

The Impact of Smoking on the Health and Academic Level of Male High School Students in Anbar

Esraa Abd AL-Karim Marouf

Follow this and additional works at: <https://journal.nuc.edu.iq/home>



Part of the [Medical Sciences Commons](#)



The Impact of Smoking on the Health and Academic Level of Male High School Students in Anbar

Esraa Abd AL-Karim Marouf 

Nanomaterials Research Center/ University of Anbar, Ramadi, Iraq

Abstract

Many studies have been conducted on the effects of smoking of all kinds on middle and high school students. Furthermore, smoking has recently become normal lifestyle for many university and school students (especially in the preparatory and secondary stages). Where smoking included tobacco cigarettes, e-hookah and hookahs of various types and flavors. As is well known, smoking has many negative effects on health, physical, psychological, cognitive, social and economic aspects. According to the World Health Organization, the use of tobacco leads to catastrophic effects on public health and it's a direct cause of death for more than 7 million people and an indirect cause of death for 1.2 million people annually worldwide. This research aims to conduct a statistical study of some boys' schools in Anbar Governorate about smoking - its harms - ways to avoid it and tips for quitting with the aim of educating students about the real dangers of smoking and its negative effects on their health, yearly grade point average (GPA), absenteeism rate and academic achievement in the future. The results: average and the rate of absence, as is clear from the statistical tables and charts. Conclusion: All types of smoking are harmful to students in every aspect, including health, finances, academic level, and consequently academic future.

Keywords: Impact, Smoking, Health, Academic, Male, High school, Students

1. Introduction

Tobacco is a harmful substance and contains 4000 hurtful substances, as well as all types of its products are also hurtful. There is no appropriate amount of tobacco consumption, as the most widespread and consumed way of tobacco is the use of cigarettes (Mohammed & Al-kerety, 2023; World Health organization, 2023; Abdel-Salam *et al.*, 2021). Smoking tobacco is considered one of the biggest health threats. There are ways to use tobacco (burning or inhaling). The first way is by burning tobacco, such as using cigarettes, rolled tobacco, and other forms that are frighteningly widespread around the world while the second way by inhaling tobacco like regular and electronic hookahs. Tobacco, no matter how it is consumed is considered the main cause of death and infection with many diseases because tobacco contains many harmful chemicals, including nicotine (Czoli *et al.*, 2017; West, 2017).

Despite the continuous warnings about the dangers of using tobacco containing nicotine and its negative effects on health, its global spread among adults in general and adolescents in particular is still steadily increasing (Alqahtani *et al.*, 2023). Previous observational studies have shown a relationship between smoking in its various behaviors and types and impaired cognitive ability and lower educational achievement, although determining a causal relationship is difficult (Gage *et al.*, 2022). Other research has shown that the academic difficulties students face at school are closely linked to smoking, regardless of the smoking behaviors followed by the student, as well as drug abuse, poor psychological and social performance, and a stressful psychological state during the study period (Hamzeh *et al.*, 2020).

Nicotine is the substance that causes addiction in all types of cigarettes, and its use leads to psychological and physiological effects. Likewise, extracts

from cigarette smoke of all types cause an imbalance between vasodilators and vasoconstrictors, and also stimulate inflammation of the pulmonary artery and airway cells in humans (Alqarni *et al.*, 2022; Alshehri *et al.*, 2019).

An American study showed that the relationship between educational attainment and smoking is inverse, with smoking rates decreasing among students as their educational level increases (Jamal *et al.*, 2015). Other studies have also found that smoking rates among four-year college students are lower than those among institute students, and that smoking rates among students who have only completed high school are significantly higher, respectively (Berg *et al.*, 2012; Solberg *et al.*, 2007).

Due to the lack of financial resources, cadres and specialized research in the past ten years, the number of studies that provided evidence on smoking consumption was small. Recently, a huge increase in the number of student smokers was observed, especially during adolescence in Iraq (Mousawi, 2014), as Iraqis, especially teenagers, increasingly became accustomed to smoking using regular and electronic hookahs, as the situation developed into a regular social habit (Ramadhan & Habeeb, 2022). Also, advertisements for flavored tobacco with various flavors appeared and are desired in Iraqi society, in addition to the lack of regulations and laws within Iraq and the absence of oversight on this important issue, which leads to the excessive use of tobacco and its products. This is an indication that it has indeed become a dangerous global epidemic and has a dangerous imprint on increasing disease rates and deaths (Alves *et al.*, 2022). Therefore, our study aims to assess the level of smoking among Anbar school students, given its importance to adolescents, who represent the youth of the future.

2. Practical part

Research Protocol: The study was descriptive and not experimental, as modern methods were used to explain the dangers of smoking through modern videos, explanatory posters, and interactive discussions about the harm caused by all types of smoking on the scientific, health, and academic levels of students.

Subjects: Our project involved approximately 1,540 male students from five schools (308 male students from each school) aged 12–20 from middle and high school. They were divided into two main groups (teenagers and adults), respectively. Each group was further divided into three subgroups: the teen group included first, second, and third grades, while the

adult group included fourth, fifth, and sixth grades, respectively.

1- Group of Teenage Students:

- A- First grade
- B- Second grade
- C- Third grade

2- Group of Adult Students:

- A- Fourth grade
- B- Fifth grade
- C- Sixth grade

Each of the above grades includes two or more sections, depending on the number of classrooms available in the school, also the fifth and Sixth secondary grades include two types of study: scientific and literary. A questionnaire was distributed to all students, which included important questions such as the type of smoking, number of times smoking, quantity smoking, academic level, days of attendance and absence, class participation in all academic subjects, and other important questions for the study and the student. In addition, the questionnaire included personal information for each student and additional important information such as the academic achievement of parents, brothers and sisters, financial and social status, family relationships, etc.

2.1. Ethical considerations

In accordance with the commitments of scientific research ethics, an official request was submitted to the Directorate of Education in Anbar Governorate to contact the principals of some of the governorate's schools to obtain their official approval to conduct the study.

2.2. Statistical calculations

We performed statistical calculations using the SAS statistical program and noted that the statistical significance value was $p < 0.002$ and 0.001 .

3. Results

The current study was conducted on five male Schools in Anbar. A total 1540 of male's students were participants from different schools in Anbar and divided into two main groups (Teenage & Adult) which each one subdivided into three subgroup as explained above. The statistical numbers of smokers and non-smokers as compared to the total number of students in each class of the teenage group was explained in Fig. 1.

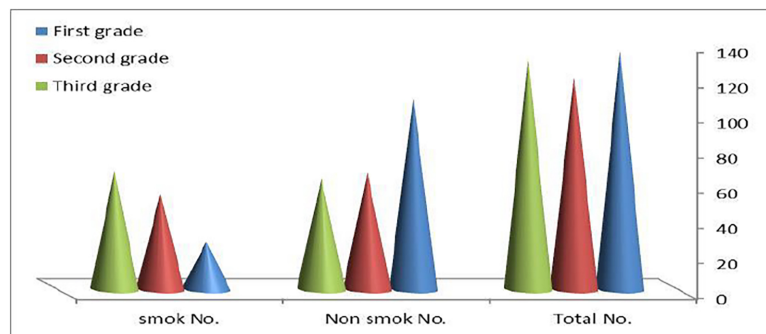


Fig. 1. Shows the total number of students in each class and the number of smokers and non-smokers, respectively of the teenage group.

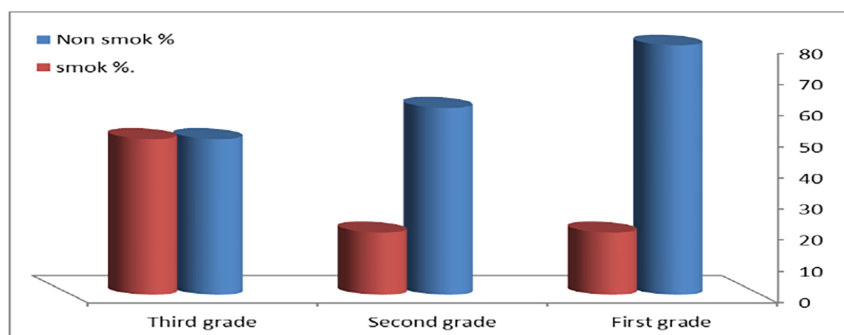


Fig. 2. Shows the percentages of smokers and non-smokers students as compared to the total number of students in each class in the teenage group.

We notice that the highest percentage of smokers in the teenage group is in the third grade, the second and the first, respectively, as shown in Fig. 2.

Again the statistical numbers of smokers and non-smokers as compared to the total number of students in each class of the adult group was explained in Fig. 3.

Also, we notice that the highest percentage of smokers of the adult group is in the third grade, the second and the first, respectively, as shown in Fig. 4.

Table 1 shows the percentages of smoking and non-smoking students in general. It also shows the

percentages of smoking and non-smokers in the preparatory and secondary stages, where each stage is divided into three other stages.

Table 2 shows the percentages of low academic grades for middle school students at its three levels for Preparatory school students.

Table 3 Shows the percentages of low academic grades for middle school students at its three levels for High School Students.

Table 4 shows the percentages of Distribution of pupils According to negative effects on their yearly absenteeism rate in Preparatory Students.

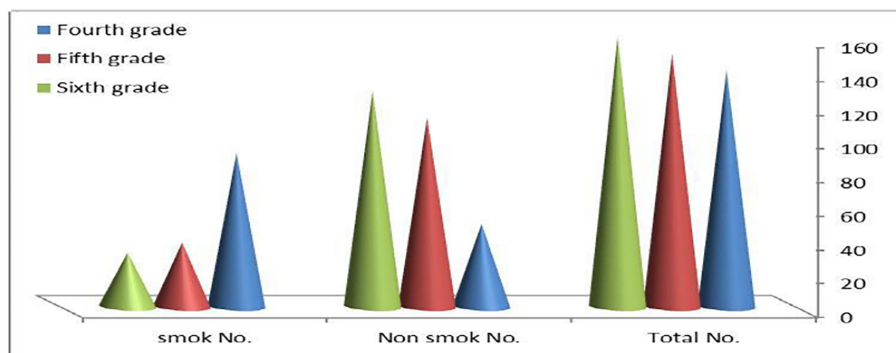


Fig. 3. Shows the total number of students in each class and the number of smokers and non-smokers, respectively in the adult group.

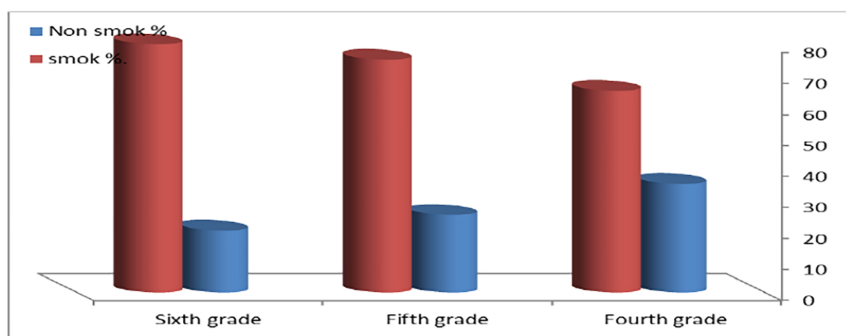


Fig. 4. Shows the percentages of smokers and non-smokers students as compared to the total number of students in each class of the adult group.

Table 1. Distribution of pupils according to smoking and non-smoking habits in preparatory and high school students.

Habit	Total	Percentage %	stage	P Value
Smoking	808	52%	Preparatory & secondary	p < 0.002
Non Smoking	732	48%	Preparatory & secondary	
Total	1540	100%	Preparatory & secondary	
Smoking	220	37%	Preparatory	p < 0.002
Non Smoking	380	63%		
Total	600	100%		
Smoking	26	15%	1st Stage	p < 0.002
Non Smoking	144	85%		
Total	170			
Smoking	67	35%	2nd Stage	p < 0.002
Non Smoking	123	65%		
Total	190			
Smoking	120	50%	3ed Stage	p < 0.002
Non Smoking	120	50%		
Total	240			
Smoking	642	68%	Secondary	p < 0.002
Non Smoking	298	32%		
Total	940	100%		
Smoking	165	55%	4th Stage	p < 0.002
Non Smoking	135	45%		
Total	300	100%		
Smoking	203	70%	5th Stage	p < 0.002
Non Smoking	87	30%		
Total	290	100%		
Smoking	280	80%	6th Stage	p < 0.002
Non Smoking	70	20%		
Total	350	100%		

Table 5 shows the percentages of Distribution of pupils According to negative effects on their yearly absenteeism rate in High School Students.

4. Discussion

This is the first study in Anbar schools that deals with this topic due to the seriousness of its impact on adolescents in general and students in particu-

lar, who represent the promising future of conscious youth. We have observed the impact of smoking in its various forms on Iraqi adolescents and students in particular in Anbar, where previous studies in Baghdad and Karbala confirm the results we have reached regarding negative effects on the educational level, academic achievement, frequent absences, and weak reception of information by smokers if we compare them to non-smokers, as we notice in

Table 2. Non-smokers versus smokers GPA in preparatory students.

GPA	<59	60–69	70–79	80–89	90–100	stage	P Value
Smoking	4.4 %	9.3%	16.3%	47.6%.	22.4%	Preparatory	p < 0.002
Non Smoking	3.0%	7.0%	8.5%	41.3%	40.2%	1st Stage	
Smoking	3.0%	10.1%	18.4%	48.2%	20.3%	2nd Stage	p < 0.002
Non Smoking	3.7%	6..3%	8.3%	40.3%	41.4%		
Smoking	2.8%	9.6%	19.1%	47.3%	21.2%	3ed Stage	p < 0.002
Non Smoking	3.5%	5.5%	9.4%	41.4%	40.2%		
Smoking	3.4%	10.1%	17.4%	46.1%	23.0%		p < 0.002
Non Smoking	3.0%	6.0%	9.3%	39.3%	42.4%		

Table 3. Non-smokers versus smokers GPA in high school students.

GPA	59<	60–69	70–79	80–89	90–100	stage	P Value
Smoking	5.4 %	10.3%	18.3%	45.6%.	20.4%	Secondary	p < 0.001
Non Smoking	2.0%	6.0%	7.5%	43.0%	41.5%	4th Stage	
Smoking	4.0%	10.1%	16.4%	46.2%	21.3%	5th Stage	p < 0.001
Non Smoking	3.7%	6..3%	8.3%	40.3%	41.4%		
Smoking	3.8%	9.5%	18.1%	47.0%	21.7%	6th Stage	p < 0.001
Non Smoking	3.2%	5.5%	9.4%	41.0%	40.4%		
Smoking	5.3%	10.2%	15.4%	46.1%	22.0%		p < 0.001
Non Smoking	3.0%	6.8%	9.2%	40.3%	41.5%		

Table 4. Distribution of pupils according to negative effects on their yearly absenteeism rate in preparatory students.

GPA	<59	60–69	70–79	80–89	90–100	stage	P Value
Smoking	4.4%	9.3%	16.3%	47.6%.	22.4%	Preparatory	p < 0.002
Non Smoking	3.0%	7.0%	8.5%	41.3%	40.2%	1st Stage	
Smoking	3.0%	10.1%	18.4%	48.2%	20.3%	2nd Stage	p < 0.002
Non Smoking	3.7%	6.3%	8.3%	40.3%	41.4%		
Smoking	2.8%	9.6%	19.1%	47.3%	21.2%	3ed Stage	p < 0.002
Non Smoking	3.5%	5.5%	9.4%	41.4%	40.2%		
Smoking	3.4%	10.1%	17.4%	46.1%	23.0%		p < 0.002
Non Smoking	3.0%	6.0%	9.3%	39.3%	42.4%		

Table 5. Distribution of pupils according to negative effects on their yearly absenteeism rate in high school students.

Habit	No absence	1–2 days	3–4 days	5–6 days	Above 6 days	stage	P Value
Smoking	14.1%	27.3%	35.3%	13.6%.	9.4%	Secondary	p < 0.001
Non Smoking	31.0%	29.2%	18.8%	14.0%	8.%	4th Stage	
Smoking	14.4%	27.1%	35.6%	13.3%.	9.3%	5th Stage	p < 0.001
Non Smoking	31.1%	29.1%	18.7%	14.1%	8.2%		
Smoking	14.%	26.8%	35.0%	13.7%.	9.6%	6th Stage	p < 0.001
Non Smoking	31.0%	29.2%	18.8%	14.0%	8.%		
Smoking	14.0%	27.4%	35.5%	13.5%.	9.1%		p < 0.001
Non Smoking	31.0%	29.3%	18.7%	13.9%	8.1%		

Figs. 1 to 4, as well as detailed Tables 1 to 5, which show the numerical statistics of smokers and non-smokers (Mohammed & Al-kerety, 2023).

Our study also showed that smoking affects the future academic level of students because cigarettes contain dangerous chemicals that have negative side effects in all aspects, especially health (Ullah *et al.*, 2019; Stea & Torstveit, 2014; Gaffar *et al.*, 2013; Alkhalaf *et al.*, 2021).

Smoking rates among young people and teenagers are increasing dramatically around the world, with Iraq recording over 21% of the prevalence of smoking among teenagers (13–18 years) and young men, as young boys believe that smoking is a sign of maturity and manhood (Hajee & Agha, 2022).

Other studies have indicated that smoking also causes poor performance in students in the long term, especially medical students and military students, as these specialties require a great deal of effort and physical fitness. Other studies have also demonstrated the negative impact of smoking on the future academic performance of graduate students, as it negatively impacts their thinking patterns and academic performance (Jamal *et al.*, 2015).

The educational attainment of students is considered the correct statistical and social condition to build an educated generation with high efficiency and good health, as high educational attainment is linked to good behaviors related to good health and a correct lifestyle with a positive mentality to build an aware and healthy society, and ultimately the average lifespan of young people will be longer (Gaffar *et al.*, 2013; Alkhalaf *et al.*, 2021).

5. Conclusion

We observed that smoking, in its various forms (nicotine cigarettes, e-hookahs, and regular hookahs), negatively impacts students' health at all levels of study, their attendance, and absences. It also negatively impacts their educational and performance levels, and subsequently their future academic and cultural performance. Our study demonstrated a strong negative relationship between the quantity and type of smoking consumed by students and their lower educational level, educational attainment and attendance rates, which is reflected in lower academic achievement, lower GPAs, and miserable grades.

6. Recommendations

We recommend the need to monitor and educate students through awareness sessions and preventative education programs. We also recommend monitoring parents through meetings and instructing them

to monitor their children to identify the reasons behind this dangerous phenomenon, to control it, and to limit its spread.

References

- Mohammed, R. A., & Al-kerety, S. H. F. (2023). The Association Between School Environment and Smoking Behaviors Among Secondary Schools Students.
- World Health organization. (2023, July 31). Tobacco. Who.int; World Health Organization: WHO. <https://www.who.int/news-room/fact-sheets/detail/tobacco>.
- Abdel-Salam, A. S. G., Ramzan, M., & Siddiqui, Z. (2021). Statistical analysis for the impact of smoking on the behavior and health of Qatari adolescents. *International journal of adolescent medicine and health*, 33(1).
- Czoli, C. D., Fong, G. T., Mays, D., & Hammond, D. (2017). How do consumers perceive differences in risk across nicotine products? A review of relative risk perceptions across smokeless tobacco, e-cigarettes, nicotine replacement therapy and combustible cigarettes. *Tob Control*, 26(e1), e49–e58. doi:10.1136/tobaccocontrol-2016-053060.
- West, R. (2017). Tobacco smoking: health impact, prevalence, correlates and interventions. *Psychol Health.*, 32(8), 1018–1036. doi:10.1080/08870446.2017.1325890.
- Alqahtani, *et al.* (2023). Substance Abuse and Rehabilitation. *Impact of Smoking Status and Nicotine Dependence on Academic Performance of Health Sciences Students*, 14, 13–24.
- Gage, S. H., Sallis, H. M., Lassi, G., Wootton, R. E., Mokrysz, C., Davey Smith, G., & Munafo, M. R. (2022). Does smoking cause lower educational attainment and general cognitive ability? Triangulation of causal evidence using multiple study designs. *Psychological Medicine*, 52, 1578–1586. <https://doi.org/10.1017/S0033291720003402>.
- Hamzeh, B., Farnia, V., Moradinazar, M., Pasdar, Y., Shakiba, E., Najafi, F., & Alikhani, M. (2020). Pattern of cigarette smoking: intensity, cessation, and age of beginning: evidence from a cohort study in West of Iran. *Substance abuse treatment, prevention, and policy*, 15(1), 1–9.
- Alqarni, A. A., Brand, O. J., Pasini, A., Alahmari, M., Alghamdi, A., & Pang, L. (2022). Imbalanced prostanoind release mediates cigarette smoke-induced human pulmonary artery cell proliferation. *Respir Res.*, 23(1), 136. doi:10.1186/s12931-022-02056-z.
- Alshehri, W., Tatler, A., Alqarni, A., Alahmari, M., Alghamdi, A., & Pang, L. (2019). Effect of cigarette smoke extracts (CSE) and e-cigarette vapour extracts (ECVE) on the production of cytokines and chemokines in human airway smooth muscle cells (HASMCS). *Eur Respir J.*, 54, PA2407.
- Jamal, A., Homa, D. M., O'Connor, E., *et al.* (2015). Current cigarette smoking among adults—United States, 2005–2014. *MMWR Morb Mortal Wkly Rep*, 64, 1233–1240. DOI: 10.15585/mmwr.mm6444a2 [PubMed: 26562061].
- Berg, C. J., Ling, P. M., Hayes, R. B., *et al.* (2012). Smoking frequency among current college student smokers: distinguishing characteristics and factors related to readiness to quit smoking. *Health Edu Res*, 27(1), 141–50. DOI: 10.1093/her/cyr106
- Solberg, L. I., Asche, S. E., Boyle, R., *et al.* (2007). Smoking and cessation behaviors among young adults of various educational backgrounds. *Am J Public Health*, 97(8), 1421–1426. [PubMed: 17600256].
- Mousawi, A. A. (2014). The prevalence of smoking among Kerbala/Iraq university students in Iraq in 2005. *Tobacco Use Insights*, 7, TUI-S12238.
- Ramadhan, D. S., & Habeeb, M. B. (2022). Using the Transtheoretical Model of Change to Understand High School Students Hookah Smoking Behavior. *Pakistan Journal of Medical & Health Sciences*, 16(05), 509–509.
- Alves, M. G. O., Carvalho, B. F. D. C., Marques, S. S., Lopes, M. A., & Almeida, J. D. (2022). Waterpipe tobacco smoking and oral health: what is important to know?. *Addiction*, 117(5), 1493–1494.

- Ullah, S., Sikander, S., Abbasi, M. M. J., *et al.* (2019). Association between smoking and academic performance among undergraduate students of Pakistan, a cross-sectional study. *Research Square*.
- Stea, T. H., & Torstveit, M. K. (2014). Association of lifestyle habits and academic achievement in Norwegian adolescents: a cross-sectional study. *BMC Public Health*, 14, 829. doi:[10.1186/1471-2458-14-829](https://doi.org/10.1186/1471-2458-14-829).
- Gaffar, A. M., Alsanosy, R. M., & Mahfouz, M S. (2013). Sociodemographic factors associated with tobacco smoking among intermediate and secondary school students in Jazan Region of Saudi Arabia. *Subst Abus.*, 34(4), 381–388. doi:[10.1080/08897077.2013.779361](https://doi.org/10.1080/08897077.2013.779361).
- Alkhalaf, M., Suwyadi, A., & AlShamakhi, E., *et al.* (2021). Determinants and prevalence of tobacco smoking among medical students at Jazan University, Saudi Arabia. *J Smok Cessat.*, 2021, 6632379. doi:[10.1155/2021/6632379](https://doi.org/10.1155/2021/6632379).
- Hajee, B. A. R. B., & Agha, S. Y. (2022). Tobacco Smoking and Alcohol Drinking among Youth in Duhok, Iraq: A Cross-sectional Study. *Journal of Clinical & Diagnostic Research*, 16(4).