

***knowledge, attitude and practice of  
primary and secondary school  
students toward tobacco use in  
Al-Mukalla city***

***Abdulkader Mohamed Bayazid***

***Samaher Yahya Ba-Farjoom***

***Aymen Saleh Qamzawy***



جامعة الأندلس  
العلوم والتقنية

Alandalus University For Science & Technology

**(AUST)**

## ***knowledge, attitude and practice of primary and secondary school students toward tobacco use in Al-Mukalla city***

### **Abstract**

Background: The habit of tobacco use is initiated during early youth and this age group require constant monitoring and timely appropriate action to curtail usage.

Objective: To assess Knowledge, attitude and practice of primary and secondary school students toward tobacco use in Al-Mukalla city.

Design & Methods: A cross-sectional -based study was carried out from February to April - 2010 among 3688 primary and secondary school students selected randomly by using self-administered questionnaire.

Results & Conclusion: The study indicated that 8.3% of students are current tobacco use. 18.2% of students used tobacco only for one time and main cause was to try 49.4%. Despite Exposure to passive tobacco smoke is now accepted as a real risk to health, most of the students exposed to passive smoking 82% and Transport facility was the most common site of exposure.

## المخلص :

الخلفية: عادة استخدام التبغ تبدأ في سنوات الشباب المبكرة وهذه الفئة العمرية تحتاج إلى مراقبة مستمرة واتخاذ الإجراءات المناسبة في الوقت المناسب للحد من هذه العادة. هدف الدراسة : هو تقييم معارف وسلوك وممارسات طلاب وطالبات المرحلة الأساسية والثانوية نحو استخدام التبغ في مدينة المكلا.

تصميم ومنهج الدراسة: هذه دراسة مقطعية تم تنفيذها في الفترة من فبراير إلى إبريل ٢٠١٠م على 3688 طالباً وطالبة من المرحلة الأساسية والثانوية تم اختيارهم عشوائياً ، وتم جمع المعلومات عن طريق تعبئة المشاركين والمشاركات للاستبانة.

النتائج والاستنتاجات: بينت الدراسة أن 8.3 % من الطلاب يستخدمون التبغ حالياً ، و 18.2% من الطلاب استخدموا التبغ مرة واحدة فقط وكان السبب الرئيس هو التجربة 49.4%. على الرغم من أن التعرض للدخان السلبي أصبح مقبولاً كخطر حقيقي على الصحة إلا أن معظم الطلاب يتعرضون للدخان السلبي 82% وتعتبر وسائل النقل العامة المكان الأكثر شيوعاً للتعرض.

## **Introduction:**

Tobacco use, primarily cigarette smoking, is a major preventable public health risk in most of the developing countries of the world. According to world health organization (WHO), nearly 5 million persons die annually from tobacco-related illnesses, and many more suffer from smoking-related morbidity while the number of deaths expected to be double by year 2020. 70% of these deaths will occur in developing countries <sup>(1)</sup>. Information on tobacco use among young people is not available for most developing countries. To remedy this lack and to create a baseline from which trends in tobacco use among young people can be measured, several agencies, including the WHO and central disease control (CDC) in the USA, has launched a Global Youth Tobacco Survey (GYTS)<sup>(2, 3)</sup>, which represents a school-based survey focusing on adolescents students aged 13 to 15 years designed to determine the level of tobacco use, estimate the age of initiation of cigarette use, estimate the level of susceptibility to become a cigarette smoker, estimate the exposure to tobacco advertising, identify key intervening variable, such as attitude and beliefs on behavioral norms with regard to tobacco use among young people and assess the extent to which major prevention programs are reaching school-based populations and establish the subjective opinions of those populations regarding such intervention <sup>(4)</sup>.

In many Organization of the Islamic Conference (OIC) countries attitudes to tobacco use are ambiguous. The prevalence of tobacco use among men in these countries is generally high with rates ranging from 69% in Indonesia, 51% in Turkey and 40% in Egypt, while it is much lower in women ranging from 2% to 11 % <sup>(5)</sup>. Tobacco control legislation in most Muslim countries is still at a rudimentary stage, with limited restrictions on smoking in public places and advertising being the most common. <sup>(6)</sup>

In Yemen, the prevalence of smoking among adults is 77% among males and 29% among females, while in Aden secondary school students the estimated prevalence is 19.6%. The GYTS revealed that students currently use any form of tobacco are 21% in Sana'a, 16% in Aden, and 18% in Hadramout. <sup>(7)</sup>

The aim of this study is to assess knowledge, attitude and practice of primary and secondary school students toward tobacco use in Al-Mukalla city.

### **Objectives:**

General: To assess Knowledge, attitude and practice of primary and secondary school students toward tobacco use in Al-Mukalla city

### **Specific:**

- 1- To assess the frequency of tobacco use and determine the significant association with gender and level of school among school students.
- 2- To identify the reasons for use and non use tobacco products among primary and secondary school students.
- 3- To determine the significant association between exposure to passive smoking according to gender and level of school.
- 4- To assess the knowledge level and attitude of school students toward tobacco use.
- 5- To identify the sources of knowledge among school students toward hazards of tobacco use.

## **Materials and methods:**

**Study design:** A cross-sectional school-based study was conducted from February to April - 2010 among primary and secondary school students.

**Study area and population:** The study was carried out in Al-Mukalla city, which is the capital city of Hadramout governorate. The study population was primary school students from seventh to ninth grade and all grades of secondary school students in both public and private schools.

**Sampling:** The needed sample size of study was calculated by using the Epi-info program (version 3.5.1), based on the following indicators: the total number of study population 17522, the study proportion was assuming to be 50% of primary and secondary school students use tobacco products, the absolute precision (error allowable) 2% and confidence limits to be 99% . The needed sample size was estimated to be (3353) students. Then 10% was added to overcome the refused students, so it turned out to be (3688).

A two-stage sampling design was used to give a representative sample of students in primary and secondary schools.

**Selection of schools:** A list of public and private schools which eligible to participate in the study was taken. A total of thirty five (35) public schools and ten (10) of private schools were selected with probability proportional to school enrollment size. (35).

**Selection of students:** Selection the number of students from each eligible level in the school done by stratified sampling method. Then the needed students from each level were chosen by probability systematic random sampling selection from 2-3 classes.

Data about the number of schools and distribution of students in each level by gender were obtained from department of statistics and information in Ministry of Education.

**Data Collection Procedures and Methods:** The study tool for data collection was a self-administered questionnaire pre-tested on convenient sample of 40 students, as a result of this pre-test some items were discarded and others were modified due to ambiguity of these questions.

The questionnaire consisted of 34 questions divided in seven parts and each part consists of many questions which were constructed based on the study objectives.

- **Part one:** student's background such as (age, gender, type of school, name of school and school level).
- **Part two:** types of tobacco use and causes of use and non use of tobacco. The tobacco use in our study mainly have three forms: *Cigarette, Hookah or Shisha* (instrument for smoking tobacco in which the smoke is cooled and filtered by passing through water) and *Quid* (a lump of chewing tobacco). For analytical purpose three main categories of students were identified in the study which defined as follow:
  - 1- **Ever tobacco users:** were defined as anyone who had used tobacco even once in any form at any point in a lifetime.
  - 2- **Current tobacco users:** were those who had used tobacco in any form during the 30 days Preceding the study and past users were defined also as ever users.
  - 3- **Never tobacco users:** were those who had never used tobacco.
- **Part three:** smoking of cigarette and hookah which includes four questions concerning age of initiation, usual site of smoking, who know about his/her smoking and did he/she want to stop it?

- **Part four:** use of quid which includes four questions concerning age of initiation, usual site of chewing, who know about his/her chewing and did he/she want to stop it?
- **Part five:** passive smoking which includes two questions concerning exposure to cigarette smoke and site of exposure.
- **Part six:** their sources of knowledge toward hazards of tobacco use.
- **Part seven:** level of knowledge and attitude toward tobacco use. Questions to assess the level of knowledge of tobacco use consist of 6 questions. Correct answer for each question was assigned one mark whereas incorrect and unknown answer given zero, so the total maximum score for knowledge was 6 marks.

So the study sample divided according to their answers into three levels as following:

- 0-2 marks = low level of knowledge.
- 3-4 marks = intermediate level of knowledge.
- 5-6 marks = high level of knowledge.

The collection of data was done by trained fourth year medical students in the absence of any school teacher or any school personnel in classrooms after taking permission to enter the schools and run the study procedures. Students were assured about confidentiality of responses and data would be used only for stated research purposes.

The researchers checked the questionnaire for completeness and then coded to facilitate its entry and analysis in computer. This was done to establish quality data management throughout the data gathering process.

**Statistical methods:** To ensure the accuracy of data processing, the data were analyzed by using (SPSS, version 16.0). Mean and standard deviation were described in age variable of primary and secondary school students. Categorical variables were described by

using frequency distribution and percentage. To analyze the association between the variables chi-square test was used with significant level 1% and also odds ratio.

**Ethical consideration:** The study proposal was prepared by the researchers and was evaluated by the family and community medicine department. Written permission was granted From Ministry of Education in Hadramout governorate through official letter to all schools included in the study. Then an oral permission from mangers of schools as well as students was obtained before initiation of the study.

## **Results :**

**Study population:** The study sample was 3688 primary and secondary students. Most of the students agreed to participate except 1.8% didn't respond. Therefore, the total number of participants was 3621 students with response rate 98.2%.

Primary school students formed 63.3% (2243) of the sample and 36.7% (1328) were secondary school students. Moreover, most studied sample 91.2% (3304) from public schools.

The mean age of students was (16) years and the range was between 11-23 year, median and mode were (15) years and the standard deviation was ( $\pm 2$ ).

**Tobacco use:** In this study we found that 18.2% (658) has used ever tobacco and 8.3% (301) was on current tobacco use, while 81.9% (2964) of the students have never use tobacco (Figure 1). Most of school students who ever and current use tobacco were used tobacco chewing more frequent than other forms of tobacco products 67.2% (442), 79.1% (238) respectively. (Figure 2, 3).

The initiation age of cigarette smoking for the first time was more frequent between 14-16 years 28.8%. 52.2% of the students, who

smoked, smoked at common place, the rest smoked at home and friend's home by 26.5% and 17.3% respectively. Also we found that friends were mostly who know that the students who smoked by 46% (220), While the parents were the least one who knew about the smoking of their son students who smoke 8.4% (40).

The study revealed that 73.7% (112) of the current smoking students would like to cease smoking. Only 26.3% (40) did not want to cease smoking.

The initiation age of the students who tobacco chewing started at age 11-13 years 35.2% (160). Public places were the most common site of tobacco chewing 68% (310), the rest chewed at school and home by 22% (101) and 20% (92) respectively.

Friends were mostly the people who knew about the student who chewed by 58% (279), while parents were the least one who knew 10% (51).

Most of the students who current tobacco chewing would like to cease chewing 72.5% (185). Only 27.5% (70) who did not want to cease.

This study showed that ever tobacco use was more frequent among male students 16% (578) than female students 2% (80). With a P-value < 0.01 there is statistically significant association between male students and ever tobacco use. Tobacco ever use among males are six times more than in females (OR = 6.33), Confidence interval (CI) = 4.93- 8.15. Also ever tobacco use were more frequent among secondary school students 10% (355) than primary school students, 8% (303) with a P-value < 0.01 there is statistically significant association between primary school students and ever tobacco use. Tobacco ever use among primary school students are less likely than secondary school students (OR = 0.42), CI = 0.35- 0.50. (Table 1).

Current tobacco use was more frequent among male students 8.2% (296) than female students 0.1% (5). With a P-value < 0.01 there is statistically significant association between male students and current tobacco use. Current tobacco use among males is forty six time more than in females (OR = 46.41), CI = 18.49- 127.43. And also current tobacco use was more frequent among secondary school students 4.7% (169) than primary school students 3.6% (132). With a P-value < 0.01 there is statistically significant association between secondary school students and current tobacco use. Current tobacco use among primary school students are less likely than secondary school students (OR = 0.42), CI = 0.33- 0.54. (Table 2)

According to this study, the most common cause for initiation ever tobacco use among school students was want to try it 49.4% (325) followed by influence by friends 37.8% (249) by ever users, while 23.1%(152) said that they used it just for fun. (Table3).

Current users 31.6% (97) reported that addiction was the most common reason for the continuation of tobacco use followed by the influence by friends 30.9% (93). (Table 4).

The reasons by never users for not using tobacco included forbidden by Islam 66.3% (1967), awareness about the harmful effects of tobacco use to health 57.1% (1695), lack of interest or dislike for tobacco use 40.3% (1195) and social reasons 27.8% (823). (Table 5). Social reasons included the negative association of tobacco use with an individual's character and social image.

**Passive smoking:** The study showed that 82% (2967) of students were exposed to passive smoking. This exposure was more frequent among male students 47.3% (1713) than female students 34.6% (1254).With a P-value < 0.01 there is statistically significant association between male students and exposure to passive smoking. Exposure to passive smoking was more frequent among

primary school students 50% (1803) than secondary school students 32% (1164). With a P-value < 0.01 there is statistically significant association between primary school students and exposure to passive smoking. (Table 6).

The most common site of exposure to passive smoking among both male and female students was common public transport facility 64% (1370), 67% (985) respectively. The second site of exposure to passive smoking was at home male students by 23% (501) and female students by 34% (496). (Table 7).

**Knowledge level and attitude:** The study revealed that 65.5% (2371) of participants had high level of knowledge, only 6.3% (229) had gained low level of knowledge and the rest of participants were categorized in the intermediate level of knowledge 28.2% (1021). (Figure. 4).

The study showed that 8% (288) of school students think that tobacco use give them confidence about themselves, most of school students want an awareness programs to protect themselves or to stop tobacco use 92.7% (3357).

The study revealed that 78.2% (2832) of participants think that teachers who use tobacco were less advisers to their students regarding stopping or not use tobacco products. 49% (1769) of participants think that stopping smoking or tobacco chewing was very difficult.

This study revealed that 76% (2751) of participants agree to prohibit smoking in common public places. (Table 8).

In this study relatives were the main source of knowledge about hazards of tobacco 66.1% (2392) of the students and the second source was TV/radio 60.6% (2196), followed by information took from school 59.3% (2149) ,News paper & Magazine 46.4% (1679) and mosque 41.1% (1488). (Table 9).

**Table No. (1):** Distribution of ever and never tobacco use among primary and secondary school students according to gender and school level in Al-Mukalla city.

Ever and never tobacco use		Ever tobacco use	Never Tobacco use At all	Total	X <sup>2</sup>	O.R	P-value
		Frequency & %	Frequency & %	Frequency & %			
Gender	Male	578 (16%)	1579 (44%)	2157 (60%)	266.89	6.33	0.000 (<0.01)
	Female	80 (2%)	1384 (38%)	1464 (40%)			
	<b>Total</b>	658 (18%)	2963 (82%)	3621 (100%)			
School level	Primary	303 (8%)	1990 (55%)	2293 (63%)	103.34	0.42	0.000 (<0.01)
	Secondary	355 (10%)	973 (27%)	1328 (37%)			

X<sup>2</sup> = chi-square.

O.R= odds ratio.

**Table No. (2):** Distribution of current and never tobacco use during the last 30 days among primary and secondary school students according to gender and school level in Al-Mukalla city.

current and never tobacco use during the last 30 days.		Current tobacco use	Never Tobacco use during last 30 days	Total	X <sup>2</sup>	OR	P-value
		Frequency & %	Frequency & %	Frequency & %			
Gender	Male	296 (8.2%)	1861 (51.4%)	2157 (59.6%)	204.88	46.41	0.000 (<0.01)
	Female	5 (0.1%)	1459 (40.3%)	1464 (40.4%)			
	<b>Total</b>	301 (8.3%)	3320 (91.7%)	3621 (100%)			
School level	Primary	132 (3.6%)	2161 (59.7%)	2293 (63.3%)	53.59	0.42	0.000 (<0.01)
	Secondary	169 (4.7%)	1159 (32%)	1328 (36.7%)			
	<b>Total</b>	301 (8.3%)	2320 (91.7%)	3621 (100%)			

X<sup>2</sup> = chi-square.

O.R= odds ratio.

**Table No. (3):** Distribution of reasons given by primary and secondary school students who ever tobacco use in Al-Mukalla city

<b>Reasons for ever use Tobacco</b>	<b>Frequency (n= 658)</b>	<b>Percentage</b>
To Try	325	49.4%
Influenced By Friends	249	37.8%
Just For Fun	152	23.1%
Worry & Family Problems	50	7.6%
*Others	27	4.1%

**\*Others:**

- 1- Desire (Frequency 11=40%)
- 2- Spare time (Frequency 5= 19%)
- 3- Pride (Frequency 4= 15%)
- 4- Influenced by parents (Frequency 2= 7%)
- 5- Good for health (Frequency 2= 7%)
- 6-Unaware of dangers (Frequency 1= 4%)
- 7-Imitation (Frequency 1= 4%)
- 8- Increase pocket money (Frequency 1= 4%)

**Table No. (4):** Distribution of reasons given by primary and secondary school students who continues tobacco use in Al-Mukalla city

<b>Reasons for Continues Tobacco Use</b>	<b>Frequency (n= 301)</b>	<b>Percentage</b>
Addiction	97	31.6%
Influenced By Friends	93	30.9%
Just For Fun	84	27.9%
Overcome Stress	58	19.3%
*Others	2	2.9%

**\*Others:**

- 1- Fame (Frequency1=50%).
- 2- Imitation of movies and series (Frequency1=50%).

**Table No. (5):** Distribution of reasons given by primary and secondary school students who never tobacco use in Al-Mukalla city

<b>Reasons for never tobacco use</b>	<b>Frequency (n=2964)</b>	<b>Percentage</b>
Forbidden By Islam	1967	66.3%
Harmful To Health	1695	57.1%
Social Reasons	823	27.8%
No Desire	1195	40.3%
*Others	29	0.9%

**\*Others:**

- 1- Fair of parents anger (Frequency 5= 17%).
- 2- No benefits (Frequency 16= 56%).
- 3- Wasting money (Frequency 3= 10%).
- 4- Containing toxic materials (Frequency 1=3.4%).
- 5- Following parents advices (Frequency 1= 3.4%).
- 6- Not good manner (Frequency 1= 3.4%).
- 7- Corruption of community (Frequency 1=3.4%).
- 8- Offensive smells (Frequency 1= 3.4%).

**Table No. (6):** Distribution of passive smoking among primary and secondary school students according to gender and school level in Al-Mukalla city

passive smoking		Exposed	Non exposed	Total	X <sup>2</sup>	OR	P-value
		Frequency & %	Frequency & %	Frequency & %			
Gender	Male	1713 (47.3%)	444 (12.3%)	2157 (59.6%)	22.944	0.65	0.000 (<0.01)
	Female	1254 (34.6%)	210 (5.8%)	1464 (40.4%)			
	Total	2967 (81.9%)	654 (18.1)	3621 (100%)			
School level	Primary	1803 (50%)	490 (13.5%)	2293 (63.3%)	46.23	0.52	0.000 (<0.01)
	Secondary	1164 (32%)	164 (4.5%)	1328 (36.6%)			
	Total	2967 (82%)	654 (18%)	3621 (100%)			

X<sup>2</sup> = chi-square.

O.R= odds ratio.

**Table No.(7):** Distribution of site of passive smoking among primary and secondary school students according to gender in Al-Mukalla city.

Site of exposure to passive smoking	Gender				Total	
	Male Number (2157 )		Female Number (1464 )			
	Frequency	%	Frequency	%	Frequency	%
Home	501	23%	496	34%	997	28%
School	154	7%	171	12%	325	9%
Public Transport Facility	1370	64%	985	67%	2355	65%
Hospital/clinic	114	5%	125	9%	239	7%
Sport Club	260	12%	25	2%	285	8%
*Others	168	8%	115	8%	283	8%

**\* Others include:**

- 1- Street (frequency 135=48%).
- 2- Parks (frequency 32= 11%).
- 3- Markets (frequency 29= 10%).
- 4- Restaurants and cafes (frequency 25= 9%).
- 5- Grocery stores and shops (frequency 21= 7%).
- 6- Hotels (frequency 2= 0.7%).
- 7- Non respond (frequency 39= 14%)

**Table No. (8):** Distribution of attitude regarding tobacco use among primary and secondary school students in Al-Mukalla city.

Attitude regarding tobacco use	Answer				Total	
	Yes		No			
	Frequency	%	Frequency	%	Frequency	%
1- Tobacco Use Give you confidence In Your Self?	288	8%	3333	92%	3621	100%
2- Consumers of Tobacco Products Have Many Friends?	1764	48.7%	1857	51.3%	3621	100%
3- Students must be given awareness Programs to Protect them self or to Stop Tobacco Use?	3357	92.7%	264	7.3%	3621	100%
4- Teacher who uses tobacco has less advice to their students regarding Stopping or not use tobacco products?	2832	78.2%	789	21.8%	3621	100%
5- Stopping smoking or tobacco chewing was very difficult?	1769	49%	1852	51%	3621	100%
6- Do you agree with prohibit Smoking In Common Places?	2751	76%	870	24%	3621	100%

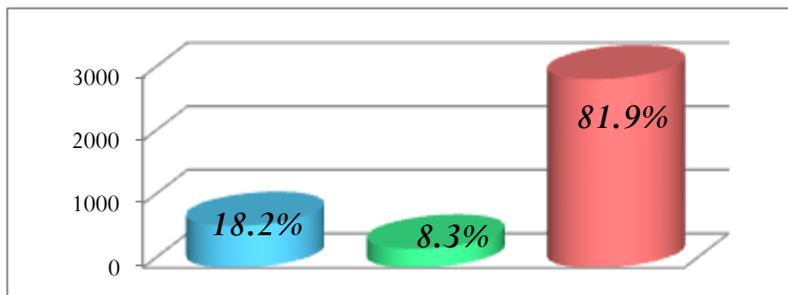
**Table No. (9):** Distribution of target primary and secondary students according to source of knowledge regarding hazards of tobacco use in Al-Mukalla city

Sources of Knowledge	Frequency	percentage
Relatives	2392	66.1%
School	2149	59.3%
Mosque	1488	41.1%
TV/Radio	2196	60.6%
News Paper & Magazine	1679	46.4%
Friends	1200	33.1%
*Others	143	3.9%

**\* Others:**

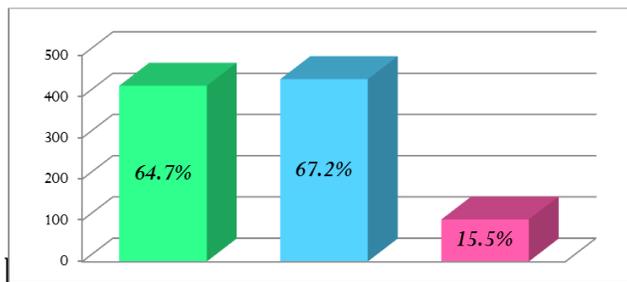
1. Cigarette packets (frequency 13= 9%).
2. Internet (frequency 23= 16%).
3. Health workers (frequency 12= 8%).
4. Publications (frequency 5= 4%).
5. Smokers (frequency 2= 1%).
6. Lectures or meeting (frequency 7= 5%).
7. Non respond (frequency 81 = 57%).

**Figure No. (1):** Distribution of primary and secondary school students according to form of tobacco use in Al-Mukalla city.



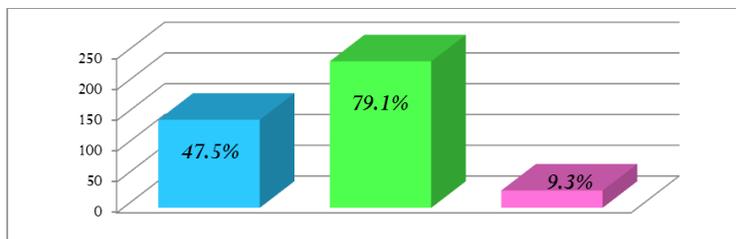
● Ever tobacco use. ● Current tobacco use. ● Never tobacco use.

**Figure No. (2):** Distribution of primary and secondary school students according to type of tobacco ever use in Al-Mukalla city.



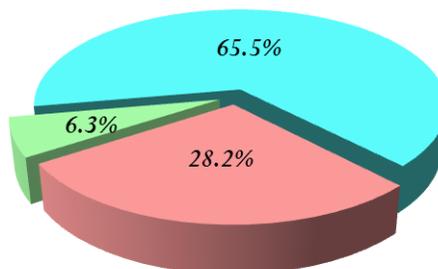
● Cigarette smoking. ● Tobacco chewing. ● Shisha.

**Figure No. (3):** Distribution of primary and secondary school students according to type of tobacco current tobacco use in Al-Mukalla city.



● Cigarette smoking. ● Tobacco chewing. ● Shisha.

**Figure No. (4):** Distribution of primary and secondary school students according to level of knowledge regarding tobacco use in Al-Mukalla city.



● High knowledge level. ● Intermediate knowledge level  
● Low knowledge level

**Discussion Tobacco use:** The study showed that most of the students never use tobacco by 81.9% (2964) while those who ever use tobacco were 18.2% (658) and only 8.3% (301) were current user.

This result differs from which reported by study in Bihar India among students where there is higher percentage for those who ever use tobacco by 71.8% and current tobacco use by 58.9% and only 28.2% were never use tobacco.<sup>(8)</sup>

**Time of initiation:** Most of student start to smoke between (14-16) year old by 28.8% (126), and between (11-13) year old 27.7% (121) this is similar to study reported in Saudi Arabia among secondary school students where 20-50% of smokers start smoking before 15 year old. While the remaining start after that.<sup>(9)</sup> A study reported in United Arab of Emirates by GYTS showed that one in four students who ever smoked cigarette tried smoking at less than ten years which disagree with our study.<sup>(10)</sup>

**Site of smoking:** The most common site of smoking was the public places by 52.2% (226) followed by home 26.5% (115). This is similar to study carried out in Bihar India showed that nearly half of the students 48% smoke in place outside their home,<sup>(8)</sup> while study reported in Sudan and study done in Egypt revealed that the most common site was home 22.6% and 21.3% respectively.<sup>(11,12)</sup>

**Cessation of tobacco use:** Most of students who currently smokers they have desire to stop smoking by 73.7% (112) and only 26.3 % (40) they don't. This similar to studies reported in Egypt and UAE by 78.4% and 66.8% respectively.<sup>(12, 13)</sup> 5.1% of those who are currently chewing tobacco have desire to stop while in study done in Bahrain by GYTS reported that six in ten or 65.3% of currently user want to stop smoking.<sup>(14)</sup>

Reasons of use and non use tobacco products: Our results showed that the main reason for starting the use of tobacco was to try 50.2% (325). This is slightly similar to study conducted in Poland among high school student 62.3%,<sup>(15)</sup> while in the studies conducted among male secondary school student in central region of Saudi-Arabia and India the reason was the influence by friends 63.5 % , 25.5 % respectively<sup>(16, 17)</sup>

Current users reported that addiction was most common reason for continuation of tobacco 31. 6%, similar to that conducted in pre-university student collage in Bangalore, India 31.3%<sup>(17)</sup>.

Concerning this study the forbidden by Islam was the common reason to never use tobacco 66.3% (1967), the harm to health was the second reason given by students 57.1 % (1695), while in India health effect (harmfulness) was the main reason to never use tobacco 62.1 %.<sup>(17)</sup>

**Passive smoking:** In this study the majority of students exposed to passive smoking at transport facilities about 65%. This differs from studies conducted in Egypt 46.9% of students were exposed to smoke at public places.<sup>(12)</sup> The study showed that one third 28% (997) of students exposed to passive smoking at their homes, this is agree with that reported in UAE, and Somali land were the percentage of students exposed to passive smoking at their homes 32.9%, 30.6% respectively<sup>(18, 19)</sup>, while differs from that conducted in Jordon where around two thirds of students exposed to passive smoking at their homes 65%.<sup>(20)</sup>

**Knowledge and attitude toward tobacco use:** The study showed that those who have known tobacco use is risk factor of cancer were 77%, while 18.9% did not know about it. In Saudi Arabia in the central region among secondary school students were have known tobacco use is risk factor of cancer 84.3%, while 15.7% did not know about it.<sup>(16)</sup>

This study revealed that those who have known tobacco cause addiction were 70.5% while 13.6% said that tobacco doesn't cause addiction, while a study in Saudi Arabia in the central region among secondary school students said that tobacco use cause addiction 71.5% and 28.5% said that tobacco doesn't cause addiction.<sup>(16)</sup>

This study showed that those who have known Tobacco use is harmful to health were 84.9% while 9.8 % said that tobacco use is not harmful to health, this was slightly similar to study in Saudi Arabia in the central region among secondary school students were have known tobacco is harmful to health 89.3% while 10.7 said that tobacco is not harmful to health.<sup>(16)</sup>

Regarding the source of knowledge about hazards of tobacco use , our study revealed that relatives were the main source of knowledge 66,1 % (2392) which is similar to that reported among School Children in Honduras 59 %<sup>(21)</sup> , while study done among pre university Students in Bangalore- India 43,3 %.<sup>(17)</sup>

The second source of knowledge in our study was TV & Radio 60, 6 % (2196), while studies conducted in Bangalore, India among pre university Students & Honduras among School Children revealed that the second most common source of knowledge about hazards of Tobacco use was school 43%, 34 % respectively.<sup>(17,21)</sup>

**Conclusion:** The study indicated that 8.3% of students are current tobacco use. 18.2% of students used tobacco only for one time and main cause was to try (49.4%). Despite accepting passive tobacco smoke as a real risk to health, most of students are exposed to passive smoking (82%) and transport facilities were the most common site of exposure. This indicates the need of sustainable preventive programs to control tobacco use targeting adolescents in schools and increases the importance of activation of legislations for restriction or ban smoking in common public places.

**Acknowledgement:** We would like to thank Abubakr Bawazir, Afaf Binhareez ,Iman Bellasqa, Ashwag bawazir, Iman Jubran ,Iman Binhameed, Hanan Bakoban ,Hussein Baashin ,Khalid Bamsahell, Mazen Beroqaan, Majeda Binhydra, Nagat Bafarag, Rania Binthalab and samer Qunzel for the great effort they paid in this study.

## References

- 1- World Health Organization. Reducing Risks, Promoting Healthy Life. World Health Report 2002. Geneva: WHO; 2002.
- 2- The Global Youth Tobacco Survey Collaborative Group: Tobacco use among youth- across- country comparison. Tobacco control 2002; 11: 252-270.
- 3- The Global Youth Tobacco Survey Collaborative Group: Gender Differences in Worldwide Tobacco use by Gender, Journal of School Health, 2003; 73 (6): 207-215.
- 4- Warren CW, Riley L, Asma S, et al. Tobacco use by youth: a surveillance report from the GYTS project. Bull WHO 2000; 78: 868- 874.
- 5- Shafey O, Dolwick S, Guindon GE et al. Tobacco control country profiles, 2<sup>nd</sup> ed. American cancer Society, 2003.
- 6- Ghouri N, Atcha M, Sheikh A. Influence of Islam on smoking among Muslims. British Medical Journal, 2006; 332: 291-294.
- 7- Bahumaid A, Tobacco use among secondary school students in Al-Mukalla-2006. Available from: <http://www.yemen-nic.info> accessed May 9, 2010.
- 8- Sinha D, Gupta P and Pednekar M. Tobacco use among students in Bihar- India by GYTS. India .2000: 5-7.
- 9- Bassiony M, Smoking in Saudi Arabia. Saudi Medical Journal.Saudi Arabia, 2009; 30 (7):876-881.
- 10-Fikri M, Abi saad B, Global Youth Survey report of United Arab Emirates.UAE. 2002: 1-32.
- 11- Global Youth Tobacco Survey: Fact sheet: Eastern Mediterranean Region.Sudan.2005. Available at: [www.CDC.Gov\tobacco\gytp\global\index.htm](http://www.CDC.Gov\tobacco\gytp\global\index.htm). Accessed April 23, 2010.
- 12-Global Youth Tobacco Survey: Fact Sheet: Eastern Mediterranean Region. Egypt.2005.Available at: [www.CDC.Gov\tobacco\gytp\global\index.htm](http://www.CDC.Gov\tobacco\gytp\global\index.htm). Accessed in April 27, 2010.

- 13-Global Youth Tobacco Survey: Fact sheet: Eastern Mediterranean Region.UAE. 2005. Available at: [www.CDC.Gov\tobacco\gytp\global\index.htm](http://www.CDC.Gov\tobacco\gytp\global\index.htm). Accessed April 23, 2010.
- 14-Public health department- ministry of health Kingdom of Bahrain, GYTS report. Kingdom of Bahrain, 2003:1-11.
- 15-Kaminska B, Brajer B, Batura G and Kaminski J, Tobacco Smoking Behavior among High School Students in Poland. Poland. Journal of Physiology and Pharmacology.2008; 59 (6): 393-399.
- 16-Al-Damegh S, Saleh M, Al-Alfi M, and Al-Hoqail I, Cigarette Smoking Behavior among Male secondary school students in the Central Region of Saudi Arabia. Saudi Arabia. Saudi Medical Journal. 2004; 25(2):215-219.
- 17-Bhojani U, Chander S, Devadasan N, Tobacco Use and Related Factors among Pre-university Students in a College in Bangalore, India. The National Medical Journal of India 2009; 22 (6): 294-297.
- 18-Global Youth Tobacco Survey: Fact Sheet: Eastern Mediterranean Region. United Arab Emirates.2005.Available at: [www.CDC.Gov\tobacco\global\index.htm](http://www.CDC.Gov\tobacco\global\index.htm). Accessed April 27, 2010.
- 19-Global Youth Tobacco Survey: Fact Sheet: Eastern Mediterranean Region. Somaliland.2007. Available at: [www.CDC.Gov\tobacco\global\index.htm](http://www.CDC.Gov\tobacco\global\index.htm). Accessed April 27, 2010.
- 20-Global Youth Tobacco Survey: Fact Sheet: Eastern Mediterranean Region. Jordan.2007.Available at: [www.CDC.Gov\tobacco\global\index.htm](http://www.CDC.Gov\tobacco\global\index.htm). Accessed April 27, 2010.
- 21-Hamner R, Stumpf S, Survey of Smoking Knowledge, Attitudes & Practice in School Children in Honduras. Family Practice 2001; 18:627-628.