# KNOWLEDGE OF THE ARMENIAN POPULATION ABOUT HEALTHY NUTRITION

**Master of Public Health Integrating Experience Project**
**Utilizing Professional Publication Framework**

ARMEN TORCHYAN, MD, MPH Candidate

**College of Health Science**

**American University of Armenia**

**Primary Advisor: Varduhi Petrosyan, PhD**

**Secondary Advisor: Marie Diener-West, PhD**

**Yerevan, Armenia**
**October 2007**

## Table of contents

## Executive Summary

With industrialization, urbanization, development of new technologies and economic changes occurring to a great extent during these last decades throughout the world, there have been changes in diet and lifestyle of people. Such changes have influenced nutritional status and overall health of people from developed, as well as from developing and transitional countries.

Experts consider that diet is a major modifiable factor influencing health, especially in the context of chronic diseases and it is also known that appropriate changes in nutrition patterns of people can considerably help to prevent main causes of disability and premature death in both developing and developed countries.

Previous research shows that the nutritional patterns of Armenian people cannot be considered as healthy. Taking into account the importance of healthy eating habits and the significant role of nutrition knowledge on such habits, as well as the evidence that suggests poor eating patterns in Armenian families, it is important to assess the knowledge of the Armenian population about healthy eating.

Research questions of the current study were: 1) Do adult residents of Yerevan know current expert dietary recommendations? 2) Do adult residents of Yerevan know the health implications of eating or failing to eat particular foods? 3) Are there associations between age, sex, education, marital status, number of children in the household, employment status, income level and nutrition knowledge level among adults of Yerevan?

A cross-sectional descriptive/analytical study was conducted in Yerevan to assess the level of knowledge of the adult population of Yerevan about healthy nutrition.

The target population of the study included residents of Yerevan (≥ 18 years old). The participants were selected through a simple random sampling technique. The phonebook of Yerevan was the sampling frame . The student investigator used an interviewer-administered questionnaire developed on the basis of a valid and reliable questionnaire. Data were entered through the SPSS statistical package and analyzed using the Stata program.

The results showed that the overall mean nutritional knowledge of the Yerevan adult population was quite low, estimated as only 24.1% (95% CI: 8.96 to 39.48) based on scores ranging from 0 to 100%. However the mean knowledge score was higher regarding dietary recommendations (53.3%, 95%CI: 24.5 to 82.8), but lower regarding relationships between diet and diseases (19.6%, 95%CI: 3.0 to 36.4).

The results showed that higher level of education was related to a higher level of knowledge about healthy nutrition. On average, the knowledge score was 2.5 points higher for respondents with a university degree compared to those without it. For other variables there were no statistically significant differences in the mean knowledge.

More than 25% of respondents falsely believed that osteochondrosis was related to high intake of salt.

This study recommends development of educational programs for Yerevan population about healthy eating patterns and association of non healthy diets with poor health outcomes. In addition, conducting a similar survey in other parts of Armenia could help to investigate the level of healthy nutrition knowledge in the Armenian population.

## Background Information/Literature Review

With industrialization, urbanization, development of new technologies and economic changes occurring to a great extent during the last decades throughout the world, diet and lifestyle of people have also changed (1, 2). In particular, these changes have led to sedentary lifestyle, low level physical activity, and inappropriate nutritional patterns (3), including increased consumption of energy-dense diets high in fat, particularly saturated fat, and low in unrefined carbohydrates, low consumption of vegetables and fruits, low level of physical activity associated with development of motorized transport, automatization in the workplaces, and widespread use of electronic devices at home. Such changes have influenced the overall health and nutritional status of people from developed, as well as from developing and transitional countries (1, 4).

These changes in lifestyle and diet can lead to poor immunity, susceptibility to infectious diseases, overweight and obesity, low capacity for work, different chronic diseases such as diabetes mellitus, cardiovascular disease and even some types of cancer (5, 6, 7).

Experts consider that diet is a major modifiable factor influencing health, especially in the context of chronic diseases mentioned above, which are responsible for approximately 60% of the 56.5 million total reported deaths in the world and approximately 46% of the global burden of disease in 2001 (5). It is known that appropriate changes in nutrition patterns of people can considerably help to prevent main causes of disability and premature death in both developing and developed countries. That is why governments of many countries along with the World Health Organization (WHO) are making great efforts to find an effective approach to promote healthy nutrition (1).

Previous research suggests that the nutritional patterns of Armenian people are not healthy (8). In 2003, about 47% of the population had irregular eating regimen and more than 70% ate less than 3 times a day with no variety in food assortment (8, 9). In different age groups between 2%-30% of people were overweight, and between 8% -13% were obese

(8). In 2005, 27% of Armenian women of age 15 to 49 were overweight and 16% were obese (10). Blood testing performed in 2003 showed that low density lipoproteins (LDL)[1], and triglycerides and general cholesterol were higher than the norm in 23% and 17% of the study participants, respectively (8). Especially during the spring and autumn seasons, the daily food ration among 95% of the population was 70-80% deficient in different vitamins (8). There was also macro and micronutrient deficiency, especially Ca, P, Mg and Fe. The quantities of Ca and Fe in blood of women were less than the established norm by 50% and 25%, respectively (8). The same study showed that 25% of women age 15 to 49 met the criteria for anemia (8).

It is worth mentioning that in 2002, 83% of all deaths in Armenia were due to chronic diseases (11). Diseases of cardiovascular system (CVD) in Armenia increased more than twice - from 522.7 to 1092.9 per 100,000. In 2002, CVD accounted for about 57.9% of all deaths (11). The incidence of cancer increased from 159.3 to 216.7 per 100,000 from 2001 to 2005 (12). According to the WHO, the prevalence of diabetes mellitus is currently 120,000 people, and by the 2030 it is projected to increase to 206,000 people in Armenia (13).

The choice of food for an individual depends on different factors such as family income and nutrition knowledge of family members (14). Nutrition education can significantly improve healthy eating habits of people (14). One of the important findings is that nutrition knowledge among people with low income has a strong influence on their eating habits. Thus, a low-income family with high awareness about healthy nutrition could follow healthier eating patterns than another family with the same level of income but lower level of knowledge (14). This fact can be very essential for improving eating patterns in developing countries, including Armenia.

Studies performed among middle-aged men who were at major risk for cardiovascular diseases, showed that nutrition knowledge had a significant impact on improving healthy

[1] It is commonly referred to as bad cholesterol, since high LDL levels in blood can lead to cardiovascular disease (15).

eating patterns of those men (16). Moreover, educational programs for schoolchildren led to improved healthy nutrition knowledge and behavior in their parents (17, 18).

Taking into account the importance of healthy eating habits and the significant role of nutrition knowledge on such habits, as well as the evidence that suggests poor eating patterns in Armenian families, it is important to assess the knowledge of the Armenian population about healthy eating. Identifying important factors associated with non-healthy diets will help in developing strategies to increase the knowledge level and improve the nutritional patterns of the Armenian population.

The overall goal of the current study was to assess the knowledge level of Yerevan adult population (≥18 years old) about healthy nutrition. The research questions were:

1) Do adult people living in Yerevan know what the current expert dietary recommendations are?

2) Do adult people living in Yerevan know about health implications of eating or failing to eat particular foods?

3) Are there associations between the nutrition knowledge level and age, sex, education, marital status, number of children in the household, employment status, and income level among adults living in Yerevan?

## Methods

### *Study design*

A cross-sectional descriptive/analytical study was conducted in Yerevan to assess the level of knowledge of the adult population of Yerevan about healthy nutrition.

### *Target population*

The target population of the study was adult residents (≥ 18 years old) of Yerevan. The inclusion criteria for the study participants were:

1. being 18 years old and older
2. being residents of Yerevan.

Only adult people were included because they mostly buy and prepare food for themselves as well as for their children. Thus, their decisions also can influence the nutritional behavior of children. People with Yerevan residency were chosen because almost half of the population of Armenia is living in Yerevan, as well as because original eating patterns and nutrition knowledge are often different for immigrated people without Yerevan residency due to different factors in their permanent placement. In addition, limited resources and time precluded conducting this survey throughout Armenia.

*Sampling design*

A simple random sampling design was used. The phonebook of Yerevan was the sampling frame. A household of Yerevan (randomly chosen from the Yerevan phonebook using the random sampling tool in the SPSS program) was the sampling element. A sampling unit was an adult of that household who met the inclusion and exclusion criteria. If there were more than one eligible people at home, interviewer asked for a person whose birthday was celebrated the last.

A major disadvantage of this sampling design was that roughly 20% of Yerevan households did not have a telephone (19, 20).

*Sample size*

The sample size for this study was based on the following formula:

$$n = 2 \cdot \frac{z_{\alpha/2}{}^2 \cdot (\sigma_1^2 + \sigma_2^2)}{d^2} = \frac{1.96^2 \cdot (13^2 + 13^2)}{5.5^2} = \mathbf{86} \quad (21)$$

n – sample size $\sigma_1, \sigma_2$ – standard deviations d – precision level

α – type I error (0.05) z – z statistics

A previous study conducted with a similar questionnaire showed that the standard deviation for the score in each of the two relevant questionnaire sections was approximately 13 points (22). With a desired precision level of ± 5.5 points, we calculated a total sample size of 86 (43 in each of two groups (such as high income versus low income) to accurately estimate the overall mean score as well as differences in mean scores by subgroups. With subgroups of unequal sizes, the precision of the estimated difference in mean knowledge score was somewhat decreased.

The response rate and proportion of eligible participants was anticipated to be 90% and 70% correspondingly taking into account previous surveys conducted in Yerevan using telephone interviews (23, 24) and pre-testing done by the research group.

$$\textbf{Adjusted sample size} = \frac{86}{0.9 \cdot 0.7} = \textbf{136}$$

**Final Sample Size = 136**

*Study instrument*

An interviewer-administered questionnaire was used for the survey (Appendix 1).

The student investigator modified the valid and reliable questionnaire developed by Parmenter and Wardle (1999) (25) for this study. The two relevant sections of the questionnaire were translated into Armenian and pre-tested.

All unfamiliar terms for the Armenian population were changed in the sections depicting "what advice experts are giving us" and "health problems or diseases". For example, for polyunsaturated and saturated fats the terms "vegetable oil" and "animal fat" were used instead. The research group did not use the sections about food groups and choosing foods because the pre-testing indicated confusion and unfamiliarity of respondents with the terminology about nutrients, and many of the food items mentioned in the questionnaire were strange to the Armenian population. Student investigator added two

questions to the questionnaire as a result of the pre-test. A broad checklist was added to open-ended questions using data obtained from different sources (26,27,28,29). The same checklist was used in close-ended questions, to see whether respondents agree that those diseases may be related to misuse of particular nutrients.

*Study variables*

The dependent variable for this study was the nutrition knowledge score. One point was assigned for each correct answer on all close-ended questions and two points on open-ended questions to calculate the overall score. Independent variables of interest were: age, sex, education, marital status, number of persons living at home, number of children in the household, employment status, and income. Table 1 summarizes the study variables.

**Data Analysis**

The student investigator entered the data through the SPSS statistical package and analyzed with Stata program. Descriptive statistics were used to explore distributions and patterns in the level of knowledge of Yerevan population as well as each of the covariates of interest. The study also utilized scatter plots and cross tabulations; it considered the outliers and categorized some continuous data. Bivariate analyses helped to investigate possible associations between age, sex, education, marital status, number of persons living at home, number of children, employment status and income with the nutrition knowledge level among adults of Yerevan. Bivariate associations were assessed using t-tests and ANOVA.

**Ethical considerations**

The Institutional Review Board (IRB) of the College of Health Sciences of the American University of Armenia approved this study. All participants received an oral consent form (Appendix 2). The interviewer informed all participants about the purpose of

the research, why they were chosen, all potential risks and benefits. The participants knew that they could refuse to participate, or could withdraw from the study at any point in time.

## Results

Overall, 91 people participated in the survey. The eligibility rate was 76% and the response rate was 91%.

Table 2 describes the demographic characteristics of respondents. The majority of respondents were women. The respondents were mostly married, employed and with higher education. Eight respondents had medical education, and five respondents were on a special diet due to some illness.

### *Nutrition knowledge*

Out of 92 possible points the mean score was approximately 22.2 (95% CI: 8.0 to 36.3), with the minimum score of 9 and the maximum score of 42. By converting the mean score to the mean percentage scores, this translates to a mean score of approximately 24.1% out of the overall possible 100%. People with medical education had higher mean nutrition scores. The mean score for eight people with medical education was 31.9.

### *Section 1 – dietary recommendations*

Out of 12 possible points, the mean score was 6.4 (95%CI: 2.9 to 9.9). The majority of respondents correctly answered that the amount of fruits (90,1%), greens (90.1%) and vegetables (75.8%) should be increased and that the amount of fatty food and salty food should be decreased (Table 3). However, only half (50.5%) of the respondents answered that sugary food should be decreased. Approximately equal number of respondents thought that the amount of meat should be increased, decreased or stay the same. About 42 percent

thought that the amount of grains should stay the same, and 25 percent thought that it should be decreased and 25% increased (Table 3).

About 75% of respondents reported that the amount of daily servings of fruit and vegetables should be less or equal to 4 (Table 4). Approximately 77% thought that it was appropriate to decrease the amount of animal fat in the daily ration. About 76% thought that one should choose honey among a number of sweet food items in order to decrease the amount of sugar (Table 5). Also 57% mistakenly believed that vegetable oil contributes less to obesity (Table 6).

*Section 2 – diet-disease relationship*

Participants were first asked whether they knew about the relationships between particular food consumption and disease. If the participants answered yes, then the researchers asked them to list those diseases, which were recorded in a checklist. Afterwards the interviewer provided the list of diseases in a close-ended question and asked if the participant agreed with the statement that comparably high or low consumption of a particular food could contribute to development of each disease.

Only a small percent of participants listed some of the diseases related to low intake of fruit and vegetables (Table 7). Participants also were asked whether they agreed with the statement that low intake of fruits and vegetables was related to the listed specific diseases. The results are shown in Table 8.

About 41 percent of respondents mentioned only diabetes as a disease related to high intake of sugar (Table 9). The results of close-ended questions about the relationship between high intake of sugar with some diseases are presented in Table 10. Comparably high percentages of respondents (about 80%, 78%, 61%, correspondingly) agreed that obesity, dental problems, and allergies can be related to high intake of sugar.

Tables 11-12 present the answers to the questions about the relationship of high consumption of salt with some diseases. Only a small percentage of respondents believed that high intake of salt could relate to cardiovascular diseases. Tables 13 and 14 demonstrate the correct answers for high intake of fat. About 52.7 and 39.6 percent of respondents listed and 95.6 and 79.1 percent agreed that obesity and coronary heart disease correspondingly can be related to high intake of fat. Comparably high percent of respondents (58.2%) also agreed that hypertension can be related to high intake of fat.

When respondents were asked to specify diseases that they thought were related to some particular food, 27.5 percent of respondents answered that high consumption of salt could lead to osteochondrosis. The second most frequent answer was renal problems: 7.7 percent of respondents (7 people) thought that high intake of salt could lead to renal problems.

*Bivariate analyses*

Bivariate analysis revealed that there was a marginally significant difference in mean nutrition score by education. On average, the knowledge score was higher by 2.5 points for respondents with a university degree compared to those without it (Table 15).

For other variables there were no statistically significant differences in the mean knowledge.

**Discussion**

The results of this survey give the overall picture of healthy nutrition knowledge of Yerevan adult population. The results show that the knowledge of Yerevan adult population was quite low, representing an overall average mean score (expressed as percentages) of only

24.1% based on score ranging from 0% to 100%[2]. Higher knowledge was observed for the section one - "what advice experts are giving us" with an average of 53.3%; for the section two "health problems or diseases"– with 19.6%. If we compare the mean scores of the Yerevan population with that of English population it can be seen that for two sections combined the scores of the English population were almost twice as high (49.8%). For the sections one the scores from England were almost one and half times higher (73.6%), and for section two – almost twice as high (36.8%) (21). Although the structure and some questions of the survey instrument were modified for the Yerevan population, the results could be comparable, as the trends between the sections 1 and 2 were similar in Armenia and England.

The results of the present survey showed that the level of knowledge about healthy nutrition improved with university level education. This was consistent with the findings from England (21).

Women's knowledge about the diet-disease relationship was not significantly different from that of men in Yerevan. Whereas, the nutrition knowledge score of English women was higher than the knowledge of men (21).

It is worth mentioning that there was no statistically significant difference between overall nutrition knowledge for respondents having children at home and those who did not. This study did not indicate that knowledge level varied by age or marital status. The results in England suggested higher knowledge in the elderly, married individuals and those who had children at home (21).

The fact that more than a quarter of respondents falsely thought that osteochondrosis related to high intake of salt might be explained by the fact that in everyday conversation in Armenian people name osteochondrosis as "deposit of salts".

The advantages of this study included: using a valid and reliable questionnaire as a basis for developing the study instrument, and having a representative sample of those adult

[2] The scores were converted to percentages to compare with results from the similar survey conducted in England

Yerevan residents who had a telephone. One of the significant limitations was that those adult Yerevan residents who did not have a telephone (approximately 20%) or could not pay the telephone bill were excluded from the study. Additionally, the survey was conducted during a vacation season, which decreased the response rate. Furthermore, the study did not use wrong options in the close-ended questions to see whether the participants answered correctly truly knowing the answer or by a chance. The sample size might limit the statistical power to detect differences in mean scores between certain subgroups.

### Recommendations

The results demonstrated that the nutrition knowledge of Yerevan adult population was very low. This could provide one possible explanation for the inappropriate nutritional patterns and increasing prevalence of chronic diseases in Armenia. Taking into account previous research demonstrating that improving the nutritional knowledge could significantly change the nutritional patterns of people, this study recommends developing educational programs about healthy eating patterns for the Yerevan population. In addition, a similar survey conducted in other parts of Armenia could help to reveal the level of healthy nutrition knowledge of the broader Armenian population.

## References


1. Diet, nutrition, and the prevention of chronic diseases. Report of a WHO Study Group. Geneva, World Health Organization, 1990 (WHO Technical Report Series, No. 797).

2. Yusuf S, Reddy S, Global Burden of Cardiovascular Diseases, Part I: General Considerations, the Epidemiologic Transition, Risk Factors, and Impact of Urbanization, Circulation 2001;104;2746-2753

3. Martinez-González M, Martinez J., Physical inactivity, sedentary lifestyle and obesity in the European Union, International Journal of Obesity, November 1999, Volume 23, Number 11, Pages 1192-1201

4. Reddy K., Yusuf S., Emerging Epidemic of Cardiovascular Disease in Developing Countries, Circulation 1998;97;596-601

5. The world health report 2002: reducing risks, promoting healthy life. Geneva,World Health Organization, 2002.

6. Stampfer J., Hu F., Primary Prevention of Coronary Heart Disease in Women Through Diet and Lifestile, The New England Journal of Medicine, July 2000, July 6, 2000, volume 343, number 1, pp 16-22

7. Slattery M., Diet, lifestyle, and colon cancer, Semin Gastrointest Dis. 2000 Jul;11(3):142-6

8. Khachatryan N., The exploration of food ration and hygienic evaluation of nutritional status of adult population of Republic of Armenia, Ministry of Health of Republic of Armenia, Yerevan 2004.

9. Food Security and Nutritional Status Survey, Armenia, September 2000

10. National Statistical Service [Armenia], Ministry of Health [Armenia], and ORC Macro. 2006. Armenia Demographic and Health Survey 2005. Calverton, Maryland: National Statistical Service, Ministry of Health, and ORC Macro.

11. Highlights on health in Armenia 2005, World Health Organization, 2006

12. Statistical Yearbook of Armenia, 2006, p. 139

13. Prevalence of diabetes in the WHO European Region, WHO country and regional data, World health organization 2007.

14. USDA's Healthy Eating Index and Nutrition Information, Center for Nutrition Policy and Promotion, USDA. Technical Bulletin No. 1866, April, 1998

15. Low density lipoprotein, Wikipedia, the free encyclopedia, Wikimedia Foundation, Inc, February 2007

16. Dallongeville J., Marécaux N., Association between nutrition knowledge and nutritional intake in middle-aged men from Northern France, Public Health Nutrition, Volume 4, Number 1, February 2001, pp. 27-33(7).
17. Kozlowska-Wojciechowska M, Uramowska-Zyto B., Impact of of school children's nutrition education program on the knowledge and nutritional behavior of their parents, Rocz Panstw Zakl Hig. 2002;53(3):253-8.
18. Borys JM, Lafay L., Nutritional information for children to modify the food habits of the whole family, Rev Med Suisse Romande. 2000 Mar;120(3):207-9.
19. Fixed Telephony, Armentel, retrieved on 06.05.2007 from http://armentel.am/arm/fix/
20. Description of Sample Population, Labour Force and child in Armenia, Publications of year 2005, National Statistical Service of the Republic of Armenia
21. Pagano M., Gauvreau K., Principles of Biostatistics, Duxbury Press, Wadsworth Publishing Co., CA 1993, Ch. 10.6
22. Parmenter K., Waller J., Demographic variation in nutrition knowledge in England, Health Education Research, Vol. 15. no.2, 2000, pp. 163-174.
23. Harutyunyan, T. Breast Self-examination Practice in Yerevan women: Cross-sectional KAP survey Master of Public Health Program thesis projects Vol. 1 of 4. College of Health Sciences, American University of Armenia, October 1999
24. Martirosyan L., Survey on Self-medication with Antibiotics in Yerevan, College of Health Sciences, American University of Armenia, October 2005
25. Parmenter K., Wardle J., Development of a general nutrition knowledge questionnaire for adults, European Journal of Clinical Nutrition 1999; 53: 298-308
26. Fruit & Vegetables: Nutrition Source, Harvard School of Public Health, retrieved on 01.06.2007 from http://www.hsph.harvard.edu/nutritionsource/fruits.html
27. Appleton N., Ph.D., 146 Reasons Why Sugar Is Ruining Your Health, retrieved from http://rheumatic.org/sugar.htm in 27.06.07
28. Banks D., Salt: Too Much of a Good Thing, University of Illinois Extension, retrieved on 27.06.07 from http://www.urbanext.uiuc.edu/thriftyliving/tl-salt.html
29. Disease-specific recommendations, World Health Organization, retrieved on 27.06.07 from http://www.who.int/nutrition/topics/5_population_nutrient/en/index12.html

## Tables

**Table 1.** Characteristics of variables

| Variables | Type |
|---|---|
| **Dependent** | |
| Nutrition knowledge score | Continuous |
| **Independent** | |
| Age | Ordinal |
| Sex | Nominal |
| Education | Ordinal |
| Marital status | Ordinal |
| Number of persons living at home | Ordinal |
| Number of children in the household | Ordinal |
| Employment status | Ordinal |

**Table 2.** Demographic characteristics of respondents

| | N | % |
|---|---|---|
| **Gender** | | |
| Males | 35 | 38.5 |
| Females | 56 | 61.5 |
| **Age** | | |
| 18-49 | 59 | 64.8 |
| 50 and higher | 32 | 35.2 |
| **Marital Status** | | |
| Single (including widowed, separated) | 32 | 35.2 |
| Married | 59 | 64.8 |
| **Education** | | |
| Without university degree | 43 | 47.3 |
| With university degree | 48 | 52.7 |
| **Medical Education** | | |
| With a medical education | 8 | 8.8 |
| Without a medical education | 83 | 91.2 |
| **Employment status** | | |
| Employed (full/part time) | 37 | 40.7 |
| Unemployed (including students and retired) | 54 | 59.3 |
| **Special diet** | | |
| On a special diet | 5 | 5.5 |
| Not on a special diet | 86 | 94.5 |
| **Expenditures** | | |
| Less than 200,000 (lowest, second, middle and fourth quintiles (10)) | 54 | 59.3 |
| 200,000 and more (highest quintile) | 37 | 40.7 |
| **Number of persons living at home** | | |
| 3 and less | 37 | 40.7 |
| 4 and more | 54 | 59.3 |

**Table 3.** Food item intake recommendations (%)

| Food items | Increase | Stay the same | Decrease | Not sure |
|---|---|---|---|---|
| Vegetables | 75.8 | 24.2 | 0 | 0 |
| Sugary foods | 20.9 | 16.5 | 50.5 | 12.1 |
| Meat | 30.8 | 34.1 | 31.9 | 3.3 |
| Grains | 25.3 | 41.8 | 25.3 | 7.7 |
| Fatty food | 0 | 2.2 | 95.6 | 2.2 |
| Green | 90.1 | 6.6 | 1.1 | 2.2 |
| Fruits | 90.1 | 2.2 | 6.1 | 1.1 |
| Salty food | 5.5 | 18.7 | 65.9 | 9.9 |

**Table 4.** Recommended number of daily servings of fruit and vegetables

| Number of servings | N | % |
|---|---|---|
| 1 | 15 | 16.5 |
| 2 | 10 | 11.0 |
| 3 | 23 | 25.3 |
| 4 | 20 | 22.0 |
| 5 | 20 | 22.0 |
| 6 | 3 | 3.3 |

**Table 5.** Recommended food items if someone wants to decrease the amount of sugar

| Food | N | % |
|---|---|---|
| Jam | 2 | 2.2 |
| Caramel | 4 | 4.4 |
| Biscuit | 8 | 8.8 |
| Honey | 69 | 75.8 |
| Not sure | 8 | 8.8 |

**Table 6.** Fat contributing less to obesity

| Fats | N | % |
|---|---|---|
| Vegetable oil | 52 | 57.1 |
| Animal fat | 4 | 4.4 |
| Butter | 5 | 5.5 |
| Margarine | 5 | 5.5 |
| All the same | 13 | 14.3 |
| Not sure | 12 | 13.2 |

**Table 7.** Diseases related to low intake of fruit and vegetables (open-ended questions)

| Diseases | Listed | Did not list |
|---|---|---|
| Heart disease | 0 | 100.0 |
| Stroke | 0 | 100.0 |
| Hypertension | 0 | 100.0 |
| Constipation | 0 | 100.0 |
| Some types of cancer (colon cancer) | 1.1 | 98.9 |
| Cataract and macular degeneration | 4.4 | 95.6 |
| Hypovitaminosis | 24.2 | 75.8 |

**Table 8.** Diseases related to low intake of fruit and vegetables (close-ended question)

| Diseases | Agree | Neither agree nor disagree | Disagree |
|---|---|---|---|
| Heart disease | 60.4 | 18.7 | 20.9 |
| Stroke | 45.1 | 38.5 | 16.5 |
| Hypertension | 40.7 | 36.3 | 23.1 |
| Constipation | 61.5 | 17.6 | 20.9 |
| Some types of cancer (colon cancer) | 24.2 | 53.8 | 22.0 |
| Cataract and macular degeneration | 61.5 | 17.6 | 20.9 |
| Hypovitaminosis | 40.7 | 40.7 | 18.7 |

**Table 9.** Diseases related to high intake of sugar (open-ended question)

| Diseases | Listed | Did not list |
|---|---|---|
| Infectious diseases (suppressed immunity) | 0 | 100.0 |
| Coronary heart disease (heart disease) | 1.1 | 98.9 |
| Cancer | 2.2 | 97.8 |
| Hypertension | 5.5 | 94.5 |
| Stroke | 0 | 100.0 |
| Diabetes | 40.7 | 59.3 |
| Problems with teeth (periodontal disease, caries) | 6.6 | 93.4 |
| Obesity | 5.5 | 94.5 |
| Osteoporosis | 0 | 100.0 |
| Allergies | 0 | 100.0 |
| Depression | 0 | 100.0 |

**Table 10.** Diseases related to high intake of sugar (close-ended question)

| Diseases | Agree | Neither agree nor disagree | Disagree |
|---|---|---|---|
| Infectious diseases (suppressed immunity) | 6.6 | 22.0 | 71.4 |
| Coronary heart disease (heart disease) | 28.6 | 42.9 | 28.6 |
| Cancer | 19.8 | 56.0 | 24.2 |
| Hypertension | 48.4 | 36.3 | 15.4 |
| Stroke | 25.3 | 53.8 | 20.9 |
| Diabetes | 49.5 | 20.9 | 29.7 |
| Problems with teeth (periodontal disease, caries) | 78.0 | 9.9 | 9.9 |
| Obesity | 80.2 | 12.1 | 5.5 |
| Osteoporosis | 14.3 | 53.8 | 27.5 |
| Allergies | 61.5 | 25.3 | 11.0 |
| Depression | 11.0 | 46.2 | 40.7 |

**Table 11.** Diseases related to high intake of salt (open-ended question)

| Diseases | Listed | Did not list |
|---|---|---|
| Hypertension | 7.7 | 92.3 |
| Stroke | 0 | 100.0 |
| Coronary Heart disease (heart disease) | 0 | 100.0 |

**Table 12.** Diseases related to high intake of salt (close-ended question)

| Diseases | Agree | Neither agree nor disagree | Disagree |
|---|---|---|---|
| Hypertension | 38.5 | 48.4 | 12.1 |
| Stroke | 25.3 | 53.8 | 19.8 |
| Coronary Heart disease (heart disease) | 29.7 | 50.5 | 18.7 |

**Table 13.** Diseases related to high intake of fat (open-ended question)

| Diseases | Listed | Did not list |
|---|---|---|
| Atherosclerosis | 6.6 | 93.4 |
| Coronary heart disease | 39.6 | 60.4 |
| Stroke | 2.2 | 97.8 |
| Hypertension | 11 | 89.0 |
| Obesity | 52.7 | 47.3 |
| Cancer | 0 | 100.0 |

**Table 14.** Diseases related to high intake of fat (close-ended question)

| Diseases | Agree | Neither agree nor Disagree | Disagree |
|---|---|---|---|
| Coronary heart disease | 79.1 | 15.4 | 4.4 |
| Stroke | 45.1 | 41.8 | 12.1 |
| Hypertension | 58.2 | 25.3 | 15.4 |
| Obesity | 95.6 | 3.3 | 1.1 |
| Cancer | 22.0 | 56.0 | 20.9 |

**Table 15.** Simple linear regressions of overall nutrition knowledge score on education and number of persons living in a family

| Variables | Unadjusted coefficients (95%CI) |
|---|---|
| Education | |
| With university degree | 2.5 (-0.4; 5.4) |
| Without university degree (reference) | |

Appendix 1. Questionnaire (English version)

**Nutrition knowledge questionnaire**

**ID_____ Date_____**

**Please, answer positive or negative if you are sure, otherwise answer "not sure".**

**The first few items are about what advice you think experts are giving us**

1. Do you think health experts recommend that people should be eating more, the same amount, or less of these foods? (tick one box per food)

| | (1) More | (2) Same | (3) Less | (4) Not sure |
|---|---|---|---|---|
| (1) Vegetables | ☐ | ☐ | ☐ | ☐ |
| (2) Sugary foods | ☐ | ☐ | ☐ | ☐ |
| (3) Meat | ☐ | ☐ | ☐ | ☐ |
| (4) Grains | ☐ | ☐ | ☐ | ☐ |
| (5) Fatty foods | ☐ | ☐ | ☐ | ☐ |
| (6) Green | ☐ | ☐ | ☐ | ☐ |
| (7) Fruit | ☐ | ☐ | ☐ | ☐ |
| (8) Salty foods | ☐ | ☐ | ☐ | ☐ |

2. How many servings of fruit and vegetables a day do you think experts are advising people to eat? (One serving could be, for example, an apple or a handful of chopped carrots)

…….

3. Which type of fat do experts say is most important for people to cut down on? (read all and tick one)

(1) Vegetable oil ☐

(2) Animal fat ☐

(3) Not sure ☐

4. If a person felt like eating something sweet, but was trying to cut down on sugar intake, which of the following would be the best (healthiest) choice? (read all and tick one)

(1) Jam ☐

(2) Caramel ☐

(3) Cookies ☐

(4) Honey ☐

(5) Not sure ☐

5. Which of the following fats contributes the least to obesity? (read all and tick one)

(1) Oil ☐

(2) Animal fat ☐

(3) Butter ☐

(4) Margarine ☐

(5) They are all the same ☐

(6) Not sure ☐

**This section is about health problems or diseases**

6. Are you aware of any major health problems or diseases that are related to a low intake of fruit and vegetables?

(1) Yes□

(2) No □ go to question 8

(3) Not sure □ go to question 8

7. Please, list that diseases or major health problems

1. heart disease
2. stroke
3. hypertension
4. constipation
5. some types of cancer (colon cancer)
6. problems with vision (for example cataract, macular degeneration)
7. hypovitaminosis
8. Other . . . . . .

8. Are you agree that high intake of intake of fruit and vegetables can prevent following diseases? Answer agree, disagree or neither agree or disagree.

| | | Agree | Neither agree nor disagree | Disagree |
|---|---|---|---|---|
| 1. | heart disease | 1 | 2 | 3 |
| 2. | stroke | 1 | 2 | 3 |
| 3. | hypertension | 1 | 2 | 3 |
| 4. | constipation | 1 | 2 | 3 |
| 5. | some types of cancer | 1 | 2 | 3 |
| 6. | problems with vision | 1 | 2 | 3 |
| 7. | Hypovitaminosis | 1 | 2 | 3 |

9. Are you aware of any major health problems or diseases that are related to high intake of sugar?

(1) Yes ☐

(2) No ☐ go to question 11

(3) Not sure ☐ go to question 11

10. Please, list that diseases or major health problems

1. Infectious diseases (suppressed immunity)
2. Heart disease (coronary heart disease)
3. Cancer
4. Hypertension
5. Stroke
6. Diabetes
7. Problems with teeth (periodontal disease, caries)
8. Obesity
9. Osteoporosis
10. Allergies
11. Depression
12. Other. . . . . .

11. Are you agree that high intake of sugar can prevent following diseases? Answer agree, disagree or neither agree or disagree.

| | | Agree | Neither agree nor disagree | Disagree |
|---|---|---|---|---|
| 1. | Infectious diseases (supressed immunity) | 1 | 2 | 3 |
| 2. | Heart disease (coronary heart disease) | 1 | 2 | 3 |
| 3. | Cancer | 1 | 2 | 3 |
| 4. | Hypertension | 1 | 2 | 3 |
| 5. | Stroke | 1 | 2 | 3 |
| 6. | Diabetes | 1 | 2 | 3 |
| 7. | Problems with teeth (periodontal disease, caries) | 1 | 2 | 3 |
| 8. | Obesity | 1 | 2 | 3 |
| 9. | Osteoporosis | 1 | 2 | 3 |
| 10. | Allergies | 1 | 2 | 3 |
| 11. | Depression | 1 | 2 | 3 |

12. Are you aware of any major health problems or diseases that are related to high intake of salt or sodium?

(1) Yes☐

(2) No ☐ go to question 14

(3) Not sure ☐ go to question 14

13. Please, list that diseases or major health problems.

1. Hypertension
2. Stroke
3. Heart diseases (coronary heart disease)
4. Other. . . . . .

14. Are you agree that high intake of salt can prevent following diseases? Answer agree, disagree or neither agree or disagree.

| | | Agree | Neither agree nor disagree | Disagree |
|---|---|---|---|---|
| 1. | Hypertension | 1 | 2 | 3 |
| 2. | Stroke | 1 | 2 | 3 |
| 3. | Heart diseases | 1 | 2 | 3 |

15. Are you aware of any major health problems or diseases that are related to high intake of of fat (fat of animal, butter, margarine, oil)?

(1) Yes☐

(2) No ☐ go to question 17

(3) Not sure ☐ go to question 17

16. Please, list that diseases or major health problems.

1. Atherosclerosis
2. Heart diseases (coronary heart disease)
3. Stroke
4. Hypertension
5. Obesity
6. Cancer
7. Other . . . . . .

17. Are you agree that high intake of fat can prevent following diseases? Answer agree, disagree or neither agree or disagree.

| | | Agree | Neither agree nor disagree | Disagree |
|---|---|---|---|---|
| 1. | Heart diseases | 1 | 2 | 3 |
| 2. | Stroke | 1 | 2 | 3 |
| 3. | Hypertension | 1 | 2 | 3 |
| 4. | Obesity | 1 | 2 | 3 |
| 5. | Cancer | 1 | 2 | 3 |

**Finally, we would like to ask you a few questions about yourself**

18. Do you have a medical education?

(1) Yes ☐

(2) No ☐

19. Are you on a special diet due to some illnesses?

(1) Yes ☐

(2) No ☐

20. Gender (write yourself if sure).

(1) Male ☐

(2) Female ☐

21. How old are you?

……..

22. Are you:

(1) Single ☐

(2) Married ☐

(3) Separated/divorced ☐

(4) Widowed ☐

23. How many children do you have?

……

24. How many people, including you, live in your household?

……....

25. How many of them are less than 18 years old?

…….

26. What is the highest level of education you have completed?

(1) Primary school (1-3) ☐

(2) Secondary school (4-8) ☐

(3) Technical (9-10) ☐

(4) Undergraduate degree ☐

(5) Graduate degree ☐

27. Are you currently

1. employed full time
2. employed part time
3. full time homemaker
4. unemployed
5. retired
6. student
7. disabled or too ill to work

27. How much money in average does your family members spend monthly overall for all things, not only for the food, considering only the last month? (write in drams)

…….

Appendix 2. Questionnaire (Armenian version)

**êÝÝ¹ÇÝ í»ñ³µ»ñíáÕ ·Ç ï»ÉÇùÝ»ñÇ Ù³ëÇÝ Ñ³ñó³Ã»ñÃÇÏ**

**²Ð_____ ²Ùë³ÃÇí _____**

**ÊÝ¹ñáõÙ »Ýù å³ï³ëË³Ý»É Ñ³ñó»ñÇÝ, »Ã» íëï³Ñ»ù, áñ ·Ç ï»ù ×Çß ï å³ï³ëË³ÝÁ, ³ÛÉ³ å»ë å³ï³ëË³Ý»ù "íëï³Ñ ã»Ù"**

**²é³çÇÝ ÙÇ ù³ÝÇ Ñ³ñó»ñÁ ³ÛÝ Ù³ëÇÝ »Ý, Ã» Ò»ñ Ï³ñÍÇùáí Ù³ëÝ³·» ï Ý»ñÁ ÇÝã ËáñÑáõñ¹Ý»ñ »Ý ï³ÉÇë ëÝÝ¹Ç í»ñ³µ»ñÛ³É**

1. Ò»ñ Ï³ñÍÇùáí Ù³ëÝ³·» ï Ý»ñÁ ËáñÑáõñ¹ »Ý ï³ÉÇë ëÝÝ¹Ç Ù»ç **³í»É³óÝ»É, ÃáÕÝ»É Ýá±õÛÝÁ, Ã» å³Ï³ë»óÝ»É** Ñ» ï¨Û³É ëÝÝ¹³ÙÃ»ñùÝ»ñÇ ù³Ý³ÏáõÃÛáõÝÁ (Ýß»É Ù»Ï å³ï³ëË³Ý ³Ù»Ý ëÝÝ¹³ ï»ë³ÏÇ í»ñ³µ»ñÛ³É)

| | (1) ³í»É³óÝ»É | (2)ÃáÕÝ»É ÝáõÛÝÁ | (3) å³Ï³ë»óÝ»É | (4) íëï³Ñ ã»Ù |
|---|---|---|---|---|
| (1) ´³Ýç³ñ»Õ»Ý | □ | □ | □ | □ |
| (2) ø³Õóñ³í»ÝÇù | □ | □ | □ | □ |
| (3) ØÇë | □ | □ | □ | □ |
| (4) Ò³í³ñ»Õ»Ý | □ | □ | □ | □ |
| (5) Ö³ñåáï ëÝáõÝ¹ | □ | □ | □ | □ |
| (6) Î³Ý³ã»Õ»Ý | □ | □ | □ | □ |
| (7) Øñ·»ñ | □ | □ | □ | □ |
| (8) ²ÕÇ Ï»ñ³ÏáõñÝ»ñ | □ | □ | □ | □ |

2. úñ»Ï³Ý ù³ÝÇ± µ³ÅÇÝ ÙÇñ·¨ µ³Ýç³ñ»Õ»Ý »Ý Ù³ëÝ³·» ï Ý»ñÁ ËáñÑáõñ¹ ï³ÉÇë û·ï³·áñÍ»É (áñå»ë Ù»Ï µ³ÅÇÝ Ï³ñáÕ »ù Ñ³Ù³ñ»É Ù»Ï ËÝÓáñÁ Ï³Ù Ù»Ï µáõé Ï ï ñ ï í³Í·³½³ñÁ)

……

3. Ö³ñåÇ á±ñ ï»ë³ÏÝ »Ý Ù³ëÝ³·» ï Ý»ñÁ Ï³ñ¨áñ Ñ³Ù³ñáõÙ å³Ï³ë»óÝ»É ëÝ¹¹Ç Ù»ç (Ï³ñ¹³É µáÉáñÁ ¨ Ýß»É Ù»Ï å³ï³ëË³Ý)

(1) ´áõë³Ï³Ý ÛáõÕ (Ó»Ã) □

(2) Î»Ý¹³Ý³Ï³Ý×³ñå (ÍáõÕ) □

(3) ìëï³Ñã»Ù □

4. ºÃ»Ù³ñ¹ÁÓ·ïáõÙ¿ëÝÝ¹áõÙå³Ï³ë»óÝ»É ß³ù³ñÇù³Ý³ÏáõÃÍáõÝÁ, µ³Íó ó³ÝÏáõÃÍáõÝ áõÝÇ áõïª»É ÇÝã-áñ ÙÇù³Õóñµ³Ý, á±ñÁ ÏÉÇÝÇ ³Ù»Ý³×ÇßÏ (³éáÕç) ÁÝïñáõÃÍáõÝÁ: (Ï³ñ¹³Éµáɾáñ¨ÝßÉÙ»Ïå³ï³ëË³Ý)

àõï»É`

(1) Øáõñ³µ³ □

(2) ÎáÝý»ï □

(3) ÂËí³Íù □

(4) Ø»Õñ □

(5) ìëï³Ñã»Ù □

5. Ð»ï¨Í³É×³ñå»ñÇó á±ñÝ¿Ýí³½³·áõÍÝÁ Ýå³ëï áõÙ·Çñ³óÙ³ÝÁ (Ï³ñ¹³É µáɾáñÁ¨ÝßÉÙ»Ïå³ï³ëË³Ý)

(1) ´áõë³Ï³ÝÍáõÕ (Ó»Ã) □

(2) Î»Ý¹³Ý³Ï³Ý×³ñå □

(3) Î³ñ³· □

(4) Ø³ñ·³ñÇÝ □

(5) ´áɾáñÁ Ýáõ͊Ý ã³÷áí □

(6) ìëï³Ñã»Ù □

**²Íë µ³ÅÇÝÁ ï³ñµ»ñ ÑÇí³Ý¹áõÃÍáõÝÝ»ñÇ¨³éáÕçáõÃÍ³Ý Ñ»ï Ï³å í³Í åñáµÉ»ÙÝ»ñÇ Ù³ëÇÝ¿**

6. ¸áõù·Çï»±ù áñ¨¿ ÑÇí³Ý¹áõÃÍáõÝ Ï³Ù³éáÕçáõÃÍ³Ý Ñ»ï Ï³å í³Í Éáõñç åñáµÉ»Ù, áñÁ Ï³å í³Í¿ ùÇã ù³Ý³ÏáõÃÍ³Ùµ ÙÇñ·¨µ³Ýç³ñ»Õ»Ý áõï»Éáõ Ñ»ï

(1) ²Íá □

(2) àã □ ³Ýó»ù Ñ³ñó 8-ÇÝ

(3) ìëï³Ñã»Ù □ ³Ýó»ù Ñ³ñó 8-ÇÝ

7. ÊÝ¹ñáõÙ»Ù Ãí³ñÏ»É ³Í¹ ÑÇí³Ý¹áõÃÍáõÝÝ»ñÁ Ï³Ù³éáÕçáõÃÍ³Ý Ñ»ï Ï³å í³Í Éáõñç åñáµÉ»ÙÝ»ñÁ

9. êñï³ÍÇÝ ÑÇí³Ý¹áõÃÍáõÝÝ»ñ
10. Î³Ãí³Í
11. ²ñÍ³Ýµ³ñÓñ×ÝßáõÙ
12. öáñÏ³åáõÃÍáõÝ
13. ø³ÕóÏ»ÕÇ áñáß ï»ë³ÏÝ»ñ (Ñ³ëï³ÕÇùÇ ù³ÕóÏ»Õ)

14. î»ëáÕáõÃÛ³Ý Ñ» ï Ï³åí³Í åñáµÉ»ÙÝ»ñ (ûñÇÝ³Ï Ï³ ï ³ñ³Ï ï , Ù³ ÏáõÉÛ³ñ ¹»·»Ý»ñ³óÇ³)
15. ÐÇåáíÇ ï ³ÙÇÝá½
16. ²ÛÉ (Ýß»É) . . . . . .

8. àñù³Ýáí »ù Ñ³Ù³Ó³ÛÝ, áñ Ù»Í ù³Ý³ ÏáõÃÛ³Ùµ ÙÇñ· ¨ µ³Ýç³ñ»Õ»Ý áõ ï »ÉÁ Ï³ñá±Õ ¿ Ï³ÝË³ñ·»É»É Ñ» ï ¨Û³É ÑÇí³Ý¹áõÃÛáõÝÝ»ñÁ` å³ ï ³ëË³Ý»ù **Ñ³Ù³Ó³ÛÝ »Ù, Ñ³Ù³Ó³ÛÝ ã»Ù, Ï³Ù áã Ñ³Ù³Ó³ÛÝ »Ù áã ¿É` áã**

| | | Ñ³Ù³Ó³ÛÝ »Ù | áã Ñ³Ù³Ó³ÛÝ »Ù áã ¿É` áã | Ñ³Ù³Ó³ÛÝ ã»Ù |
|---|---|---|---|---|
| 1. | êñ ï ³ÛÇÝ ÑÇí³Ý¹áõÃÛáõÝÝ»ñ | 1 | 2 | 3 |
| 2. | Î³Ãí³Í (ÇÝëáõÉ ï ) | 1 | 2 | 3 |
| 3. | ²ñÛ³Ý µ³ñÓñ ×ÝßáõÙ | 1 | 2 | 3 |
| 4. | öáñÏ³åáõÃÛáõÝ | 1 | 2 | 3 |
| 5. | ø³ÕóÏ»ÕÇ áñáß ï »ë³ÏÝ»ñ | 1 | 2 | 3 |
| 6. | î»ëáÕáõÃÛ³Ý Ñ» ï Ï³åí³Í åñáµÉ»ÙÝ»ñ | 1 | 2 | 3 |
| 7. | ÐÇåáíÇ ï ³ÙÇÝá½ | 1 | 2 | 3 |

9. ¸áõù·Ç ï »±ù áñ¨¿ ÑÇí³Ý¹áõÃÛáõÝ Ï³Ù³éáÕçáõÃÛ³Ý Ñ» ï Ï³åí³Í Éáõñç åñáµÉ»Ù, áñÁ Ï³åí³Í ¿ Ù»Í ù³Ý³ ÏáõÃÛ³Ùµ ß³ù³ñ áõ ï »Éáõ Ñ» ï

(1) ²Ûá □
(2) àã □ ³Ýó»ù Ñ³ñó 11-ÇÝ
(3) ì ë ï ³Ñ ã»Ù □ ³Ýó»ù Ñ³ñó 11-ÇÝ

10. ÊÝ¹ñáõÙ »Ù Ãí³ñÏ»É ³Û¹ ÑÇí³Ý¹áõÃÛáõÝÝ»ñÁ Ï³Ù³éáÕçáõÃÛ³Ý Ñ» ï Ï³åí³Í Éáõñç åñáµÉ»ÙÝ»ñÁ

13. ÆÝý»ÏóÇáÝ ÑÇí³Ý¹áõÃÛáõÝÝ»ñ (ÁÝÏ×í³Í ¹ÇÙ³¹ñáÕ³Ï³ÝáõÃÛáõÝ)
14. êñ ï ³ÛÇÝ ÑÇ³Ý¹áõÃÛáõÝÝ»ñ (êñ ï Ç Çß»ÙÇÏ ÑÇí³¹áõÃÛáõÝ)
15. ø³ÕóÏ»Õ
16. ²ñÛ³Ý µ³ñÓñ ×ÝßáõÙ
17. Î³Ãí³Í
18. Þ³ù³ñ³Ë ï
19. ² ï ³ÙÝ»ñÇ Ñ» ï åñáµÉ»ÙÝ»ñ (å»ñÇá¹áÝ ï Ç ï , Ï³ñÇ»ë)
20. ¶Çñ³óáõÙ
21. àë ÏáñÝ»ñÇ Ñ» ï Ï³åí³Í åñáµÉ»ÙÝ»ñ (ûë ï »áåáñá½)
22. ²É»ñ·Ç³Ý»ñ
23. ¸»åñ»ëÇ³

24. ²Ûɲ (ÝßÉ) . . . . . .

11. àñù³Ýáí »ù Ñ³Ù³Ó³ÛÝ, áñ ³í»ÉÇ ùÇã ù³Ý³ÏáõÃÛ³Ùµ ß³ù³ñ áõï »ÉÁ Ï³ñá±Õ ¿ Ï³ÝË³ñ·»É»É Ñ» ï ¨Û³É ÑÇí³Ý¹áõÃÛáõÝÝ»ñÁ` å³ï³ëË³Ý»ù **Ñ³Ù³Ó³ÛÝ »Ù, Ñ³Ù³Ó³ÛÝ ã»Ù, Ï³Ù áãÑ³Ù³Ó³ÛÝ »Ù áã ¿É` áã**

| | | Ñ³Ù³Ó³ÛÝ »Ù | áãÑ³Ù³Ó³ÛÝ »Ù áã ¿É` áã | Ñ³Ù³Ó³ÛÝ ã»Ù |
|---|---|---|---|---|
| 1. | ÆÝý»ïóÇáÝ ÑÇí³Ý¹áõÃÛáõÝÝ»ñ | 1 | 2 | 3 |
| 2. | êñï³ÛÇÝ ÑÇ³Ý¹áõÃÛáõÝÝ»ñ | 1 | 2 | 3 |
| 3. | ø³ÕóÏ»Õ | 1 | 2 | 3 |
| 4. | ²ñÛ³Ý µ³ñÓñ ×ÝßáõÙ | 1 | 2 | 3 |
| 5. | Î³Ãí³Í (ÇÝëáõÉï) | 1 | 2 | 3 |
| 6. | Þ³ù³ñ³Ë ï | 1 | 2 | 3 |
| 7. | ²ï³ÙÝ»ñÇ Ñ» ï åñáµÉ»ÙÝ»ñ | 1 | 2 | 3 |
| 8. | ¶Çñ³óáõÙ | 1 | 2 | 3 |
| 9. | àëÏáñÝ»ñÇ Ñ» ï Ï³åí³Í åñáµÉ»ÙÝ»ñ | 1 | 2 | 3 |
| 10. | ²É»ñ·Ç³Ý»ñ | 1 | 2 | 3 |
| 11. | ¸»åñ»ëÇ³ | 1 | 2 | 3 |

12. ¸áõù·Ç ï»±ù áñ¨¿ ÑÇí³Ý¹áõÃÛ³Ý Ï³Ù³éáÕçáõÃÛ³Ý Ñ» ï Ï³åí³Í Éáõñç åñáµÉ»Ù, áñÁ Ï³åí³Í¿ Ù»Í ù³Ý³ÏáõÃÛ³Ùµ ³Õû·ï³·áñÍ»Éáõ Ñ» ï

(1) ²Ûá □

(2) àã □ ³Ýó»ù Ñ³ñó 14-ÇÝ

(3) ìëï³Ñã»Ù □ ³Ýó»ù Ñ³ñó 14-ÇÝ

13. ÊÝ¹ñáõÙ »Ù Ãí³ñÏ»É ³Û¹ ÑÇí³Ý¹áõÃÛáõÝÝ»ñÁ Ï³Ù³éáÕçáõÃÛ³Ý Ñ» ï Ï³åí³Í Éáõñç åñáµÉ»ÙÝ»ñÁ

5. ²ñÛ³Ý µ³ñÓñ ×ÝßáõÙ

6. Î ³Ãí ³ Í
7. êñï ³ÛÇÝ ÑÇ ³Ý¹áõÃÛáõÝÝ»ñ (êñï Ç Çß»ÙÇÏ ÑÇí ³ ¹áõÃÛáõÝ)
8. ²ÛÉ (Ýß»É) . . . . . .

14. àñù ³Ýáí »ù Ñ ³Ù ³Ó ³ÛÝ, áñ ³ í»ÉÇ ùÇã ù ³Ý ³ ÏáõÃÛ ³Ùµ ùÇã ù ³Ý ³ ÏáõÃÛ ³Ùµ ³Õ áõ ï »ÉÁ Ï ³ ñá±Õ ¿ Ï ³ÝË ³ ñ·»É»É Ñ» ï ¨Û ³ É ÑÇí ³Ý¹áõÃÛáõÝÝ»ñÁ` å ³ ï ³ ëË ³Ý»ù **Ñ ³Ù ³Ó ³ÛÝ »Ù, Ñ ³Ù ³Ó ³ÛÝ ã»Ù, Ï ³Ù áã Ñ ³Ù ³Ó ³ÛÝ »Ù áã ¿É` áã**

| | | Ñ ³Ù ³Ó ³ÛÝ »Ù | áã Ñ ³Ù ³Ó ³ÛÝ »Ù áã ¿É` áã | Ñ ³Ù ³Ó ³ÛÝ ã»Ù |
|---|---|---|---|---|
| 1. | ²ñÛ ³Ý µ ³ ñÓñ ×ÝßáõÙ | 1 | 2 | 3 |
| 2. | Î ³Ãí ³ Í (ÇÝëáõÉ ï ) | 1 | 2 | 3 |
| 3. | êñï ³ÛÇÝ ÑÇ ³Ý¹áõÃÛáõÝÝ»ñ | 1 | 2 | 3 |

15. ¸áõù ·Ç ï »±ù áñ¨¿ ÑÇí ³Ý¹áõÃÛáõÝ Ï ³Ù ³ éáÕçáõÃÛ ³Ý Ñ» ï Ï ³ å í ³ Í Éáõñç åñáµÉ»Ù, áñÁ Ï ³ å í ³ Í ¿ Ù»Í ù ³Ý ³ ÏáõÃÛ ³Ùµ × ³ ñå û· ï ³ ·áñÍ»Éáõ Ñ» ï (Ï»Ý¹ ³ ÝÇÝ»ñÇ × ³ ñå, Ï ³ ñ ³ ·, Ù ³ ñ· ³ ñÇÝ, Ó»Ã)?

(1) ²ÛÁ □
(2) àã □ ³ Ýó»ù Ñ ³ ñó 17-ÇÝ
(3) ì ë ï ³ Ñ ã»Ù □ ³ Ýó»ù Ñ ³ ñó 17-ÇÝ

16. ÊÝ¹ ñáõÙ »Ù Ãí ³ ñÏ»É ³ Û¹ ÑÇí ³Ý¹áõÃÛáõÝÝ»ñÁ Ï ³Ù ³ éáÕçáõÃÛ ³Ý Ñ» ï Ï ³ å í ³ Í Éáõñç åñáµÉ»ÙÝ»ñÁ

8. ²Ã»ñáë ÏÉ»ñá½
9. êñï ³ÛÇÝ ÑÇ ³Ý¹áõÃÛáõÝ (êñï Ç Çß»ÙÇÏ ÑÇí ³ ¹áõÃÛáõÝ)
10. Î ³Ãí ³ Í
11. ²ñÛ ³Ý µ ³ ñÓñ ×ÝßáõÙ
12. ¶Çñ ³ óáõÙ
13. ø ³ ÕóÏ»Õ
14. ²ÛÉ (Ýß»É) . . . . . .

17. àñù ³Ýáí »ù Ñ ³Ù ³Ó ³ÛÝ, áñ ³ í»ÉÇ ùÇã ù ³Ý ³ ÏáõÃÛ ³Ùµ × ³ ñå áõ ï »ÉÁ Ï ³ ñá±Õ ¿ Ï ³ÝË ³ ñ·»É»É Ñ» ï ¨Û ³ É ÑÇí ³Ý¹áõÃÛáõÝÝ»ñÁ` å ³ ï ³ ëË ³Ý»ù **Ñ ³Ù ³Ó ³ÛÝ »Ù, Ñ ³Ù ³Ó ³ÛÝ ã»Ù, Ï ³Ù áã Ñ ³Ù ³Ó ³ÛÝ »Ù áã ¿É` áã**

| | | Ñ ³Ù ³Ó ³ÛÝ »Ù | áã Ñ ³Ù ³Ó ³ÛÝ »Ù áã ¿É` áã | Ñ ³Ù ³Ó ³ÛÝ ã»Ù |
|---|---|---|---|---|
| 1. | êñï ³ÛÇÝ ÑÇ ³Ý¹áõÃÛáõÝ | 1 | 2 | 3 |

| | | | | |
|---|---|---|---|---|
| 2. | Î ³ Ãí ³ Í (ÇÝëáõÉ ï ) | 1 | 2 | 3 |
| 3. | ² ñ⇓ ³ Ý µ ³ ñÓñ ×ÝßáõÙ | 1 | 2 | 3 |
| 4. | ¶ Çñ ³ óáõÙ | 1 | 2 | 3 |
| 5. | ø ³ ÕóÏ »Õ | 1 | 2 | 3 |

**Ì »ñçÇÝ ÙÇ ù ³ ÝÇ Ñ ³ ñó»ñÁ Ó»ñ Ù ³ ëÇÝ »Ý**

18. ¸ áõù áõÝ»±ù µÅßÏ ³ Ï ³ Ý ÏñÃáõÃ⇓áõÝ

(1) ²⇓á □
(2) àã □

19. ¸ áõù Ñ» ï ¨á±õÙ »ù Ñ ³ ï áõÏ ¹Ç» ï ³⇓Ç` Ï ³ å í ³ Í áñáß ³ ÏÇ ÑÇ í ³ Ý ¹ áõÃ⇓ ³ Ý Ñ» ï

(1) ²⇓á □
(2) àã □

20. ê»éÁ (÷ áñÓ»É Ýß»É ÇÝùÝáõñáõ⇓Ý)

(1) ² ñ ³ Ï ³ Ý □
(2) Æ · ³ Ï ³ Ý □

21. ø ³ ÝÇ` ï ³ ñ»Ï ³ Ý »ù

……..

22. Üß»ù Ò»ñ ÁÝ ï ³ Ý»Ï ³ Ý ¹ ñáõÃ⇓áõÝÁ

(1) ØÇ ³ ⇓Ý ³ Ï □
(2) ² Ùáõë Ý ³ ó ³ Í □
(3) ² Ùáõë Ý ³ Éáõ Í í ³ Í/
³ å ñáõÙ ¿ ³ é ³ ÝÓÇÝ □
(4) ² ⇓ñÇ/ ² Ùáõñ Ç □

23. ø ³ ÝÇ± »ñ»Ë ³ áõÝ»ù

……

24. Ü»ñ ³ é ³ É Ò»½ ù ³ ÝÇ Ñá·Ç ¿ ³ åñáõÙ Ò»ñ ï ³ ÝÁ

……...

25. Üñ ³ ÝóÇó ù ³ ÝÇ±ëÝ »Ý 18 ï ³ ñ»Ï ³ ÝÇó ó ³ Íñ

……
26. Æ±Ýã ÏñÃáõÃáõÝ áõÝ»ù

(1) î ³ ññ ³ Ï ³ Ý (1-3) □
(2) Â»ñÇ ÙÇçÝ ³ Ï ³ ñ· (4-8) □
(3) ØÇçÝ ³ Ï ³ ñ· (10) □
(4) ØÇçÝ ³ Ï ³ ñ· Ù ³ ëÝ ³ ·Ç ï ³ Ï ³ Ý □
(5) Â»ñÇ µ ³ ñÓñ ³ ·áõ Ý □
(6) ´ ³ ñÓñ ³ ·áõ Ý □

27. ¸áõù ÑÇÙ ³ ³ßË ³ ï áõÙ »ù……

8. ÉñÇí ³ßË ³ ï ³ Ýù ³ ÇÝ ûñ
9. Ï»ë ¹ ñáõ ù
10. ï ³ ÝÁ
11. ã»ù ³ßË ³ ï áõÙ
12. Ãáß ³ Ï ³ éáõÙ »ù
13. áë ³ ÝáÕ »ù
14. ³ Ý ³ßË ³ ï áõÝ ³ Ï »ù

28. ² ë ³ ó»ù ËÝ ¹ ñ»Ù, í»ñçÇÝ ³ Ùë í ³ ÁÝÃ ³ óùáõÙ Ùá ï ³ íáñ ³ å»ë áñù ³ ±Ý »Ý Í ³ Ëë»É Ò»ñ ÁÝ ï ³ ÝÇùÇ µáÉáñ ³ Ý ¹ ³ ÙÝ»ñÁ ÁÝ ¹ Ñ ³ Ýñ ³ å»ë ³ Ù»Ý ÇÝãÇ íñ ³ , áã ÙÇ ³ Ý áõ ï »Éáõ íñ ³ (Ýß»É ¹ ñ ³ Ùá í)

……

88. â·Ç ï »Ù/ ¸ Åí ³ ñ ³ ÝáõÙ »Ù å ³ ï ³ ëË ³ Ý»É □

Appendix 3. Consent text (English version)

**TEXT OF ORAL CONSENT**

Title of Research Project:

**Research survey of the knowledge of the Armenian population about healthy nutrition**

---

Explanation of Research Project:

I am a student of American University of Armenia, my name is Armen Torchyan and this research will be conducted to assess the knowledge of Armenian population about issues of nutrition. You were randomly chosen from the phonebook of Yerevan residents.

We ask you to participate in this study because the knowledge gathered from you and all participants will allow understanding the situation and making measures to improve it in case of necessity. There will be overall 136 participants like you who are residents of Yerevan, aged of 18 years old or over and willing to participate.

The interview will last approximately 15 minutes and I will ask and write down your opinion about different aspects regarding nutrition. The nature of questions and anticipated discomfort in the proposed research associated with them is not greater than those ordinarily encountered during institutional tests.

You will not have any direct and immediate benefit from this study, but the knowledge gathered from you will help to make improvement in the future as for you as well as for all Yerevan residents regarding healthy diet.

I will not write down your name. Only I will have access to collected information without personal identifiers. These questionnaires will be destroyed in November.

It is your decision whether or not to be in this study. You can stop being in this study at any time. Whether or not you are in the study will not affect you. You may ask the person in charge listed below any questions you may have about this research study. You may ask him/her questions in the future if you do not understand something about the study.

If you want to talk to anyone about the research study because you may feel you have not been treated fairly or think you have been hurt by joining the study you should contact Varduhi Petrosyan or Elena Amirkhanyan at American University of Armenia - 51 25 68.

You can also contact Armen Torchyan, the interviewer, at 093 55-14-38.

If you agree to be in this study, let's begin.

Appendix 4. Consent text (Armenian version)

## ´ ³Ý³ íáñ Ñ³Ù³Ó³ÛÝáõÃÛ³Ý ï»ùë ï

*Ð» ï ³½á ï áõÃÛ³Ý ³Ý í ³ÝáõÙÁ`*

**Ð» ï ³½á ï áõÃÛáõÝ ³éáÕç ëÝÝ¹Ç í»ñ³µ»ñÛ³É Ð³Û³ë ï ³ÝÇ ³½·³µÝ³ ÏãáõÃÛ³Ý ·Ç ï »ÉÇùÝ»ñÇ Ù³ëÇÝ:**

ºë Ð³Û³ë ï ³ÝÇ ³Ù»ñÇÏÛ³Ý Ñ³Ù³Éë³ñ³ÝÇ áõë³ÝáÕ »Ù, ÇÙ ³ÝáõÝÝ ¿ ²ñÙ»Ý Âáéã Û³Ý: ²Ûë Ñ» ï ³½á ï áõÃÛáõÝÁ Çñ³Ï³Ý³óí»Éáõ ¿ å³ñ½»Éáõ ³éáÕç ëÝÝ¹Ç í»ñ³µ»ñÛ³É Ð³Û³ë ï ³ÝÇ ³½·³µÝ³ ÏãáõÃÛ³Ý ·Ç ï »ÉÇùÝ»ñÁ: ¸áõù Ï³Ù³Û³Ï³Ýáñ»Ý ÁÝ ï ñí»É »ù ºñ¨³ÝÇ µÝ³ ÏÇãÝ»ñÇ Ñ»é³ Ëáë³·ñùÇó:

Ø»Ýù ËÝ¹ñáõÙ »Ýù Ò»½ Ù³ëÝ³ Ïó»É ³Ûë Ñ» ï ³½á ï áõÃÛ³ÝÁ, ù³ÝÇ áñ Ò»½³ÝÇó ¨ ³ÛÉ Ù³ëÝ³ ÏÇóÝ»ñÇó Ó»éù µ»ñí³Í ·Ç ï »ÉÇùÝ»ñÁ Ïû·Ý»Ý Ñ³ëÏ³Ý³É Çñ³íÇ×³ÏÁ ¨ ÙÇçáóÝ»ñ Ó»éÝ³ñÏ»É ³ÝÑñ³Å»ß ï áõÃÛ³Ý ¹»åùáõÙ: Ò»ñ Ñ» ï ÙÇ³ëÇÝ Ù»Ýù Ý³Ë³ ï »ëáõÙ »Ýù Ñ³ñóáõÙ Ï³ ï ³ñ»É ºñ¨³ÝÇ 136 ã³÷³Ñ³ë µÝ³ ÏÇãÝ»ñÇ Ñ» ï :

²Ûë Ñ³ñóáõÙÁ Ï ï »íÇ Ùá ï ³ íáñ³å»ë 15 ñáå», ¨ »ë ·ñÇ Ï³éÝ»Ù Ò»ñ Ï³ñÍÇùÁ ëÝÝ¹Ç Ñ» ï Ï³ å í³Í ï ³ñµ»ñ Ñ³ñó»ñÇ í»ñ³µ»ñÛ³É:

¸áõù ã»ù áõÝ»Ý³ áñ¨¿ ³ÝÙÇç³Ï³Ý û·áõ ï ³Ûë Ñ» ï ³½á ï áõÃÛáõÝÇó, µ³Ûó Ò»ñ ¨ ÙÝ³ó³Í Ù³ëÝ³ ÏÇóÝ»ñÇ ÏáÕÙÇó ë ï ³óí³Í ÇÝýáñÙ³óÇ³Ý Ñ» ï ³·³ÛáõÙ Ï³ñáÕ ¿ û·Ý»É µ³ñ»É³ í»Éáõ ³éáÕç ëÝÝ¹Ç Ñ» ï ³éÝãíáÕ Ñ³ñó»ñÁ ÇÝãå»ë Ò»ñ, ³ÛÝå»ë ¿É ºñ¨³ÝÇ µÝ³ ÏÇãÝ»ñÇ Ñ³Ù³ñ:

ºë ã»Ù ·ñ³ÝóÇ Ò»ñ ³ÝáõÝÁ: ØÇ³ÛÝ »ë ÏáõÝ»Ý³Ù ³éÁÝãáõÃÛáõÝ Ñ³í³ùí³Í ÇÝýáñÙ³óÇ³ÛÇ Ñ» ï : Ð³ñó³Ã»ñÃÇÏÝ»ñÁ ÏáãÝã³óí»Ý ëáõÝ ï ³ñí³ Ýá»Ùµ»ñÇÝ:

¸³ Ò»ñ ³ÝÓÝ³Ï³Ý áñáßáõÙÝ ¿ Ù³ëÝ³ Ïó»É, Ã» áã ³Ûë Ñ» ï ³½á ï áõÃÛ³ÝÁ: ¸áõù Ï³ñáÕ »ù ÁÝ¹Ñ³ ï »É Ñ³ñóáõÙÁ ó³ÝÏ³ó³Í å³ÑÇÝ: Ø³Ý³Ïó»ÉÁ Ï³Ù Ññ³Å³ñí»ÉÁ áã ÙÇ Ï»ñå ãÇ ³Ý¹ñ³¹³éÝ³ Ò»½ íñ³: ¸áõù Ï³ñáÕ »ù ¹ÇÙ»É ë ï áñ¨ Ýßí³Í å³ ï ³ëË³Ý³ ï áõÇÝ µáÉáñ Ò»½ Ñ» ï ³ùñùñáÕ Ñ³ñó»ñáí ³Ûë Ñ» ï ³½á ï áõÃÛ³Ý í»ñ³µ»ñÛ³É:

ºÃ» ¸áõù · ï Ý»ù, áñ ï í³É Ñ» ï ³½á ï áõÃÛ³Ý ÁÝÃ³óùáõÙ Ò»½ å³ ï ×³éí»É ¿ íÝ³ë, Ï³Ù Ò»½ Ñ» ï ³Ý³ñ¹³ñ »Ý í»ñ³µ»ñí»É, ¸áõù Ï³ñáÕ »ù ¹ÇÙ»É Ð³Û³ë ï ³ÝÇ ³Ù»ñÇÏÛ³Ý Ñ³Ù³Éë³ñ³Ý` ì ³ñ¹áõÑÇ ä» ï ñáëÛ³ÝÇÝ Ï³Ù ºÉ»Ý³ ²ÙÇñË³Ý³ÝÇÝ, 51 25 68 Ñ»é³Ëáë³Ñ³Ù³ñáí:

Ü ³ ¨ Ï ³ ñáÕ »ù ½ ³ Ý · ³ Ñ ³ ñ»É ² ñÙ»Ý Âáéã⁄ ³ ÝÇÝ` Ñ ³ ñó ³ ½ñáõ⁄ó í ³ ñáÕÇÝ, 093 55-14-38 Ñ»é ³ Ëáë ³ Ñ ³ Ù ³ ñá í :

º Ã» Ñ ³ Ù ³ Ó ³ ±⁄Ý »ù, ë Ï ë»Ýù Ñ ³ ñóáõÙÁ: