



Social and Health Development Program



# Study of Smoking Prevalence among Men in Kabul City

June 2011

## **ACKNOWLEDGEMENTS**

Principal Investigators and SHDP Research team members would like to sincerely thank all staff of SHDP for their hard work and arrangements made during the Study of Smoking Prevalence among Men in Kabul City. A group of dedicated individuals made tireless efforts to have the needed data and information handy.

The assigned survey team did their best to collect the information and data as accurately as possible.

We are equally grateful to the local communities and all study participants in Kabul City alike, for their enthusiastic participation and openness in sharing their views during the survey.

Finally, thanks to all staff members of SHDP including support staff who remained behind the scene, but made this study possible and successful. They all played important roles on their part towards the successful completion of this study.

Sincerely yours,

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## LIST OF ACRONYMS

AOR	Adjusted Odds Ratio
APHI	Afghanistan Public Health Institute
CI	Confidence Interval
ETS	Environmental Tobacco Smoke
IRB	Institutional Review Board
MoPH	Ministry of Public Health
OR	Odds Ratio
PPS	Probability Proportionate to Size
SD	Standard deviation
SHDP	Social and Health Development Program
TV	Television
WHO	World Health Organization

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## **ABSTRACT**

### **Objective:**

To estimate the prevalence of cigarette's smoking among men population of aged 15yrs and older in Kabul city.

### **Methodology:**

A cross sectional study was carried out in Kabul city in September and October 2010. A probability proportionate to size (PPS) cluster sampling method was used. During this survey 554 men aged 15yrs and older randomly selected were interviewed. Data on demographic, smoking knowledge, attitude & practices, family & friend smoking habits and use of other substances was collected through administration of a questionnaire.

### **Result:**

The prevalence of cigarette smoking among men aged 15yrs and older in Kabul city estimated to be 35.2%. Study findings shows that 46% of respondents were smoking in some point in their life. Totally 85.4% (35.2% currently smokers & 50.2% passive smokers) of respondents were somehow exposed to cigarettes smoke.

Those respondents, who grew up in a family where family members were smoking, are more likely to smoke compared to those respondents whose family members were not smoking (OR: 2.2; CI: 1.918 - 4.245). Meanwhile those respondents whose friends smoke, are more likely to smoke compared to those respondents whose friends are not smoking (OR: 7.08; CI: 3.5 - 14.2). Among smokers, 15% of them reported that they had started smoking at the age of less than 16yrs old. Among those who quitted smoking, 64.6% said they had quitted due to having health problems. Among not-smoking respondents 78.3% reported that they are exposed to environment, where they can smell smoke or someone smokes (35.6% at home, 56% at public transportation). In the study participants, 20% of respondents use naswar (a type of tobacco used sublingually) and 4% reported to use chars (similar to Hashish). Smokers were slightly more likely to use other substances than non- smokers (OR: 2.195, CI: 1.4-3.6).

### **Conclusion:**

Smoking prevention programs and campaigns should focus on both adverse affects of direct smoking and second hand smoking. Meanwhile focus to increase the people' knowledge of high likelihood of their own high risk behavior to be followed by their peers and children in regards to

smoking. Effort shall be made to formulate, disseminate and implement new and effective policies to ban cigarette smoking in the work and public places. There is a huge spending to buy cigarette due to the low price of cigarette in Kabul city. Special attention should be paid to develop and implement effective tobacco control strategies such as price increase and raising taxes on cigarette importation.

## **I. INTRODUCTION**

Tobacco use is the second cause of death globally (after hypertension) and is currently responsible for killing one in 10 adults worldwide.<sup>1</sup> Tobacco use kills more than five million people every year – more than HIV/AIDS, tuberculosis and malaria combined. If current trends continue, tobacco use could kill more than eight million people per year by 2030, and up to one billion people in total in the 21st century. Tobacco use is a risk factor for six of the eight leading causes of deaths in the world.<sup>2</sup>

The passive smoking (the involuntary inhalation of smoke from tobacco products), is another problem associated with smoking. Scientific evidence shows that exposure to secondhand tobacco smoke causes disease, disability, and death.<sup>3</sup> Research has generated scientific evidence that secondhand smoke causes the same problems as direct smoking.<sup>4</sup> Tragically, the epidemic is shifting towards the developing world, where 80% of tobacco-related deaths will occur within a few decades. The shift is caused by a global tobacco industry marketing strategy that targets young people and adults in developing countries.<sup>2</sup> Afghanistan is facing the same challenges. However the information on smoking is very poor and no estimation on smoking prevalence exist so far. This is the first study which uses the general population based on a random sampling to estimate the smoking prevalence. This study was financed and implemented by SHDP in urban context and makes up the foundation for further research in this field.

### **Background/ Problem Statement**

Smoking is a risk factor for mortality from several medical causes. Cigarette smoking and exposure to tobacco smoke are associated with premature death, economic losses to society, and a substantial burden on the health-care system.<sup>5</sup> Smoking is the primary causal factor for at least

30% of all cancer deaths, for nearly 80% of deaths from chronic obstructive pulmonary disease, and for early cardiovascular disease and deaths.<sup>5</sup> Smoking harms nearly every organ of human body, causing many diseases and reducing the health in general.<sup>5</sup>

Cigarette smoking is associated with a tenfold increase in the risk of dying from chronic obstructive lung disease. About 90% of all deaths from chronic obstructive lung diseases are attributable to cigarette smoking. Cigarette smoking has many adverse reproductive and early childhood effects, including an increased risk for infertility, preterm delivery, stillbirth, low birth weight, and sudden infant death syndrome (SIDS).<sup>6</sup> People with smoking habit are more likely to develop chronic bronchitis (OR = 6.92, 95% CI 4.22 to 11.36).<sup>7</sup> Cancer is the second leading cause of death and was among the first diseases casually linked to smoking. Smoking causes about 90% of lung cancer deaths in men and almost 80% of lung cancer deaths in women.<sup>6</sup> The risk of dying from lung cancer is more than 23 times higher among men who smoke cigarettes, and about 13 times higher among women who smoke cigarettes compared with never smokers.<sup>6</sup> Smoking causes cancers of the bladder, oral cavity, pharynx, larynx, esophagus, cervix, kidney, lung, pancreas, and stomach, and causes acute myeloid leukemia.<sup>6</sup>

Smoking causes coronary heart disease, the leading cause of death in the United States. Cigarette smokers are 2–4 times more likely to develop coronary heart disease than nonsmokers. Cigarette smoking approximately doubles a person's risk for stroke. Cigarette smoking causes reduced circulation by narrowing the blood vessels (arteries). Smokers are more than 10 times as likely as nonsmokers to develop peripheral vascular disease.<sup>6</sup> Most of tobacco's damage to health does not become evident until years or even decades after the onset of use.<sup>8</sup> Tobacco use is common throughout the world due to low prices, aggressive and widespread marketing, lack of awareness about its dangers, and inconsistent public policies against its use.<sup>8</sup>

The hazards of smoking depend on factors such as the age at which smoking began, number of cigarettes smoked per day, cigarette characteristics, such as tar and nicotine content or filter type, and smoking behavior, such as degree of inhalation. Many of these factors vary over time and across generations because of changes in the socioeconomic determinants of smoking, such as income, and tobacco control efforts, including tobacco trade and advertising laws, and prices (including taxes).<sup>9</sup>

Secondhand smoke, also known as environmental tobacco smoke (ETS), is a mixture of the smoke given off by the burning end of a cigarette, pipe or cigar and the smoke exhaled from the lungs of



smokers. It is involuntarily inhaled by nonsmokers, lingers in the air hours after cigarettes have been extinguished and can cause or exacerbate a wide range of adverse health effects, including cancer, respiratory infections, and asthma.<sup>10</sup> Environmental tobacco smoke is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans that indicate a causal relationship between passive exposure to tobacco smoke and lung cancer.<sup>11</sup>

Evidence for an increased cancer risk from environmental tobacco smoke stems from studies examining nonsmoking spouses living with individuals who smoke cigarettes, exposures of nonsmokers to environmental tobacco smoke in occupational settings, and exposure to parents' smoking during childhood.<sup>11</sup> The effects of secondhand smoke are substantial and rapid, explaining the relatively large risks that have been reported in epidemiological studies.<sup>12</sup>

Secondhand smoke increases the risk of coronary heart disease by 30%. This effect is larger than one would expect on the basis of the risks associated with active smoking and the relative doses of tobacco smoke delivered to smokers and nonsmokers.<sup>12</sup> The effects of even brief (minutes to hours) passive smoking are often nearly as large (averaging 80% to 90%) as chronic active smoking.<sup>12</sup>

Tragically, the epidemic is shifting towards the developing world, where 80% of tobacco-related deaths will occur within a few decades. The shift is caused by a global tobacco industry marketing strategy that targets young people and adults in developing countries. Afghanistan as one of the developing countries is facing the same challenges. There are no reliable data on the number of smokers among Afghanistan's 23 million<sup>1</sup> people. Despite being a very serious public health concern, the smoking problem did not receive enough attention in Afghanistan. There is limited data or information available in literatures about the smoking problem in country. Little has been done about studying smoking as public health problem in the country. In order to reduce the prevalence of smoking and/or control the epidemic of tobacco use, there is need for practical policies and strategies. In order to be able to develop evidence based policies and interventions, quality data and information is crucial. This study aims to start the initiative and take the preliminary steps to capture the real picture of smoking problem in the country. We studied the nature and magnitude of smoking problem in Kabul city and will be the foundation for additional researches in the future.

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<sup>1</sup> CSO (2009)

## STUDY OVERVIEW

### **Study Objective:**

The study objective was to estimate the prevalence of cigarette smoking or proportion of those who smoke in the men population of aged 15yrs and older in Kabul city.

## II. METHODOLOGY

### **Research Design**

The study design is a population based cross sectional. The target population of the study was men aged 15 years and older, who live in Kabul city. The sample size for the study was 554.

### **Sampling Method**

A probability proportionate to size (PPS) cluster sampling was used to do the sampling of target population in Kabul city. The Kabul city has a population of 2,831,400<sup>2</sup> living in 17 districts. Each district is divided into smaller population unit called Guzar. Each Guzar was considered a cluster and was listed in the sampling frame. As specified by the PPS method, the sampling was carried out in two stages. In the first stage, 55 clusters (Guzars) were randomly selected from a sampling frame of all Guzars. In the second stage, 10 households were randomly selected in each cluster (55x10).

Using this method, the first sampling unit was the cluster, and the second sampling unit was the household. In each household, one eligible person (Men aged 15yrs or older) was interviewed.

### **Data Collection Tool and Procedure**

Data collection was carried out using a pre-coded structured questionnaire in local language. The questionnaire was field tested and necessary alteration and modifications were made before the survey was conducted. The questionnaire included Socio-demographic questions, questions on family & friend smoking history, questions on respondents smoking history & practices. The survey teams were ensuring that all eligible individuals must voluntary agree to participate in the interview and informed consent of interviewees was taken. The survey team described, in simple language the nature and objectives of the study; the issues being investigated; and the information being required from the participants. The survey teams assured participants that the personal information

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<sup>2</sup> Population of Kabul city by districts and sex- CSO (2008-2009)

obtained during interview would be kept confidential. The questionnaires were filled in a way that the privacy of respondent was seriously considered.

The questionnaire was administered by surveyors to respondents in a face to face manner.

### **III. DATA QUALITY CONTROL**

To get the most representative results, high quality of data is essential for a study. Efforts were made at three stages to ensure high quality of the survey data.

- 1. Training prior to data collection:** Qualified researchers were assigned as trainers to conduct a comprehensive training for data collectors. During training, trainees were trained on different aspect of data collection process and the data collection tools were introduced to them. They were provided with the opportunity to exercise data collection in the class environment through role playing and simulations. Trainees also participated in a field exercise to apply their gained knowledge.
- 2. Training during data collection:** To ensure quality of data collection in the field, supervisors were assigned to supervise and monitor the data collection process in the field, including randomization and conducting interviews. The assigned supervisors ensured that the surveyors were following the sampling method properly; the questionnaires were filled properly; and the collected data was complete.
- 3. Data Entry:** the data entry clerks were trained on the data set. Meanwhile to ensure proper data entry, a code of book of the questionnaire contents was provided to data entry clerks and the data entry process was supervised. To further ensure the quality of data for analysis, double entry of data was carried out.

### **IV. DATA MANAGEMENT**

The following steps were taken during the data management phase of this study:

### **Data Entry**

Collected data was entered into a database created using SPSS Inc 18 statistical software. Data entry was carried out by trained data entry clerk concomitantly with data collection.

### **Data Cleaning**

Data were screened and inspected for missing data and potential errors. At this stage, the data was checked for quality through various methods, such as frequency counts and cross tabulations.

### **Initial Data Analysis and Data Preparation**

During this stage, the variables were scanned in terms of measurement, scale and categories. New variables, variable combinations and composite scores were created. At this stage, data coding was also carried out.

### **Final Data Analysis**

Following data cleaning, addressing any outliers and implausible values, and necessary recoding, weighting and preparing the data for analysis, a combination of statistical analysis methods were used to analyze the data. The analysis includes descriptive, uni-variate, linear regression and logistic regression analysis through SPSS Inc 18 statistical software.

## **V. STUDY LIMITATIONS**

The findings of the study are limited to the male population of Kabul city that represent the urban population. Women were not included. Meanwhile lack of previous data was another limitation for trend analysis.

## **VI. Ethical Approval**

We obtained ethical and technical approval from the Institutional Review Board (IRB) of Afghanistan Public Health Institute, the Ministry of Public Health (APHI-MOPH, letter No. 112452, dated May 9, 2009).

## VII. RESULTS

### Survey Demographics

In total, 554 individuals participated in this survey.

The mean age of respondents was 31.3 years (mode 18 years), with minimum and maximum reported ages of 15 and 65 years, respectively. The age distribution of survey participants is depicted in Table 1.

**Table 1. Survey Participants in each Age Category**

<b>Age category</b>	<b>Number</b>	<b>%</b>
15-19	127	23%
20-24	104	19%
25-29	70	13%
30-34	52	9%
35-39	50	9%
40-44	47	8%
45-49	35	6%
50-54	25	5%
55-59	15	3%
60 &over	29	5%
<b>Total</b>	<b>554</b>	<b>100%</b>

57.8 % of participants were married, 42.2% were single.

The ethnic breakdown of respondents is shown in Table. 2 demonstrates that approximately half (52%) of the respondents were Tajiks.

**Table 2. Respondents by Ethnicity**

<b>Ethnicity</b>	<b>Number</b>	<b>%</b>
Tajik	282	52%
Pashton	133	25%
Hazara	121	22%
Others	5	1%
<b>Total</b>	<b>541*</b>	<b>100%</b>

*\*Number of respondents answered this question*

Study participants reported numerous different types of occupations, it was a bit complicated to categorize the occupation variable and put them under specific categories.

79% of respondents (n=436) were able to read and write, while 21% (n=117) could not read or write. The educational breakdown of respondents is shown in Table 3.

**Table 3. Respondents by Level of Education**

<b>Level of Education</b>	<b>Number</b>	<b>%</b>
Primary (grades 1-5)	22	5%
Secondary (grades 6-8)	100	23%
High school (grades 9-12)	225	52%
University	86	20%
Other	3	1%
<b>Total</b>	<b>436*</b>	<b>100%</b>

*\*Number of respondents answered this question*

The average household income was reported with a median level of 12,000 AFs (Mode=10000AFs) with minimum and maximum of 1000 AFs and 150,000 AFs, respectively.

In terms of household income status, the respondents were divided into three categories: households with incomes of up to 5,000 AFs per month, households with incomes between 5,001-10,000AFs per month, and households with incomes of more than 10,000AFs per month. The breakdown of respondents by income status is shown in

Table 4.

**Table 4. Households by level of income**

<b>Level of Income</b>	<b>Number</b>	<b>%</b>
Income < 5000AFs	61	11%
Income 5000-10,000AFs	185	34%
Income > 10,000AFs	304	55%
<b>Total</b>	<b>550*</b>	<b>100%</b>

*\*Number of respondents answered this question*

### **Smoking Prevalence**

During the survey, 35.2% (95% CI: 31.2, 39.2) of respondents reported that they are currently smoking cigarette. Our best estimation for the true prevalence of smoking among men aged 15yrs and older in Kabul city is 35.2%, but we are 95% confident that the true prevalence lies between 31.2% and 39.2% (35.2 ± 4%).

## **Respondents' Smoking knowledge and Practices**

Totally 85.4% (35.2% currently active smokers & 50.2% passive smokers) of the respondents were somehow exposed to cigarettes smoke.

46% of respondents reported that they had been smoking in some point in their life.

98.5% of all of the participants and 99.5% of smokers were anticipating some type of health problems as a result of smoking.

96.2% of respondents received information regarding adverse effects of smoking from different sources including TV, Radio, Newspaper& magazine, school, office and others. 86.5% reported TV 49.5% reported radio as source of information.

88.8% of respondents named TV and 50.8% reported radio to be the best mean to inform people about the adverse effect of smoking.

64.3% of smokers reported that at least one family member did smoke in the family where they grew up while 94.2% of smokers reported that their close friends smoke. Those respondents who grew up in a family where family members were smoking, are more likely (AOR: 2.2; CI: 1.918 - 4.245) to smoke than those respondents where family members were not smoking (see Table. 5) Meanwhile those respondents whose close friends smoke, are more likely (AOR: 7.08; CI: 3.5 - 14.2) to smoke than those respondents whose friends are not smoking (see Table. 5). Literacy, age, income level, marital status, and ethnicity were not significant predictors of smoking habit among men in Kabul city.

**Table 5. Relationship of participants smoking status with other socio-demographic variables**

<b>Items</b>	<b>Smoker n(%)</b>	<b>Non Smoker n(%)</b>	<b>Total n(%)</b>	<b>X<sup>2</sup> (P-value)</b>	<b>AOR*</b>	<b>CI-95%</b>
Are you married (yes)	129 (66.8%)	189(52.8%)	318(57.7 %)	1.17 (0.28)	1.38*	0.77 - 2.5
Can you read & write (yes)	161(82.6%)	276(76.9%)	437(78.9%)	1.32(0.25)	1.37**	0.8-2.5
Did family member smoke? (yes)	108 (64.3%)	118(38.9%)	226(48%)	13.8(0.0002)	2.2***	1.5 - 3.4
Do your friends smoke? (yes)	178 (94.2%)	224(64.6%)	402(75 %)	43.04(0.0000001)	7.08****	3.5 - 14.2

\* OR was adjusted for literacy, age and income level , family smoked, close friend smokes

\*\* OR was adjusted for marital status, age, income level , family smoked, close friend smokes

\*\*\* OR was adjusted for literacy, age and income level , marital status, close friends smoke

\*\*\*\* OR was adjusted for literacy, age and income level, marital status, family smoked



15% of smokers reported that they had started to smoke at the age of less than 16yrs old, while 1% started to smoke after age of 30yrs old (see Table.6).

**Table 6. Participants age when they started smoking**

<b>Age categories</b>	<b>Number</b>	<b>%</b>
≤ 15 yrs	28	15%
16 -20 yrs	109	57%
21 - 30 yrs	54	28%
≥ 31 yrs	2	1%
<b>Total</b>	<b>193*</b>	<b>100%</b>

*\*Number of respondents answered this question*

Only 49% of smokers reported that they are smoking outdoor, while 51% of them smoke both indoor and outdoor (see Table. 7).

**Table 7. Smokers by place of smoking**

<b>Place</b>	<b>Number</b>	<b>%</b>
Outdoor	96	49%
Both indoor & outdoor	98	51%
<b>Total</b>	<b>194*</b>	<b>100%</b>

*\*Number of respondents answered this question*

19% of smokers reported that they are smoking more than 20 cigarettes per day, while 9% reported 1-5 cigarettes per day (see Table.8)

**Table 8. Smokers reported number of cigarettes smoked per day**

<b>Items</b>	<b>Number*</b>	<b>Percent</b>
1-5 cigarettes per day	17	9%
6-10 cigarettes per day	38	20%
11-20 cigarettes per day	97	52%
> 20 cigarettes per day	35	19%
<b>Total</b>	<b>187</b>	<b>100%</b>

*\*Respondents who smoked less than one cigarette per day were not included*

The average of spending on cigarettes was reported to be  $565.6 \pm 49.2$  AFs with a median level of 450 AFs (Mode=450 AFs) with minimum and maximum of 60 AFs and 1900 AFs respectively ( $\$US 1 = 45$  AFs).

**Table 9. Smokers reported monthly spending to buy cigarettes**

<b>Items</b>	<b>Number*</b>	<b>Percent</b>
Spending $\leq$ 500 AFs	113	60.4%
Spending $\leq$ 1000 AFs	66	35.3%
Spending > 1000 AFs	8	4.3%
<b>Total</b>	<b>187</b>	<b>100%</b>

\*Respondents who smoked less than one cigarette per day were not included

Though the income level caused some variability, but was not a significant predictor of spending to buy cigarette ( $p=0.328$ ).

To generalize the findings to the men population aged 15yrs and older in Kabul city, approximately 278,562 ( $35.2\% \pm 4\%$ ) out of 791,370 <sup>(3)</sup> men population of 15yrs and older were smokers in Kabul city. If on average they spent  $\$US 10$  (450AFs) per month to buy cigarette, then the total expenditure for buying cigarette in Kabul city will be roughly  $\$US 2,785,622$  ( $\$US 2,469,074 - \$US 3,102,170$ ) per month.

When asked about the reasons to initially start smoking, 48.7% of smokers reported that they started smoking because their friends had smoked, while 8.7% reported that their family members were smokers (see Table. 10)

**Table 10. Respondents reported reasons for starting smoking**

<b>Reasons for starting to smoke</b>	<b>Number</b>	<b>%</b>
My close friends smoked	95	48.7%
Some family members smoked	17	8.7%
Other reasons	83	42.6%
<b>Total</b>	<b>195</b>	<b>100%</b>

<sup>3</sup> CSO 2009 (Population of Kabul City by districts and sex in 2008-09)

### Cessation:

When asked if they were told to quit smoking, 92.3% reported that they were advised to quit smoking. 78% of them reported that they were told by family, while 14% reported that they were advised by friends (see Table. 11). Only 44.8% (n=87) tried at least one time to quit smoking.

**Table 11. Smokers reported source of advice to quit smoking**

Items	Number*	Percent
Family	136	78%
Friends	24	14%
Colleagues in the office	8	5%
Health personnel	3	2%
Schools	3	2%
<b>Total</b>	<b>174</b>	<b>100%</b>

\*Number of respondents answered this question

17.3% (n=62) of those individuals not currently smoking, were previously smokers. Before quitting, they smoked for 1 to 30yrs.

64.6% of those who quitted said they had quitted due to having health problems, while only 14.6% reported that they quitted due to financial problems.

**Table 12. Participants' reasons for quitting smoking**

Items	Number	Percent
Health problems	31	64.6%
Family asked me	9	18.8%
Financial reasons	7	14.6%
Friends asked me	1	2.1%
<b>Total</b>	<b>48*</b>	<b>100%</b>

\*Number of people who answered this question

### Second Hand Smoke

78.3% of not-smoking respondents reported that they expose environment, where they can smell smoke or someone smokes. 35.6% of them were facing this condition at home, while 56% reported public transportation (see Table. 13).

**Table 13. Non-smokers by location where they exposed to smoking**

Location	%
Home	35.6%
Office	9.7%
school	2.9%
University	4.3%
Restaurant	9.4%
Public transport	56.1%
Market	16.5%

\*The percentage might not add to 100%, as multiple responses were possible.

### Other Substance Use

When participants were asked if they are using other substances, 20% of respondents reported that they use naswar (a type of tobacco used sublingually), 4% reported charas<sup>4</sup>, and 0.4% reported to consume alcohol. Meanwhile 1.1% of respondents reported to use hookah (water pipe for smoking)<sup>5</sup>.

Smokers were slightly more likely (AOR: 2.195, CI: 1.4-3.6) to use other substances than non-smokers (see Table.13)

**Table 14. Participants reported using of other substances**

Items	Using other substance n(%)	Not using other substance n(%)	Total n(%)	X <sup>2</sup> (P-value)	AOR	CI-95%
Do you smoke? (yes)	72 (50%)	118(29.2%)	190(34.7 %)	10.3 (0.001)	2.2*	1.4 - 3.6

\* OR was adjusted for literacy, age and income level

<sup>4</sup> Drug same as hashish

<sup>5</sup> A pipe for smoking tobacco, consisting of a flexible tube with a mouthpiece attached to a container of water through which smoke is drawn and cooled

## VIII. DISCUSSION

The study, the first in Afghanistan, was conducted to estimate the prevalence of cigarette smoking in Kabul city among men aged 15yrs and older. The prevalence of smoking among men aged 15yrs and older is estimated to be 35.2%. This is alarming, since one out of every three men (15+yrs)in Kabul city is a smoker. Meanwhile this study shows that the initiation of smoking among smokers began in very early age, where 15% of smokers started to smoke before age of 15yrs, while 57% of smokers started to smoke between 16-20yrs age. Long years of smoking affect the life expectancy and mortality as findings of a study looking at the mortality and life expectancy in relation to long term cigarette smoking found that both the number of cigarettes smoked and duration of smoking are strongly associated with mortality risk and the number of life-years lost.<sup>13</sup> Unfortunately there is no previous data available to carry out a trend analysis or comparison within country, but to consider the neighboring countries the prevalence of cigarette among men aged 15 and older in Pakistan is 36% <sup>14</sup>that is close to that of Kabul city. While the prevalence of smoking among men aged 15yrs and older in Islamic Republic of Iran is documented 25.5%,<sup>14</sup> which is lower than smoking prevalence in Kabul city. While the prevalence of smoking among men aged 15yrs and older was reported to be: 43.8% in Turkey, 52.9% in China, 10.3% in India and 28.3% in Bangladesh.<sup>15</sup>

The study findings indicate that family smoking habit is an important predictor of smoking habit. The likelihood of becoming smoker is higher among men who grew up in family where at least one member of family smoked. The parents or other family members can be copied as negative role model by the children in the family. The relationship between parents smoking habits and children smoking habits is documented in other countries as well. A study conducted in Malaysia found that children whose fathers are smokers are almost twice at higher risk of smoking compared to those whose fathers are not smokers; this study also shows that within families, sibling's smoking habits are also significantly associated with children smoking habit.<sup>16</sup>

Our study findings indicate that, smoking habit among close friends was an important predictor of smoking habit among respondents of this survey. Friends and peers have important influences especially during adolescence and children development stage. The adolescents copy their friends as role model. They act and do things like their friends and peers. Our study findings indicate the

influence of negative role modeling of peers and friends on each other regarding smoking habit.

Similar findings are reported in other studies as well.<sup>(20, 17)</sup>

Meanwhile, the finding of this study is in agreement with the social cognitive theory constructs (SCT). One of SCT constructs is environment and situations that refers to the objective factors that can affect a person's behavior but are physically external to that person and provides models for behavior. Another construct of SCT is observational learning that occurs when a person watches the actions of another person and reinforcement that the person receives. The process of observational learning accounts for why people in the same family often have common behavioral patterns. Some children observe their parent when they smoke and some children observe other children and peer smoking at school. If the smokers get reinforcement that the observers consider rewarding, the observers are more likely to perform that behavior in the future.<sup>18</sup>

The secondhand smoking or passive smoking is another alarming phenomenon that Kabul city population faces. Daily exposure to second hand smoke can cause or exacerbate a wide range of adverse health effects, including cancer, respiratory infections, and asthma.<sup>10</sup> It is also known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans that indicate a causal relationship between passive exposure to tobacco smoke and lung cancer.<sup>11</sup> The effects of secondhand smoke are substantial and rapid, explaining the relatively large risks that have been reported in epidemiological studies.<sup>12</sup>

This study finding indicates that 78.3% of non-smokers are exposed to environment such as public transportation, office and market where others smoke. The findings support the debate for lack of effective policy or implementation of policy to ban smoking practices in public places. Meanwhile 35.6% nonsmokers reported to be exposed to smoking at home which not only causes passive smoking but also put a negative influence on children and adolescents in the family. Indoor smoking reported by 51% of smokers, is another contributing factors to enhance the chance of passive smoking for non-smokers.

The economic impact of tobacco is to devastating like: decrease economic productivity through death, increased poverty and higher health care costs. In addition, money spent on smoking means money not spent on basic necessities such as food, shelter, education and health care.<sup>19</sup>

As our study findings indicated that 39.6% of respondents reported to spend more than 500AFs

(\$US 11) per month to buy cigarettes while 11% of respondents reported monthly income of less than 5,000AFs (\$US 111). This could be a huge economic loss for a capital city (Kabul) in a developing country to spend \$US 2,785,622 per month to buy cigarettes.

In neighboring country Iran, according to a report released by the Iranian Campaign Against Tobacco the money Iranians spend on cigarettes every day is ten times more than the money spent on bread.<sup>20</sup> A study conducted in Tehran the capital of Iran found that the smoker population had average daily smoking expense of 4,680±388.78 Rials (1 Dollar =9000 Rials)<sup>21</sup>that makes up \$US 15.5 on monthly basis. This is slightly higher than Kabul monthly average expenditure on smoking (\$US12). As the study finding indicates that income level did not affect spending to buy cigarettes which can be concluded that cigarette is cheaper in Kabul city.

The study findings show that 96.2% of respondents received information regarding adverse effects of smoking. 98.5% of all of the participants and 99.5% of smokers were anticipating some type of health problems as a result of smoking but only 64.6% of previously smokers quitted smoking due to health problems. This can be concluded that despite having good information of adverse effect of smoking, people don't practice healthy behaviors, hence indicates the need for continual smoking prevention campaign through mass media such as TV and radio to help behavioral change in a long run.

### **Conclusion:**

Based on the study findings, we conclude that smoking prevention programs and campaigns should focus on both adverse affects of direct smoking and second hand smoking. Meanwhile attention should be paid to increase people' knowledge about high likelihood of their own high risk behavior to be followed by their peers and children in regards to smoking.

Effort shall be made to re-formulate, disseminate and implement effective policies to ban and restrict cigarette smoking in the work and public places.

There is a huge spending to buy cigarette due to the low price of cigarette in Kabul city. Hence government should pay special attention to develop and implement effective strategies for tobacco control such as price increase and raising taxes on cigarette.

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