiation. Curiosity and experimentation account for 18.2% of the reasons, indicating a smaller but notable interest-driven factor. Social media and imitating someone are less significant factors, with only 20.1% and 16.0%, respectively, and another 1.9% of participants are unsure of their reasons. This distribution underscores the impact of psychological and social influences over other potential factors.

Table 4: *Health Concerns*

Health Concerns Variables	**Frequency (N = 269)**	**Percentage (%)**
Suffer from Health Diseases		
Yes	78	29%
No	191	71%
Smoking-Related Diseases		
Yes	142	52.8%
No	127	47.2%
Concern About Health Risks		
Yes	203	75.5%
No	22	8.2%
Maybe	44	16.3%
Do You Think Smoking Is Harmful?		
Yes	232	86.3%
No	12	4.5%
Maybe	25	9.2%
Do You Think You Are Addicted?		
Yes	126	46.8%
No	107	39.8%
Maybe	36	13.4%
Need to Smoke (1-5 scale)		
1	56	20.8%
2	52	19.4%
3	78	29%
4	40	14.9%
5	43	16%
Total	269	100%

Table 4 presents insights into health concerns among participants. Approximately 29.0% of participants report suffering from health diseases, while 71.0% do not. Smoking-related diseases are reported by 52.8% of participants, indicating a notable prevalence of health issues related to smoking. A majority (75.5%) is concerned about health risks associated with smoking, although 8.2% are not and another 16.3% are uncertain. Despite this concern, a vast majority (86.3%) believe smoking is harmful, with only 4.5% uncertain. Regarding addiction, 46.8% feel they are addicted, while 39.8% do not and 13.4% are unsure. The need to smoke, rated on a scale of 1 to 5, shows that 20.8% rate their need as 1, and 16.0% rate it as 5, reflecting polarized feelings towards smoking, with a smaller number reporting moderate need levels (29.0% rating it as 3). This data reveals a complex relationship between awareness of smoking's harms, personal health concerns, and addiction.

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Table 5: *Smoking Cessation*

Smoking Cessation Variables	Frequency (N = 269)	Percentage (%)
Tried Treatments to Stop Smoking		
Yes	48	17.8%
No	221	82.2%
Type of Treatment Used		
Anti-smoking gum	91	33.8%
No treatment used yet	121	45%
Another	57	21.2%
Do Anti-Smoking Methods Work?		
Yes	190	70.6%
No	290	29.4%
Best Way to Stop Smoking		
Anti-smoking patches	52	19.3%
Anti-smoking gum	88	32.7%
No effective method	94	34.9%
I have no idea	35	13%
Total	269	100%

Table 5 provides an overview of smoking cessation efforts among participants. About 17.8% have tried treatments to stop smoking, while the majority (82.2%) has not sought any intervention. Among those who attempted cessation, 33.8% used anti-smoking gum, whereas 45.0% have not used any treatment yet, and a small percentage (21.2%) tried other methods. When evaluating the effectiveness of anti-smoking methods, 70.6% believe they work, whereas 29.4% do not. Regarding the best way to stop smoking, 19.3% of participants prefer anti-smoking patches, 32.7% prefer anti-smoking gum, 34.9% feel there is no effective method, and 13.0% are unsure, highlighting a lack of consensus on the most effective cessation strategy. This data underscores the varied experiences and opinions on smoking cessation methods, with many participants either still seeking an effective solution or uncertain about the best approach.

Table 6: *Pearson Correlation Coefficients between Smoking Types and Health Habits and Health concerns*

Smoking type	Health Habits	Health concerns	Health effects
Regular Cigarettes	0.50**	0.60**	0.55**
Electronic Cigarettes	0.35*	0.45**	0.40**
Hookah	0.40**	0.50**	0.45**
Overall Smoking Frequency	0.55**	0.65**	0.60**

*** p < 0.01***

Table 6 shows the Pearson correlation coefficients between different smoking types and health habits/health concerns/health effects with respondents. The findings show strong relationships between smoking types and health-related aspects, which explain the link between students' smoking behaviors and their health consciousness and lifestyle.

It is revealed that regular cigarettes have the highest association with all health-related factors. Therefore, the association between the variables is positive to the extent of 0.50 ($p < 0.01$) between regular cigarette smoking and health habits) to suggest that habitual smokers are more aware of the health implications of their smoking routines. Yet it has a slightly higher correlation with health concerns at 0. 60 ($p < 0.01$) hence the findings indicate that the people, who regularly smoke cigarettes are very much concerned about the dangers arising from the use of cigarettes. This may be as a result of the effects of smoking cigarettes which are generally associated with negative health impacts. The degree the correlation with health effects is equal to 0.55 ($p < 0.01$), meaning that a regular cigarette smoker will be more likely to fall ill or develop a health complication that is related to smoking, for instance, respiratory problems.

For electronic cigarette (vape) users, the correlations are slightly lower, yet still considerable. The correlation between electronic cigarette use and health habits is 0.35 ($p < 0.05$) suggesting that they may not be as health conscious as they ought to be or as health conscious as usual cigarette smokers. With health concerns as covariate, the correlation coefficient is 0.45 ($p < 0.01$) which meant that vape users were slightly concerned about their health risks that are associated with smoking behaviors compared to cigarette smokers. The correlation with health effects is 0.40 ($p < 0.01$), which means that vape users are less likely than cigarette smokers to have severe health consequences directly attributable to their smoking but could be related to perception that vaping is safer than traditional smoking.

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Hookah smoking also exhibits significant associations. The correlation of hookah and health behaviors is 0.40 ($p < 0.01$) that like cigarette smokers, the hookah smokers are too well aware of the health related aspects of their smoking habits. The correlation with health concerns is 0.50 ($p < 0.01$), indicating that the hookah users are equally concerned for their health as those who smoke other types of cigarettes, this could be due to raised awareness of the health hazards of smoking hookah. The correlation with health effects is 0.45 ($p < 0.01$), which suggests that hookah smokers report moderate level of impact of their smoking behaviors on their health.

5. DISCUSSION

Overall, the results of this study provide important information concerning smoking habits, health concerns, and attempts to quit smoking among Iraqi students as well as they provide an insight similar to the global contexts. The demographic information shows that there is a high likelihood of smoking initiation among college students, and a considerable proportion of the participants started smoking between 18-20 years. This finding supports findings from other countries that explained that college is a crucial period in terms of the formation of smoking behavior.

Newer types of smoking include the smoking of cigarettes, electronic cigarettes, and hookah among others continues to be practiced. Another emerging behavior being practiced by the participants is poly-smoking, which refers to the use of multiple types of smoking devices. This shift raises some concern because, as other reports indicate, varied smoking forms have adverse health effects when taken together.

Regardless of the participants' understanding of the effects of smoking on health, there is a gap between acknowledging this and actually quitting smoking. While it is quite apparent for many students that smoking is associated with certain psychological and social consequences, there are quite a significant number of the students who are still in doubt as to the extent of their nicotine addiction. This uncertainty stresses that there is a lack of knowledge about addiction, which may hamper cessation efforts.

In relation to smoking cessation, while a portion of students reported trying to quit, a large portion has not used evidence-based smoking cessation strategies. In details, Only 17.8% of participants admitted to attempting cessation treatments while 45% of them said they were never willingly to use any of the interventions. This implies a deficiency in the uptake or awareness of quality cessation help. In addition, the doubts concerning the effectiveness of given cessation techniques can also pose a major challenge to quitting. Nevertheless, 70.6% of students have doubts about the efficacy of existing treatments, which may be explained by data from other international studies, where access to health care services is sometimes limited.

Participants' residential status was a significant predictor of smoking behavior whereby those who resided in dormitories had a higher prevalence of smoking. The features within the concept of shared residential setting may facilitate the observational learning of public smoking what comprises social smoking, hookah, and e-cigarettes within the dormitory known to be linked with leisure socialization among friends. Furthermore, current smokers in the study described themselves as generally being in poorer health and well-being than nonsmokers, which implies that smoking has negative health consequences.

These results are in agreement with the findings of Abdurahman & Jader (2019), who in their study revealed that 23.5% of students were smokers, with the rates being higher in males (41.9%) than females (6.8%). Furthermore, Salim Younus et al. (2023) described tobacco use among students; 33.1% of them are smokers, and a majority of them smoke hookah (47.2%), followed by cigarette smoking (39.2%) and vaping (13.6%). The relationship between tobacco use and all these variables remains constant in these studies and stresses essential need for tobacco control education at universities.

Moreover, according to Mousawi (2014) study, it was found that about half of the smokers interviewed began smoking before the age of 18 years due to such reasons as cheap tobacco prices, weak and poor restraints on the sale of tobacco products to the young people as well as tobacco product promotion. These findings portray the need for stringent policies in regulation gobal smoking rates among the youth, futher stirred by Jafari et al., (2021).

However, based on studies like those by Ahmed et al. (2021), cigarette smoking is relatively more common among students despite the popularity of hookah. Such differences in results indicate that smoking preferences among young adults may be diverse and may change depending on cultural, social, and environmental factors. However, it is crucial to confront the increasing popularity of hookah smoking that, in contrast with cigarettes, is considered as less dangerous but is also rather dangerous to people's health.

Therefore, the findings of this study reveal a complex interplay of smoking behaviors, health risks, and the efforts to quit between the Iraqi students. These results therefore underline the need for targeted and effective prevention approaches to smoking and improved knowledge about the environing factors of nicotine dependence. Therefore, increasing the availability of effective cessation programs as well as promoting smoking prevention among young adults should be deemed the priority in Iraq.

6. CONCLUSION

Tobacco smoking is common in the world and is a major health concern as it affects both the smoker and people who have close contact with the smoker. Currently, Iraq has observed a rising trend in the levels of smoking especially among the youths and

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students. The use of cigarettes, vaping and hookah is generally accepted as the new trends in smoking due to social cultural and psycho-social factors. Therefore, it becomes crucial for each to understand the behaviors and perception toward smoking on students as they are the more susceptible to the late effects of smoking. Therefore, this study highlights the importance of culture-sensitive and context-specific intervention in the fight against smoking among Iraqi youth. Through awareness creation and support of cessation initiatives as well as increasing the effectiveness of educational programs, it is possible to develop healthier habits for the most vulnerable in the population.

Recommendations:

- University Programs Educate about Tobacco
- Introduce required classes focusing on health hazards, addiction to nicotine, and methods for quitting smoking.
- Offer accessible support tools such as counseling services, anti-smoking hotlines, and nicotine replacement therapy.
- Implement campaigns to raise awareness about myths and misinformation surrounding smoking.
- Create student peer support groups for those attempting to stop smoking.
- Support imposing tougher restrictions on the sales and promotion of tobacco products, particularly when it comes to underage individuals.
- Plan health promotion events such as smoke-free campus campaigns and health expos.
- Support continued studies and observation of smoking habits in college students.
- Engage families and communities in initiatives to prevent tobacco use.
- Offer services for mental health support to tackle stress, anxiety, and peer pressure.
- Work together with health agencies to incorporate smoking cessation initiatives into public health strategies

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Appendix:

Section 1: Demographic Information

1. **Age:**
   - 18–24
   - 24–30
   - 30–36
   - 36–42
2. **Gender:**
   - Male
   - Female
3. **Academic Level:**
   - Preparatory student
   - College student
   - College graduate

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- Graduate student
- Diploma
- Masters
- PhD

4. **General Specialization:**
   - Pharmacy
   - Dentistry
   - Human Medicine
   - Veterinary Medicine
   - Health Technologies
   - Pathological Analyses
   - Other

Section 2: Smoking Habits

5. **At what age did you start smoking?**
   (Please specify your age)
6. **What was the first type of smoking you used?**
   - Regular cigarettes
   - Electronic cigarettes (vape)
   - Hookah
7. **What is your current favorite type of smoking?**
   - Regular cigarettes
   - Electronic cigarettes (vape)
   - Hookah
   - Cigarettes and hookah
   - Vape and hookah
   - Cigarettes and vape
8. **How many times do you smoke per day?**
   (Example: 20 cigarettes per day. Please write the number)

Section 3: Smoking Effects

9. **Smoking has many negative effects. What is the effect that worries you the most?**
   - Social (e.g., parents not accepting you as a smoker)
   - Psychological (e.g., feeling the need to smoke as a bad habit)
   - Health (e.g., effect on the respiratory system, reduced physical fitness)
   - Personal hygiene (e.g., body odor, smoker's breath, smoking residues)
10. **During the past month, how much do you think you spent on smoking on a weekly basis?**
    - Less than 5,000 dinars per week
    - 5,000–10,000 dinars per week
    - 10,000–25,000 dinars per week
    - More than 25,000 dinars per week
11. **Have you tried to quit smoking?**
    - Yes
    - No
12. **What is the reason that prompted you to start smoking?**
    - Social media
    - Imitating someone who smokes (parent, sibling, relative, role model)
    - Friends
    - Exposure to psychological pressure
    - Curiosity and love of experimentation
    - I don't know

Section 4: Health Concerns

13. **Do you suffer from any general health diseases?**
    - Yes
    - No
14. **Do you suffer from diseases or health symptoms related to smoking?**
    - Yes
    - No
15. **Are you concerned or worried about the health risks of smoking?**
    - Yes
    - No
    - Maybe
16. **Do you think smoking is harmful to health?**
    - Yes
    - No
    - Maybe
17. **Do you think you are addicted to smoking?**
    - Yes
    - No
    - Maybe
18. **How would you rate your need to smoke on a scale of 1 to 5?**
    (1 = Little habit or need to smoke, 5 = Addicted or unable to give it up)
    - 1
    - 2
    - 3
    - 4
    - 5

Section 5: Smoking Cessation

19. **Have you tried using any treatments to stop smoking?**
    - Yes
    - No
20. **What type of treatment have you used to stop smoking?**
    - Anti-smoking gum
    - Anti-smoking patches
    - Anti-smoking pills
    - Other
    - I haven't used any treatment yet
21. **Do you think anti-smoking methods work?**
    - Yes
    - No
22. **What do you think is the best way to stop smoking?**
    - Anti-smoking patches
    - Anti-smoking gum
    - Anti-smoking pills
    - No effective method
    - I have no idea

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