Exploration of Smoking Patterns Among Males of Age 25-35 in Yerevan

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November 1997

Yerevan, Armenia

ACKNOWLEDGMENTS

I would like to express my deepest gratitude to Dr. Haroutun Armenian and all my teachers for creating a unique opportunity for participation in this program here in Armenia.

I am very grateful as well to Ms. Katiça Cekalovic for her continuos support and encouragement during my study and the preparation of this paper. Thanks to her support I was able combine my participation in the program and my new job at UNDP.

My special thanks and apologies to Bob and Jackie McPhersons for their assistance in the preparation of this paper in such a short time, specially since the topic was changed only a few weeks before the deadline.

I am also grateful to my family, who has always been by my side with their utmost patience and invaluable support.

I would also like to thank my friends, whose moral support has been very important for me during the whole time of my study.

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Abstract

Study Objectives

The presented study is the first attempt to analyse smoking patterns of males aged 25-35 in Yerevan, mainly focused on reasons for smoking, using qualitative research method. The result of the study can be useful in terms of their implication s for the development of health promotion/ smoking prevention programs.

The primary research question was: "What are the main reasons for smoking among males aged 25-35 in Yerevan?" Secondary research questions were also explored, including patterns of smoking initiation, experience with smoking cessation, knowledge about hazardous consequences of smoking and attitudes toward smoking in general.

Methods

Three qualitative research methods, including in-depth interviews with key informants, free listing and pile sorts were selected for data collection. Population study criteria were: current smoker, male aged 25-35 years, Yerevan resident, a person not familiar with the interviewer. The purposive sample of the study includes 28 smokers (ten key informants, twelve free listing informants and six pile sort respondents).

Results

Results of key informant interviews were presented in accordance with the most significant sub-domains of the "Reasons of Smoking" domain, identified by analysis of pile sort data. Domains related to the secondary research questions were also presented.

As a result of free listing, 39 cognizant items related to personal reasons of smoking behaviour of the respondents were identified. The most frequently mentioned 16 reasons were used for pile sort data collection. The most significant sub-domains of Reasons of Smoking domain, identified by ANTHROPAC computer program analysis were: "already addicted", "When there is nothing to do" and "Secondary reasons" sub-domain, including three smaller sub-domains ("Childishness", "Environment" and "Pleasure").

Conclusion

The most frequently mentioned cognizant items as well as two of three sub-domains ("Already addicted" and "When there is nothing to do"), identified by pile sort data analysis were related to pharmacological motives of smoking, which is consistent with the reviewed literature on nicotine dependence (2,3,4,5,6,19). The third sub-domain, called "Secondary reasons" consisted mainly of past reasons responsible for smoking initiation such as smoking environment, communication, stereotype, imitation and others, grouped to smaller sub-domains. However, the in-depth interviews show that smoking continued to have a social value for communication in a "new environment"(new job place or new acquaintances). Smoking environment, as it was revealed by the in-depth interviews has also the role of physical and psychological barriers for smoking cessation practices.

Introduction

Smoking as a Major Public Health and Social Problem

Tobacco Smoking is one of the major Public Health and Social problem world-wide.

According to the World Health Organisation tobacco-related deaths, primarily due to lung cancer and heart diseases, already amount to 3 million a year, or 6% of the total deaths. It is estimated that tobacco smoking will kill 30 million people during the 1990s, , more than 50% of which will be in their middle age (1).

Tobacco smoking is one of the major risk factors in the development of circulatory diseases such as coronary heart disease (CHD), which are the top causes of death world-wide. Circulatory diseases, including CHD, in 1996 account for about 25% of all deaths in developing countries amounting to 10 out of 40 million. In the developed countries they caused almost half of all deaths- 5 out of 12 millions. It is estimated that around 15% of all CHD deaths and 25% of all CHD morbidity in people under 45 are attributed to cigarette smoking (1).

The evaluations of multiple public health programs prove that cigarette smoking is the most readily preventable risk factor for CHD and all other cardiovascular diseases as compared with other risk factors such as high blood pressure, dietary habits, elevated cholesterol level, obesity, diabetes and luck of physical activities. CHD mortality and morbidity have declined dramatically in many industrialised countries during the last decades due to effective smoking policies, health promotion and disease prevention programs. In United States, Austria and New Zealand, for example, CHDs have decreased by 50% since mid 1960s (1).

There is an opposite trend the growth of CHD and other circulatory diseases in the developing world, as well as central and eastern European countries, mainly caused by the adoption of unhealthy habits and behaviours (1).

Tobacco smoking is also the most important risk factor for lung cancer, including cancer of the trachea and bronchus, which are the most common cancers in the world. Studies show that a lifetime smoker has some 20-30 times higher risk of developing lung cancer than a non-smoker (1).

According to WHO, 85% of all cases of lung cancer in men and 46% of cases among women are due to tobacco smoking. In developed countries tobacco-related lung cancers are estimated to account for 91% of all cases in men and 62% in women, while in developing countries the proportions are 76% in men and 26% in women. As in the case with cardiovascular diseases, the rate of decreasing in lung cancer in many developed countries (e.g. United States, United Kingdom, Finland) is due to smoking prevention and cessation programs. Simultaneously the incidence rate of lung cancer is growing in developing countries mainly because of early smoking initiation among men (1).

Smoking is also the most important risk factor for the development of chronic non-specific pulmonary diseases including chronic obstructive pulmonary diseases (COPD) and asthma. It is a well known fact that chronic non-specific lung diseases have high economic as well as social cost due to high prevalence, substantial mortality and morbidity, high chronicity rate and high direct managing cost due to frequent cases of hospitalisation.

Smoking is also a known risk factor for cancers of other localisation such as oral cancer, oesophageal cancer, bladder cancer and laryngeal cancer (1).

The aforementioned show that smoking represents a serious public health as well as economic and social problem for the society.

Reasons for Smoking

What are the reasons behind the smoking phenomena?

There is essentially no doubt in the current literature on the complexity of mechanisms of motivation for cigarette smoking, smoking behaviour and its determinants. The literature on *Causes of Smoking* includes a large variety of articles focused on:

- Pharmacological motives, including physiological and psychological effects because of nicotine dependence;
- Non-pharmacological motives, including social factors.

Pharmacological Reasons for Smoking

According to WHO Classification of mental and behavioural disorders, it is convenient to classify cigarette smokers as nondependent (no Tobacco Dependent Syndrome) and dependent individuals (Tobacco Dependence Syndrome is present (2).

Tobacco Dependence Syndrome is defined as "a cluster of physiological, behavioural and cognitive phenomena in which the use of tobacco takes on a much higher priority for a given individual than other behaviours that once had greater value" (2). It is an essential feature of the tobacco dependence syndrome that "easier tobacco taking or a desire to take tobacco (often strong or overpowering) should be present" (2).

Multiple studies conducted in humans and animals on the assessment of the abuse liability of tobacco and nicotine proves that tobacco use is a form of drug addiction considering that tobacco experimentation to a high extent leads to the daily use with a highly consistent pattern of drug intake (3). This pattern is supported by biological concentrations of nicotine, which is a psychoactive constituent of tobacco smoke. Smokers behaviour is controlled by nicotine, considering that reducing or cessation of tobacco intake leads to a withdrawal syndrome which is characterised by irritability, concentration difficulties, cognitive impairments and weight gain (3).

Currently scientists are increasingly convinced that *dopamine* plays a key role in a wide range of addictions, including those to nicotine, heroine, alcohol and marijuana (4). There is a hypothesis that formation of smoking habit with consequent addiction to tobacco is associated with a higher than normal level of dopamine in the brain. This high innate level of dopamine facilitates addiction to nicotine (4).

Four major reasons of smoking (Addiction, Habitual Needs, Pleasure and Stress) were identified on behavioural level in a study among heavy smokers (5). It was found that *addictive/habitual* factor was positively correlated with the use of alcohol and coffee (other types of addiction), *pleasure* with obesity and *stre*ss with more perceived stress (5).

An attempt has been made in categorising the classes of motivations for smoking, according to the positive and negative reinforcing impacts on the habit to smoke. It was revealed that primary negative reinforcing factors were acute withdrawal syndrome, problems with weight gain and the phenomenon of craving. Primary positive reinforcing factors were "pleasure" and effects of smoking on cognitive functions. In the situations when passive coping and anxiety were involved in conjunction with stress, the tranquillising effects of smoking were considered as negative reinforcing factor. In the situations involving active coping smoking may have positive reinforcing effect. The conclusion of the authors was that the memory of these reinforcing effects is partially responsible for so called "phenomenon of craving" and may significantly contribute to late relapse (6).

There are a group of studies, which show a positive correlation between tobacco smoking and a high rate of depression.

A survey of more than 3000 people in St. Louis revealed that 6.6% of smokers and 2.9% of non-smokers were depressed (7).

A study conducted by the National Centre for Health Statistics, US confirms the link between smoking and episodes of major depression. The chance of being a smoker rose with the number and severity of depression as well as anxiety disorders (8).

Non-pharmacological Reasons for Smoking

Studies on non-pharmacological factors of smoking are focused on the identification of socio-economic reasons, which can be helpful in the development of effective smoking preventive programs.

A study conducted in Denmark confirmed the findings of other studies on social reasons of smoking initiation. It shows that smoking is more common among those who have low socio-economic (LSES) status than those are with high socio-economic status (HSES). HSES adolescents perceived a stronger link between smoking and social, personal as well as health related disadvantages. LSES adolescents experienced more social pressure and smoking was viewed as a way of communication with people (9).

Another study, also conducted in Denmark, examined the role of family factor, including household income, parents education smoking behaviour on smoking onset during childhood. From all the above-mentioned factors only maternal smoking during childhood leads to increased risk of children's becoming young adult smokers (10).

A survey conducted in La Pincoya, Spain with a sample of 1383 school children defined that the incidence of smoking is significantly higher (it was 64%) among children of parents who smoke. In the same study *pleasure* and *imitation* were mentioned as the most important reasons for smoking (11).

A study on current smoking behaviour and attitudes among high school students in Israel was conducted in order to evaluate an educational program. The obtained date from a representative sample of 1,420 students form 22 schools were compared with a similar study in

United States. The study indicates that in spite of the comparability of smoking behaviour and age distribution of Israel students and students from United States, there was a difference in perception of reasons for smoking and not smoking both qualitatively and quantitatively. The conclusion was that "in order to be successful, any preventive anti smoking program should be modified and tailored in accordance with the characteristics and needs of the target population under the particular local set of conditions" (12).

Background Information on Armenia

According to the World Bank Report on Health Financing and Primary Health Care Development Project, deteriorating heath is "the most critical long term public health issue in Armenia" (13).

Estimates of the "Burden of Disease in Armenia" study revealed that male health status has deteriorated since late 1970s much more than that of females in Armenia as compared with other countries of the former Soviet Union. "Poor health status of adult males" was considered to be "the main finding of the study". Males DALYs[1] in 1995 was estimated to be 59% of total DALYs lost (13). Death DALYs lost distribution for males indicates that 52% of it occurred in 15-59 age group. For females of the same age group it was 33% correspondingly (14), (Figure1, Appendix A)

Death DALYs analysis by nosologies for 1995 show that four top diseases, which contributed to high Death DALYs among males in Armenia, are smoking related. They are as follows: CHD heart disease (about 24%), stroke (about 9%), lung cancer (5%) and chronic obstructive pulmonary disorders (4%) (14), (Figure 3, Appendix A).

There is no doubt about the important role of physical and emotional stress experienced due to economic breakdown, war, earthquake and blockade, which led to the deterioration of living standards and thus contributed to poor health status of Armenian population.

[1]Disability Adjusted Life Years (DALY) is aggregated indicator of years of life lost due to premature death and disability.

Nevertheless It should be mentioned that the role of behavioural risk factors and smoking in particular in the development of the above mentioned four top conditions responsible for high Death Male DALYs as well as other conditions have not been properly studied in Armenian population.

Data on behavioural risk factors including data on smoking are scarce in Armenia. Study conducted by Information System of the National Institute of Health in 1995 defined 56.4% smoking prevalence among boys and 20.7% among girls from 14-16 years of age in Yerevan. Among promoting factors *peer pressure* and *family smoking* were reported as being the most important (15).

Study on smoking prevalence conducted by Public Health Department of AUA in 1995 revealed 90% smoking among males and 30% among females in Yerevan (16).

The above mentioned studies show the necessity of smoking cessation and health promotion programs in our society (such programs never existed in former Soviet Health Care System) as an effective methods to improve current health status of the population in general and males in particular.

Study Objectives

The presented study is the first attempt to analyse the smoking patterns among males aged 25-35 in Yerevan, mainly focused on reasons for smoking as well as existing attitudes and beliefs using qualitative research methods.

The results of the study can be useful in terms of their implications for the development of health promotion/smoking prevention programs in accordance with local needs.

The Primary Research Question was the following: “What are the main reasons for smoking among males aged 25-35, in Yerevan?”

Secondary Research Questions were also examined in relation to the primary Research Question, including patterns of smoking initiation, experience with smoking cessation, attitudes toward smoking in general, as well as knowledge about hazardous effect of smoking.

Methods

Three research methods, including in-depth interviews with Key Informants (KI), free listing and pile sorts were selected for data collection.

Qualitative research method has been used due to the following reasons:

1. The responses to open-ended questions of interview guide for in-depth interviews, consisted of direct quotations, provides depth of understanding of people's opinions, feelings, attitudes, beliefs and experiences, which are essential for better understanding of their motivations (17).
2. Direct contact with people provides for an insider's perspective on how the motives are related to one another and linked to their behaviour. It also helps to discover the existing behavioural patterns as well as stereotypes in attitudes and beliefs in defined target population (18).

Study on the reasons for smoking among young males in Yerevan was part of the class project, conducted in July 1997 by four students of Public Health Department of the American University of Armenia. Data were collected in two stages. Initially collected data during the class project were four in-depth interviews with Key Informants, twelve free lists and six pile sorts.

The research was continued in October 1997. From the first stage of data collection, four in-depth interviews and six available free lists were used for the second stage of the study. Additional data were collected during the second stage, including six in-depth interviews, six free lists and six pile sorts.

Study Population

Purposive sampling was used to identify Key Informants. Key Informants were identified on streets, cafeterias and parks by direct observance of their smoking behaviour, pack of cigarettes in their pockets or asking about their smoking behaviour.

Eligibility criteria were the following: current smoker, male aged 25-35 years, Yerevan resident, a person not familiar to the interviewer.

Table 1. Summary of Data Collection for Qualitative Research Method

Research Method	***Sample Size***	***Types of Informants***
1. Key Informant Interview ***Interview Guide***	**10** in- depth interview	Average age of KI was 32 years of age. An average duration of smoking behaviour was 15 years (from 9 to 27) and the amount of cigarettes smoked per day was about 1.5 pack per day. One was a student, two were unemployed, four were involved in private business and three were working in state sector. Seven of ten KI were married. Among those married one had two children, four had one child and two had no children. Those who had not child mentioned that they would like to have children. Six of ten had higher education.
2. Systematic Interview Technique ***Free Listing***	**12**	An average age was 31. Two out of twelve were unemployed. An average amount of cigarettes smoked was 1.5 pack per day. Six were working in private sector and four in state sector. Eight out of twelve had higher education.
Pile Sorts	**6**	Average age was 30. Four of six were married. An average number of cigarettes smoked per day was 1 pack. Two of six were unemployed. Two were involved in private business and two were working in state sector. Four of six had higher education.

Key Informant Interview

Interviews were conducted with ten Key Informants in order to obtain preliminary exploratory data, including *included terms* and *cultural domains*, related to the primary Research

Question on reasons of smoking as well as secondary Research Questions on the patterns of reasons for smoking initiation, smoking cessation practices and knowledge on smoking hazards and attitude to smoking in general. An Interview Guide was used for interviews with KIs, which was developed by a working group during the first stage of the study and slightly modified during the second stage (Appendix A, B). Four of the ten interviews were conducted during the first stage of the study and the rest were done during the second stage. The length of each interview was 45 minutes on average.

The Ethnographic Field Guide consists of:

- Introduction, including introduction of the interviewer, brief presentation of the main objectives of the interview and oral consent;
- Interview Guide, which included open-ended questions. Additional open-ended questions were asked for clarification and/or for more detailed information.
- Closing.

All the interviews were recorded, using extensive notes in native language (Armenian and Russian according to the language preferred by KI). Field notes were expanded, translated into English and coded (Appendix C).

During the class project the main domains were identified and discussed by interviewers after each in-depth interview, including knowledge on smoking, reasons to quit smoking, place of smoking, reasons for smoking initiation and so on. As a result of domain analysis the most informative domain, which was the Reasons of Smoking, was identified. The main research question was formulated in accordance with the identified domain. The research question has not been changed during the research.

In -depth interviews were followed by systematic data collection techniques in order to explore the internal structure of the "Reasons of Smoking" domain, to test the reliability of identified included terms and make a comparison of obtained responses.

Free Listing

Free listing was used to identify internal structure of selected cultural domain.

The free list primary question was: "Tell me, please, all the reasons, that make a person smoke?" The supplementary question was: "Is this a real reason for you to smoke?"

Only items, obtained from the supplementary question, reflecting respondent's personal motivation for smoking, were used for generic free listing tabulation form and for pile sorts.

Probing questions were: "Can you think about any other reason?" and "What else?"

Then 39 recorded items of supplementary question from twelve free lists, were tabulated by decreasing frequency. Emic language for "cognizant items" was kept in generic free listing tabulation form, as the respondents expressed them. "Cognizant" items were collapsed in a few cases, when the respondents presented them, using the same/or close expression with the similar interpretation.

All the respondents easily understood free listing questions. A high level of consistency in obtained responses was observed during the free listing data collection stage.

Pile Sorts

The purpose of conducting Pile Sorts was in-depth exploration of the Reasons of Smoking domain with identification of emically defined sub-domains.

The most frequently mentioned 16 (out of 39) cognizant items of supplementary question, all of which were mentioned more than once, were used for conducting the pile sorts. Rules of grouping of items were explained to all the participants (Appendix B). Obtained data were recorded with qualitative explanations of the rationale used to sort their piles that was provided by the respondents.

Analyses of pile sort data were done by ANTHROPAC computer software program.

Results

Key Informants Interview

Ten Key Informant interviews were conducted in order to achieve in depth understanding of smokers' knowledge, attitude, feelings and experience in relation to the motivations of their smoking behaviour.

All ten Key Informants were selected in accordance with the previously stated eligibility criteria. Demographic information was collected in terms of age, marital status, number of children, status of employment and level of education (Table 1).

Informants, in general, easily accepted questions of the interview guide. All the interviewers reported that the majority of respondents actively participated in the discussion during the interview. Smoking was a sensitive topic for most of the informants, which contributed to achieving an emotional contact with the majority of participants. Most of them expressed true interest in the subject, trying to openly share their feelings, thoughts and opinions.

The results of KI interviews are presented in relation to primary and secondary research questions.

The most significant sub-domains of primary research question, identified during pile sort data analysis were used to present the similar cultural sub-domains of KI interviews. They were as follows:

- "Already addicted"-sub-domain of reasons for current smoking;
- "When there is nothing to do"-sub-domain , related to more intensive smoking;
- "Secondary reasons"- sub-domain of reasons, which are not actual any more, including three smaller sub-domains:

  1. "Childishness"- reasons of smoking initiation;
  2. "Environment"-reasons related to smoking environment;
  3. "Pleasure"- sub-domain of items related to pleasure.

Three major domains, related to secondary research questions are also presented:

- "I would like to quit"- domain of smoking cessation reason;
- "Everybody knows"- domain of knowledge on smoking hazards;
- "Attitude"-domain of attitude toward smoking in general.

Cultural sub-domains were named according to the frequently used expressions in translation from emic language and presented in the diagram with included terms, identified during the interviews (Appendix E).

Reasons for smoking domain (Appendix E)

"Already addicted" sub-domain (Appendix E)

The majority of respondents were consistent, when answering to the question related to reasons for smoking. Smoking habit and addiction were mentioned as the primary reason for their

current smoking. Informants explained it in different ways such as “just habit ”, “automatically”, “just reflex”, “it is like thirst, you always feel”, “because I am smoking for 20 years” , “because of a repeated meaningless process”, or “I am used to having a cigarette in my mouth or hand”, “when I do not smoke I have a feeling that there is something wrong or missing” or “I know that I am addicted for the rest of my life”.

Six of KIs mentioned that they continue to smoke, because they could not quit: “it is difficult to quit”, “I do not have enough willpower to quit”, “I tried five times to quit and finally recognised that I could not”, “it is so stressful to quit, that may be it is better for health to continue” or “once I tried, but could not because of Lomka”[2].

“When there is nothing to do” sub-domain (Appendix E)

The majority of informants mentioned that they smoke more when they are free and when they have nothing else to do: “when I have nothing to do I begin to recall something unpleasant and I smoke more to relax and escape form bad mood” or “when I work I can even forget about smoking, but when I have free time I have to do something, otherwise I would become nervous and I smoke to relax”, “smoking helps me to pass my time when I am free and have nothing to do” or “if I had a job, I would be more busy and probably would smoke less, but when there is nothing to do...”.

Nevertheless the majority of informants noted that smoking does not help to relax and in a stressful situation it is “a kind of self-deception”.

“Secondary reasons” sub-domain (Appendix E)

1. “Childishness” sub-domain (Appendix E)

The majority of KI characterised their first smoking trial as “childishness”.

All the KIs began smoking in school. Most of them had the first trial when they were 14-15 years old. Two of the KIs started smoking when they were eight years old. Another two started when they were eleven. Most of them described it as “just childishness”, “interest to see what does it mean”, “just trial” or “like playing a new game, when you are opening a small box and stroking the mach”. Most of the KIs had their first trials during a party, when “all friends were smoking”, “even girls were smoking”. Some of them, despite the feeling of nausea, vomiting and dizziness, were smoking for the sake of being “like everybody else”, “to look cool” and they were proud of becoming “a mature man”. As it was mentioned by one of the KIs, the same feeling of “being a mature man has occurred to me when I tried to drink for the first time and the first time I drove a car”.

Most of the KIs erroneously describing their emotions, concerning the first smoking, stressed that they sincerely regret for being ignorant and careless to initiate smoking.

2. “Environment” sub-domain (Appendix E)

The first reaction of some of informants on the question “Why are you smoking?” was like “because everybody smokes” or “all my surrounding smokes, and so do I”. Nevertheless the majority of the KIs mention that smoking environment, including smoking in the family, and smoking friends were important reasons for smoking initiation, but it was not relevant any more. The most common reaction was that “I don’t care what others think”, or “no...may be when I was younger, but not now...” . Nevertheless some of them noted that in a “new environment” smoking helps to communicate, “smoking makes it easier to start to talk with newly met people” or “when you are in a new company, smoking as a common interest, helps to communicate”.

[2]Lomka is jargon expression, which means withdrawal syndrome in Russian.

Smoking environment was also mentioned, as an obstacle to smoking cessation: "I would like to quit, but "it is psychologically impossible when everybody smokes in your surrounding", "When you try not to smoke you nevertheless have to inhale cigarette smoke since in my office all are smokers, so I just have to continue" or "you want to forget about cigarettes, but since everybody smokes it is impossible to quit".

However most of those who have children stated that they were going to do everything support smoking cessation among their children.

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3. *"Pleasure"* sub-domain (Appendix E)

The majority of KIs did not consider pleasure as an important reason for their current smoking. Pleasure as a reason for smoking was mentioned by two KIs. For the rest of them pleasure was present "only with a cup of coffee and after meal" or "only in the morning". One of the KIs mentioned that "only one out of three cigarettes were smoked for pleasure, the rest just automatically". Another noted that "after a long break he has a real desire to smoke" and only then he has a feeling of pleasure. For some of the KIs pleasure was related to the smell of good cigarettes. One of the KIs noted that he likes the "ritual of smoking more than smoking itself".

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"I would like to quit..." domain (Appendix F)

All the KIs had at least once attempted smoking cessation. The majority was convinced that the trials were not successful, because they were not "serious enough with this decision". The majority of reasons to quit in the past were related to health, such as "when I was sick I did not like the smell of cigarettes "or "I feel I could not play football like I did before". Some of them were describing their decision to quit smoking because of "feeling that I am full of nicotine and I do not feel like smoking any more" or "sometimes I feel that I am tired of smoking".

All respondents interviewed during the second stage of the study mentioned their desire to quit smoking because of the high prices of cigarettes during the last month: "it is very expensive to smoke now, in addition it is bad for the health", "a lot of people in my surrounding quit smoking during the last month because of prices and I am going to do the same...".[3]

Unsuccessful trials were mainly explained because "it is impossible when all are smoking in your surrounding and the smell of cigarettes is everywhere". Others mentioned that "it is so painful not to smoke and they could not quit" or "you should have a strong will to quit...I could not".

"Everybody knows" domain (Appendix F)

In general most smokers were knowledgeable enough about the harmful effects of smoking and expressed a negative attitude toward smoking in general. "Everybody knows that it is bad for the health" was one of the most common answers. The majority mentioned lung cancer and heart diseases as consequences of intensive smoking. However half of them noted that they wish just to reduce smoking. "Moderate smoking, as moderate drinking" was considered not to be harmful. Some of the KIs mentioned that "five-six cigarettes per day is even healthy" and that "tobacco also contains useful substances". It was widely accepted, supported by examples that "everything depends on the organism" in relation to the health consequences of tobacco use.

The majority of KIs were aware of the harmful effects of passive smoking: "I think cigarette smoke is more harmful for those who do not smoke", "it is very bad for women and especially for children".

As one of the KIs mentioned "we know that smoking is bad", but we were not educated to think about our health".

"Attitude" domain (Appendix F)

[3] Prices on cigarettes in Yerevan have been increased by bout 100% in October 1997 because of a new taxation policy.

Mass smoking in the surrounding since childhood, in the opinion of many KIs, was accepted as a "normal" behaviour among men. Non-smokers were categorised as exceptions. One of informants even mentioned that "if someone does not smoke it means that he has a health problem".

However most of the KIs, being aware of smoking hazards, considered their smoking behaviour as "ignorance" and "negligence" toward health in general. Expressions like "it is a bad habit", "it is a stupid thing" or "a meaningless action" were repeated many times by the informant. Being aware of the hazards of smoking some of the KIs considered it a secondary problem. As one of them mentioned "for me and most of my friends the main goal is day to day survival and providing daily bread for our families". Three of the KIs mentioned that they are more concerned about "the quality of food consumed by my children" and smoking "is just a personal problem". Two others noted that "what is smoking compared to the hazards of the Nuclear Power Plant". One of the KIs mentioned that he is "more concerned about the level of education and future of his son".

Free Listing

Further exploration of *Reasons for Smoking* domain has been done by free listing questions in order to identify internal structure of the domain.

Informed consent was acquired before each interview. The following free listing questions were asked from 12 smokers with the defined eligibility criteria:

Primary Question: "Tell me, please all the reasons, that make a person smoke?"

Supplementary Question was: "Is this a real reason for you to smoke?"

All the identified "cognizant" items, confirmed by the respondents as "a real reason" for them to smoke, were presented in final Generic Free Listing Tabulation Form by decreasing frequency. There were 39 "cognizant" reasons mentioned by the participants as personal motives, explaining their smoking behaviour. They were as follows:

Generic Free Listing Tabulation Form

No	*Items*	*Freq. of Response*
1	habit	9
2.	relax	7
3.	smoking environment	7
4.	nothing to do	6
5.	can not quite	6
6	pleasure	6
7	stress	5
8	interest to smoking	4
9.	imitation	4
10	addiction	4
11	look a real man	3
12.	pleasure with coffee	3
13.	not to gin in weight	2
14.	communication	2
15	stereotype	2
16.	interest in smoking	2
17.	childishness	1
18.	smoking in the family	1
19.	feel like a part of society	1
20	manage life	1
21.	stupid	1
22.	desire	1
23	to make life easier	1
24.	interest to new brand of	1
25.	normal	1
26.	pleasure in morning	1
27.	automatically	1
28.	profession	1
29.	gambling	1
30.	bad mood	1
31.	not being greedy	1
32.	not being arrogant	1
33.	not being selfish	1
34.	normal behaviour	1
35.	smell of good cigarette	1
36.	wife is smoking	1
37.	to look “cool”	1
38.	fashion	1
39	peer pressure	1

The most common interpretations were the following:

- Because of *habit*;[4]
- I smoke to *relax,* but it does not help;
- I began to smoke because of the *smoking environment* where everybody smoke;
- Because I *can not quit* ;
- Because I have *nothing to do*;

- For *pleasure.*

All the respondents, with the exception of one, clearly understood the questions and were trying to list all known reasons for smoking as well as their personal reasons. He was somewhat aggressive and was trying to not list the actual reasons for smoking. Instead he was trying to justify the smoking phenomenon in general and his own smoking behaviour in particular. The expressions like "if this phenomena exists for centuries, it means that it has the right to existence" or "smoking is a great invention of mankind, because it helps to manage life and keep its balance" was difficult to present in short form of "cognizant" item in a clear and concise manner. He stressed that there was a special attitude toward the non-smokers in the society, which he shared. In his opinion non-smokers were treated as "selfish"("they like themselves and their health very much"), "arrogant"(do not want to accept the common norms of the society") and "greedy"(do not want to spend money").

As it is presented in the list, *habit*, *pleasure* and *stress* are among most frequently mentioned reasons, which is consistent with those identified in the study on heavy smokers behaviour (5). *Can not quit* item which was mentioned only once during the first stage of data collection, was mentioned five times by six respondents of free listing in the second stage in relation to increased prices for cigarettes during the last month.

Top 16 "cognizant items", mentioned more than once, were used for pile sort systematic data collection.

Pile Sorts

Pile sorts were done for in-depth exploration of "Reasons for Smoking" domain in order to identify emically defined sub-domains, explaining existing behavioural patterns.

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[4]All cognizant items in the text are in italic.

Six smokers, selected in accordance with defined inclusion criteria, were asked to group 16 "cognizant" items. The interpretations, presented by the respondents were recorded for further analysis. Obtained data were analysed by ANTROPAC computer software program in order to get multi-dimensional scaling, where cognizant items, grouped in sub-domains were presented in terms of clusters (Appendix G,H).

As it is presented in the matrix and on diagram, three big sub-domains were identified: "Already addicted", "When there is nothing to do" and "Secondary reasons"[5].

1. "Already addicted" including *habit/addiction/can not quit* items;

By all six respondents this sub-domain was interpreted as the most actual reasons of their current smoking behaviour. The majority of the respondents mentioned that *can not quit* was an important motivation for them to continue smoking.

2. "When there is nothing to do"" sub-domain including *nothing to do/stress/relax* items. *Nothing to do* was interpreted in relation to "more smoking, when you are free you start to think more about your problems". Nevertheless most of respondents noted that there was no "true" relaxation and that smoking was a kind of self- deception. A few of the respondents who were unemployed interpreted *nothing to do* directly as a lack of job, which causes *stress* and makes them smoke more to *relax*.

The second big sub-domain, called "Secondary Reasons" includes the following sub-domains:

1. "Childishness" sub-domain, including s*tereotype/imitation/look like real man /interest to smoking.* The majority of respondents call these group "childishness" and reasons "for beginners", which are important for smoking initiation.

2. "Environment" sub-domain, including s*moking environmental/communication* items, interpreted as strong reasons for smoking among teenagers.

3. “Pleasure” sub-domain, including *pleasure /pleasure with coffee* items mainly were mentioned in relation to the feeling of pleasure “just with coffee” or after meal. Most of respondents mentioned that “pleasure” as a reason for smoking was mainly associated “with coffee”, while the majority of cigarettes were smoked “automatically”, because of habit.

Item 13-*not to gain in weight* was considered as irrelevant by most of the respondents.

Discussion

What are the main reasons for smoking among males aged 25-35 in Yerevan? What is the actual role of major sub-domains, identified during the study? Which of the mentioned reasons are the consequences of tobacco use or pharmacological motivations, including physiological and behavioural effects, controlling tobacco-taking behaviour and requiring medical intervention? What are the non-pharmacological motivations and their role in our community, which can be targeted by social and health programs?

To receive answers to these questions it is once more necessary to analyse the three major sub-domains of reasons for smoking, identified during the study, considering the pharmacological effect of tobacco smoking.

The discussion also includes the role of the social factors as well as knowledge, attitudes and beliefs in identified sub-domains, which are important in designing health promotion/education programs.

In the discussion of reasons for smoking among young males in Yerevan, it is necessary to state from the beginning that symptoms of Tobacco/Nicotine Dependence Syndrome were present in all 22 informants of key interviews and pile sorts interviews, included in purposive sample,

[5]The names of all sub-domains and cognizant items are directly translated from emic language.

according to the duration of tobacco intake and presented motivations for smoking behaviour. Average duration of smoking behaviour among the KIs was 15 years and cigarettes smoked per day were more than one pack. All of them reported that they are aware of the compulsion to take nicotine. Some of them described withdrawal state symptoms during the trials to quit smoking. The majority of informants also mentioned diminished effect of the continued use of the same amount of nicotine (2,19).

Correspondingly a strong consistency was observed in the majority of reasons for smoking, mentioned by the respondents, participating in in-depth and free listing interviews. Accordingly the most frequently mentioned cognizant items of generic free listing tabulation form were related to effects of nicotine such as *habit, relax, can not quit, pleasure*, and *stress*, which are consistent with the literature on the reasons of smoking for heavy smokers (2,4,5,6,19).

The same consistency was observed during pile sort analysis. All the above-mentioned items of pharmacological nature were included in two sub-domains: "Already addicted" and "When there is nothing to do" (Appendix G, H).

Habit, addiction and *can not quit* items of "Already addicted " sub-domain were constantly repeated by the pile sorts informants as the main reasons for their current smoking behaviour and in relation to unsuccessful trials for smoking cessation. This was consistent with what was reported by KIs. The desire to quit smoking, expressed by the majority of informants in relation to the high prices for cigarettes, implies an existing gap in medical services for treatment of tobacco dependence syndrome in Yerevan. It also implies that effective price policies on cigarettes could contribute to smoking cessation. High prices on cigarettes could reduce the availability of cigarettes for teenagers and contribute to the prevention of smoking initiation.

"When there is nothing to do" sub-domain includes three of the top reasons, mentioned by the respondents-*nothing to do*, *stress* and *relax*. The most common interpretation for this sub-

domain was that when there is nothing to do you start to think about your problems**,** which you could not solve or you recall unpleasant events, which are stressful and you smoke to relax. This pattern is consistent with the definition of tobacco dependence. "Progressive neglect of alternative pleasures or interest" and "reduction in social, occupational and recreational activities" are the major symptoms of nicotine dependence (2,19). It is also consistent with studies on high prevalence of anxiety, depression and more perceived stress among smokers (5,6,7). Thus *nothing to do* mentioned as a reason for smoking in theses cases could also be attributed to smoking consequences. For the unemployed *nothing to do* item was associated with the lack of job and the corresponding stress. They smoke to relax. This pattern is consistent with a study on nicotine dependence, when intensive smoking was considered as a negative reinforcing factor in the situations, when passive coping were involved in conjunction with stress (6). Mentioned as a reason for smoking, *nothing to do* could also be attributed to the consequences of tobacco smoking.

The aforementioned shows the lack of awareness in general population about psychiatric and cognitive impairments of nicotine abuse, such as anxiety, depression, lack of recreational and occupational activities as well as sexual disorders (7,8,19,20). This information could be included in the educational programs to increase sensitivity to smoking related health consequences among young people.

The third large sub-domain identified by the pile sorts was "Secondary Reasons" sub-domain, mainly consisting of non-pharmacological reasons. It includes sub-domains of "Childishness", "Environment" and "Pleasure".

A strong association was obtained among *stereotype/imitation/look like a real man/interest in smoking* items, grouped by pile sort informants to so called "Childishness" sub-domain as reasons for smoking initiation. The same pattern was mentioned by the KIs and free listing respondents in relation to mass phenomena of smoking, the stereotype of men with a cigarette and

smoking in the family. All the reasons mentioned accounted for the *interest in smoking* among teenagers, which was the first stage in the identified chain of interest, initiation, experimentation, habit and addiction.

"Pleasure" sub-domain, including strongly associated pleasure and pleasure with coffee was interpreted by the majority of respondents as a secondary reason, compared to habit and addiction.

The third highly associated cluster of items "Environment" within "Secondary reasons" sub-domain, including environmental smoking and communication sub-domain, was more important for teenagers, according to the majority of pile sort participants. However, smoking environment was mentioned among top reasons of generic free listing tabulation form.

Mentioned as a secondary motivation for smoking, however, as it was noted by some of the KIs, in a "new environment" smoking facilitated communication. Taking into account the variety of other reasons related to environment (i.e. smoking in the family, normal behaviour, to be accepted by the society, to feel like a part of the society) it becomes clear that smoking environment plays an important role not only in smoking initiation, but it has a social value as a way to meet and contact people.

The same smoking environment was a restricting factor in attempts to quit smoking, as the respondents mentioned it. As they noted the smoking environment were not only a psychological, but also a physical barrier for those who desired to quit smoking (i.e. lack of moral support from surrounding and smell of cigarettes). The same environment-communication pattern, according to the majority of the KIs, play as essential role in achieving self-confidentiality during military services, where smoking considered to be an attribute of a military person.

Aforementioned role of smoking environment in smoking initiation and continuation proves the necessity in improvement of national policies on smoking prevention including restricting smoking in public places and offices, considering the acceptance of such legislation reported by the

study participants. It would assist in smoking cessation and increase the respect toward non-smokers in the community.

As the study shows the majority of smokers were aware of the harmful effects of smoking. However there was a repeated belief on non-harmful and even useful effect of moderate smoking. Smoking in reasonable limits was considered by most of informants to be one of the pleasures of life and thus something useful. Some of "non-smoker" wives and friends, as it become clear during the interviewees, were smoking five-seven cigarettes per day. Talking about smoking cessation, most of KIs wished only to reduce the amount of cigarettes smoked. Considering aforementioned, education/information programs should provide knowledge and increase awareness consequences of moderate smoking and on highly addictive effect of nicotine and rapid formation of smoking habit and nicotine dependence after a few smoking trials.

Exploration of "Attitude" domain that related to secondary research question revealed, as it was mentioned in the result section, negative attitude toward smoking, including passive smoking. Married KIs expressed Strong negative attitude and concerns on smoking for their children. This could be considered in designing school or community based smoking prevention programs with the participation of parents. Taking into account high priorities on child health reported by the informants and widely accepted smoking in homes, information campaigns could also be focused on increasing of awareness on hazards of passive smoking for non-smokers, especially pregnant women and children.

Exploration of "Attitude" domain also show that smoking was accepted as a personal problem by the majority of informants and was not a priority as compared with food quality danger of nuclear power plant or quality of education for their children. As one of the KIs mentioned "we were not educated to think about our health". Low esteem regarding their health and perception of

smoking as a personal problem should also be targeted by health education/information programs, focused on changing the existing stereotypes and attitudes to health in general.

Comments

Limitations

Limitations of the study mainly relate to the limitations of qualitative research in general, considering the subjectivity of qualitative data. More than twelve pile sorts can be recommended to examine the consistency of the study results. However, low stress factors equals to 0.033 for proximity matrix, obtained by ANTHROPAC program, indicate a high consistency of sub-domains, identified by pile sorts (Appendix G).

Conclusion

As it was revealed during the study, all KIs and pile sort informants were long time heavy smokers. The symptoms of nicotine dependence were present in their description of the motivations for smoking and their experiences with smoking cessation. Accordingly the most frequently mentioned cognizant items as well as two of three sub-domains ("Already addicted" and "When there is nothing to do"), identified by pile sort data analysis were related to pharmacological motives of smoking, which is consistent with observed literature on nicotine dependence (2,3,4,5,6,19).

The third sub-domain, called "Secondary reasons" consists of three smaller sub-domains, which are "Childishness", "Environment" and "Pleasure". The items of these sub-domains were grouped together by reasons, which were not relevant any more but were important as factors

influencing the initiation of smoking in youngsters and teenagers. However in-depth interviews show that smoking continued to have a social value in communication in a new environment (new job place or new acquaintances). Smoking environment, as it was revealed by in-depth interviews, plays the role of physical and psychological barrier for smoking cessation practices as well.

Recommendations

Recommendations for the study

1. To conduct the same study for women in the same age group to determine the specificity of their smoking motivations and patterns of smoking initiation. This study will contribute to the development of more comprehensive smoking prevention/cessation programs for the general population in Yerevan.
2. To enlarge the study, including focus groups and additional in-depth interviews with informants (both males and females) living in different districts of Yerevan, considering socio-economic differences within the city.
3. To conduct the qualitative research among both male and female youngsters and teenagers, which will provide a depth of understanding about the currently existing motivations for smoking initiation.

Recommendations for anti-smoking programs

1. The study has revealed that most smokers are willing to quit, specially due to high prices of cigarettes. It implies the need for medical services for the treatment of tobacco dependence, as well as smoking cessation programs.

2. Based on the results of the study the following information could be relevant for being incorporated into smoking prevention/education programs:

- The knowledge of the highly addictive nature of the nicotine, and the rapid formation of the smoking habit. To break the widely accepted belief on the harmlessness of moderate smoking, which could lead to nicotine dependence.
- The knowledge and awareness of high prevalence of medical impairments among nicotine users including those not known for public at large such as depression anxiety disorders, sexual dysfunctions and so on. It would increase the sensitivity to smoking related health consequences among young people (7, 8, 19, 20).
- Awareness of the reduction in social recreational and occupational activities, as a result of intensive nicotine intake (2, 19).
- Information on harmful effect of passive smoking, especially for the children and pregnant women considering the priority which their children's health has for the informants.
- Social and health programs for parents at the school or community level considering the strongly expressed negative attitude and concern about the smoking of their children, as it was revealed during the study.

The implementation of the aforementioned public programs, focused on awareness of smoking hazards, the changes of stereotypes and attitudes, would be conditioned upon the improvement of national anti-smoking policies, and correspondingly developed public health strategies.

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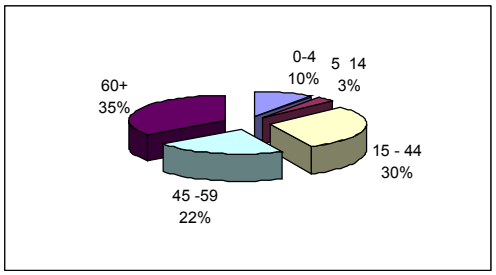
Appendixes

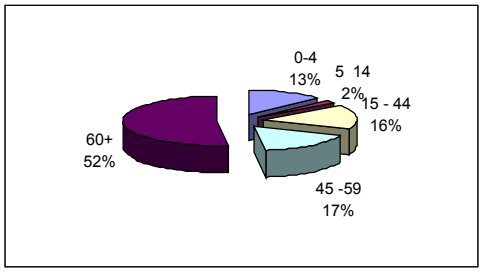
Figure 1

Death DALYs by Age in Armenia,1995

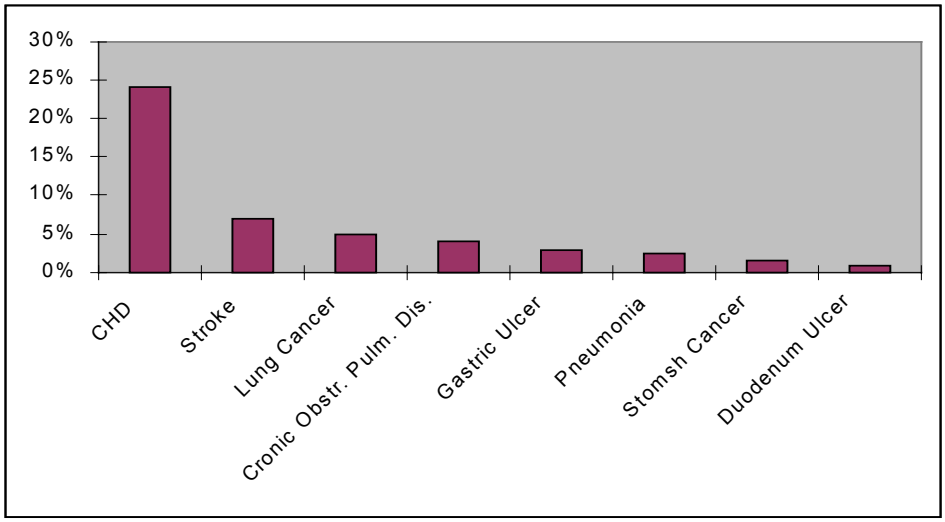
Male



Female



Male Death DALYs by nothologies in in Armenia, 1995



Ethnographic Field Guide *(first version)*

Topic: Smoking in Males aged 25-35 in Yerevan

1) *Opening*

"My name is_____ . I am a student at the American University of Armenia. I am doing a class project on smoking and I am working with three other people. They are _____. We are interviewing men of your age to learn more about the smoking practices of males aged 25-35 in Yerevan.

Are you a smoker?

Would you able to talk with me now for about 30 minutes?"

2) *Questions*

1. Describe, please, the smoking patterns of people in your surrounding.
   -Can you tell me more?
   -How widespread is the habit of smoking?
   -How do you feel about it?

2. Can you describe the very first time you smoke?
   -When did it happen?
   -Why did you do it?

3. Can you describe your smoking during a typical day?
   -How many cigarettes do you smoke per day on average?

4. When do you smoke more?
   -Can you tell more about it?

5. When do you smoke less?
   -When else?

6. Have you ever tried to quit smoking?
   -What was the reason?
   -Why wasn't it successful?
7. Describe please how your family members (mother, wife, children) react to your smoking?

8. Why do you smoke?
   Is it real reason for you to smoke?

9. What do you know about the hazards of smoking?
   What else?

10. What do you think bout smoking in general?

3) *Closing*

"Thank you very much for talking with me today. Your time is very much appreciated and your insights have been very helpful.

I would like to come back and talk to you bout other issues as I learn more. Would that be convenient for you? When is the best time for me to come and talk to you?"

Ethnographic Field Guide *(second version)*

1. Can you describe your smoking during a typical day?
2. Can you tell about your first cigarette?
3. Why do you smoke?
4. When do you smoke more?
5. When do you smoke less?
6. Describe attempt that you have to quite smoking?
7. Describe please the smoking patterns of your in your surrounding.
8. What do you think about second-hand smoking?
9. What is your opinion about smoking in general?
10. What do you know about the harm of smoking?

Initial explanation for pile sorts:

- No right/wrong way, but
- Each card can only go in one pile;
- All cards cannot go in one pile;
- Cannot have all cards in their own separate pile.

Code-Long Form	**Code-Short Form**
Smoking Pattern	**SP**
Smoking in surrounding	**(S)**
Number of packs of cigarette smoked per day	**#P/D**
Smoking place	**SP**
Firs time smoking place	**1-SP**
Smoking reason	**SR**
First time smoking reason	**1- SR**
Reason not to smoke	**NoSR**
First time smoking age	**1-Sa**
Smoking feeling	**Sfeel**
First time smoking feeling	**1-Sfeel**
Smoking knowledge	**Skn**
Attitude to smoking	**Satt**
Smoking believes	**Sb**
When smokes less	**S<**
When smokes more	**S>**
Smoking inside	**Sin**
Smoking outside	**Sout**
Quit smoking	**S-**
Second-hand smoking	**2S**
Smoking reaction on surrounding	**S!**
Reaction to quit smoking	**S-!**

Reasons of Smoking Domain

"Already addicted" sub-domain

- "*Just habit"*
- *"Automatically"*
- *"Just reflex"*
- *"It is like thirst you always feel"*
- *"Because I'm smoking for 20 years"*
- *"Because of a meaningless repeated process"*
- *"I am used to having a cigarette in my hand"*
- *"When not smoking I feel that there is something wrong"*
- *"I am addicted for the rest of my life"*
- *"Because it is difficult to quit"*
- *"I do not have enough will power to quit"*
- *"It is so stressful to quit that it might be better for health to continue"*
- *"I couldn't quit because of lomka"*

"When there is nothing to do" sub-domain

- *"When I have nothing to do I begin to recall something unpleasant and smoke to relax"*
- *"smoking is a pass time when I have nothing to do"*
- *"if I had a job, I would be more busy and probably would smoke less"*

"Secondary reasons" Sub-domain

"Childishness"

- "*just childishness" "interest to see what does it mean"*
- *"just trial"*
- *"like playing a new game"*
- *"all friends were smoking"*
- *"even girls were smoking"*
- *"like everybody else"*
- *"to look cool"*
- *"felling like a mature man"*

"Environment"

- *"because everybody smokes"*
- *"all my surrounding smokes, and so do I" "smoking helps to communicate"*
- *"smoking makes it easier to start to talk with newly met people"*
- *"since everybody smokes it is impossible to quit"*
- *"I would like to quit" "it is psychologically impossible when everybody smokes in your surrounding"*

"Pleasure"

"Only with a cup of coffee and after meal"

- *"only in the morning"*
- *"only one out of three cigarettes were smoked for pleasure"*
- *"after a long break I have a real desire to smoke"*
- *"I like more the ritual of smoking, than smoking itself"*

"I would like to quit" domain

- *"Because I felt I could not play football like I did before"*
"
- *"feeling that I am full of nicotine"*
- *"sometimes I feel that I am tired of smoking"*
- *"it is very expensive to smoke now besides it is bad for the health"*

"Attitude" domain

- *"it is normal"*
- *"It is ignorance and negligence toward health"*
- *"it is a stupid thing"*
- *"a meaningless action"*
- *"it is a bad habit"*
- *"if someone does not smoke it means that he has a health problem"*

"Everybody knows" domain

- *"Everybody knows that it is bad for the health"*
- *"It causes lung cancer and heart diseases"*
- *"Moderate smoking, as moderate drinking is not harmful"*
- *"five-six cigarettes per day is even healthy"*
- *"tobacco also contains useful substances"*
- *"everything depends on the organism"*
- *"I think cigarette smoke is more harmful for those who do not smoke"*
- *"Passive smoking is very bad for women and especially for children".*

Reasons for Smoking Domain

(Sub-domains identified from pile sort data analysis)

"Already addicted"
sub-domain

- ***Habit***
- ***Addiction***
- ***Can not quit***

"When there is nothing to do"
sub-domain

- ***Nothing to do***
- ***Stress***
- ***Relax***

"Secondary reasons" sub-domain

"Childishness"

- ***Look like a real man***
- ***Stereotype***
- ***Imitation***
- ***Interest to smoking***

"Environment "

- ***Communication***
- ***Smoking environment***

"Pleasure"

- ***Pleasure***
- ***Pleasure with coffee***