



PREVALENCE OF CIGARETTE SMOKING AMONG SOME SECONDARY AND TECHNICAL SCHOOL STUDENTS IN ASSIUT CITY

Soad S. Bayomi and Sawan M. Ala El-Din

Community Health Nursing, Faculty of Nursing, Assiut University

ABSTRACT :

The objective of this work was to estimate the prevalence of cigarette smoking among teens, to analyze the attitudes and beliefs of such students regarding smoking and to study the impact of the socioeconomic standard on the development of such habit. The studied sample included students from a secondary school (n=1482) and a technical school (n=1694). An anonymous closed, self administered questionnaire was used for the collection of data. Data were expressed as mean±SD or number (percentage). The prevalence of smoking behavior among secondary school students (22.46%) was significantly less ($P<0.05$) compared to that among their technical school counterparts (43.91%). A significantly greater percentage ($P<0.001$) of fathers of technical school students were found to be illiterate (31.7%) as opposed to those of secondary school students and conversely, a significantly higher percentage of fathers of secondary school students have a university (18.9%) or higher (14.1%) education ($P<0.05$) compared to fathers of technical school students. The main source of the first cigarette for students in both groups was from friends reflecting the influence of close friends on the behavior of each other. The overall findings of the student's knowledge about harmful effect of smoking indicates that a considerable percentage of students in both groups believe that smoking is harmful in certain ways. Surprisingly however, a considerable percentage of students in both groups have many wrong beliefs about smoking. In conclusion, in view of the data retrieved from the present work, it seems that both familial and cultural factors play a major role in the prevalence of smoking in this age group. Since the familial aspect is not really amenable to amendment, a lot of effort has to be directed towards changing the cultural ones in order to increase the awareness and change the beliefs of such students regarding a lot of bad habits, among them, smoking is one. This can be achieved via media-directed campaigns, anti smoking leagues, and school programs. The role of the school health nurse should be changed and extended to promote student's health.

INTRODUCTION:

Smoking is one of the major public health problems in developing countries. About 35% or more of adult men are smokers and 6% new smokers are added every year. (Abed-El Rahman, 2000).

Smoking by adolescents has been studied in several developed countries (Centers for Disease Control, 1989, 1990; Klepp *et al.*, 1993 and Elders *et al.*, 1994).

The world consumption of cigarettes is estimated at around six hundred billion cigarettes per year. This large number of

cigarettes is enough to send 3 million smokers to the grave annually, including both passive and active smokers. Smoking is becoming one of the important mortality risk factors, not only in the industrialized countries but also in the developing countries. The number of smokers has been increasing in developing countries. The percentage of smokers is about 22% in Asian and 42% in African countries (Bawazeer *et al.*, 1993). Although the hazards of smoking are well known, the number of smokers among school students is still high. Many factors influence such students to start smoking namely, socioeconomic status, parents, friends, and social environment (Kartasasmita, 1990).

A powerful argument for increased restriction of smoking in public places is that tobacco smoke is harmful to nonsmokers who are obliged to inhale it. The effects of such passive smoking are especially important among the children of smoking parents. These children have a higher incidence of respiratory infections, appearing as early as one year of age, than children of nonsmoking parents. They also have impaired respiratory functions, and such impairment shows a dose response effect in relation to the amount of tobacco smoked by their parents. Smoking parents also set a bad example for their children. Children whose parents do smoke, are much more likely to adopt the habit themselves than are the children of parents who don't smoke (United States Department of Health and Human Services, 1994).

Tobacco use is the single leading preventable cause of death in the United States, accounting for approximately 430,000 deaths each year. The prevalence of cigarette smoking nation wide among high school students showed an increase during 1990s, peaked during 1996-1997, and then gradually declined (youth tobacco surveillance-united states, 2000).

Approximately, 80% of tobacco users started smoking before the age of 18 years. If the trend of early initiation of cigarette smoking continues, approximately 5 million children aged less than 18 years who are living today will die prematurely because of cigarette smoking during adolescence (Soueif *et al.*, 1985).

Smoking has a major socioeconomic impact (Royal College of Physicians, 2000). Prevention of smoking would improve public health and reduce social inequality in health more than any other intervention. It is therefore important to determine why people begin smoking and to identify the risk factors behind starting smoking during this period (Higgins, 1998)

The aim of this study was therefore, to estimate the prevalence of cigarette smoking among teens in two different sets of schools namely, a secondary and a technical school, to analyze the attitudes and beliefs of such students regarding smoking and to study the impact of the socioeconomic standard on the development of such habit.

SUBJECTS AND METHODS:

This study was performed in November 2001 in the City of Assiut. The study sample was obtained from secondary and technical school students who were attending classes during the study period. The Total number of students was 1482 (secondary schools) and 1694 (technical schools). The hypothetical possibility of a different cultural as well as socioeconomic background in different schools was the reason behind choosing two different sets of students in a trial to confirm or rule out such hypothesis.

The study was carried out with the full cooperation of the different levels of authority in the local office for education, and school managers.

An anonymous closed, self administered questionnaire was used for the collection of data. Students were asked to complete the data in 20-30 minutes. During data collection, teachers were requested to be outside the classroom to allow students to complete the questionnaires unaided and to ensure enough confidentiality. The researchers explained the purpose of survey to the students and strongly emphasized the anonymous nature of the questionnaire to minimize under reporting.

In addition to collecting data about the students' socio-demographic characteristics (table 1), the questionnaire also contained, three main items:

Prevalence of smoking behavior by the students: age of starting smoking, type of education, parents smoking status, friends smoking status, opinion about smoking.

Students knowledge about harmful effect of smoking (11 questions).

Students' attitudes and beliefs about smoking (16 questions).

Statistical Analysis:

Data were expressed as mean \pm SD or number (percentage). Students t-test was used for normally distributed data. Chi-squared test was used for non-parametric data. $P < 0.05$ was regarded as statistically significant. Data were analyzed using SPSS, version 8.0 (Chicago, IL, USA).

RESULTS :

Table (1) shows that the mean age of the student sample was comparable in the two studied groups. The mean age was 15.71 (3.72 years and 16.861 (2.72 years for secondary and technical school students respectively.

Regarding the residence 61.1% of secondary school students were living in urban

areas compared to 58.6% of technical school students with no statistical difference.

The result also showed that nearly half of the study sample has five to seven siblings in both secondary school (47.6%) and technical school (45.1%).

All mothers and 88.5% of fathers of secondary school students live with family as opposed to 79.2% of fathers and 93.6% of mothers of technical school students with no significant difference between the two sets of samples. However, a significantly higher percentage ($P < 0.05$) of students in the technical school group live without fathers (7.2%) compared to their secondary school counterparts (2.5%).

Regarding education, a significantly greater percentage ($P < 0.001$) of fathers of technical school students were found to be illiterate (31.7%) as opposed to those of secondary school students. A significantly higher percentage of fathers of secondary school students have a university (18.9%) or higher (14.1%) education ($P < 0.05$ - $P < 0.01$) compared to fathers of technical school students. Similarly, a significantly higher percentage of mothers of secondary school students ($P < 0.05$) have finished their high school (45.3%), university (8%) or higher (6.1%) education.

In table (2), the percentage of smoking behavior among secondary school students (22.46%) was significantly less ($P < 0.05$) compared to the percentage among their technical school counterparts (43.91%).

In table (3), comparing smokers in the two studied groups of students, the commonest age of starting smoking was 10 to 14 years. Again a higher percentage of students in the technical school group admitted that they had started smoking at that early age ($P < 0.05$) as opposed to the secondary school ones. After 15 years of

age however, no significant difference was found between the two groups as regard the incidence of smoking. Friends were the main source of the first cigarette in both groups.

Regarding the preferred place for cigarette smoking, street (33%) and school (13.8%) were the most preferred places for students in the two groups. The only difference observed was that a significantly higher percentage of technical school students ($P < 0.01$) prefer to smoke in clubs and coffee shops as compared to their secondary school counterparts.

Most of those who do smoke have started their smoking experience just for fun (47.44%). A good percentage of the included sample (34.81%) however, has started this habit trying to imitate the behavior of others with a significantly higher percentage ($P < 0.001$) in technical school students compared to the other group.

Regarding for number of cigarette smoked/day, 44.42% of smokers consume < 10 cigarette/day, while 42.52% smoke between 10-19 cigarette/day. The percentage of students who smoke > 20 cigarettes/day was 12.72%. No significant difference was found as regard the number of cigarettes consumption between the two groups.

Table(4) shows the knowledge about harmful effects of smoking among secondary and technical school students in Assiut City. Results revealed that majority of the studied sample (83.06% and 81.16% of secondary and technical school students respectively) believe that a woman could harm her baby if she smokes. A larger percentage ($P < 0.05$) of secondary school students also believe that the smoking environment is harmful to babies and young children (70%) compared to 52.4% of technical school students and that smoking can really annoy others (64.8% of secondary school students and 69.7% of technical school

students). A significantly higher percentage ($P < 0.05$ - $P < 0.001$) of secondary school students believe that smoking is bad only if you smoke a lot every day for many years compared to technical school students. Similarly a significantly higher percentage ($P < 0.01$) of secondary school students believe that almost every regular smoker gets lung cancer, compared to technical school students (21.9%). As regard other beliefs, no significant difference was found between the two studied groups.

In table (5), the majority of the sample (89.48%) of secondary school students believe that smoking increases activity and makes one looks better when he smokes, and that smoking is just a habit (83.78%) that is not as harmful as it is claimed (84.98%). Although they believe that smoking is a bad habit (82.88%) and is harmful to health (84.38%), they are less inclined to encourage active measures to restrict smoking. About half of the studied sample of secondary school students do not support the idea of stopping tobacco advertisement and even lesser percentage (24.92%) believe that cigarettes should not be made more expensive. A large percentage (78.4%) however, supports the idea that smoking should not be permitted in public places. Although similar beliefs were obtained from technical school students regarding most of the items of this issue, a significantly lower percentage of this group believe that smoking does not make you look better ($P < 0.001$), it is a bad habit ($P < 0.05$) that is harmful to others ($P < 0.01$). The main concern of such group compared to the secondary school students about smoking was their worry about being told off ($P < 0.05$).

Comparing smokers in the two studied groups, table(6) shows that in spite of the relatively smaller number of smokers among secondary school students, a significantly higher percentage of their parents have achieved a high educational level ($P < 0.01$ - 0.001) compared to

their technical school counterparts. Similarly a significantly higher percentage of fathers of the former group of students ($P < 0.001$) have a

professional occupation compared to the latter group.

Table (1): Demographic data of secondary and technical schools in Assiut City number (%).

Items	Secondary schools n = 1482	Technical schools n = 1694	Total
Age: Mean \pm SD	15.71 \pm 3.72	16.3 \pm 2.4	P = 0.731 NS
Residence: 1- Rural 2- Urban	577 (38.9%) 905 (61.1%)	702 (41.4%) 992 (58.6%)	P = 0.521 N.S
Family members: < 4 5-7 8-10 > 11	477 (32.1%) 706 (47.6%) 299 (20.2%) -	386 (22.8%) 764 (45.1%) 476 (28.1%) 68 (4.0%)	P = 0.371 N.S
Status of father: 1- with family 2-Away from family 3- died	1312 (88.5%) 37 (2.5%) 133 (9.0%)	1342 (79.2%) 122 (7.2%)* 230 (13.6%)	
Status of mother: 1- with family 2- Away from family 3- died	1482 (100%) (0%) (0%)	1586 (93.6%) 2 (0.1%) 106 (6.3%)	
Education of fathers: 1- Illiterate 2- primary 3- prep 4- secondary 5- university 6- post graduate	77 (5.2%) 243 (16.4%) 142 (9.6%) 531 (35.8%) 280 (18.9%) 209 (14.1%)	536 (31.6%)* 116 (6.8%)* 306 (18.1%)* 666 (39.3%) 52 (3.1%)* 18 (1.1%)*	P = 0.01 Sign
Education of mothers: 1- Illiterate 2- primary 3- prep 4- secondary 5- university 6- post graduate	485 (32.7%) 52 (3.5%) 64 (4.3%) 672 (45.3%) 119 (8.0%) 90 (6.1%)	584 (34.5%) 468 (27.6%)* 332 (19.6%)* 274 (16.2%)* 36 (2.1%)* -	P = 0.001 Sign
Father occupation: 1-Professional 2-Employee 3-Skilled worker 4-Unskilled worker	361 (67.6%) 441 (29.8%) 471 (31.7%) 209 (14.1%)	220 (13.1%)* 506 (29.9%) 406 (24.0%) 562 (33.2%)*	

Chi Squared test: * $P < 0.05$ ** $P < 0.01$ *** $P < 0.001$

Table (2): Prevalence of smoking behavior among secondary and technical School students in Assiut City. Number (%)

Items	Secondary schools n= 1482	Technical schools n = 1694	Total	p. value
1- Smokers	333 (22.46%)	744 (43.91%)*	1077(33.9%)	P= 0.01
2-Never smoked	1149 (77.53%)	950 (56.08%)*	2099(66.1%)	
Total	1482 (46.66%)	1694 (53.33%)	3176(100%)	

Chi Squared test: * $P < 0.05$ ** $P < 0.01$

Table (3): Smoking experience among the studied students in both secondary and technical Schools in Assiut City. Number (%).

Items	Secondary schools N= 333	Technical schools N = 744	Total N=1077	p. value
Age of to starting smoking:				
< 10 (ys).	35 (10.5%)	118 (15.86%)*	153 (14.2%)	X ² =17.23 P=0.034
11-14 (ys).	195 (58.55%)	304 (40.86%)*	499 (46.33%)	
> 15 (ys).	103 (30.93%)	322 (43.27%)	425(39.46%)	
Source of first cigarette:				
Friends	255 (76.57%)	548 (73.65%)	803(74.55%)	X ² =14.31 P=0.521 N.S.
Father	-	78 (10.48%)	78 (7.24%)	
School environment	35 (10.5%)	116 (15.59%)	151(14.02%)	
Alone	43 (12.91%)	2 (0.26%)**	45 (4.17%)	
Others	-	-	-	
Place of smoking:				
Street	200 (60.1%)	330 (44.4%)	530 (49.2%)	X ² =15.31 P=0.04 Sign.
Home	-	126 (16.9%)	126 (11.7%)	
School	90 (27.0%)	130 (17.5%)	220 (20.4%)	
Club & Coffee shop	43 (12.9%)	158 (21.24%)**	201 (18.7%)	
Main reasons for starting smoking:				
To imitate behavior of other	119 (35.73%)	256 (34.4%)*	375(34.81%)	X ² =8.31 P=0.473 N.S
For fun	103 (30.93%)	408 (54.83%)*	511(47.44%)	
To see what it is like	76 (22.82%)	64 (8.60%)*	140(12.99%)	
Smoking makes people elegant	22 (6.60%)	16 (2.15%)	38 (3.52%)	
Others	13 (3.9%)	-	13 (1.2%)	
Number of cigarette daily:				
< 10 cigarette	146 (43.84%)	336 (45.16%)	482(44.72%)	X ² = 13.27 p = 0.725 N.S
10-19 cigarette	152 (45.64%)	306 (41.12%)	458(42.52%)	
> 20 cigarette	35 (10.5%)	102 (13.70%)	137(12.72%)	

Chi Squared test: *P<0.05 ** P<0.01 Sign.= Significant N.S= Non significant

Table (4): Knowledge about harmful effects of smoking among secondary and technical students in Assiut City. Number (%)

Statement	Secondary schools N = 1482	Technical schools N = 1694	P-value
1-Smoking is bad for you only if you smoke a lot every day.	1037 (70.0%)	831 (49.1%)*	P=0.03
2- Smokers usually die younger than non smokers	723 (48.8%)	579 (34.2%)	P=0.07
3-Breathing smoky air harms babies and young children.	1038 (70.0%)	888 (52.4%)	P= 0.04
4-Almost everyone whogets lung cancer has been a regular smoker.	783 (52.8%)	372 (22.0%)*	P= 0.01
5-A woman who is going to have a baby could harm the baby if she smokes.	1231 (83.1%)	1375 (81.2%)	P= 0.521
6-Smoking decreases heart rate.	831 (56.1%)	572 (33.8%)	P= 0.071
7-Smoking can annoy others who don't smoke	961 (64.8%)	1180 (69.7%)	P= 0.371
8-There are some cigarettes which are not dangerous.	970 (65.5%)	1001 (59.1%)	P= 0.371
9-Smoking is bad for you only if you smoke for many years.	333 (22.5%)	52 (3.1%)*	P= 0.001
10- If you smoke you are more likely to cough.	936 (63.2%)	853 (50.4%)	P= 0.270
11- Smoking lead to addiction	773 (52.2%)	541 (32.0%)	P= 0.075

Table (5): Attitudes and beliefs about smoking among secondary and technical students in Assiut City. Number(%)

Items	Secondary schools N = 333	Technical schools N = 744	P-value
1-You only smoke if you are with friends who smoke.	191 (57.4%)	571 (76.5%)	P=0.08
2-Smoking makes your breath smelly.	217 (65.2%)	473 (63.6%)	P= 0.631
3-If you smoke, you worry about being told off.	120 (36.0%)	453 (60.9%)*	P= 0.03
4-Smoking is not as harmful as it is claimed.	283 (85.0%)	714 (96.0%)	P= 0.371
5-Tobacco advertising should not be permitted.	175 (52.6%)	350 (47.0%)	P= 0.721
6-Cigarettes should be more expensive to stop young people smoking.	83 (24.9%)	187 (25.1%)	P= 0.87
7- Smoking should not be permitted in public places.	261 (78.37%)	354 (47.58%)	P=0.01
8-Increase activity	298 (89.48%)	482 (64.78%)	P=0.083
9- Increase muscularity.	171 (51.35%)	458 (61.55%)	P=0.731
10- Looks better when he smokes.	298 (89.48%)	170 (22.84%)	P=0.01
11- Just a habit.	279 (83.78%)	744 (100%)	P=0.672
12- Harmful for health.	281 (84.38%)	599 (80.5%)	P=0.751
13- Money losing	263(79.0%)	506(68.0%)	P=0.831
14- Harmful for others	236(70.9%)	365(49.1%)	P=0.01
15- Bad Habit	276(82.9%)	549(61.7%)	P=0.04
16- People look weak	243(73.0%)	632(85.0%)	P=0.082

Table (6): Parental education and occupation of students who smoke in secondary and technical schools.

Items	Secondary schools N = 333	Technical schools N = 744	P-value
Father education:			
- Illiterate	20 (6.0%)	269 (36.1%)*	P= 0.02
- Basic education	78 (23.5%)	87 (11.7%)*	
- Secondary	61 (18.3%)	67 (9.0%)*	
- University and post.	174 (52.2%)	321 (43.1%)*	
Mother education:			
- Illiterate	93 (27.9%)	263 (35.3%)	P= 0.01 Sign
- Basic education	94 (28.2%)*	234 (31.5%)	
- Secondary	96 (28.8%)	138 (18.5%)	
- University and post.	50 (15.0%)	14 (1.9%)*	
Father occupation:			
Professional	123 (36.9%)	70(9.4%)*	P= 0.01 sign
Employee	89(26.7%)	130 (17.5%)*	
Skilled worker	75 (22.5%)	190 (25.5%)*	
Unskilled worker	46 (13.8%)	354 (47.6%)*	

DISCUSSION :

Cigarette smoking is the most important avoidable cause of morbidity and premature death in the developed as well as the developing countries. In The UK, there are 13 million smokers (Department Of Health, 1998), half of them are expected to die prematurely as a result of smoking (Peto, 1994). In 1997, smoking prevalence among Egyptian adults at the age of 18 years and older was found to be 43.6% in males and 4.8% in females. Also in 1998, the

prevalence of smoking among youth at the age of 14 years was estimated to be 13.2% and 3.3% for males and females respectively (Ahmed, 1999).

In this study, we examined the prevalence of cigarette smoking in a large sample of high school (secondary and technical) students in Assiut City. It was found that 22.5% and 43.91% of the participant were current smokers in secondary and technical schools respectively. Ahmed and Co-authors (1999) did another

study to investigate the prevalence of smoking among adolescent students in Egypt. They found that the prevalence of smoking was 15.4% among adolescent student aged 13-15 year and 63.9% among those older than 16 years. In France, a study was done that looked at the prevalence of smoking among 12-18 years old adolescents. In that study, Grizeau and Others (1997) reported that 35.1% of their series have smoked at least once in a while. Jarallah and his Colleagues (1996) from Saudi Arabia reported a lower smoking prevalence rate among male junior secondary students (13.2%). Higher values have been reported in the United States (52%) and New Zealand (65%) (Salehi, 1995 and Ford, 1995). The discrepancy in the results obtained from the present study, other Egyptian studies, and studies done elsewhere in the world is not surprising in view of the different methodologies used including the sample size.

Moreover, there is no logic behind comparing the present results with those of other studies, regardless of their origin; unless a nearly similar methodology was used e.g. age group, sample size and distribution etc. The present study however, revealed an increased incidence among technical school students reflecting a noticeable difference. This difference could be explained by the impact of social and cultural conditions prevailing in different communities.

In the present study, considering those who smoke, the main source of the first cigarette for students in both groups was from friends reflecting the influence of close friends on the behavior of their pals. This influence of friends has also been shown in another study done by Bawzeer and Others (1999) in the Republic of Yemen. Similar findings were observed by Reimers and Morales (1990). This indicates that, strategies for smoking prevention should

not be restricted to individual students but must also cover the student's home and school environment. Interestingly, a significantly higher percentage of secondary school students have obtained their first cigarette by self purchasing, probably reflecting the higher economic standard of such students.

In relation to place of smoking the present study revealed that the majority of the studied sample smoked in public places e.g. street, club, shops. The National Smoking Control Program (NSCP, 2000) has revealed More or less similar results. These results showed that the majority of smokers used to smoke in public places, and to a lesser extent at home or at their friends' home.

In the studied sample, the reasons expressed by the participants for starting cigarette smoking are more or less similar to the results reported by Conrad and Colleagues (1992), indicating that peer influences are strong predictors of smoking initiation.

The present study examined the knowledge of student about harmful effects of smoking. The overall findings of the student's knowledge about harmful effect of smoking indicate that a considerable percentage of students in both groups believe that smoking is harmful in certain ways. The majority of students in secondary and technical schools showed the knowledge that a women who is going to have a baby could harm the baby if she smokes, that smoking can annoy others who do not smoke. Surprisingly however, a considerable percentage of students in both groups have many wrong beliefs about smoking. Such beliefs include that there are some cigarettes that are not dangerous, and that smoking is dangerous only if one smokes a lot every day. It was also revealed that there were a significantly higher percentage of secondary school students who believe in the harmful effects of smoking ($p <$

0.05) compared to their technical school counterparts. This probably reflects the greater degree of awareness among such group.

According to the National Smoking Control Programme in Singapore Youth Tobacco Survey (2001), the majority of the respondents think that smoking is definitely harmful to their health, however some of them think that it is definitely safe to smoke for a year or two as long as they quit after that. Also similar study on secondary school students in Saudi Arabia Prevalence of Smoking Al-Yousaf M. (2001) showed that 95% of smokers knew that smoking is harmful. According to another study in India Sinha *et al.* (2002), almost all school personnel agreed that tobacco was addictive and that it has serious health consequences. Similarly, in another study, 83% of current tobacco users agreed that statement (Maziak, 1999).

The present study showed that the number of current cigarette smokers is significantly higher in students whose parents are of the low educational and occupational level, signifying the influence of educational and cultural background on the prevalence of smokers among teens.

In conclusion, in view of the data retrieved from the present work, it seems that both familial and cultural factors play a major role in the prevalence of smoking in this age group.

Among the familial factors, the level of education of both parents and the presence/absence of a smoking parent are important factors. In addition, cultural aspects precipitating in many of the wrong beliefs among such students regarding smoking are of strong influence too.

Since the familial aspect is not really amenable to amendment, a lot of effort has to be directed towards changing the cultural ones in order to increase the awareness and change the

beliefs of such students regarding a lot of bad habits, among them, smoking is one. This can be achieved via media-directed campaigns, anti smoking leagues, and school programs.

The role of the school health nurse should be changed and extended to promote student's health through preparation of well-organized health education programs for students, parents and school workers.

For successful elimination of smoking, community leaders including religious leaders and health personnel should carry out an orchestrated effort for health education of the public to increase their awareness about complications and correct all misbeliefs associated with smoking.

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انتشار تدخين السجائر بين طلاب المدارس الثانوية العامة والمدارس الثانوية الفنية الصناعية في مدينة أسيوط

سعاد سيد بيومي، سوسن محمد أحمد علاء الدين

قسم تـمريض صـحة المـجتمـع - كـليـة التـمريض - جامـعة أسيوط

الهدف من هذه الدراسة هو تحديد معدلات انتشار تدخين السجائر بين المراهقين، ومن ثم التعرف على عاداتهم ومعتقداتهم تجاه التدخين، ودراسة تأثير المستوى الاجتماعي والاقتصادي على هذه العادات . اشتملت عينة الدراسة على طلاب مدارس الثانوى العام وعددهم ١٤٨٢ وطلاب مدارس الثانوى الفنى الصناعى وعددهم ١٦٩٤، وقد استخدمت الباحثة المقابلة المغلقة، وقام الطلاب بملى الاستمارة بأنفسهم فى سرية تامة، وبدون كتابة الأسماء. وأظهرت الدراسة أن نسبة المدخنين من المدرسة الثانوية ٢٢,٤٦%، وكانت ذات دلالة إحصائية عند أقل منحدر ٠,٠٥ . بالمقارنة بطلاب المدرسة الفنية الصناعية ٤٣,٩١%، وكانت ذات دلالة إحصائية عند أقل من ٠,٠١ . كما أوضحت الدراسة أن المصدر الرئيسى لأول سيجارة قام بتدخينها طلاب المدرستين كان الأصدقاء وأن الأسرة والبيئة تلعبان دوراً مهماً فى زيادة معدلات التدخين فى هذه المجموعة العمرية . كما أسفرت النتائج خطأ فى معلومات الطلاب حول مخاطر تأثير التدخين فى كلتا المجموعتين، وكذا المعتقدات الخاطئة حول تأثير تدخين السجائر على الصحة ، أظهرت النتائج أن تعليم الآباء له تأثير فعال ٣١,٧٠% من آباء الطلاب المدخنين من المدرسة الصناعية أميين بالمقارنة ١٨,٩% من آباء الطلاب المدخنين بالمدرسة الثانوى العام، وكانت النتائج ذات دلالة إحصائية عند منحدر ٠,٠٥ . وبناءً على ذلك لا ينبغى لاستراتيجيات الوقاية أن تشمل الطلاب وحدهم كذلك محيطهم المنزلى والمدرسى والاجتماعى . ولمرضة الصحة المدرسية دور كبير وفعال وذلك عن طريق تطبيق برامج لمنع التدخين، وكذا الرقى بصحة طلاب المدارس .