



**American University of Armenia**

**Department of Public Health**

**Environmental Tobacco Smoke (ETS): Assessment of Parents' Awareness  
And Behavior  
(Research Grant Proposal)**

**Knar Sardaryan**

**MPH candidate**

**Yerevan, 2001**

## **Acknowledgments**

I am gratefully thankful to my primary advisor Dr. Jakab for his helpful coordination in designing the research project and sincere support. I am also thankful to Dr. Soghikian for his valuable recommendations. Also I would like to express my gratitude to Dr. Dunlap for his personal help in developing the questionnaire. Special thanks to Dr. Mathew Tayback and Felicity Boyd for their effective teaching assistance.

I gratefully appreciate advice and help given to me by the Michael Thompson and Susan McMarlin whenever I asked.

I am thankful to all the CHSR staff and my colleagues for their support during preparation of the project.

## Table of Contents

<b>Section</b>	<b>Page</b>
Acknowledgement	2
Table of content	3
Abstract	4
Background information	5
Pilot Study	10
Specific aims and objectives	11
Methods	12
Target population	13
Sample size calculation	14
Sampling methodology	14
Questionnaire administration	15
Ethical consideration	16
Limitations and strength	16
Analysis	17
Time frame	18
Budget	18

## **Abstract**

Environmental tobacco smoking (ETS) is an important worldwide public health hazard. The health effects of chronic exposure to ETS are well documented and a growing body of literature indicates that exposure to ETS constitutes a risk factor for the development of pulmonary diseases and cancer. Children's vulnerability to second-hand smoke is of particular concern, both for medical and socio-cultural reasons. Children are more likely than adults to suffer health effects from ETS exposure and the home is the most important source of such exposure.

The purpose of this study is to assess parents' awareness about ETS exposure, and to define their smoking behavior in the presence of their children.

Quantitative research method, namely the descriptive cross-sectional survey will be used. The target population will be the parents of children aged from 0-6 years old. The sample will be drawn from the population of Yerevan, using the cluster sampling methodology. The main instrument of the survey will be the questionnaire and for data collection face-to-face interview will be conducted to obtain data. Analysis will be done on STATA statistical package and by using the  $X^2$  test.

The results of this study could be used by the Ministry of Health or non-governmental organizations for maintaining the awareness campaign about the health hazards in individual, especially children as well as at home and community buildings.

## **Background Information**

Extensive toxicological, experimental, and epidemiological data have established that active cigarette smoking is the major preventable cause of morbidity and mortality throughout the world [1]. Since the 1970s, involuntary exposure to tobacco smoke has been investigated as a risk factor for disease and also found to be a cause of preventable morbidity and mortality in non-smokers [1]. The 1986 report of the US Surgeon General on Smoking and Health and a 1986 report by the National Research Council comprehensively reviewed the data on involuntary exposure to tobacco smoke and reached comparable conclusions with regard to public health implications; both reports concluded that involuntary smoking causes disease in non-smokers [1]. Subsequently, the Environmental Protection Agency reached a similar conclusion in its 1992 risk assessment and designed Environmental Tobacco Smoking exposure (ETS) as a Class A carcinogen, adding further weight to the importance the ETS exposure as a health hazard [2]. These conclusions consider the ETS as an important worldwide public health issue.

ETS has been defined as “the smoke to which non-smokers are exposed when they are in an indoor environment with smokers” [3]. “It is composed largely of sidestream tobacco smoke (SS), the smoke emitted by the smoldering end of a cigarette, with minor contributions from exhaled mainstream smoke (the smoke, which is directly inhaled by the smoker) and any smoke that escapes from the burning part of the tobacco during puff-drawing by the smoker” [3]. ETS is a complex mixture of more than 4,000 chemicals, including carbon monoxide, nicotine, tars, formaldehyde and hydrogen cyanide [4]. These products include eye and respiratory irritants, systemic toxicants, mutagens and carcinogens, and reproductive toxicants [3].

Children’s vulnerability to second-hand smoke is of particular concern, both for medical and ethical reasons [5]. Children’s lungs are developing and they breathe faster than adults, so

they breathe in more harmful chemicals per pound of their weight than an adult would in the same amount of time. So the children are more likely to develop respiratory and ear infections, triggered by second-hand smoke. Children's immune systems are less developed and it makes them more sensitive to different kind of triggers. Finally, children simply have less choice than adults to avoid ETS exposure. They are less likely to be able to leave a smoke-filled room, infants cannot ask, some children may not feel comfortable asking, and others may not be allowed to leave even if they ask [5].

Based on the data from Third National Health and Nutrition Examination Survey of USA approximately 38% of children between 2 months and 5 years of age were exposed to ETS in the home, whereas 23,8% were exposed to maternal smoking during pregnancy. Based on current household exposure 23,9% lived in homes where 1 to 19 cigarettes were smoked per day and 14,5% in homes where over 20 cigarettes were smoked daily. Smoking during pregnancy was reported by 23,8% of the biological mothers [6]. Canadian national surveys indicate that 37% to 39% of the population lives in a home where smoking occurs regularly [7].

According to data from John Hopkins University, based on conclusions of numerous scientific groups, the health effects of ETS in children become evident during both prenatal and postnatal periods. Health effects on fetus resulting from ETS include growth effects (decreased birth weight, growth retardation, or prematurity), fetal loss (spontaneous abortion and perinatal mortality), and congenital malformations. Health effects after birth, resulting from either ETS exposure of fetus or the newborn child, includes sudden infant death syndrome, acute respiratory illnesses, chronic respiratory symptoms, reduced lung function growth, asthma and exacerbation of asthma symptoms and acute and chronic middle ear disease [1].

Possible longer-term health effects of fetal ETS exposure include altered lung development, childhood cancers of the brain, leukemia, and lymphomas [1].

It has been demonstrated that maternal smoking results in a variety of adverse health effects in children. Frank D. Gilliland and colleagues demonstrated that *in utero* exposure to smoking is independently associated with decreased lung function in children of school age, especially for small airway flows [8]. Recent studies demonstrated that even paternal smoking in the presence of a pregnant mother may lead to perinatal health effects manifested upon birth of the baby, and either maternal or paternal smoking in the presence of a newborn child may lead to postnatal health effects in the developing child. Haddow and colleagues used cotinine as a biomarker to measure exposure to ETS and, after controlling for confounders, demonstrated decreased birthweights in fetuses exposed to ETS [9].

Derek G. Cook and David P. Strachan presented a systematic and quantitative review of the health effects of passive smoking and sudden infant death syndrome (SIDS) and demonstrated a significant association between paternal smoking and SIDS [10]. Mitchell and colleagues concluded that while SIDS was associated with postnatal maternal smoking, the elimination of postnatal maternal smoking did not reduce the risk of SIDS and that prenatal exposure was still the more important risk factor [11].

In contrast to SIDS, which is a fatal but rare condition, respiratory infections in infancy, respiratory symptoms in older children are much more common. Investigators conducted throughout the world have demonstrated an increased risk of lower respiratory tract illness in infants with smoking parents [12,13,14]. These studies indicate a significantly increased frequency of bronchitis and pneumonia during the first year of life of children with smoking parents: increases of five cigarettes a day resulted in an increase of 2.5 to 3.5 incidents of lower

respiratory illness per 100 children at risk [14]. Strachan and Cook reported a systematic quantitative review of fifty relevant publications of evidence relating parental smoking to acute lower respiratory illness in the first three years of life and demonstrated that there was an approximately 50% increase in illness risk if either parent smoked [12].

Exposure to ETS might cause asthma as a long-term consequence of the increased occurrence of lower respiratory infection in early childhood or through other mechanism [15].

The effect of ETS may also reflect, in part, the consequences of *in utero* exposure. The relation of paternal smoking to wheezing and asthma occurring after the first year of life was assessed by a systematic review of fifty-one relevant publication [16]. Indicators of disease severity including symptom scores, attack frequency, medication use, hospital attendance, and life threatening bronchospasm were, in general, positively related to household smoke exposure [16]. The results of the study based on the data of 1987 National Medical Expenditure Survey demonstrate that current maternal smoking is significantly associated with reported symptoms of asthma and respiratory illnesses [17]. “Among children of 2 months to 2 years of age exposed to ETS, 40% to 60% of the cases of asthma, chronic bronchitis, and three or more episodes of wheezing were attributable to ETS exposure “[6].

Studies of middle ear disease were of various designs and there was a highly significant positive association between the duration of effusion and the number of smokers in the household during both the first and second years of life [10].

According to data obtained from the Ministry of Health of Armenia, more than three-fourth of adult males in Yerevan are smokers. Among other groups the rate of smoking is as follows: approximately 40 % of adult women, 37% of adolescents (half of who are females) [18]. Moreover, based on the data from National Statistical Service the proportion of smoking men



and women in age group from 20-24 is the same and compose 32% in smoking population. Takings into account, that the mean childbearing age for first baby is at age 22, so one can assume, that the maternal smoking is a source of ETS exposure is of particular concern in Armenia [19]. Although the graph ( See graph # 1) represents an age distribution of Armenian smoking habits, the bottom line is the percentage of Armenian men and women who smoke and there is a trend of its increase.

On the average, of those who smoke, each man smokes about 1 pack of cigarettes per day and woman from 8 to 9 cigarettes per day [20].

Respiratory infections remain one of the major reasons of morbidity and mortality among children. In 1999 the prevalence of upper respiratory tract infections was 6.49 per 1,000, the prevalence of chronic bronchitis was 1.92 per 1,000, pneumonia was 6.198 and bronchial asthma was 0.45 per 1,000 population. In year 2000, these figures are the following: prevalence of upper respiratory tract infections was 7.10, pneumonia 5.23, chronic bronchitis 1.37 and asthma 0.43 per 1,000 population [18]. Although there is no data on ETS exposure in Armenia, ETS exposure contributes to the burden of disease [18].

It is evident that children should be protected from ETS exposure. Although different programs and policies to reduce ETS exposure in public places and workplaces have been implemented, little attention has been directed to minimizing ETS exposure in the home environments, especially the exposure of children. Because young children spend much of their time at home, the household is the most important source of their exposure. As Ashley and Ferrence point out, children are currently afforded less protection by law from ETS exposure caused by their parents than from the smoking of strangers in public places.

There are reasons for this inconsistency. Until the past decade, ETS was not known to be more than an irritant [7]. Even today, many people are unaware of its health hazards. Other may believe that effective protection can be achieved with simple measures, such as opening a window, smoking in another room, or using air purifiers, although none of these measures substantially reduce exposure [7]. Given the importance of the situation, it is somewhat surprising that there are few controlled ETS reduction intervention studies in the literature [21].

Taking into consideration the above, it is proposed to conduct a cross-sectional descriptive survey. Priority areas for research include assessment of awareness about ETS exposure; documentation of smoking behavior in the homes; attitudes to smoking restrictions in the home and smoking in the presence of children. Subsequently the results may serve as a basis for developing strategies for the involvement of not only parents, but also health care professionals and public authorities in appropriate intervention programs.

### **Pilot study**

As no reliable data exists about the awareness and behavior of parents regarding ETS exposure a pilot study was conducted for sample size calculation. This allowed pre-testing the instrument and getting appropriate information on other variables of interest.

Considering that the proposed study will be conducted among the population served by polyclinics and thus, the pilot study was performed in one of the pediatric polyclinics in Yerevan. The pilot study was carried out with a sample of people similar to those who will be included in the final study; namely parents of children aged 0-6 years old.

Fifty face-to face interviews were conducted with the participants who were the parents or caregivers of children aged 0-6 years. The time needed to complete the questionnaire was 10-

15 minutes. Prior to starting the interview the participants were provided by consent form in Armenian.

Based on the results of the pilot study, 70% of people heard about ETS exposure. As this is a relatively high percent, more detailed questions were given to get a clearer understanding of population awareness about ETS. According to the results only the half of the participants thinks that the health of their children is affected by the exposure to ETS. Moreover, only 42% don't smoke in the presence of children. Those who don't smoke or smoke less behave so, not because they don't want to expose the children to ETS, but to be a good example for them. In spite of 70% awareness about ETS, parents don't perceive ETS as a health hazard. Although the results of the pilot study can't be generalized to the whole population of the interest one can assume, that this may result from the lack of the pediatricians' feedback, as only 50% reported that the doctors informed them about ETS.

### **Specific aims and objectives**

No data is available regarding the awareness and behavior of Armenian parents who smoke about ETS exposure. The physicians' responsibility of advising and counseling the parents about ETS exposure is not properly organized or offered, which may lead to misunderstanding or underestimating the health hazards of ETS exposure. Even more, the children's medical card at primary health care facilities still does not contain information on parental smoking.

Considering very high percentage of smoking males in Armenia and traditional acceptance of independent behavior of the heads of Armenian families, namely husbands and grandfathers, it is very likely that smoking in Armenia has become a real disaster having a great

health impact on everybody, especially children [22]. As previously pointed out pointed parents don't realize the seriousness of the ETS exposure and they need to understand the magnitude of the problem in order to change their smoking behavior for preventing the children's exposure to ETS.

Therefore, it is proposed to conduct a study to assess the parents' current awareness and smoking behavior in regard to ETS exposure. The main objectives of the study are as follow:

1. To assess the level of awareness of parents or other caregivers about ETS exposure
2. To determine smoking behavior in homes
3. To define smoking behavior in the presence of children
4. To assess attitudes about smoking restrictions in the home

## **Methods**

Quantitative research method, namely a descriptive cross-sectional survey will be used to use to address the research objectives. This method allows systematic collection of data on the topic of interest while focusing on a single group representative of the population of interest [24].

ETS exposure can be assessed through questionnaires, through measurement of indoor air concentrations of ETS, and through the measurement of biological markers, such as cotinine in the blood, urine and saliva. Combination of biological markers and questionnaires are the precise approach for developing more accurate data on ETS exposure [1]. In this survey the questionnaire remains the most feasible instrument for characterizing exposure to ETS.

Portion of the question obtained from the questionnaire designed by the Centre for Behavioral Research in Cancer in Australia [23]. The questionnaire (Attachment # 2) includes the following domains.

1. Socio-demographic characteristics (I section questions # 1-11)
2. Questions regarding smoking status (habits) in the home. (II section questions # 1-8)
3. Awareness about the harmful effects of ETS exposure. (III section questions # 1-5)
4. Smoking behaviors in the presence of children. (III section questions # 6-10, 12)
5. Smoking behaviors in the home. (III section questions # 6-12)
6. Attitude to smoking restrictions in the home. (III section questions # 13-14)

The dependent variables of this study are awareness and behavior. The independent variables are the age, age of children, household composition, gender, educational and income levels.

### **Target population**

The target population should meet the following eligibility criteria:

1. Parents or caregivers of children age 0-6 years. Children from 0 to 6-age period were chosen, because they spend most of the time at home and thus are more likely to be exposed to ETS. Due to current socio-economic situation in Armenia many parents have left the country and their children stay with the grandparents. That is why the caregivers will also participate in the study.
2. Residency in Yerevan. The population of Yerevan was chosen taking into consideration that children in a big city are more likely to attend public places such as cafes, restaurants, where the smoking is not prohibited. So, the public places also can be a source of ETS exposure. In addition, there is the assumption that women in big cities are more likely to smoke habits than women in rural areas.

3. Willingness to participate in the study.

### **Sample size calculation**

The sample size for this study was calculated by the following equation:

$$N = \frac{Z^2 * P * Q}{d^2}$$

Where  $p=0.7$  (70%), the proportion of parents or caregivers, who are aware about ETS exposure.

$q=1-p=0.3$  (30%), the proportion of people, who are unaware about ETS exposure.

For 95% confidence interval the type I error will be  $\alpha=0.05$

Thus the  $Z=1.96$  (2-sided test).

$d$ -tolerable error, which were considered at 5%

So, the sample size, necessary for the proposed study is the following

$$N = \frac{1.96^2 * 0.7 * 0.3}{0.05^2} = 323$$

Taking into account the possibility of refusals and non-responses, as well as considering its rate of 2.5%, it is suggested to increase the sample size to 330.

### **Sampling methodology**

In order to have a more representative sample it is appropriate to choose the participants from all pediatric polyclinics in Yerevan. The sampling frame for this study will be the list of addresses

of children aged 0-6 years old, registered in the polyclinics. The sampling element will be the parents or caregivers of children aged 0-6 years old. There are 22 pediatric polyclinics and 452 pediatric districts. Registries in children polyclinics are more accurate and relatively available source of information. But the distribution of districts is not equal among the polyclinics. Thus to have equal proportion of children from each polyclinic the multistage cluster sampling method was suggested.

The first step should be the identification of all pediatric polyclinics in Yerevan ( $N=22$ ). The second step should be the identification of all districts. ( $N= 452$ ). The next step should be the selection of the cluster by systematic random sampling.  $330/22=15$ , so in each cluster 15 people should be interviewed. The number of districts in the 22 polyclinics is 452. Dividing the  $452/22=20$ . So we choose 20 as our starting point. And then from the list of the districts we should choose every 20-th by systematic random sampling.

And the final step should be selecting the addresses by simple random sampling. In every chosen district we should interview 15 persons, choosing them from the registration journal by simple random sampling. In cluster sampling there is a probability that some polyclinics will be eliminated, so the administrative work with the staff of the polyclinics will be alleviated. But the weak point is that chosen addresses will be repeated, and the children at different ages will be from the same household.

### **Questionnaire administration**

Considering the specific characteristics of the issue, it is more reasonable to use face-to-face interviews. The trained interviewers, upon obtaining the answers from the respondents, will complete the questionnaire. To get access to the list of registered children, the collaborative

letters will be given to the chief of polyclinics. During the pilot study it was observed that the credibility of some answers is higher in the presence of both parents. To assure the participation of both parents in the study, it is suggested to conduct the interviews in the evenings and weekends.

## **Ethical consideration**

The study will pose minimal risk for the participants, as the probability and extent of anticipated harm and discomfort are equal and not greater than that of routine physical and psychological examinations or tests performed in daily life.

Prior to starting the interview the consent form (Attachment #1) will be given to participants. For this particular research the written consent form B will be used. The consent form will include all information related to the topic under investigation (purpose, procedures, risk/benefit, confidentiality and voluntariness). Taking into consideration the homogeneity of the Armenian population the consent form will be provided in Armenian.

## **Limitations**

The proposed study has several limitations. The method of data collection is the questionnaire. This is the most feasible way of obtaining information about ETS exposure in this particular study population as this study will not use the biological markers, such as cotinine level as an objective method to validate the ETS exposure. This is a weak point and could affect the validity of this study. “However, the utility of cotinine as an indicator of individual exposure



has been questioned. Spot cotinine levels are not tightly predicted by questionnaire measures of exposures and its levels are highly variable at any particular level of smoking in a household”[1]. Only when used in combination with questionnaires, the findings could be strengthened.

*Recall bias.* Any data collection method that relies on self-report is subject to recall bias. In this study parents may underestimate their smoking habits and also the smoking behavior of other household members or overestimate the health problems of their children.

1. *Information bias.* The type of information bias, which may occur in this particular study, is the interviewer bias. To minimize it, trained interviewers should be recruited. Another type of information bias is one of non-response. Provision of incentives may reduce it.
2. *Instrumental bias.* Instrumental bias may be created by the questionnaire.
4. *Sampling procedure bias.* In chosen cluster sampling methodology there is a probability that the drawn addresses will be repeated, i. e. the children age 0-6 will be from the same household.

## **Strength**

Randomization in selection of sample representative of the population of interest presents the strengths of the study and thus the results can be generalized to the population in Yerevan. This will be the first study about ETS exposure, particularly on children.

## **Analysis**

Reported ETS exposure should be classified as current household exposure and maternal smoking at any time during pregnancy. Current household exposure should be defined as the

total number of cigarettes smoked by household members in the house per day. The dependent variables of the study are the awareness of parents, their smoking behavior and attitude toward the smoking restriction. The independent variables are the age, gender, children's age, household composition, income and educational levels.

Because almost all variables of interest represent categorical variables, so it is suggested to analyze the obtained data on STATA statistical package, by using the  $\chi^2$  test for 2x2 table. Another alternative method for analyzing the obtained data is the logistic regression.

## **Time frame**

The overall duration of the study is 6 months. The staff needed for the survey will have to be hired. Overall 323 interviews will be conducted. During the pilot study it was confirmed that the time spent for each interview was 15 minutes. So each interviewer will be able to conduct 5 interviews per day. There are 4 interviewers; each of them will conduct 83 interviews. The actual fielding will be complete in a month.

Coding and data entry will begin after completion of the interviews and will last two months. Thereafter, analysis of the study will be done.

## **Budget**

The estimated expenditures for implementing the proposed study are presented in the budget [See Appendix 1]. The overall estimated budget is \$12,388. The following components are included in the budget.

**1. Manpower:** The program coordinator and program assistant will be responsible for the

conduct and administration of the study. They will also be responsible for data entry. Four interviewers, after taking a training course, will conduct the interviews. Two drivers are needed to take the interviewers to the districts.

2. **Operational costs and capital assets:** Operational costs include the transportation (car rent, car maintenance, and fuel), office maintenance (office rent, supply, electricity, communication costs). The capital assets include equipment (computers, printer, and office supplies).
3. Prior to starting the fielding, the interviewers will take a training course. The project assistant will give the course.

The study proposal will be presented for the implementation to those governmental or non-governmental organizations, which are, interested in children's health protection and environmental health problems.

### **Feasibility of the overall project**

The proposal of the study should be presented for the implementation to those governmental or non-governmental organizations, which are interested in the children's health protection or environmental health problems.

Many factors support the overall feasibility of the proposed research:

1. Technical. Technical staff of the proposed project will include the specialists in Public Health who also have expertise in health statistics. In addition, the trained interviewers will conduct the data collection.

2. Logistics. Office equipment, including the data processing equipment and statistical packages will support the research. The time required for the completion of the research is 6 months.
3. Administrative. The coordinator of the proposed research will be a specialist with good managerial and communication skills.
4. Political. Recently the Armenian Committee of Human Rights raised the problem of child abuse, which includes their right to be protected from others' smoking. Thus not only health care professionals, but also political decision-makers should be interested in the outcome of the study.
5. Financial. The financial issue of the research depends on the support of donor agencies that are interested in Armenia.

## References

1. Samet JM., Sophia SW. Environmental Tobacco Smoke. Environmental Toxicants, 2<sup>nd</sup> ed., 1999.
2. Anne Nadakavukaren. Our Global Environment. *A Health Perspective*. 4<sup>th</sup> ed. Prospect Heights, Illinois. Waveland Press, Inc, 1995
3. Institute of Medicine (US). Committee on the Assessment of Asthma and Indoor Air. Division of Health Promotion and Disease Prevention. Clearing the Air. Washington, D.C: National Academy Press.
4. Office of Environmental Health Hazard Assessment of the California Environmental Protection Agency, *Health Effects of Exposure to Environmental Tobacco Smoke*, 1997
5. Author unknown. Second-hand smoke and children. [Online]. [cited 2001 July 7]. Available from URL: <http://tobacco.who.int/en/advocacy/wntd2001a.html>
6. Gergen PJ., Powler JA, Maurer KR., Davis WW., and Overpeck MD. The Burden of Environmental Tobacco Smoke Exposure on the respiratory health of Children 2 months Through 5 Years of Age in the United States: Third National Health and Nutrition Examination Survey, 1998 to 1994. *Pediatrics* 1998;101:8
7. Ashley MJ., Ferrence R. Reducing children's exposure to environmental tobacco smoke in home: issues and strategies. *Tobacco Control* 1998;7:61-65
8. Gilliland FD., Berhane K., Rob McConnel R., Gauderman WJ., Vora H., Rappaport WB., Avol E., Peters JM. Maternal smoking during pregnancy, environmental tobacco smoke exposure and childhood lung function. *Thorax* 2000;55:271-276
9. Haddow JE, Knight GJ, Palomaki GE, Mccarthy JE. Second-trimester serum cotinine levels in nonsmokers in relation to birth weight. *Am J Obstet Gynecol* 1988;159:481-4
10. Cook DJ, Strachan DP. Summary of effects of parental smoking on the respiratory health of children and implications for research. *Thorax* 1999;54:357-366

11. Mitchell EA, Ford RPK, Stewart AW, Taylor BJ, Becroft DMO, Thompson JMD, Scragg R, Hassal IB, Barry DMJ, Allen EM, Roberts AP. Smoking and the sudden infant death syndrome. *Pediatrics* 1993;91:893-6
12. Strachan DP., and Cook DG. Health effects of passive smoking. 1.Parental smoking and lower respiratory illness in infancy and early childhood. *Thorax* 1997;52:905-914.
13. Margolis PA, Keyes LL, Greenberg RA, Bauman KE, La Vange LM. Urinary cotinine and parent history (questionnaire) as indicators of passive smoking and predictors of lower respiratory illness in infants. *Pediatric Pulmonology*1997;23:417-423
14. Committee on Environmental Health. Environmental Tobacco Smoke: A Hazard to Children. *Pediatrics* 1997;99: 639-642
15. Samet JM, Tager IB, Speizer FE. The relationship between respiratory illness in childhood and chronic airflow obstruction in adulthood. *Am Rev Respir Dis* 1983;127:508-23
16. David P Strachan, Derek G Cook. Parental smoking and childhood asthma: longitudinal and case-control studies. *Thorax* 1998;53:204-212
17. Stoddard JJ and Miller T. Impact of Parental Smoking on the Prevalence of Wheezing Respiratory Illness in Children. *American Journal of Epidemiology* 1995;141:96-102
18. Republican Health Information Analytic Center (RHIAC). Ministry of Health of Armenia.
19. National Statistical Service of Republic of Armenia. Family and Children in Armenia.
20. Reproductive Health in Armenia. ( Results of the Nation-wide reproductive health Survey in Armenian Men and Women, with special reference to sexually transmitted Diseases and Infertility, 1998)
21. Emmons KM., Wong M., Hammond SK., Velicer WF., Fava JL., Monroe AD., and Evans JL. Intervention and Policy Issues Related to Children's Exposure to Environmental Tobacco Smoke. *Preventive Medicine* 2001;32:321-331.
22. Anahit F. Ghazanchyan. Armenian NGO People for Healthy Lifestyle.
23. Robyn Mullins, Lisa Trotter, Tessa Letcher. Environmental tobacco smoke: Public opinions and behavior in 1998-99. *Quit Evaluation studies No 10* 1998-1999.
24. Aday L.A. Designing and conducting health surveys. A comprehensive guide. 1989.

**American University of Armenia  
Department of Public Health**

Institutional Review Board/Committee on Human Research

**CONSENT FORM TEMPLATE**

Title of Research Project: Environmental Tobacco Smoke (ETS): Assessment of Parents' Awareness and Behavior. CHR#

A graduate student completing her thesis requirement for the Master of Public Health Program at American University of Armenia is conducting a research on environmental tobacco smoke (ETS). The purpose of the study is to assess the level of parents' awareness about ETS exposure on the children' health. Parents of children age 0-6 years will be eligible to participate in the study. The interview will take place only once and last 25-30 minutes. The investigator may stop the interview if necessary (if he/she realize that the participant is not eligible for the study). Your participation is completely voluntary. You have right to ask questions and stop the interview any time you want.

We appreciate your participation in this study. The information given by you will be very useful and valuable for this research.

---

**RISKS/DISCOMFORTS:**

There is no known risk for the participants of the study. The research possesses risk, discomfort, and inconvenience the same as encountered in your daily life.

---

**BENEFITS:**

You will not directly benefit from this survey. However, the information provided by you may help to assess the parents' current knowledge about ETS exposure on children' health and further development of special intervention program to increase awareness and prevent the children from ETS exposure.

---

**CONFIDENTIALITY:**

Your names, addresses, telephone numbers will not required as they are not going to use in the study or mentioned anywhere. All received information will be kept confidential and use only for research purposes. Your responses will be accessible for the Public Health Department of American University of Armenia.

**VOLUNTARINESS**

Your participation in the study is completely voluntary. You have the right to stop the interview at any time you want. You will be allowed to ask questions and be free not to answer the questions if you consider them inappropriate. Your refusal to participate in the study or your decision to withdraw from the study at any time will not affect your job.

**WHOM TO CONTACT:**

You should ask the person in charge any question you may have about this research. You should ask him questions in the future if you do not understand something that is being done. The researchers will tell you anything new they learn that they think will affect you.

If you want to talk to anyone about this research you should call the person in charge of the study, [Michael Thompson] at [phone number: (3741) 512592 / e-mail: mthompso@aua.am]

The person in charge of the study will answer your questions. If you want to talk to anyone about the research study because you feel you have not been treated fairly or think you have been hurt by joining the study you should contact the American University of Armenia at (3741) 513512.

If you agree to be in this study, please sign your name below.

---

Subject's signature

---

Signature of Investigator

---

Date



**Assessment of Awareness and Behavior of Parents About  
Environmental Tobacco Smoking (ETS) Exposure  
QUESTIONNAIRE**

**I. Demographic questions**

(I would like to ask a few questions about yourself just to make sure we have a good cross section of people).



1. What is the date of your birth?                    MM\_\_ \_\_ DD\_\_ \_\_ YY\_\_ \_\_
2. Gender?                                            Male / Female
3. What is your marital status?                    a) single  
                                                                 b) married  
                                                                 c) divorced  
                                                                 d) widowed
4. Are you currently employed?                    a) yes  
                                                                 b) no
5. What is the level of your education?            a) incomplete secondary  
                                                                 b) complete secondary  
                                                                 c) professional technical education  
                                                                 d) incomplete university  
                                                                 e) complete university
6. How many children aged 0-15 live in this household?   Record Number [\_\_ \_\_].
7. How many of them are aged 0-6?   Record Number [\_\_ \_\_].
8. Including you how many people aged 0-15 and over usually live in this household?  
    Record Number [\_\_ \_\_].
9. How many rooms does your apartment have, including kitchen, living room, dining  
room, and bedroom?  
    Record Number [\_\_ \_\_].
10. On average, how many hours do your child/children spend inside the house?

Record Number [ \_ \_ ].

11. On average how much money does your household spend monthly?

- a) less than \$50 (< 25,000 drams).
- b) \$ 50-99 (25,000-50,000 drams).
- c) \$ 100-299 (51,000-150,000 drams).
- d) \$ 300 and above (> 150,000 drams).

## II. Smoking Status

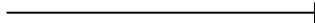

1. Do you smoke? a) yes   *GO TO THE Q. 2*  
b) no   *GO TO THE Q. 4*

2. How many cigarettes do you usually smoke inside the house?

- a) 1-5
- b) 6-10
- c) 11-15
- d) 16-20
- e) 21 and more

3. How often do you smoke inside the house?

- a) daily
- b) 4 or more days a week
- c) 2-3 days a week
- d) once a week
- e) once every 2-3 weeks
- f) once a month
- g) once every 2-3 months
- h) less often

4. Does your spouse/partner smoke? a) yes   *GO TO THE Q.5*  
b) no   *GO TO THE Q.7*

5. How many cigarettes does he/she usually smoke inside the house?

- a) 1-5
- b) 6-10
- c) 10-15
- d) 16-20

e) 21 and more

6. How often does he/she smoke inside the house?

- a) daily
- b) 4 or more days a week
- c) 2-3 days a week
- d) once a week
- e) once every 2-3 weeks
- f) once a month
- g) once every 2-3 months
- i) less often

8. How often do visitors smoke inside your house?

- a) daily
- b) 4 or more days a week
- c) 2-3 days a week
- d) once a week
- e) once every 2-3 weeks
- f) once a month
- g) once every 2-3 months
- h) less often

### **III. Questions regarding awareness and behavior of parents.**

( I am going to ask you about your experience in relation to passive smoking. By passive smoking we mean other people's smoke in air).

1. Has your pediatrician ever told you about passive smoking exposure on child's health?

- a) yes.
- b) no.

2. Has your pediatrician ever told to quit smoking in the presence of children?

- a) yes.
- b) no.

3. Have you ever heard about environmental tobacco smoking (ETS) exposure?

- a) yes.
- b) no.

4. What are the other sources of information about ETS exposure?

Define \_\_\_\_\_

5. Do you think that your child's health is affected by exposure to ETS?

- a) extremely likely
- b) unlikely
- c) not sure/don't know
- d) likely
- e) extremely unlikely

*If the respondent smokes* \_\_\_\_\_ → *GO TO THE Q. 6*

*If the respondent doesn't smoke* \_\_\_\_\_ → *GO TO THE Q. 8*

6. When you are in the room with your child/children do you smoke?

- a) more than normally
- b) less than normally \_\_\_\_\_ → *GO TO THE Q. 7*
- c) about the same amount
- d) not at all \_\_\_\_\_ → *GO TO THE Q. 7*

7. Which of the following reasons describe why you smoke less/not at all in the room with children?

- a) you want to set good example
- b) you do not want to expose them to smoke
- c) you are not allowed to
- d) some other reasons (Specify \_\_\_\_\_).

*If the respondent spouse/partner smokes* \_\_\_\_\_ → *GO TO THE Q. 8*

*If the respondent spouse/partner doesn't smoke* \_\_\_\_\_ → *GO TO THE Q. 9*

8. When your spouse/partner is in the same room with your child/children does he/she smoke?

- a) more than normally
- b) less than normally
- c) about the same amount
- d) not at all

9. Are you concerned about the exposure of ETS to your child/children health?

- a) yes, a lot
- b) yes, a little
- c) no.

10. What should be done to reduce the amount of smoke in the vicinity of children?

Prompt: Which of the following methods effective to reduce the child's exposure to ETS?

- a) opening window
- b) smoking in another room
- c) using devices to filter the air
- d) others ( Specify) \_\_\_\_\_

11. Do you or any other smokers living in this household during the average year

- a) always smoke inside
- b) usually smoke inside
- c) sometimes smoke inside and sometimes outside
- d) usually smoke outside
- e) always smoke outside

12. In each location where someone is smoking how often is a child present?

	Always	Sometimes	Rare	Never
In the car	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the room where the TV is located	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the room where the most meals are eaten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other indoor places at home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indoor areas other than home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Are visitors ( friends, relatives) usually discouraged from smoking in the presence of children?

- a) always
- b) sometimes
- c) rarely
- d) never

14. What restrictions on smoking are in place when the children are at home?

- a) total ban (no one is allowed to smoke in my home).
- b) some restrictions ( only special guests are allowed to smoke in my home or people are allowed to smoke only in certain areas inmy home).
- c) no restrcitions ( people are allowed to smoke anywhere in my home).

15. Do you think that respiratory problems related to ETS exposure?

- a) yes
- b) no

Thank you for your participation.

## Appendix 1 Budget

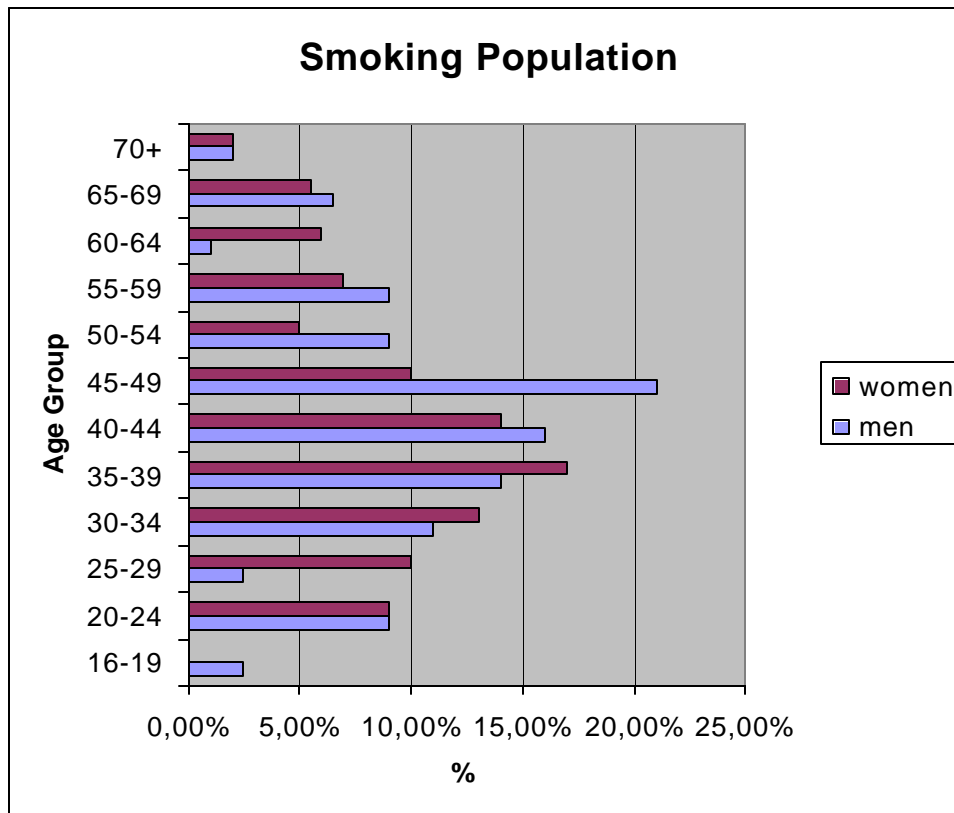
Item	Unit	Rate (USD)	Months	Total
<b>Personnel Salaries</b>				
Project Coordinator	1	400	6	2400
Project Assistant	1	300	6	1800
Accouter/Expertise	1	250	2 days	500
Interviewer	4	200	1	800
Driver	2	100	1	200
				<b>5,700</b>
<b>Salary taxes:</b>				
20 % income tax				1,140
4 % pension tax/employee				228
15% pension tax/employer				855
<b>Subtotal</b>				<b>2,223</b>
<b>Materials and supplies</b>				
Copying of training materials: handouts	1	10		10
Copying of study instruments and materials	1	60	1	60
Expenses for food during the training program	5	5/per person	3 days	75
Office supplies	1	100	6	100
<b>Subtotal</b>				<b>245</b>
<b>Capital assets</b>				
Computer	2	800	6	1600
Printer	1	400	6	400
Statistical package	1	150	3	150
<b>Subtotal</b>				<b>2,150</b>
<b>Operating costs</b>				

Office rent	1	100	6	600
Communication	1	50	6	300
Electricity	1	30/per month	6	180
Transportation: cars rent and maintenance	2	100	1	200
Fuel	1	200	1	200
<b>Subtotal</b>				<b>1,480</b>
<b>Grand Subtotal</b>				<b>11,798</b>
<b>Miscellaneous</b>	5 % of grand subtotal			<b>590</b>
<b>Grand Total</b>				<b>12,388</b>

**Appendix Time frame for the project**

<b>Activities planning for 2002</b>						
Activities/ Month	Jan	Feb	March	April	May	June
Staff hiring	✓					
Office rent, supplies, equipment, preparation of materials, etc	✓	✓				
Sampling process and procedures		✓				
Training of interviewers			✓			
Fielding			✓			
Data management				✓		
Data coding, data entry				✓		
Data analysis					✓	
Report preparation						✓





**Gaph 1. Source:** National Statistical Service

Policlinic	Total # of districts
Manuk CP	17
Emerg. 3 CH pol	31
4th CH pol	18
Arabkir CP	32
1st CP	17
2nd CP	34
3rd CP	18
4th CP	38
5th CP	49
6th CP	27
7th CP	17
8th CP	27
9th CP	24
5th pol.'s CD	5
8th pol.'s CD	20
17th pol.'s CD	18
18th pol.'s CD	14
20th po.'s CD	17
21th pol.' CD	4
22th pol.'s CD	13
23th pol.'s CD	4
Sari Taghi CP	8

