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Awareness of the Health Effects of Smoking Among Secondary School Students in Benghazi City.

Samira H. Belkheir[1]*, Souad F. El-mani[2], Amina J. Al werfalli[3]

Original Research Article

Abstract

Background: Increasing public awareness of the health risks associated with tobacco smoking is one of the most effective strategies for reducing tobacco use.

Aim: To assess the level of awareness about the health risks of smoking among secondary school students in Benghazi City.

Methods: A cross-sectional study was conducted involving male secondary school students .in Benghazi.

Results: The study included 345 students their mean age was 16.9±0.83 years. Prevalence of smoking in students was 12.8%, while 5.2% were ex-smoker and 82% never smoke. Rate of smoking decrease by increasing the level of father's education. Mean age of starting smoking was 13.5±2.1years, 18.2% of current smoker start smoking at age ≤10years.Current smoker 77.3% of them their friends were smoker.More than half (56.8%) of current smoker their fathers were smoker .Opinion of student about smoking , 86.9% they were sure about the effect of smoking to health ,about the effect of their friends on acceptability of smoking only 7% were sure ,69.3% of student sure about harmful effects of passive smoking , only half (52.3%) of smoker had desire to quit smoking .The range of their knowledge about Harmful effects of smoking was 93% for Cardiovascular diseases and lung cancer to 50% for male infertility . Majority tried to stop smoking (81.8%). Source of information about smoking was 41.7% from family &friends.

Conclusion: This study demonstrates the significance of parents' educational attainment in relation to their children's smoking behavior. The presence of a family member who smokes at home has an impact on this influence. Additionally, it demonstrates that when teenagers are young and spend a lot of time with their friends, the actions of those who smoke have a big impact on the others. The majority of students knew that smoking cigarettes has health risks.

Key words: Smoking, Adolescent, knowledge, attitude, students practice .

1. *Lecturer, Department of Medicine, Faculty of medicine , Benghazi University, Benghazi, Libya.*
2. *Lecturer, Department of Nutrition, Faculty of Public Health, Benghazi University, Benghazi, Libya.*
3. *Specialist of internal medicine, Department of Medicine, Benghazi Medical Center, Benghazi, Libya.*
**Corresponding author: Samira H. Belkheir, Email: samira.belk313@gmail.com.*

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Introduction:

Smoking is a major public health concern, responsible for around six million deaths globally every year. (1) The leading causes of death include lung cancer, ischemic heart disease, stroke, and chronic obstructive pulmonary disease (COPD). (2) Most smokers start at a young age, with 83% of smokers in the United States beginning before the age of 18yrs. (3) Smoking in childhood and adolescence leads to both immediate and long-term health problems. Reduced lung development and function, shortness of breath, and decreased exercise capacity are common early symptoms, often misdiagnosed as asthma. Additionally, early smoking increases the risk of lung cancer, esophageal, bladder, and oropharyngeal cancers, as well as heart disease and stroke in adulthood. (4) There is also an increased risk of atherosclerosis and engagement in risky behaviors such as drug use and violence among young smokers. (4) Furthermore, exposure to secondhand smoke can cause serious health issues in people who do not smoke.(5) Tobacco use typically begins during adolescence, and the earlier an individual starts smoking, the more difficult it becomes to quit later in life.(3) This early initiation of smoking is a critical public health concern, as adolescent smoking often leads to lifelong addiction and significant health risks, including respiratory and cardiovascular diseases shows that children in middle-class American families start smoking at an average age of 8.5 years, with the onset of smoking behaviors ranging between 6 and 11 years old(3).In 2006, 6.8% of students between the ages of 11 and 14 in the U.S. reported smoking (6), and 12.6% of high school students re-

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ported using two or more smoking products (7).By 2011, smoking prevalence among boys aged 13 to 15yrs ranged from 7.9% to 15.9% in several countries, including the U.S., Germany, Turkey, Greece, and Serbia(2,3,6). Global comparison highlights the persistence of adolescent smoking across different cultural and socioeconomic settings. The U.S. Centers for Disease Control and Prevention (CDC) showed that in 2021, 4.0% of middle school students and 13.4% of high school students had used a tobacco product at least once in the past month (8). Despite widespread anti-smoking campaigns, tobacco use among young people remains a major concern in the U.S. If the current smoking rate among youth continues, 5.6 million Americans under 18 are projected to die prematurely from smoking-related illnesses (9). This equates to around 1 in every 13 Americans who are currently aged 17 or younger. (9)

Despite widespread information about the dangers of smoking, the prevalence of teenage smoking remains high. Teaching students about these risks, along with the dangers of secondhand smoke, is crucial in efforts to reduce tobacco use. (5) .

Aim: To assess the level of awareness about the health risks of smoking among secondary school students in Benghazi City.

Methods and materials:

A cross-sectional study was conducted among 345 male secondary school students in Benghazi between the 1st. of February to the 31st. of March 2023. Stratified random sampling ensured the participation of students from various schools in Benghazi (private). All participants were selected from different grade levels, only male students were included

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due to cultural stigmas against female smoking.

Data collection:

A pre-tested, an anonymous self-completion questionnaire was used to gather data. The students were asked questions regarding demographic data, smoking status, the age at which they start smoking. In addition, they were asked about the smoking status of their parents, family members and friends. Finally, they were asked about their awareness of harmful effects of smoking, Previous attempt to stop smoking and the source of information about smoking.

Type of the sample: Convenence sample, students available during time of collection of data were included in the study.

Sample size: Number of students in 6 selected private school were (1700 students)

Sample size by Krjcie & Morgan sample size table (10) was 313, 10% of the sample was added for any missing data (32 student)313+32= 345 students.

Statistical Analysis:

Data were analyzed using SPSS version 26. Descriptive statistics were used as mean, standard deviation, minimum and maximum value. Inferential statistic was used as x^2 test considered significant when $p \leq 0.05$. Data was represented in form of tables and figures.

Ethical consideration:

Anonymous self-completion questionnaires were used to ensure the confidentiality of collected information. Verbal consent was obtained from all students and head master of the schools.

Results:

-The students' ages ranged from 15 to 19 years, with 17 years being the most common (48.7%), while only 2% of the students were 19

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years old (Figure 1).

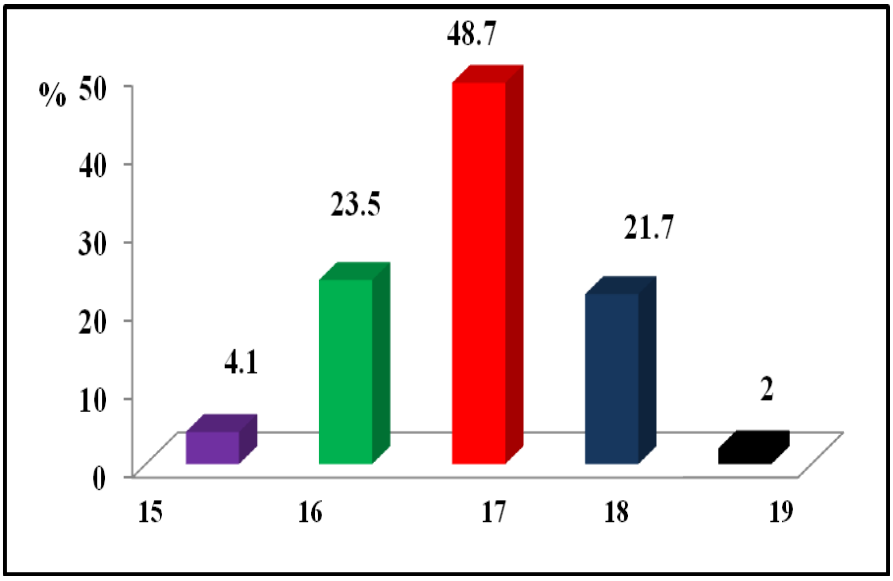


Figure. (1): Distribution of student according to age.

-Mean age =16.9years. Std. Deviation = 0.83, Median=17years, Minimum=15years, Maximum=-19years.

-The vast majority of the students had never smoked (82%), 5.2% were ex-smokers, and 12.8% were current smokers (Figure 2).

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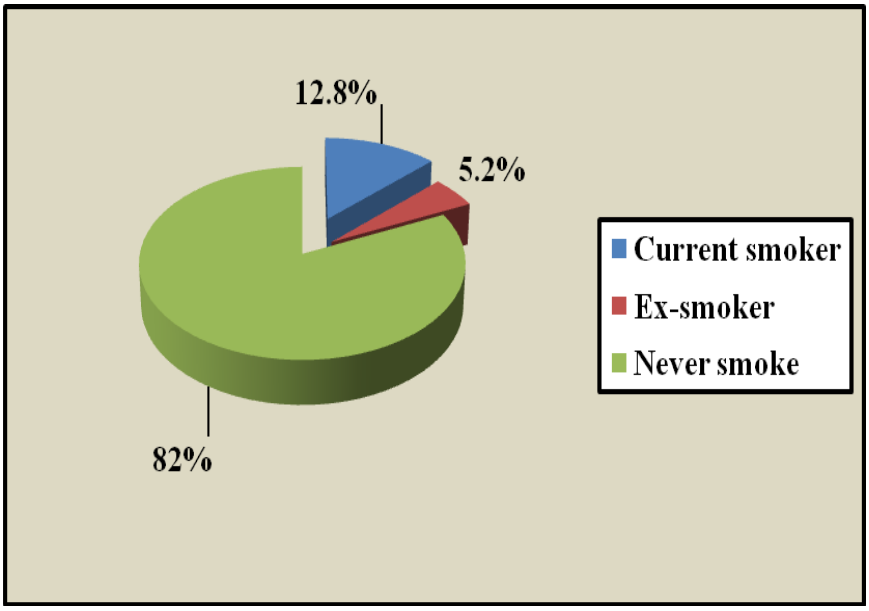


Figure. (2): Distribution patients according to smoking status of students.

-Among all the studied socio-demographic factors, a lower level of father's education, father's smoking, friends' smoking, and the presence of other smokers in the family were significantly ($P < 0.05$) associated with students' smoking habits, Table (1).

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Table .(1): Social factors and smoking among secondary school students.

Factors	Smoker (%)	Ex-smoker (%)	Non-smoker (%)	P -value
Age /year 15 16 17 18 19	0 (0) 7 (8.6) 21 (12.5) 13 (17.3) 3 (42.9)	14(100) 71(87.7) 137(81.5) 8(77.3) 3(42.9)	0(0) 3(3.7) 10(6) 4(5.3) 1(14.2)	0.096
Father's education Primary Secondary University	9(47.4) 18(12.4) 17(9.4)	1(5.2) 7(4.8) 10(5.5)	9(47.4) 120(82.8) 154(85.1)	0.0001*
Mother's education Primary Secondary University	5(27.8) 14(12.8) 25(11.5)	2(11.1) 4(3.7) 12(5.5)	11(61.1) 91(83.5) 181(83)	0.184
Father's work Employee Self employed Not employed	23(10.8) 20(15.6) 0(0)	12(5.7) 6(4.7) 0(0)	177(83.5) 102(79.7) 4(100)	0.651
Mother's work Employee House wife	25(14.1) 19(11.3)	8(4.5) 10(6)	144(81.4) 139(82.7)	0.642
Age of starting smoking ≤10 11-15 >15	8(18.2) 28(63.6) 8(18.2)	1(5.6) 15(83.3) 2(11.1)	- - -	0.357
Friends who smoke Yes No	34(77.3) 10(22.7)	14(77.8) 4(22.2)	135(47.7) 148(52.3)	0.0001**
Fathers who smoke Yes No	25(56.8) 19(43.2)	11(61.1) 7(38.9)	103(36.4) 180(63.6)	0.006**
Other person at home who smoke Yes No	24(54.5) 20(45.5)	6(33.3) 12(66.7)	72(25.4) 211(74.5)	0.019*

* Significant. ** Highly significant.

-According to the majority of the students, both active and passive smoking were considered harmful to health (86.9% and 69.3%, respectively). Only 7% of the students agreed that friends influenced their acceptance of smoking.

-More than half of the students (52.3%) had a desire to quit smoking, table (2).

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Table .(2): Opinion of students about smoking

Opinion of students about smoking	Yes sure		Perhaps yes		Perhaps no		Not sure		No answer	
	No	%	No	%	No	%	No	%	No	%
Smoking affects the health	300	86.9	23	6.7	6	1.7	12	3.5	4	1.2
Short term of smoking unsafe	24	7	38	11	28	8.1	206	59.7	49	14.2
Effect of their friends on acceptability of smoking	24	7	31	9	24	7	266	77	0	0
Harmful effects of passive smoking:	239	69.3	45	13	20	5.9	25	7.2	16	4.6
Stop smoking (desire to quit smoking)*	23	52.3	12	27.3	4	9	5	11.4	-	-

-The majority of the students were aware of most of the harmful effects of smoking. However, only half (50%) knew about its impact on male fertility (Table 3)

Table .(3): Knowledge of students about the harmful effects of smoking

Harmful effects of smoking	Yes		No		Do not know	
	No	%	No	%	No	%
Asthma	310	90	10	3	25	7
Cardiovascular diseases	321	93	9	3	15	4
Chronic cough	306	89	18	5	21	6
Lung cancer	322	93	8	3	15	4
Esophagus cancer	275	80	36	10	34	10
Urinary bladder cancer	221	64	75	22	49	14
Pharynx cancer	292	85	28	8	25	7
Gum cancer	293	85	27	8	25	7
Hypertension	253	73	45	13	47	14
CVA	269	78	36	10	40	12
Male infertility	174	50	110	32	61	18
Stomach ulcer	235	68	63	18	47	14
Dental carries	300	87	24	7	21	6
Stress	245	71	60	17	40	12
Social fight	261	76	48	14	36	10
PVD	251	73	46	13	48	14

-Figure 3 shows that a large percentage (81.8%) of the smokers had made at least one attempt to quit smoking.

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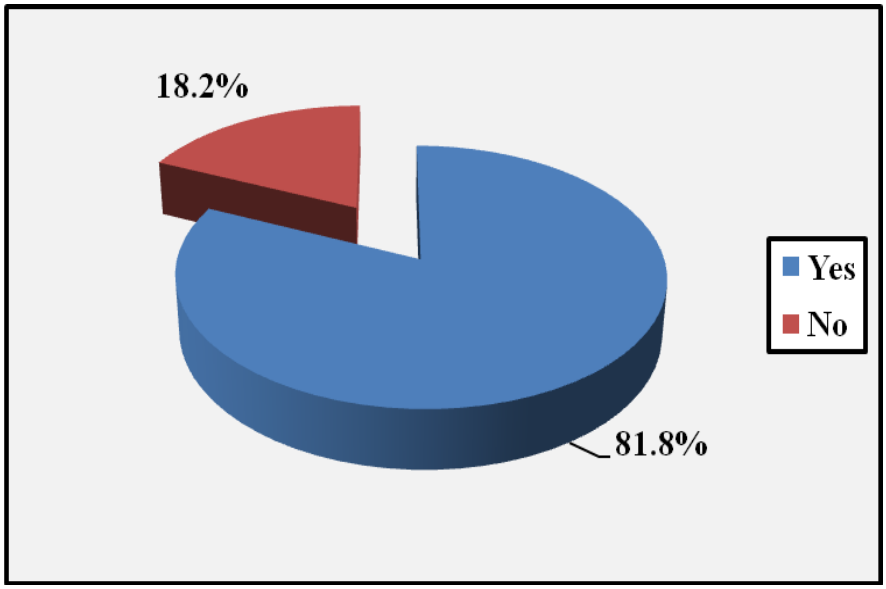


Figure.(3): Previous attempt to stop smoking.

The most common sources of information were friends and family (41.7%), followed by the internet (29.9%). Only 2.9% of the students gained their knowledge about smoking from awareness campaigns, and television was a source for just 1.2% of the students, figure (4).

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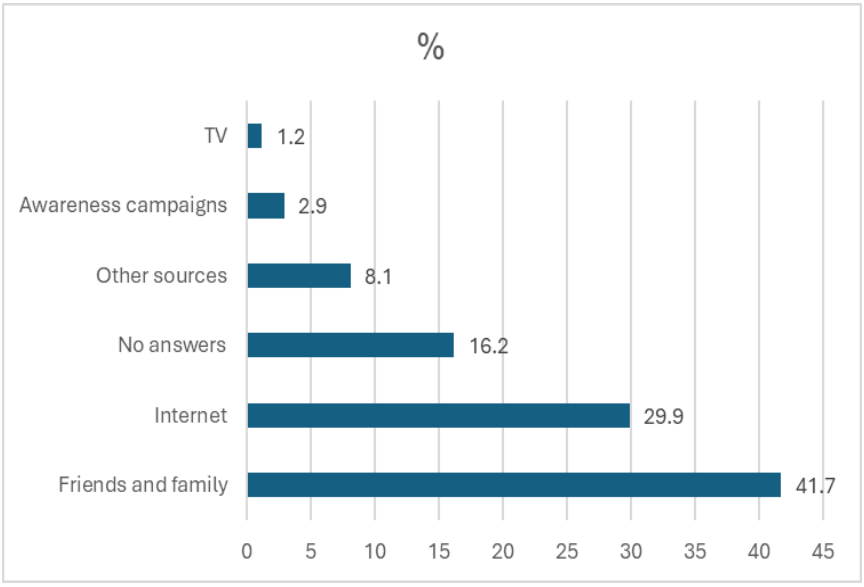


Figure. (4): Source of information about smoking.

Discussion:

The study included 345 student their Mean age was 16.9±0.83 years, with minimum age 15 years and maximum 19years, around half of them (48.7%) their age was 17 years. Prevalence of smoking in students was 12.8%, while 5.2% were ex-smoker and 82% never smoke. This result similar to other study were 13.4% of high school students in the U.S. admitted that they using tobacco products regularly (4), also similar to nearby counties such Egypt and Tunis (12% and 16%respectively), (11-12) while in Saudia (37%) were currently smoked, and of these, 83.7% had started smoking at the age of 14 years or less. (13)

There was no effect of student age in smoking status p =0.096 or fathers education p= 0.561.

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Rate of smoking decrease by increasing the level of education of their father's primary education fathers 47.4% of their children were smoker, secondary level 12.4% smoker and university level 9.4% of their children were smoker p 0.0001highly significant, the result similar to other study (13).The mothers education level had the same pattern of fathers level, 37.8% of primary level their children were smoker, 12.8% of secondary level and 11.5% of university level but this difference was not statistically significant p = 0.184, but in other study the association was significant.(13). The significant effect of the father's and mother's education on their children's behavior is to be expected especially in the Libyan society where children of that age are still presumably influenced by their home values and beliefs. Moreover, it is assumed that a better educated mother and/or father could deal, in most cases, more effectively and rationally with the behavior of their children. (14,15)

There was no relation of father's occupation and smoking status of student, p= 0.651, nor mothers' occupation affect the smoking status p =0.642, the result similar to Saudia study. (13). Mean age of starting smoking was 13.5±2.1years, with median 14 years, minimum age was 9 years and maximum were 17years, in other study the mean age was 17.06±0.8years (13).Age of starting smoking ,18.2% of current smoker start smoking at age ≤10years, 63.6% of them start at age 11- 15 years and 18.2% start smoking at age more than 15 years , 5.6% of ex-smoker start smoking at age ≤10years , 83.3% start at age 11-15 years and 11.1% start at age >15years , the difference between

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smoker and ex-smoker on age of starting smoking was not statistically significant p value =0.357. At this age, it is expected that peer pressure will play an important role on the students' behavior, current smoker 77.3% of them their friends were smoker, 77.8% of ex-smoker their friends were smoker , and 47,7% of never smoke their friends were smoker, this difference was highly statistically significant p value=0.0001 .More than half (56.8%) current smoker their fathers were smoker, 61.1% of ex-smoker their fathers were smoker and 63.6% of never smoke had their fathers were smoker, this difference was statistically significant p value = 0. 006.Current smoker 45.5% of them had family member smoker, 33.3% of ex-smoker had family member smoker, while never smoker had 25.4% of family member smoker. this difference was statistically significant p value=0.019, these results similar to other study finding (13).Opinion of student about smoking, 86.9% they were sure about the effect of smoking to health, but 59.7% of them not sure that the short term of smoking unsafe, about the effect of their friends on acceptability of smoking only 7% were sure ,69.3% of student sure about harmful effects of passive smoking , only half (52.3%) of smoker had desire to quit smoking In other study only 47.6% of students aware of bad effect of passive smoking (13).The range of their knowledge about Harmful effects of smoking was 93% for Cardiovascular diseases and lung cancer to 50% for male infertility .A positive finding was that most of the students tried to quitting smoking (81.8%), study in Saudia found that (75.1%) of student had tried to quit. (13) Source of infor-

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mation about smoking was 41.7% from family &friends,29.9%from internet, 2.9% from awareness campaign, from TV 1.2%, while 8.1% from other sources and 16.2%no answer

Conclusion:

This study demonstrates the significance of parents' educational attainment in relation to their children's smoking behavior. The presence of a family member who smokes at home has an impact on this influence. Additionally, it demonstrates that when teenagers are young and spend a lot of time with their friends, the actions of those who smoke have a big impact on the others. The majority of students knew that smoking cigarettes has health risks.

Recommendation:

-Well-planned antismoking programs for students are urgently required.

-School-based smoking cessation programs are necessary, with the involvement of families.

-Public education on the health effects of smoking should be disseminated through all forms of mass and social media.

-Further research is needed on smoking behavior.

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