



AMERICAN UNIVERSITY OF ARMENIA

Center For Health Services Research and Development

BASELINE HOUSEHOLD HEALTH ASSESSMENT IN ARMAVIR MARZ, ARMENIA

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Executive Summary

The Armavir Marz (Armenia)/University of Texas-Galveston (USA) partnership, in collaboration with the Center of Health Services Research & Development (CHSR) of the American University of Armenia and under the auspices of the American International Health Alliance, conducted a Baseline Household Health Survey among the residents of Armavir Marz, Armenia. The primary objective of the research was to gather baseline data on self-reported health status, knowledge, attitudes, beliefs, and practices of the target population along with key demographic and socio-cultural information. This data assists the partnership in prioritizing primary health care system needs for further collaboration.

The study utilized a multi-stage cluster sample, probability proportional to size, cross sectional, hybrid (combination of interviewer-administered and self-administered) design. All women 18 years old and older living in a selected household were considered eligible for the survey with emphasis on women having children under 10 years of age. Ethical considerations were met by providing the respondents with informed consent forms and by giving them an instruction to seal the completed questionnaires in envelopes. Trained nurses from the local clinics conducted the fieldwork. The CHSR assumed responsibility for the overall management and implementation of the survey.

A total of 1,019 households from 59 populated areas participated in the survey. Data analysis was conducted using SPSS 10.0 software. The results suggested a high prevalence of both probable depression and perceived chronic health conditions negatively affecting the quality of life of the target population. Low accessibility of medical services, poor practice and knowledge of preventive medical care, childcare, and reproductive health were among the other important findings. The survey revealed difficult socio-economic status as the primary causal factor for low accessibility to health care services and as one of the key risk factors for unsatisfactory health status of the target population. Based on the results of the research, the areas of concern needing immediate intervention are identified and recommendations are given for action. Taking into consideration the extent of socio-economic difficulties faced by the target population, it was concluded that the success of primary health care interventions (e.g., screenings, preventive check-ups, and health education) will be the highest if these interventions are provided free of charge.

1. Background Information

1.1 Program Rationale

The difficult socio-economic transition in Armenia following the collapse of Soviet Union impacted virtually all facets of life, including health care services. Lack of a central health care financing system on one side and the increasing poverty of the population on the other resulted in extremely low utilization of health care services. As people delayed seeking care until absolutely necessary, curative services were relatively less affected than primary/preventive services.

In response, a number of humanitarian organizations chose to support sustainable primary health programs in different regions of Armenia. As a part of this effort, three regional partnerships between Armenian and American counterparts: Armavir-Galveston, TX, Gegharkunik-Providence, RI, and Lori-Los Angeles, CA, were established under the auspices of the American International Health Alliance (AIHA) during 1999-2000. All three partnerships received funding from the United States Agency for International Development (USAID) to develop health sector collaborations and related activities in the target regions. One of the Armavir-Galveston partnership's objectives was improving primary health care through improved coordination and integration of services.

Following the positive experience of the recent Household Health Survey in Sevan¹ conducted by Gegharkunik-Providence partnership in collaboration with the Center for Health Services Research and Development (CHSR) of the American University of Armenia (AUA), the counterparts in the Armavir-Galveston partnership: the Texas University Medical School and the Health Department of Armavir Marz, initiated a similar, but larger-scale household survey targeting the entire population of Armavir marz, again in collaboration with CHSR.

The main purpose of the survey was to gather baseline data on self-reported health status, knowledge, attitudes, beliefs, and practices of the target population along with key demographic and socio-cultural information. These data were intended to identify the priority areas for impact by partnership projects. The study was also designed to provide baseline data that could serve as a foundation to measure the impact of the

program and for other longitudinal assessments. The same survey methodology and instrument (with minimal changes) as in the Sevan survey were used.

1.2 Research Goals and Objectives

The main goal of the study was to prioritize health care system needs requiring immediate intervention. A secondary objective was to create a baseline database against which the results of future longitudinal surveys will be assessed. For this purpose, the following data were obtained:

- ❑ Basic demographic and socio-cultural information about the target population
- ❑ Information on health knowledge, attitudes, beliefs and practices of the target population
- ❑ Perception of the target population concerning the accessibility and availability of local health care services
- ❑ Data on psychological and economic wellbeing of the target population.

2. Methods

2.1 Survey Concept

The survey utilized a multi-stage cluster sample, probability proportional to size, cross sectional, hybrid (combination of interviewee-administered and self-administered) design. The design permitted later expansion to a longitudinal panel design. This was identical with the design used during the Sevan survey. The design ensured:

- ❑ generalisability of the survey results for the population in target area
- ❑ feasibility of implementing the survey within the limited human and financial resources and time-constraints
- ❑ consistency and quality of data for measuring the impact of on-going primary health care program in subsequent evaluations
- ❑ comparability of the results with those obtained from Sevan survey

The goal was to provide the most robust dataset within the available resources to provide maximum flexibility in analyzing the data: 1000 households throughout the marz were to be involved in the survey. Since 2% of the self-administered surveys during the Sevan survey were returned uncompleted, it was decided to increase the initial sample

size by 2%. Thus, 1020 households were involved in the survey. As during the Sevan survey, 10 households were included in each cluster as this balanced concerns of homogeneity bias with daily individual workload and other logistical concerns.

To ensure similarity with the Sevan survey, as well as to build local capacity in health assessment efforts, nurses from the local clinics were trained to conduct the fieldwork. The number of nurses involved from each polyclinic (Armavir, Vagharshapat, Baghramyan, Metsamor) was proportionate to the number of clusters taken from each area to minimize transportation expenses and to save time during the fieldwork. Local coordinators from each clinic (usually, the head doctors of these clinics) were responsible for coordinating transportation and other aspects of the fieldwork (appendix 1).

The CHSR assumed responsibility for the overall management and implementation of the survey including interviewer training, instrument development and pre-testing, quality assurance, data entry and preliminary descriptive analyses.

2.2 Inclusion Criteria

All women 18 years old and older living in a selected household were considered eligible for the survey. However, women having children under 10 years of age were considered a first choice, other married women in the household were considered a second choice. Preference was given to these categories since the questionnaire contained many questions specific to younger married women.

2.3 Sampling Strategy

A multistage cluster sampling (probability proportional to size)ⁱⁱ was used to select respondents. The desired number of clusters from each area (city/village) was identified using systematic random sampling from the census list of populated areas. Second, particular medical districts in the selected areas were randomly chosen from enumerated lists of districts served by the primary (pediatric or general) medical services in these areas (usually there is one such service for each area). Third, the addresses of the starting points for each cluster were randomly selected from the list of addresses of children born between 1996-1998 in each district. The lists of children born between

1996-1998 were used to generate the starting point addresses for clusters as these lists were believed to be most complete in terms of population coverage and more accurate than other available population listings. This belief was based on the recent evaluation of the National Immunization Program in Armeniaⁱⁱⁱ, showing that almost 95% of children received at least one vaccination by age two, and so, were registered properly in children policlinics. Meanwhile, other sources of population lists, such as administrative rosters, were considered inappropriate because of the systematic unregistered migration of the population from Armenia.

From the starting address, an attempt was made to interview each adjacent address moving always to the right/up until a total of 10 surveys were completed for each cluster. This strategy gave a high probability that there would be a family with 2-5 years old child in each cluster, since the first addresses were also included in the cluster. However, the potential selection bias caused by this methodology was considered tolerable, taking into consideration both the large cluster size and the large sample size with wide diversity of populated areas (59 populated areas throughout the marz) included in the survey and the desire to include young families in the sample.

The sampling process was administered by CHSR staff. The interviewers received starting point addresses from the local coordinators of the survey and individually implemented the survey protocol to select the respondents (appendix 2). The Interviewers also completed journal forms (appendix 3) for each cluster to monitor compliance with protocols and to assess response and refusal rates.

2.4 Survey Instrument Development and Pre-testing

Virtually same survey instrument used for Sevan study was used during this survey*. Only minimal changes were introduced to correct formatting and ambiguity errors identified during the analysis of Sevan data.

* The preliminary version of this instrument was proposed for Sevan study by the Gegharkunik-Providence partnership coordinator David Gagnon, President of the National Perinatal Information Center. This version was modified and formatted by CHSR staff. Some additional questions generated from other health surveys (SF-36V₂TM Health Survey, Washington County Census Survey-1975, Survey to evaluate the impact of the "Facts for Life" Booklet on Armenian Caretakers) were included into questionnaire with mutual agreement of CHSR and AIHA. The purpose of these changes was broadening the scope of information, making it more complete and precise. The questionnaire was translated into Armenian and Russian.

The instrument covered the following topics (appendix 4):

Key demographic and socio-cultural factors (family structure, living conditions, employment, income)

Quality of life of the family

- health status of family members
- health satisfaction
- health behavior
- nutrition (knowledge, practice)
- child-bearing and caring of young children (knowledge, practice)
- mental health and depression of the respondent

III. Access to medical care and to early diagnosis and prevention services

IV. Reproductive health (knowledge, practice)

V. Safety: public, private, domestic violence (attitude, practice)

VI. Dental care (knowledge, practice)

The CHSR staff developed a training manual for interviewers (appendix 5). Five nurses from Armavir polyclinic, five from Vagharshapat, one from Baghramyan and one from Metsamor, as well as four local coordinators from above-mentioned polyclinics were selected to participate in the training. In March 2001, interviewer training and survey instrument pre-testing were conducted. The training was held in the Armavir adult polyclinic and included 2 days of didactic training and 2 days of field pre-testing. The pre-testing identified several minor changes in survey instrument. All 12 nurses were assessed by CHSR staff as capable of conducting the fieldwork.

According to the survey administration protocol, nurses were to select the respondent, introduce the survey (introduction, consent form, etc.), and conduct the first part of interview by guiding the respondent through the non-sensitive demographic questions (part I). They then provided the respondent with part II of the survey to complete individually and seal in an envelope to ensure that the completed survey will only be accessible to CHSR staff. The interviewer left the respondent to finish completing the self-administered part of the questionnaire on her own and moved onto the next house after making an appointment to return in an hour or so to collect the completed survey.

The main language of survey was Armenian. However, for the cases when respondents expressed a preference for Russian, they were provided with the Russian format of the survey (or its self-administered part). Thus, Armenian, Russian, and mix (Armenian nurse-administered and Russian self-administered) surveys were generated.

2.5 Ethical Considerations

Meeting ethical concerns is crucial when asking people questions regarding their personal life and the life of their family. Thus, the study protocol was reviewed and approved by the IRB of both AUA and University of Texas in Galveston. Respondents were provided with informed consent form (appendix 6) before the start of the interview. The form included general information about the logistics and goals of the survey as well as information concerning respondents' right to refuse, confidentiality issues, and contact information. Both the self-administered format of the main survey (containing all the sensitive items) and the instruction to seal the completed questionnaire in an envelope provided tangible proof that the confidentiality of the survey and the right to refuse would be kept. As with the Sevan survey, this also contributed to the sincerity of respondents in completing the questionnaire and the response rate.

2.6 Survey Administration

Data collection started on April 3, 2001 and lasted two weeks: 12 nurse-interviewers and four local coordinators were involved in this process. CHSR staff observed each interviewer at least 3 times during the pre-testing phases and one or two times during the implementation phase. Completed surveys were periodically delivered to CHSR by the AIHA driver.

2.7 Data Review, Entry, and Cleaning

Data were reviewed and entered into an SPSS data file by the CHSR staff. Double-entry was used to ensure the precision of the information. Upon completion of the entry phase, which lasted 5 weeks, the data were cleaned. The analysis was carried out using SPSS 10.0 software.

3. Results

3.1 Administrative Information

A total of 1019 households from 59 populated areas (3 towns and 56 villages) throughout Armavir marz were involved in the survey (appendix 7). The urban/rural ratio of the sample was about 1:1.5, which is consistent with the population data in Armavir. On average, it required 1.6 door knocks to complete one survey or 16.4 visits/attempts per cluster of 10. The main reason for non-response was “no one at home,” that was the case in 380 visits out of 1673 (22.7%). Refusal constituted 7.4% of all visits/attempts. The third most common reason of non-response was “the selected respondent is not at home” in 4.8% of all visits/attempts, and the fourth, “the selected respondent is incompetent/unable to participate” in 3.3% of all visits/attempts. The self-administered portion of the survey was considered incomplete if more than half of the questions were left unanswered. Only 7 of the surveys (0.7%) were returned fully or partially blank. This high response rate is attributable to the “hybrid” design of the survey.

The main language of the survey was Armenian: 98.0% of all surveys were conducted in Armenian. Mixed-language surveys (Armenian nurse-administered and Russian self-administered) were completed in 1.3% of cases, and Russian was used in 0.7% of surveys.

3.2 Socio-Demographic Data

Age & Nationality

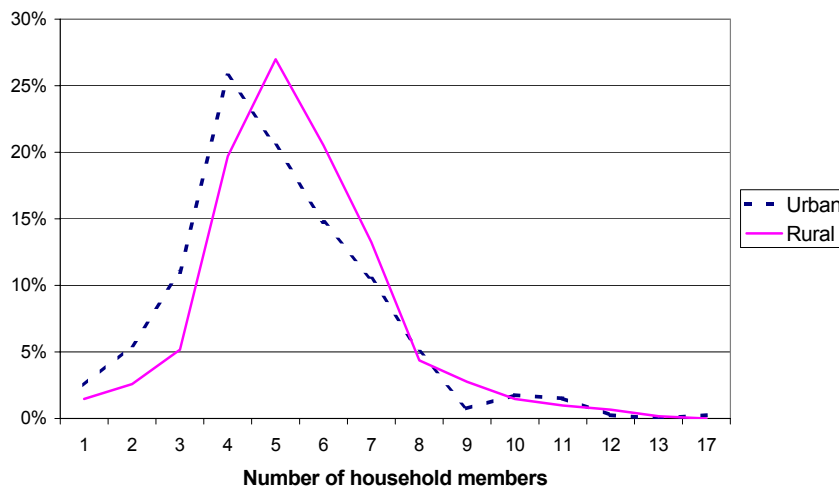
The mean age of the respondents was 35.6 (SD 10.6 years) with the age range of 18-77. Out of all respondents, 3.1% were 20 years old and younger and 4.4% were 60 years old and older. Armavir marz was the place of birth for 60.4% of the respondents, and Armenia for 90.1% of them. The mean duration of living in Armavir marz was 26.1 years (SD 13.0 years). The overwhelming majority of them were Armenians (96.3%); 2.4% of the respondents were Yesidi; 0.6% Russian; and 0.7% other nationalities.

Household Composition

The mean number of people living in a household was 5.3 (SD 2.0, range 1-17, median 5). A small, but significant difference in terms of household size was observed between urban and rural areas (5.0 in urban vs. 5.5 in rural, $p < 0.001$). Of all respondents, 1.9% lived alone. A household size of 8 or more people was stated in 10% of the households

(with almost equal frequency in urban and in rural areas) (Figure 1). The mean number of children under 18 living in a household was 2.0 (SD 1.3, range 0-7). This number was significantly higher ($p < 0.001$) in rural areas (mean 2.2, SD 1.3) than in urban areas (mean 1.7, SD 1.2). The respondent's husband was the head of household in 45.8% of cases, husband's father/mother/grandparents in 40.9% of cases, respondent's father/mother/grandparents in 6.2% of cases. The respondents themselves were the heads of household in 6.7% of cases. The mean age of the heads of household was 54.5 (SD 14.5, range 25-90). Out of all heads of household 43.3% were 60 years old or older.

Figure 1. Household size in urban and rural areas.
N=1019



Education

The highest level of education completed by the respondents was less than 10 years of school in 7.8% of cases, 10 years of school in 41.6%, professional technical education in 40.1%, and institute/university in 10.4%. The household heads' educational level was somewhat lower: 29.0% completed less than 10 years of school, 31.9% 10 years of school, 29.0% received professional technical education, 9.8% completed institute/university, and 0.2% had postgraduate education.

Employment

Of the respondents, 13.6% and 15.1% of the heads of their household were mentioned as being employed. Meanwhile, 66.7% of respondents mentioned that none of their household members were currently employed. These numbers, however, should be taken with caution, since many of the rural residents did not consider farming as employment and thus, incorrectly answered ‘no’ that question. This may partially explain the considerable urban-rural differences in the employment rates (9.9% in rural areas versus 19.3% in urban areas for respondents, and respectively, 10.3 vs. 23.1 for household heads, $p < 0.001$ for both).

Figure 2.
Primary employer of respondents in Armavir
(among all employed respondents). N=134

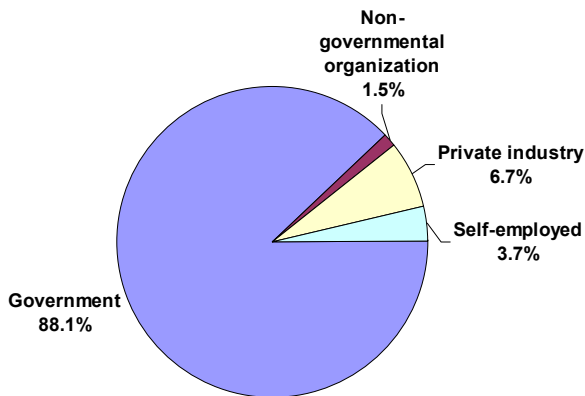
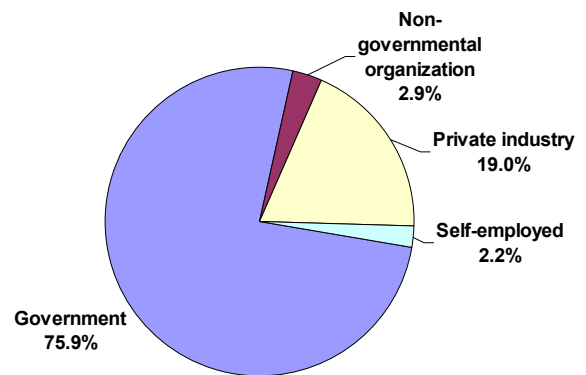


Figure 3.
Primary employer of heads of households in
Armavir (among all employed heads of HH). N=137



Lack of appropriate workplaces was mentioned as the main reason for unemployment for both the respondents and the heads of household (62.9% respondents and 51.8% household heads). Lack of childcare was the second most common reason for respondents’ unemployment (10.8%). Some 6.6% of respondents mentioned being unable to work because of a permanent health impairment, 4.8% of them were retired, and 10.5% were homemakers. Out of all unemployed heads of household, 38.8% were retired, and 5.8% were unable to work because of a permanent health impairment. Virtually all employed respondents and employed heads of household had only one job. The government was the primary employer for 88.1% of employed respondents (Figure 2) and for 75.9% of employed heads of household (Figure 3). Another 6.7% of respondents and 19.0% of household heads worked in private organizations, 1.5% of

respondents and 2.9% of household heads in non-governmental organizations. Self-employment of respondents was mentioned in 3.7% of cases, and self-employment of household heads in 2.2% of cases. The mean number of working hours per week was 54.3 (SD 22.7) for the heads of household and 34.6 (SD 18.8) for the respondents. According to the respondents' perception, their current position was inconsistent with their professional/vocational training in 17.2% of cases. This was true for the heads of household in 40.2%.

Living Conditions

The mean number of rooms in the respondents' house/apartment was 3.3 (SD 1.2, range 1-8). Heaters with flue or vent, burning wood, kerosene, oil, etc. were mentioned as the most common means of heating the living quarters (Figures 4, 5). They were in use in 79.1% of the households. Some 10.9% of respondents (with overwhelming majority - 93.7%, from rural areas) mentioned using compost as a fuel for these heaters. Portable electric heaters were used in 4.7% of households, built-in electric units in 2.8%, room heaters without flue/vent in 1.4%, hot water heating system in 0.7%. Another 9.0% of the respondents mentioned that they were not heating their living quarters during winter.

Figure 4. Leaving quarters heating in urban area. (N = 400)

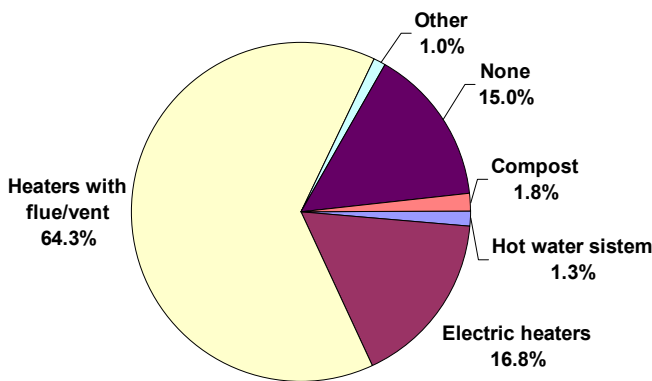
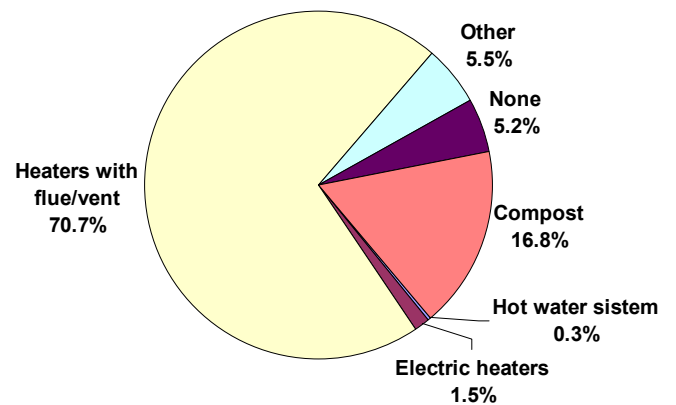


Figure 5. Leaving quarters heating in rural area. (N=618)



To the question about the type of fuel they use for cooking, the plurality of respondents answered electricity (31.9%), which was followed by piped gas (21.8%) and bottled, tank or LP gas (13.8%). Coal or wood was used in 16.6% of households. A substantial proportion of respondents (15.9%) reported using other fuel for cooking, often meaning compost (in 10.2% of all cases). Coal, wood or compost was used for cooking in 40.1% of rural households and in 6.2% of urban households (Figures 6, 7).

Figure 6. Fuel for cooking in urban area. N=399

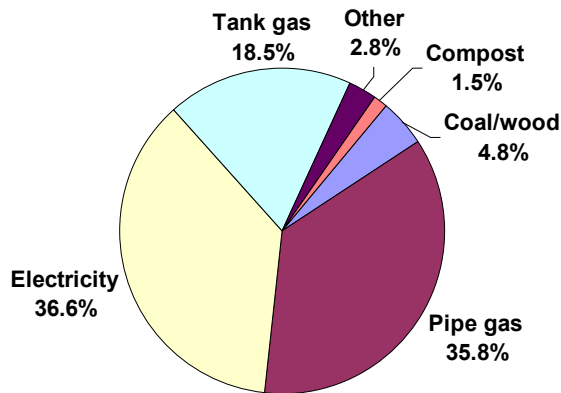
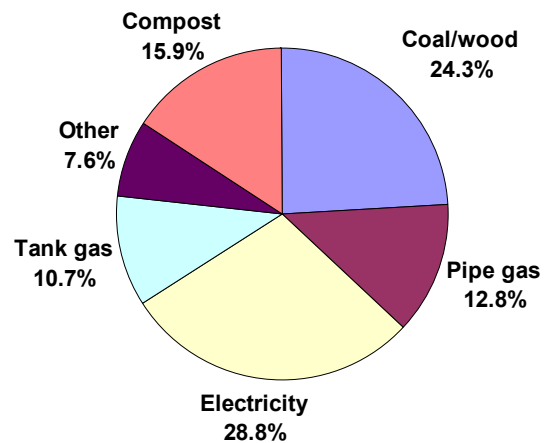


Figure 7. Fuel for cooking in rural area. N=618

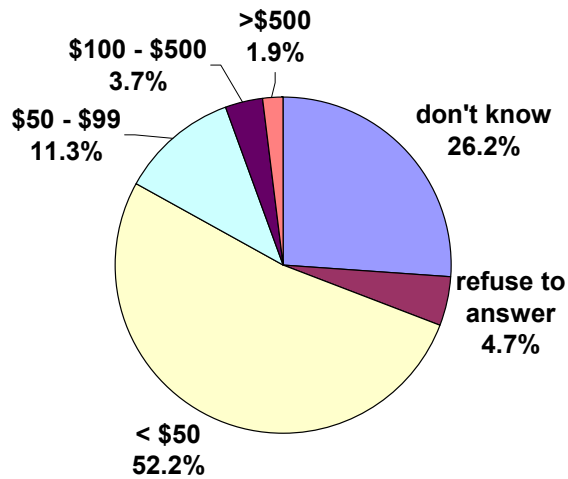


Convenience Items/Household Expenditures

Possession of selected convenience items and monthly expenditures of the household were used as proxy measures for socio-economic status. The most widespread “luxury/convenience items” were washing machine (44.6%), color TV (43.8%), and telephone (43.5%). An indoor toilet was in 38.2% of households. Of the respondents, 19.6% reported having an automobile, 12.9% a VCR, 5.5% hot water tank, and 2.2% a villa/vacation home. The least common items were personal computer (1.5%) and cellular phone. In terms of having “luxury/convenience items”, the situation in urban areas was generally somewhat better than in rural areas. The major differences between urban and rural areas were found in terms of having indoor toilet (69.0% in urban vs. 17.9% in rural) and telephone (67.8% in urban vs. 27.6% in rural). Out of all respondents 23.7% stated having “none of the above items”. The proportion of those mentioning no “luxury/convenience items” was 11.8% in urban areas versus 31.5% in rural areas (p<0.001).

In terms of expenditures during the last month, the majority of respondents (52.2%) mentioned spending less than \$50, 11.3% spent \$50-99, 3.7% spent \$100-\$500, and 1.9% spent more than \$500 during the last month. There was a big proportion of “don’t know” (26.2%) and “refuse to answer” (4.7%) responses to this question (Figure 8). Of the respondents, 3.0% reported that the monthly income of their family is enough to meet the family needs.

Figure 8. Household expenditures during past month. N=1010



3.3 Quality of Life

3.3.1 Health Status of Household Members

Children

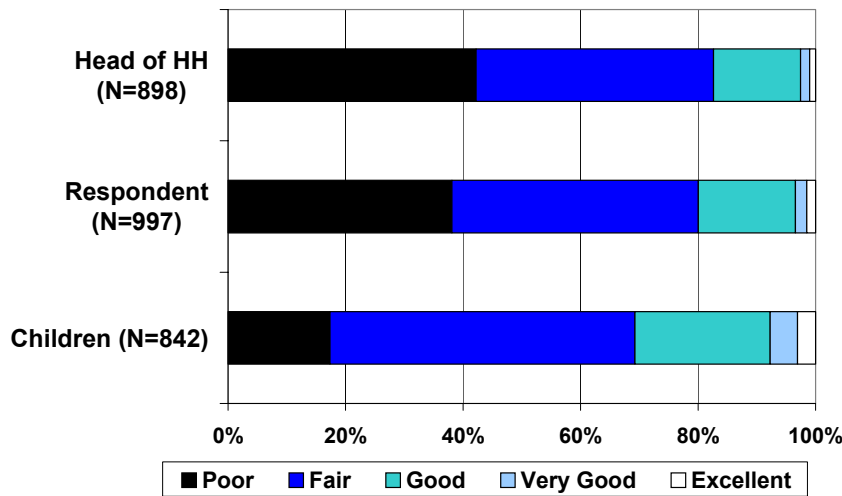
The majority of respondents rated the health of children in their household as ‘fair’ (51.9%) or poor (17.3%). Meanwhile, only 3.1% rated it as ‘excellent’ (Figure 9). Overall, the cumulative percent of ‘excellent’, ‘very good’ and ‘good’ responses was half the sum of ‘fair’ and ‘poor’ responses (30.8% vs. 69.2%). The respondents were asked to report the health status of children in the household. Of all respondents, 27.0% reported having a child/children in poor health. Intestinal problems were reported to be the most common reason of poor health of children (stated by almost 20% of the respondents answering this question), closely followed by otorhinolaryngological pathology (15.3%), neurological problems (15.3%), and problems with vision (14%). Respiratory diseases (7.9%), urogenital problems (7.0%), and cardio-vascular problems (5.6%), along with injuries (4.2%)

and orthopedic problems (3.7%) were amongst other commonly stated reasons for children’s poor health.

Respondents & Household Heads

The overwhelming majority of respondents (80%) rated their own health as ‘fair’ or ‘poor’ (41.9% and 38.1% respectively); 1.5% of them considered their health as ‘excellent’, and 1.9% as ‘very good’. Respondents’ perception of the household heads’ health status was similar. In 42.2% of households it was rated as ‘poor’, and in 40.4% of them it was rated as ‘fair’. Meanwhile, only 1.0% and 1.6% of respondents rated the health of their household heads as ‘excellent’ and ‘very good’ respectively (Figure 9). Thus, the ratio between poor/fair and good/very good/excellent responses was 80%:20% for the respondents and 82.6%:17.4% for the household heads.

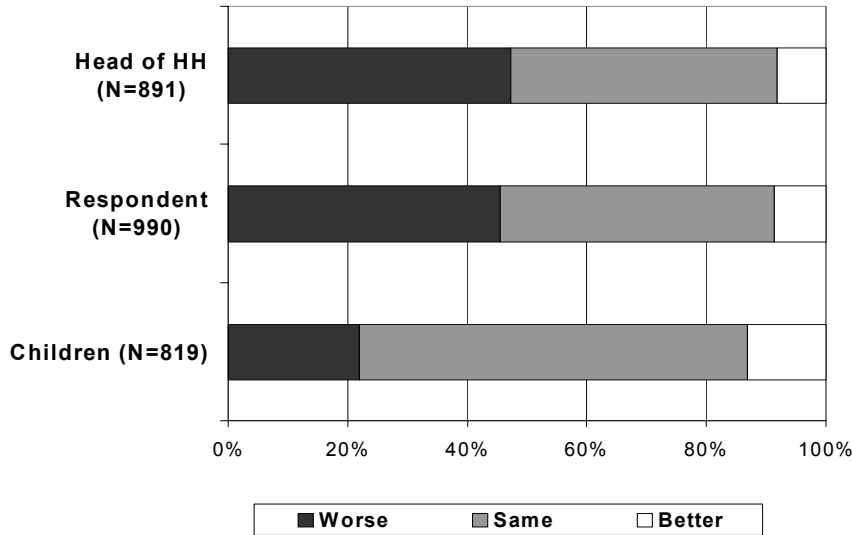
Figure 9. Health of household members during past month



Health Dynamics

When asked about the dynamic of the overall health of their family members compared to one year ago, respondents rated the children’s health as somewhat declining: ‘about the same’ 64.8%, ‘better’ 13.2%, and ‘worse’ 22.0%. The ratings of respondents’ and household heads’ health dynamic were even more skewed toward a decline: 8.6% ‘getting better’ versus 45.5% ‘getting worse’ for the respondents and: 8.1% ‘getting better’ versus 47.3% of ‘getting worse’ for the household heads (Figure 10). There were no major urban-rural differences in household members’ perceived health status.

Figure 10. Health of household members compared 1 year ago



Chronic Health Conditions

The respondents were also asked to indicate any chronic health conditions that they or anyone from their household suffered from. The most common chronic condition in the respondents was high blood pressure, stated in 27.2% of surveys. This was followed by cardiac diseases (23.5%). Other frequently reported diseases in respondents were gastro-intestinal pathology (19.3%), vision problems (19.0%), and kidney problems (17.1%).

The same pathologies were perceived to be more widespread among household heads and among other household members. High blood pressure was the most frequently reported disease in these groups also: 29.0% in household heads and 21.4% in other household members. In both groups, this was followed by poor vision: 27.8% in household heads (which is not surprising taking into consideration the older average age of this population) and 18.5% in other household members. Cardiac diseases, gastro-intestinal pathology, and kidney problems were amongst the most common five problems in these groups also.

Surprisingly, a rather low percentage of diabetes was mentioned in all three groups. Its highest occurrence was reported among the heads of household and constituted only

3.1%. Cancer was mentioned as the least common condition. The low prevalence of these chronic conditions may reflect poor access to/utilization of screening/primary care services. In all three groups the reported prevalence of mental disorders was rather high (table 1).

Table 1: Frequency of chronic health conditions in household members, according to respondents' perception, Armavir Marz, 2001

| Chronic health condition (perception) | Respondents (%) | Heads of household (%) | Other household members (%) |
|--|------------------------|-------------------------------|------------------------------------|
| High blood pressure | 27.2 | 29.0 | 21.4 |
| Problems with vision | 19.0 | 27.8 | 18.5 |
| Cardiac diseases | 23.5 | 23.6 | 15.4 |
| Gastro-intestinal diseases | 19.3 | 18.5 | 16.6 |
| Kidney problems | 17.1 | 14.0 | 12.8 |
| Lung diseases | 5.6 | 8.2 | 7.3 |
| Mental disorders | 4.7 | 5.6 | 5.1 |
| Diabetes | 1.6 | 3.1 | 2.4 |
| Cancer | 0.8 | 0.1 | 0.6 |
| Non of the above | 37.6 | 30.0 | 45.6 |

There were no major urban-rural differences in the perceived prevalence for the majority of these chronic diseases. An exception was gastrointestinal pathology among respondents, which was more frequently stated in urban areas than in rural areas (24.4% vs. 16.1%, $p=0.001$). Self-reported diabetes and vision problems among respondents and among other household members were also more frequent in urban areas (2.5% vs. 1.0% [$p=0.058$] and 4.0% vs. 1.5% [$p=0.026$] respectively for diabetes, and 24.4% vs. 15.6% [$p=0.001$] and 22.0% vs. 16.3% [$p=0.032$] respectively for vision problems). It is unclear if this reflects greater access to/utilization of primary/prevention services.

Injuries

Roughly one quarter (26.5%) of all households experienced some accident, injury or poisoning requiring professional help during the past 12 months. The most common type of injury was a fall, mentioned by 9.3% of all respondents. Cut/slash/ puncture and poison/overdose were the next most common categories mentioned by 5.9% and 5.5%

respectively. Other relatively frequent injuries were hit/struck by person/object (2.3%), fire/scalding (2.2%), auto crash (2.1%), and pedestrian/vehicle injuries (1.4%). The least common injuries were drowning (0.7%) and gunshot (0.3%).

The majority of accidents like fire/scalding, auto crash, drowning happened just once during 12-month period. Accidents like fall, poisoning/overdose, cut/slash/puncture, hit/struck by person/object were more likely to happen repeatedly. It was difficult to calculate mean frequencies per person for each injury, since often people mentioned "more than once" or "several times" instead of writing the exact number of the injuries.

Everyday Activities

The respondents were asked also to assess the extent to which their health limits them in everyday activities. For these questions, many respondents showed tendency to check only those response options that indicate limited function and simply to skip over the options that indicate unlimited function, which resulted in unusually high proportion (up to 30%) of missing values. To address this source of possible bias, absolute percentages are considered instead of valid ones.

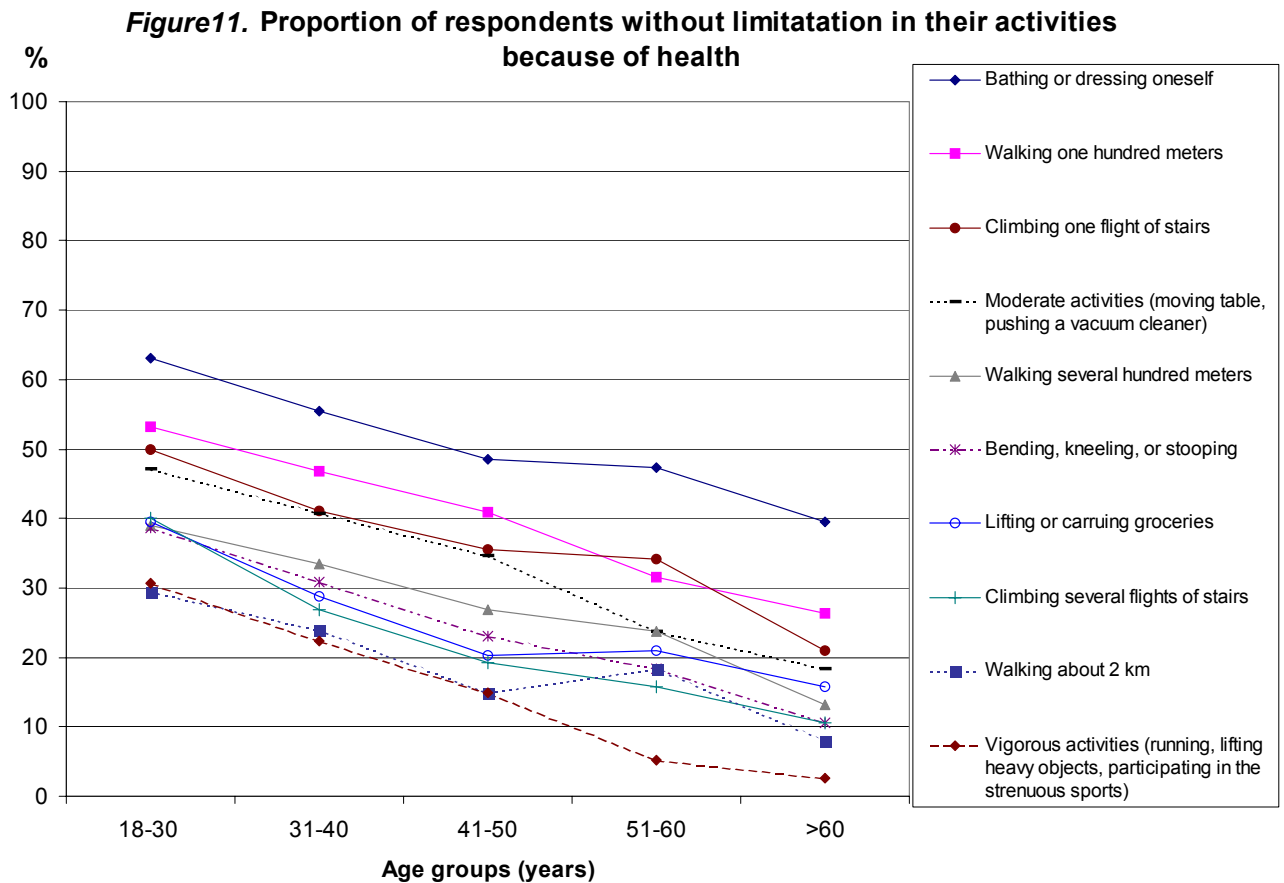
Table 2: Proportion of respondents with limited activities because of health condition, Armavir Marz, 2001

| Activity | Limited a lot (%)* | Limited a little (%)* |
|---|---------------------------|------------------------------|
| Bathing or dressing oneself | 6.6 | 9.7 |
| Walking one hundred yards | 10.3 | 13.8 |
| Walking several hundred yards | 21.8 | 17.0 |
| Walking more than a mile | 30.4 | 18.4 |
| Bending, kneeling, or stooping | 24.5 | 19.3 |
| Climbing one flight of stairs | 12.4 | 14.1 |
| Climbing several flights of stairs | 28.9 | 18.9 |
| Lifting or carrying groceries | 21.5 | 20.6 |
| Moderate activities (moving a table, pushing a vacuum cleaner) | 12.9* | 16.1* |
| Vigorous activities (running, lifting heavy objects, participating in the strenuous sports) | 35.8* | 18.7* |

* Absolute percentages (where N includes all the missing responses and is equal to 1019).

A large proportion of respondents felt limited in their everyday activities: 54.5% in vigorous activities such as running, lifting heavy objects, participating in the strenuous sports; more than 40% in less vigorous activities such as climbing several flights of stairs, lifting or carrying groceries, and bending/kneeling/stooping. Some 16.3% of respondents felt limited even in bathing or dressing themselves (table 2).

With the increasing age, the proportion of those reported not being limited in their everyday activities decreased considerably, as shown in Figure 11.



To the question “how much bodily pain did you feel during the past four weeks”, 25.1% of respondents indicated having no pain. Meanwhile, 46.4% of them indicated having moderate to very severe pain, including 13.1% of those experiencing severe and 12.1% of those experiencing very severe pain.

3.3.2 Satisfaction With Own Health and Life

Of the respondents, 14.3% were satisfied with the health of their body, while 49.8% were dissatisfied with it. The situation was worse in terms of satisfaction with recreational or leisure time activities (59.0% of the respondents expressed dissatisfaction with this, including 24.1% of those expressing extreme dissatisfaction). The main area of dissatisfaction, however, was the ability of household income to meet household needs: 6.5% of the respondents were satisfied with this versus 78.1% of those being dissatisfied (including 46.0% of those being extremely dissatisfied). Dissatisfaction with their ability to help in the community was the case in 43.9% of the surveys, and dissatisfaction with their daily activities in 41.6% of the surveys.

Table 3: Respondents' satisfaction with own health and life, Armavir Marz, 2001

| Satisfaction with: | <i>Extremely dissatisfied (%)</i> | <i>Dissatisfied (%)</i> | <i>Neither dis- satisfied nor satisfied (%)</i> | <i>Satisfied (%)</i> | <i>Very satisfied (%)</i> |
|---|--|------------------------------------|--|---------------------------------|--|
| the health of their body | 21.5 | 28.3 | 35.8 | 11.7 | 2.6 |
| their ability to think | 9.4 | 20.4 | 25.1 | 37.6 | 7.6 |
| their sexual activity | 8.5 | 9.4 | 26.1 | 46.7 | 9.3 |
| how much they see their family/friends | 5.3 | 12.9 | 26.6 | 45.4 | 9.8 |
| the help that they get from family/friends | 9.2 | 13.4 | 27.8 | 41.5 | 8.1 |
| their daily activities | 11.5 | 30.1 | 32.3 | 23.0 | 3.1 |
| their recreational or leisure time activities | 24.1 | 34.9 | 23.4 | 15.4 | 2.2 |
| their household income meeting their needs | 46.0 | 32.2 | 15.4 | 5.6 | 0.9 |
| their ability to help in their community | 17.5 | 26.4 | 28.8 | 24.3 | 3.1 |

Meanwhile, 55.2% of respondents expressed satisfaction with their ability to see their family/friends, 49.6% of them were satisfied with the help that they get from their family/friends, and 45.2% were satisfied with own thinking abilities. Out of all respondents who answered the question concerning their sexual activity, the majority

(56.0%) was satisfied. However, the proportion of the respondents, who chose do not answer this question was large (17.4%).

Detailed information on respondents' satisfaction with their own health and life is provided in table 3. There were no considerable differences in this respect between urban and rural areas.

3.3.3 Health Behavior

In the survey, particular attention was given to the smoking behavior of the target population and to respondents' attitude towards smoking. Smoking was not a common behavior among the respondents: 6.3% of them mentioned smoking cigarettes some time in their life. Among those who ever smoked, 65.4% were still smoking at the time of survey (constituting 4.1% of all respondents). The average number of cigarettes they smoked per day was 15.3 (SD 9.5). The proportion of those respondents who ever smoked was considerably lower in rural areas than in urban areas (4.3% vs. 9.3%, $p=0.002$). However, out of those who ever smoked, 75% were still smoking in rural areas, while this percentage for urban areas was only 57%.

Out of all household members who were more than 12 years of age, 28.5% smoked. The male/female ratio in this group of smokers was 22:1. There were no considerable urban-rural differences in smoking prevalence among household members over 12 years of age.

The majority of respondents expressed negative attitude towards smoking. More than 90% of them agreed or strongly agreed that smoking is harmful for both smokers' health and the health of people breathing smoke from another person's cigarette. Also, 84.5% of respondents were against allowing students to smoke in public, 70.7% of them were against allowing workers to smoke while on the job, and 56.1% of the respondents agreed that smoking should be prohibited in public buildings and restaurants (table 4). It should be mentioned that the respondents were women who tend to smoke 22 times less frequently than men in this particular population and so their attitude toward smoking may be more negative than men's attitude.

Table 4: Respondents' attitude towards smoking, Armavir Marz, 2001

| Statements | Strongly disagree (%) | Disagree (%) | Neither agree nor disagree (%) | Agree (%) | Strongly agree (%) |
|---|------------------------------|---------------------|---------------------------------------|------------------|---------------------------|
| Smoking tobacco is harmful to a person's health | 3.0 | 2.7 | 3.3 | 30.7 | 60.4 |
| Breathing smoke from another person's cigarette is harmful to a person's health | 2.9 | 3.2 | 2.2 | 34.8 | 56.9 |
| Student should be allowed to smoke in public | 49.8 | 34.8 | 3.5 | 3.5 | 8.4 |
| Workers should be allowed to smoke while on the job | 27.5 | 43.2 | 15.1 | 7.6 | 6.6 |
| Smoking should be prohibited in public buildings and restaurants | 7.5 | 17.4 | 19.0 | 30.9 | 25.2 |

With respect to drinking alcohol, 86.1% of respondents mentioned that they did not have a drink of alcohol during the past 30 days. To the question about average frequency of drinking alcohol, 76.7% of respondents answered rarely and 19.2% seldom. Only 0.2% mentioned drinking more than three times a week, and 0.1% (one respondent only) daily. However, 1.8% of respondents mentioned that they had a drinking problem some time in their life, and 14.2% mentioned that someone living in their household had a drinking problem. Only 21.7% of the respondents knew where to get help if someone in their family had a drinking problem.

Of all respondents, 3.0% knew someone in Armavir who had a problem with drug addiction. This percentage was higher in urban areas than in rural areas (5.4% vs. 1.4%, $p < 0.001$). Meanwhile, 0.3% of the respondents mentioned that someone in their family had a problem with drug addiction. Only 14.4% of the respondents knew where to get help if someone in their family were drug addicted.

3.3.4 Attitude Toward Nutrition

Several questions in the survey were directed to assess the respondents' beliefs about nutrition. The overwhelming majority of respondents – 97.2% agreed (including 70.5% of those who strongly agreed) that good nutrition (healthy food) is necessary for a healthy body. Only 23.1% of them believed, however, that their family was receiving good nutrition. Almost 82.1% of respondents worried that their family will not have enough to eat, including 30.2% of those who worried about this always or usually. Consistent with this, 77.4% of respondents mentioned never (20.2%) or only occasionally (57.2%) having enough money to buy food for their family. Up to 60% of the respondents mentioned going to sleep hungry: always (5.2%), usually (6.6%) or occasionally (47.8%) during the last 30 days. There were no considerable urban-rural differences in this respect.

3.3.5 Knowledge of Child-bearing and Caring of Young Children

Several questions measured respondents' knowledge and beliefs about childbearing and caring for young children. These questions were intentionally addressed to those respondents who had at least one household member less than 10 years of age. A total of 582 respondents answered these questions.

The respondents were asked to choose the best answer from the given response choices for the first three questions of this section. Only 7.3% of the respondents knew the recommended minimum length of time for birth spacing (“2 years”). The percentage of correct answers on the question concerning the optimal duration of exclusive breastfeeding (“6 months”) was somewhat larger, but again rather low – 26.0% (another 26.7% answered “4 months” to this question, which may be the influence of former WHO recommendation of “4-6 months of exclusive breastfeeding”). The situation was better with the question on amount of liquids that should be given when a child has diarrhea: 51.3% of the respondents answered this question correctly (“more liquids than a child normally drinks”). There were considerable urban-rural differences in respect of this particular question. The proportion of correct answers was 63.5% in urban areas, while only 43.7% in rural areas ($p < 0.001$). More than one third (35.8%) of the respondents residing in rural areas considered it correct to give children with diarrhea much less liquids than they normally drink. For several questions the respondents were asked to indicate if the statement given was true or false. The question on positive association

between breastfeeding frequency and breast milk production received the highest proportion of correct answers (85.0%). The question on the risk for a child of contracting HIV if given an injection with an unsterilized needle gathered the next highest proportion of correct answers - 70.1% (this proportion was considerably higher among urban residents than among rural residents: 79.8% versus 64.1%, $p < 0.001$). However, another question on this issue: the risk of contracting HIV from a sterilized needle caused some confusion among the respondents and gathered the highest proportion of “don’t know” options: 34.4%; meanwhile, 48.0% of the respondents answered this question correctly. The majority of respondents (74.6%) knew that rapid breathing in a child could be a sign of pneumonia. Among this group of questions, the question on child bearing (effect of alcohol usage during pregnancy on the fetus) received the lowest proportion (45.0%) of correct answers (table 5).

Table 5: Respondents’ knowledge on child bearing and caring for young children, Armavir Marz, 2001

| Questions | Correct (%) | Incorrect (%) | Unaware (%) |
|---|--------------------|----------------------|--------------------|
| Recommended minimum length of time between births | 7.3 | 34.6 | 58.1 |
| Optimal duration for exclusive breastfeeding | 26.0 | 65.8 | 8.2 |
| Quantity of liquids for a child with diarrhea | 51.3 | 48.7 | n/a |
| Alcohol usage during pregnancy affects the fetus | 26.1 | 45.1 | 28.8 |
| Frequent breast feedings increase milk production | 85.0 | 4.5 | 10.5 |
| Injection with unsterilized needle may cause AIDS | 70.1 | 5.3 | 24.6 |
| Injection with sterilized needle may cause AIDS | 17.6 | 48.0 | 34.4 |
| Rapid breathing could be a sign of pneumonia | 74.6 | 2.3 | 23.1 |

The respondents were also asked to express the extent of their agreement or disagreement with 8 statements regarding different aspects of childcare. The highest proportion of positive attitudes were questions on breastfeeding: 86.5% of the respondents agreed (including 74.9% - strongly) that breastmilk is better for an infant’s health than “Narine” (a product of cow milk fermented by acidophilus bacilli widely promoted in Armenia as one of the healthiest infant foods); and 70.7% of the respondents agreed that breastfeeding in the second year of child’s life is in his best interest.

More than half of the respondents expressed a desirable attitude answering the questions on child development: 57.9% of them agreed (45.8% strongly) that playing is an important part of children's development, and 51.0% of them disagreed (34.1% strongly) that physical punishment is necessary to make a child obey and respect parents. However, there was quite a large proportion of negative attitudes to these issues. For the remainder of these questions, most of respondents expressed undesirable attitude (with almost no urban-rural differences). Only 21.9% of them disagreed that a child with a cough or cold should be kept as hot as possible. The situation was better with the remaining questions but again the proportion of undesirable attitudes exceeded the proportion of desirable ones: 59.1% of the respondents thought that smoky surroundings have no effect on the possibility of pneumonia in young children, 54.8% of them did not accept the importance of following vaccination schedule precisely, and 51.7% of them (44.5% in urban areas and 56.2% in rural areas, $p=0.02$) considered themselves capable of making a decision to treat their child's diarrhea with antibiotics.

Table 6: Attitude to statements on child-caring, Armavir Marz, 2001

| Statements | <i>Strongly disagree (%)</i> | <i>Somewhat disagree (%)</i> | <i>Somewhat agree (%)</i> | <i>Strongly agree (%)</i> |
|---|------------------------------|------------------------------|---------------------------|---------------------------|
| Breastmilk is better for an infant's health than "Narine" | 10.1 | 3.4 | 11.6 | 74.9 |
| Breastfeeding into the second year of life is in child's best interests | 16.1 | 13.2 | 26.5 | 44.2 |
| It does not really matter if the vaccine schedule is followed | 39.2 | 15.6 | 18.6 | 26.6 |
| I can make decision to treat my child's diarrhea with antibiotics | 32.9 | 15.4 | 32.7 | 19.0 |
| Smoky surroundings have no effect on whether a baby catches pneumonia | 22.0 | 19.0 | 32.5 | 26.6 |
| A child with a cough or cold should be kept as hot as possible | 7.3 | 14.6 | 30.8 | 47.4 |
| Physical punishment is necessary to make a child obey and respect parents | 34.1 | 16.9 | 27.4 | 22.0 |
| Playing is not an important part of children's development | 45.8 | 12.1 | 15.0 | 27.1 |

The attitudinal responses to knowledge questions are presented in table 6.

The mean knowledge score of the respondents on childbearing and child caring (the mean of proportions of correct answers to all childbearing and child caring questions) was 50.2 (SD 17.4), where 100 was the highest possible value. In terms of knowledge on different topics of child caring, the knowledge score of the respondents on breastfeeding was 64.6, on HIV/vaccination 54.8, on child development 52.5, on diarrhea/respiratory infections 45.0, and on childbearing 25.3.

3.3.6 Respondents' Mental Health and Depression

A 20 question-scale (CES-D Scale translated in Armenian^{iv}) was included in the questionnaire to measure the level of depression in the target population. The completed scale was not considered valid even if one answer out of the 20 was missing. As a result, some 319 questionnaires out of 1019 (31.3%) were considered not valid, and the response rate for this particular section was only 69.7%.*

Table 7: Depression level among Respondents, Armavir Survey, 2001

| | <i>Armavir (%) (n = 1019, missing – 319)</i> | | | <i>Sevan City, 2000 (%) (n=526)</i> |
|----------------------------|--|----------------------|----------------------|-------------------------------------|
| | <i>Total (n=700)</i> | <i>Urban (n=277)</i> | <i>Rural (n=423)</i> | |
| Probable depression | 55.4 | 51.6 | 57.9 | 44.1 |
| Possible depression | 22.3 | 24.9 | 20.6 | 22.8 |
| No Depression | 22.3 | 23.5 | 21.5 | 33.1 |

A cumulative depression score was calculated for each respondent. According to the scale, a cumulative score of 17-22 was considered as a sign of possible depression and a cumulative score 23 and over was considered as a sign of probable depression. The results revealed that probable depression existed in 55.4% of respondents, with possible depression in an additional 22.3% of them. The average depression score for Armavir

* Since the respondents who did not answer all questions of this section could be somehow different from those who did answer, we worried that the results could be biased to some extent. We repeated our analysis including 178 more questionnaires containing only 1 or 2 missing answers out of 20, and thus, increasing the response rate to 86.2%. We imputed 0 (no depression) instead of the missing answers, which added nothing to the summative depression score for these 178 cases. This analysis yielded similar results of the prevalence of possible and probable depression (23.3% vs. 22.3% for prevalence of possible depression

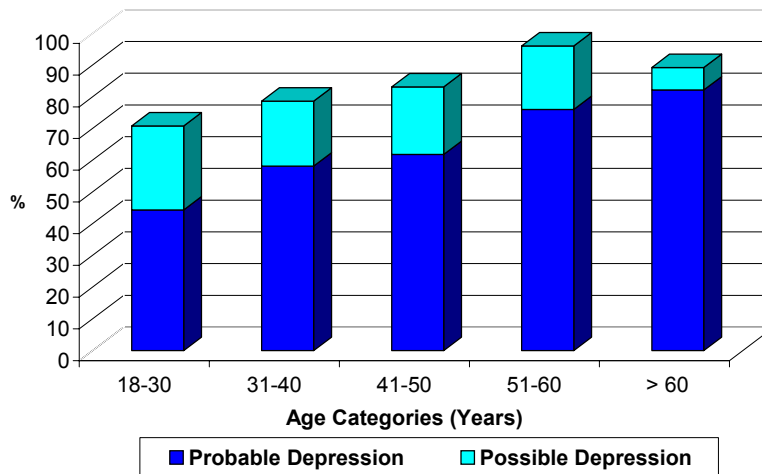
was 23.9 (SD 9.7), which is higher than the average score for Sevan (21.7, SD-10.2) and much higher than the US population average score of 7.8 - 9.92 (table 7). It should be noted that the measure of CES-D has not been clinically validated to Armenia.

There were almost no urban-rural differences in depression prevalence (the average score was 23.5 in urban areas and 24.2 in rural areas). A clear tendency of increase in proportions of probably depressed was observed with age (table 8 and figure 12).

Table 8: Prevalence of Depression in Different Age Categories, Armavir, 2001

| Depression categories | Age categories | | | | |
|-------------------------|----------------|-------|-------|-------|-------|
| | 18-30 | 31-40 | 41-50 | 51-60 | >60 |
| Probable Depression (%) | 44.3% | 58.1% | 61.8% | 76.0% | 82.1% |
| Possible Depression (%) | 26.5% | 20.5% | 21.3% | 20.0% | 7.1% |
| No Depression (%) | 29.2% | 21.3% | 16.9% | 4.0% | 10.7% |

Figure 12: Prevalence of Depression Among Different Age Categories, Armavir, 2001



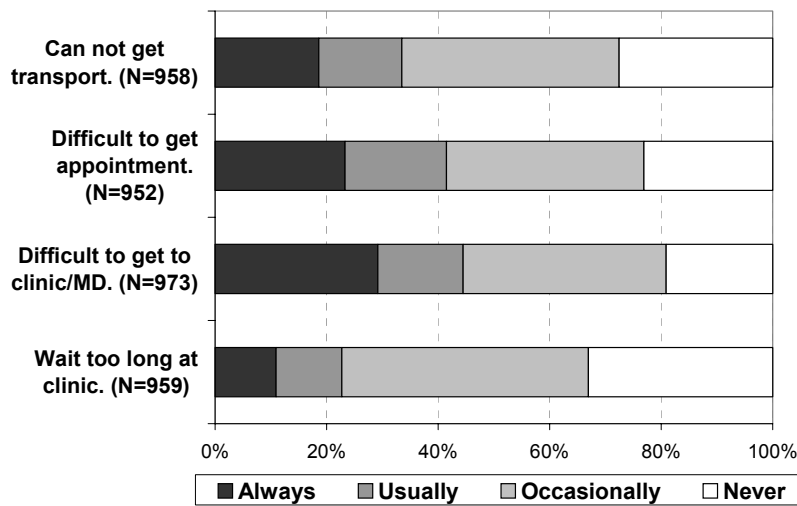
and 54.5% vs. 55.4% for prevalence of probable depression). Thus, we felt confident using the stricter (no missing data) standard.

3.4 Access to Medical Care

3.4.1 Personal Health Care Services

The next important objective of the survey was the evaluation of the accessibility of medical care for the target population. Several measures of access such as availability of transportation and medications, waiting time for getting medical care, cost of health services, and treatment of medical staff were studied. The majority of respondents (77.3%) mentioned that they never or only occasionally had to wait too long at the polyclinic before receiving care. The proportion of respondents who mentioned that it is “always” or “usually” difficult to get to a doctor or polyclinic was relatively larger: 44.5%. The situation was similar with difficulties in getting an appointment for medical care. It was always difficult for 23.3% of the respondents and usually difficult for 18.2% of them. Difficulties with arranging getting transportation to see a doctor in case of sickness were mentioned by 33.5% of the respondents (Figure 13). A substantial proportion of the respondents (44.9%) mentioned that they could never get childcare when needed so that they could seek medical care for themselves.

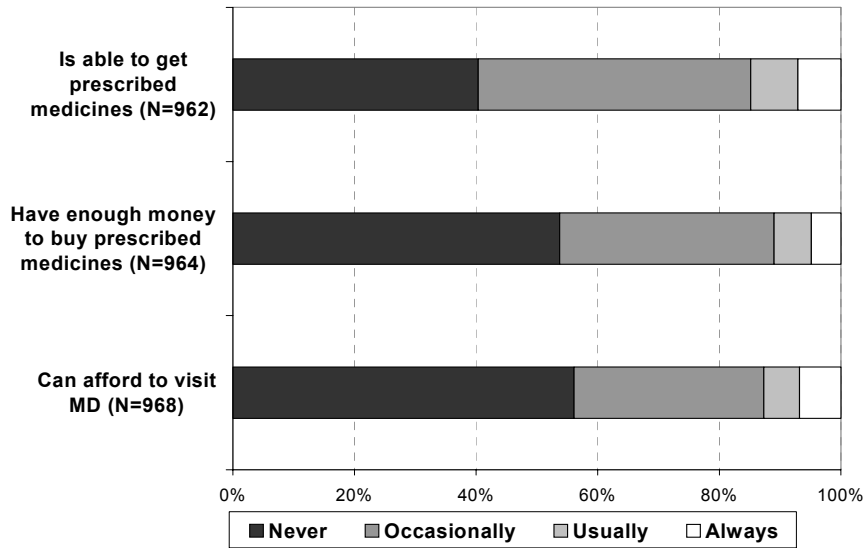
Figure 13. Access to medical care



The situation was worse with affordability of medical care (Figure 14). Only 12.7% of the respondents mentioned that they could afford the cost of a doctor visit “always” or “usually”. Meanwhile, 56.1% of them was never able to do it. The proportion of respondents who had enough money (always or usually) to buy medicines

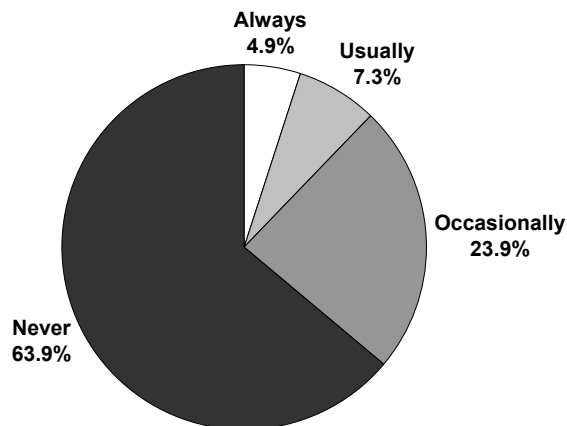
recommended by doctor was also small 11.0%. More than half (53.7%) could never afford medicine. Also, only 14.9% of the respondents reported being able to get medicines prescribed by the doctor, while 40.3% of them were never able to. With respect to how they are treated by medical staff during their visits, 60.5% of the respondents mentioned being treated with courtesy and respect.

Figure 14. Affordability of medical care



The percentage of people making preventive check-ups to a doctor was very small as well: 63.9% of the respondents have never made preventive visits (Figure 15).

Figure 15. Percentage of respondents who make preventive check-ups. (N=937)



There were no considerable urban-rural differences in perception of accessibility of health care services. More detailed information on responses about accessibility of medical care is presented in table 9.

Table 9: Perception on accessibility of medical care, Armavir Marz, 2001

| Statements | Always (%) | Usually (%) | Occasionally (%) | Never (%) |
|--|-------------------|--------------------|-------------------------|------------------|
| I have to wait too long at the polyclinic before receiving care | 10.9 | 11.8 | 44.2 | 33.1 |
| It is difficult to get to the doctor or polyclinic to get medical care | 29.2 | 15.3 | 36.4 | 19.1 |
| It is difficult to get an appointment for medical care | 23.3 | 18.2 | 35.4 | 23.1 |
| I can get transport to see a doctor when I am sick | 18.6 | 14.9 | 38.9 | 27.6 |
| I can afford the cost of a doctor visit | 6.8 | 5.9 | 31.2 | 56.1 |
| I go to the doctor so that I will not get sick in the future | 4.9 | 7.3 | 23.9 | 63.9 |
| I have enough money to buy the medicines recommended by the doctor | 4.9 | 6.1 | 35.3 | 53.7 |
| I am able to get medicines prescribed by doctor | 7.1 | 7.8 | 44.8 | 40.3 |
| Physicians and staff treat me with courtesy/respect during my medical visits | 29.1 | 31.4 | 32.1 | 7.4 |
| I can get childcare when needed so that I can get medical care for myself | 18.7 | 11.1 | 25.2 | 44.9 |

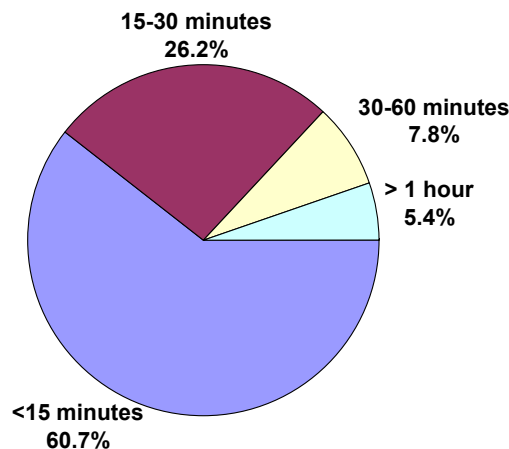
3.4.2 Access to Health Services

Information was gathered about the extent of use of health care services by the target population. To avoid recall bias, almost all questions concerning the use of health services referred to the past four weeks. Only 15.9% of the respondents indicated that they or a member of their family had an appointment at the adult polyclinic during that period of time. This percentage was less in rural areas than in urban areas (13.4% vs. 19.6%, $p=0.009$). The proportion of respondents whose family members had an

appointment at the pediatric polyclinic during past 4 weeks was somewhat higher 21.6%. Again, visits in urban areas exceeded those in rural areas (27.9% vs. 17.7, $p=0.001$). Meanwhile, 67.0% of respondents mentioned that they or someone in their family had to go to polyclinic or hospital during that period, but did not. The most common reason for this, was lack of money to pay for the services (87.5%). Difficulties with transportation (2.0%), lack of time (1.2%), fear of diagnosis/medical care (0.9%), lack of trust (0.6%), and indifference to own health (0.4%) were among other reasons. Some 10.3% of respondents did not mention a reason for foregoing care.

The average time of waiting at the polyclinic to see a doctor or nurse was less than 15 minutes for 60.7% of the respondents, and 15 to 30 minutes for 26.2% of them. Only 5.4% of the respondents mentioned that they had to wait more than 1 hour. (Figure 16)

Figure 16. Average time of waiting at the polyclinic



Some 56.6% of respondents stated that they usually walk to the polyclinic. Naturally, there was a large urban-rural difference here: 82.2% of urban residents and only 39.2% of rural residents reported walking to the polyclinic (Figures 17, 18). An automobile was mentioned as a usual mean of transport to go to the polyclinic by 22.7% of respondents (this percentage was 28 in urban areas and 15 in rural, $p<0.001$). Another 19.0% mentioned bus. Again, urban-rural difference was considerable here (2.1% in urban areas versus 30.5% in rural, $p<0.001$). Only 0.4% of respondents mentioned taxi as a usual mean to get to the polyclinic.

Figure 17. Means of transportation to polyclinic in urban areas. N=387

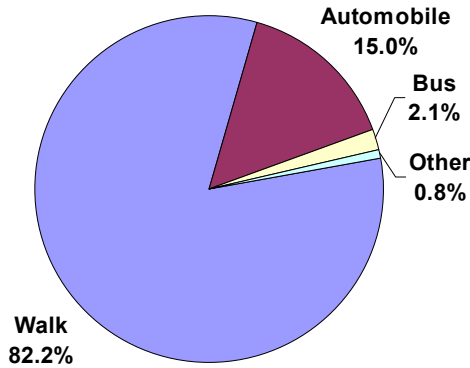
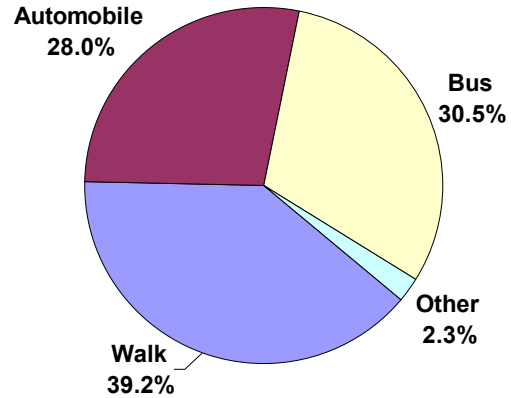


Figure 18. Means of transportation to polyclinic in rural areas. N=567



With respect to frequency of hospitalizations, 23.1% of the respondents mentioned that someone from their household was hospitalized during the past 12 months. While the frequency of referrals to polyclinic was considerably less in rural than in urban areas, the proportion of those who had family member hospitalized during the last 12 months was slightly higher in rural areas (20.0% in urban areas vs. 25.1% in rural areas, $p=0.06$), possibly connected with the consequences of delayed care.

Almost half of the respondents (47.2% with no urban-rural differences) mentioned that when referred to a specialist in the past, their household members have primarily seen a specialist in Armavir. Another 29.5% of them mentioned referring primarily to a specialist in Yerevan. Some 20.2% of respondents (17.5% - from rural and 24.4% - from urban areas, $p<0.02$) could not specify a usual place of referral and mentioned seeing specialists in both Armavir and Yerevan.

Although 36.7% of the respondents perceived that specialists in Yerevan were more qualified than in Armavir, only 26.9% of them mentioned that if referred to a specialist, their household members would prefer to see a specialist in Yerevan. There was a considerable proportion (54.3%) of “don’t know” responses to the question about the perceived quality of specialists in Yerevan and in Armavir. The proportion of those

perceiving that specialists in Yerevan were more qualified than in Armavir was higher in urban areas than in rural areas (42.2% vs. 33.2%, $p=0.015$), but there was no urban-rural difference in terms of preference of seeing a specialist in Yerevan rather than in Armavir. For 40.1% of the respondents the choice of preferred referral site depended on the illness. One of the reasons for the discrepancy between perceptions and preferences is likely attributable to the burden of going to Yerevan to see a specialist, which was “too much” for the majority of respondents (78.5%).

3.4.3 Attitude toward Access to Medical Care

The respondents were asked to indicate the extent of their agreement with several statements to identify their attitude toward access to medical care. The majority of them (77.0%) agreed that most people need medicines from a doctor in order to be healthy. Almost the same proportion of them (75.6%) considered that most people could become healthier by changing their lifestyle and behaviors. The majority of respondents (69.4%) knew where to go to get medical care. However, some 16.7% of them did not know where to get care, and another 14.0% was not sure about this.

Table 10: Attitudes of respondents towards access to medical care, Armavir Marz, 2001

| Statements | Strongly disagree (%) | Disagree (%) | Neither agree nor disagree (%) | Agree (%) | Strongly agree (%) |
|--|-----------------------|--------------|--------------------------------|-----------|--------------------|
| Most people need medicines from a doctor in order to be healthy. | 3.5 | 7.7 | 11.9 | 47.2 | 29.8 |
| Most people can become healthier by changing their lifestyle and behaviors. | 4.0 | 8.8 | 11.6 | 44.5 | 31.1 |
| I know where to go so that I can get medical care. | 4.8 | 11.9 | 14.0 | 51.6 | 17.8 |
| I received good medical care from a doctor during my last sickness. | 5.9 | 12.6 | 19.9 | 43.8 | 17.7 |
| I am able to take time off from work with pay to get the medical care that I need. | 16.2 | 18.8 | 9.4 | 41.0 | 14.5 |

Concerning the medical care that the respondents received during their last sickness, the majority of them (61.5%) agreed that it was good. Some 35.0% of employed respondents disagreed that they were able to take time off from work with pay to get the medical care that they need (table 10).

The respondents were also asked to rate the importance of several factors in selecting a specialist. According to their responses, physician's referral was the most important factor. The next factors in terms of perceived importance were specialist's reputation and cost of treatment. These were followed by hospital/clinic reputation and personal experience. Friend's referral was considered as the least important factor (table 11). There were no significant urban-rural differences. Among other factors listed by respondents as important in selecting a specialist, specialist's kind attitude towards the patients, his professional level, and his experience were the most commonly mentioned ones.

Table 11: Perception of the importance of certain factors in selecting a specialist, Armavir Marz, 2001

| Factors | <i>Not important (%)</i> | <i>Somewhat important (%)</i> | <i>Very important (%)</i> |
|--|---------------------------------|--------------------------------------|----------------------------------|
| Physician's referral | 2.9 | 21.9 | 75.2 |
| Specialist's reputation | 6.1 | 21.6 | 72.3 |
| Cost of treatment | 6.8 | 19.0 | 74.1 |
| Hospital/clinic reputation | 8.1 | 29.7 | 62.1 |
| Previous experience (personal or friend's) | 10.7 | 36.8 | 52.5 |
| Friend's referral | 20.8 | 63.5 | 15.7 |

3.4.4 Access to Early Diagnosis and Prevention Services

Respondents were asked about their knowledge and behavior regarding screening for the early detection of certain diseases and health problems such as cervical cancer and breast cancer. Some 43.8% of the respondents mentioned that they had ever heard about Pap smear as a screening test to detect the early stages of cervical cancer. This proportion was higher in rural areas (45.5% in rural vs. 41.1% in urban). However, it is likely that some proportion of respondents did not understand the meaning of Pap smear

and confused it with vaginal culture. Of those having heard of the Pap smear, 71.3% answered correctly to the question about recommended frequency of having Pap smear, i.e., once a year. Only 4.7% of the respondents knew the correct starting age for a PAP smear 18 years old. There was a large proportion of “don’t know” responses: 35.4%.

With respect to their own behavior, out of all women who heard about Pap smear, some 16.5% mentioned having one within the last year, and 7.7% of them within the past 1-2 years. The majority of respondents either never had (47.6%) or had one more than 4 years ago (13.4%). There were no considerable differences in this area between urban and rural residents.

For the question on recommended frequency of having a screening mammography, 25.9% of respondents answered correctly: every year or every two years (depending on age). Again, there was a large proportion (33.4%) of “don’t know” responses. There was a very small proportion (4.5%) of correct answers to the question on recommended starting age of having a mammogram (35-39 years old). Some 6.5% of respondents mentioned 40 years of age, which is the closest to the correct answer. The majority of respondents (58.6%) chose “don’t know” option to answer this question. With respect to their own practices, 6.3% of the respondents over 35 years of age (a total of 32 women including 7 from urban areas and 25 from rural areas) mentioned that they ever had a screening mammogram. Out of them 19.4% had it within the last year, 19.4% 1-2 years ago, and 12.9% 3-4 years ago.

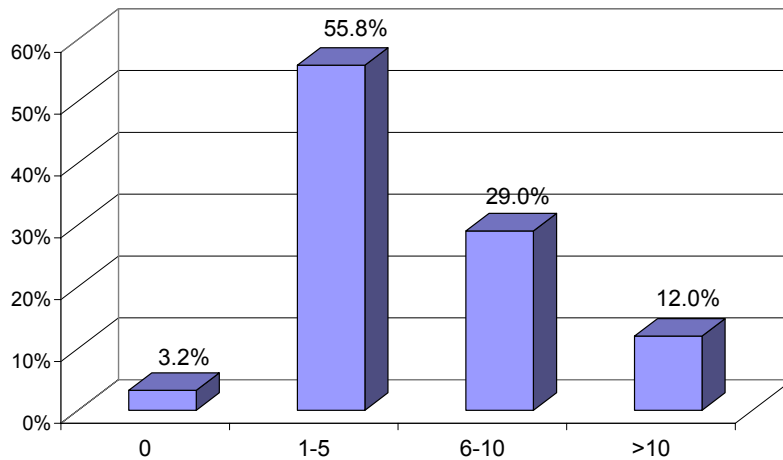
Only 11.9% of the respondents mentioned ever checking their blood cholesterol level (with almost no urban-rural differences). The situation was much better with the immunization coverage of children: 95.0% of the respondents answered that children in their household were immunized. Meanwhile only 43.1% of adolescents (15-17 years old) received their medical exam.

3.5 Reproductive Health Knowledge and Practices

The respondents were asked about the number of pregnancies they had in their life, including miscarriages, stillbirths and abortions (Figure 19). Out of all respondents who answered this question, 41.0% had had more than 5 pregnancies, including 29.0% having 6-10 pregnancies, and 12.0% having more than 10 pregnancies. The biggest

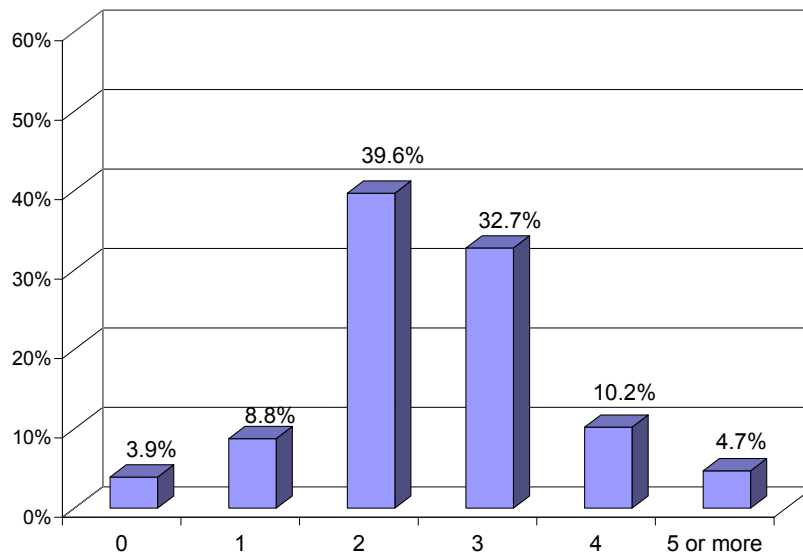
number of pregnancies mentioned by a respondent was 32. Out of all respondents 3.2% never were pregnant and 55.8% had 1-5 pregnancies. The proportion of those having more than 5 pregnancies was higher in rural, than in urban areas (37.3% vs. 43.3%). Generally, the modal number of pregnancies mentioned by respondents was 2 in urban areas and 3 - in rural areas (p=0.002).

Figure 19. Number of pregnancies mentioned by respondents. N=930



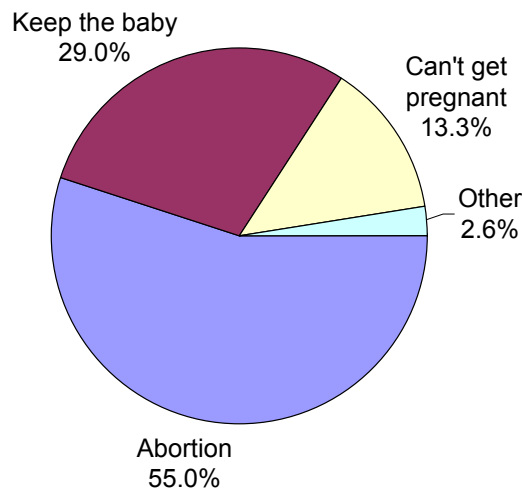
With respect to the number of children given birth to, 4.7% of the respondents mentioned having 5 children or more (the highest number of children mentioned by one respondent was 11), and 10.2% of them mentioned giving birth to 4 children (Figure 20). The majority of respondents gave birth to 2 children (39.6%). Some 8.8% of them had 1 child,

Figure 20. Number of children given to birth. N=971



and 32.7% 3. The remaining 3.9% never gave birth. Generally, number of live births per respondent was higher in rural areas than in urban areas (2.66 vs. 2.35, $p < 0.001$). Out of all respondents, 82.6% mentioned being sexually active with higher percentage in rural areas (86.7% in rural versus 76.2% in urban, $p < 0.001$). When asked, what decision they would make if they become pregnant, 29.0% answered that they would keep the baby (with higher percentage in urban areas than in rural: 32.6% versus 27.0%). Two respondents from rural areas answered that they would keep the baby only if male. Meanwhile, 55.1% of the respondents indicated that they would get an abortion (Figure 21). The proportion of those considering abortion as an option was higher in rural areas (58.8% in rural versus 48.4% in urban). Some 13.3% of sexually active respondents reported they were unable to become pregnant. The majority of the respondents, 90.7%, mentioned being aware of where to get a pregnancy test.

Figure 21. Decision of respondents if becoming pregnant. N=772



In respect to contraception, 38.0% of sexually active respondents used modern contraceptives, 25.2% traditional contraceptives, and some 6.0% mentioned abortion. Male condoms were the most common method of modern contraception (15.5%) followed by IUD (15.0%) and oral pills (6%). Among traditional methods, douching, safe period method, and withdrawal were used with almost equal frequency (8.8%, 8.5%, and 7.9% respectively). A large proportion of the respondents (41.6%) did not use any

method. The proportion of those not using any method was considerably higher in rural, than in urban areas (45.0% versus 35.2%, $p=0.012$). The only method of family planning used more in rural than in urban areas was abortion (6.8% in rural areas versus 4.5% in urban areas).

The respondents were also asked to express their attitude to several statements regarding sexual education and family planning. Most of all, the respondents' attitude was positive to the statement about the necessity of sexual education for high school students: 76.8% agreed. Almost half of the respondents (49.5%) agreed that high school students should be taught in the schools how to use contraceptives. Meanwhile, 68.0% of the respondents felt that high school students should not be able to get condoms at school health centers.

Table 12: Attitude toward sexual education and family planning, Armavir Marz, 2001

| Statements | <i>Strongly disagree (%)</i> | <i>Disagree (%)</i> | <i>Uncertain (%)</i> | <i>Agree (%)</i> | <i>Strongly agree (%)</i> |
|---|------------------------------|---------------------|----------------------|------------------|---------------------------|
| Modern family planning methods (tablets, condoms, IUD etc.) are an effective way to prevent a woman from pregnancy. | 8.7 | 11.6 | 26.7 | 36.4 | 16.6 |
| I know how to prevent getting pregnant if I do not want to have a child. | 5.1 | 15.6 | 14.2 | 48.4 | 16.8 |
| All birth control methods will protect me against getting a sexually transmitted disease. | 5.6 | 19.2 | 24.3 | 35.2 | 15.7 |
| High school students need to be taught about sex education in the schools. | 2.9 | 9.7 | 10.6 | 47.0 | 29.8 |
| High school students need to be taught in the schools how to use contraceptives to prevent pregnancy and sexually transmitted diseases. | 12.4 | 21.3 | 16.8 | 31.2 | 18.3 |
| High school students should be able to get condoms at school health centers. | 30.2 | 37.8 | 15.9 | 9.7 | 6.4 |
| Condoms prevent from getting sexually transmitted diseases. | 4.8 | 11.1 | 19.6 | 40.5 | 24.0 |

With respect to family planning methods, 53.0% of the respondents agreed that modern family planning methods are an effective way for preventing pregnancies. Some 65.2% of respondents felt they were aware of how to prevent getting pregnant. The majority of respondents (64.5%) agreed that condoms prevent the spread of sexually transmitted diseases (STDs). But only 24.8% of them were aware that all birth control methods could not protect a person against getting STDs (table 12). There were no considerable attitudinal differences between urban and rural residents in this issues.

3.6 Personal safety

Several questions were included in the questionnaire to measure respondents' attitude toward public and private safety. The majority of respondents (77.5%) always or usually felt safe at work. The proportion of those feeling safe (always or usually) while shopping was considerably lower: 44.9%. Interestingly, the overwhelming majority of the respondents, and even those who felt unsafe while shopping, indicated that they never worry (or only occasionally worry) that they would be robbed or attacked while shopping (95.9%) or while at home (96.5%). One explanation for the contradiction could be a possible misinterpretation of the meaning of the verb used for safe in Armenian because the verb has two meanings depending on context: feeling secure and feeling safe.

The respondents (all women) were also asked to express the extent of their agreement with several statements concerning relationships between men and women in the family. The majority of respondents (60.1% with no urban-rural differences) agreed that women have the right to disagree with the men in family. However, 76.2% of them (with considerably higher proportion in rural areas: 81.1% versus 68.9%, $p=0.017$) agreed also that women must obey men; and an even higher proportion, 87.4% (90.3% in rural and 83.0% in urban areas, $p<0.001$), agreed that men have a right to discipline women in their home.

Several questions concerning trust of police were included into questionnaire. Of the respondents, 42.1% agreed that they could count on police to protect them. The proportion of those who agreed with this was considerably higher in rural areas (46.2% in rural areas versus 36.0% in urban areas, $p=0.005$). A slightly larger proportion of respondents (58.9%) felt that police would help them if they were attacked or robbed. The proportion of those who felt that police would help them in the case of someone in

their household intentionally hurting them was 58.3%. Some 68.7% of respondents agreed that they could seek medical care if someone that they live with intentionally hurt them (table 13).

Table 13: Attitude toward private and public safety, Armavir Marz, 2001

| Statements | Strongly disagree (%) | Disagree (%) | Uncertain (%) | Agree (%) | Strongly agree (%) |
|--|------------------------------|---------------------|----------------------|------------------|---------------------------|
| At home, women have the right to disagree with the men in the house. | 7.2 | 14.9 | 17.8 | 43.8 | 16.3 |
| Men have the right to discipline women in their home. | 1.1 | 3.9 | 7.5 | 60.7 | 26.7 |
| Women must obey men. | 2.1 | 5.9 | 15.8 | 47.9 | 28.3 |
| I can count on the police to protect me. | 8.7 | 21.4 | 27.9 | 33.2 | 8.9 |
| The police will help me if I am attacked or robbed. | 5.2 | 12.4 | 23.5 | 47.7 | 11.2 |
| I think that the police will help me if I am intentionally hurt at home by someone that I live with. | 5.9 | 13.8 | 22.0 | 46.3 | 12.0 |
| I can seek medical care if someone that I live with intentionally hurts me. | 5.1 | 11.2 | 15.0 | 56.1 | 12.6 |

Several questions were asked to measure the degree of exposure of the target population to violence. Some 8.6% of respondents mentioned, that they personally witnessed a severe argument, fight, or other violence during the past 30 days. Meanwhile, 2.5% of them indicated that someone intentionally hit them within the last 30 days. The question: "Has anyone in your home ever threatened you with physical violence?" received positive answers from 3.7% of the respondents, while 11.4% of them answered "yes" to the question if anyone in her home ever hit or bit her. The discrepancy between these two questions is difficult to explain (possibly, the respondents perceived the term "physical violence" as something more serious than hitting).

3.7 Dental Care

Questions on dental care were directed to measure both the respondents' attitude to preventive dental check-ups and their own behavior. Of the respondents, 38.1% stated that they went to a dentist within the last year and 16.3% 1-2 years ago. Meanwhile, 12.7% of them indicated visiting a dentist 4 or more years ago, and 7.1% never.

The picture was similar with the respondents' family members' last visit to a dentist: 45.6% of the respondents answered that the last time when one or more of their family members went to a dentist was within the last year, and 15.0% 1-2 years ago. The proportion of those respondents whose family members went to a dentist last time 4 or more years ago was 6.7%. Another 7.1% answered "never" to this question. The situation with respect to behavior in this area was similar in urban and rural areas.

A considerable proportion of respondents (45.2%) indicated that normally an adult should receive a dental check-up every 6 months. Some 19.1% considered this frequency being every year. Another 4.1% mentioned "other" which was most frequently described as "in case of complaints". There was a rather large proportion (26.3%) of "don't know" answers to this question. A similar picture was observed with the needed frequency for children's dental check-up and cleaning: 53.9% mentioned "every 6 months", 17.0% "every year", 2.4% "other". Again, the proportion of "don't know" responses was considerable: 23.0%. There were no urban-rural differences in this respect.

4. Main findings

The main/interesting findings of this survey, along with some comparisons with the relevant data from Sevan Household Health Survey, are grouped in the following subtitles.

Socio-economic Status

The survey revealed rather unfavorable situation in terms of employment status, household income, and living conditions of the target population. In two third (66.7%) of households, no one was employed. The main reason for unemployment was lack of appropriate workplaces (mentioned by 62.9% of the respondents). Indeed, for many of the employed household members their current position was inconsistent with their

professional/vocational training. Household expenditures for the last month were less than \$ 50 for more than half of the households (52.2%). The monthly family income was perceived enough to meet family needs for only 3% of the households. Almost one fourth (23.7%) of the households were lack of all the convenience items included in the questionnaire as indirect measures of household income. For more than 10% of households compost was the only fuel used for both cooking and heating. The proportion of those worrying that their family would not have enough to eat was as high as 82.1%. Two third of the respondents (60%) mentioned going to sleep hungry always, usually or occasionally. Overall, the socio-economic status of population in Armavir was very similar to that in Sevan. The only considerable difference was that the employment rates in Sevan were higher for both respondents and household heads (23.4% vs. 13.6% and 32.8% vs. 15.1% respectively). This difference, however, could be partially explained by the large proportion of rural population (mainly farmers) involved in the Armavir survey, while the Sevan survey covered mainly the population residing in the town.

Health Status

The health of children was rated as fair or poor by more than two-thirds (69.2%) of the respondents; the overwhelming majority rated their own health and the health of their household heads as fair or poor (80.0% and 82.6% respectively). The perception of family members being in “poor” health was considerably higher in Armavir than in Sevan (17.3% vs. 7.3% for children, 38.1% vs. 29.4% for respondents, and 42.2% vs. 30.5% for household heads). The negative change in the health of children during the last year was mentioned 1.7 times more often than positive change. This proportion was as high as 5.3 for the respondents and 5.8 for the household heads. The most common chronic health condition in the target population was high blood pressure, followed by cardiac diseases, gastro-intestinal pathology, and vision problems. Cancer and, surprisingly, diabetes were reported as the least common chronic conditions present in less than 2-3% of the household members. Generally, the perceived prevalence of chronic health conditions among family members was higher in Sevan than in Armavir, but perception of having poor/worsening health status was more widespread among Armavir population. One fourth of the respondents (similar to the proportion in Sevan) mentioned having an accident in their family during the last year. The most common accident was fall, followed by cut/slash/puncture and poison/overdose. The situation was really

alarming with the degree of limitations in everyday activities that respondents experienced because of their health condition. More than half of them (including those in the age group of 31-40) felt limited in activities such as walking several hundred meters, bending/kneeling/ stooping or lifting/carrying groceries, and 22.6% of them felt limited in even bathing or dressing themselves. These numbers well exceeded those from Sevan survey. Revealed prevalence of probable (55.4%) and possible (22.3%) depression among the respondents was also enormously high. The average depression score for Armavir (23.9) exceeded that in Sevan and was ~3 times higher than the US population average score.

Health Behavior

Of the respondents, 4.1% were current smokers. Out of all household members that were more than 12 years of age, 28.5% smoked. The male:female ratio in this group of smokers was 25:1. A significant proportion of respondents (14.2%) mentioned that someone living in their household had a drinking problem and 3% of them stated knowing someone in Armavir who had a problem with drug addiction. These findings were very similar to Sevan survey, thus possibly reflecting more general tendencies in Armenia. The same was true for the low proportion of those going for preventive visits to a primary care physician or dentist, or undergoing screening for early detection of high cholesterol level, cervical cancer, or breast cancer.

Health Knowledge

The mean knowledge score of the respondents on childbearing and caring for young children was 50.2 out of 100. In terms of knowledge on different topics, the knowledge score was the highest on breastfeeding and the lowest on childbearing. Both the knowledge score and the pattern of its variations from topic to topic were similar to those revealed from the Sevan survey. The knowledge on reproductive health and disease prevention was generally low and,0 again, close to the findings from Sevan.

Accessibility of Medical Care

The findings here were very similar to those from the Sevan survey: the main problem with accessibility of medical care was its low affordability for the overwhelming majority of the respondents (87.3%). While the proportion of people visiting a clinic during a one month period was rather low (15.9% for adults and 21.6% for children), two third of the

respondents (67.0%) mentioned that their family members needed to refer to a polyclinic/hospital during that period but did not mainly (in 87.5% of cases) because they were unable to pay for services. For the majority of respondents, Armavir Marz was the main place for seeking treatment.

Reproductive Health

Of the respondents, 41.5% had more than 5 pregnancies (including 12.0% having 10 or more pregnancies), but only 4.7% of them mentioned giving birth 5 or more children. Of those sexually active respondents who were able to get pregnant, almost two-thirds mentioned that in case of pregnancy they would get an abortion. Meanwhile, 41.6% of them did not use any method of contraception. Among the respondents, modern methods were more frequently in use than traditional methods (38.0% vs. 25.2%). The most frequently used methods were male condoms (15.5%) and IUDs (15.0%). In general, these findings were similar to those from the Sevan survey.

Safety

The overwhelming majority of respondents (~96%) never worried that they would be robbed or attacked while shopping or while at home. In terms of exposure to violence, 8.6% of them personally witnessed some violence and 2.5% were intentionally hit during the past 30 days. Only 42.1% of the respondents agreed that they could count on police to protect them. In terms of relationships between men and women in the family, over three-fourths of the respondents (76.2%) agreed that women must obey men, and 87.4% of them agreed that men have a right to discipline women in their home. Again, these findings were very close to those found in the Sevan survey.

5. Conclusions

- The similarity of findings revealed from Armavir and Sevan surveys points out the existence of general tendencies typical for the population of the country in a whole.
- According to survey findings, the main areas of concern needing immediate intervention are:
 - High prevalence of probable depression among the target population (*recommended actions: validate these findings with alternate depression scale; organize psychological services for the population if the findings are confirmed*).

- High prevalence of perceived chronic health conditions negatively affecting quality of life of the target population (*recommended action: organize population-based screening program to measure the prevalence of those chronic health conditions most frequently reported by the respondents, such as hypertension, cardiac diseases, vision problems, etc.; initiate relevant health care/health education programs*).
 - Unsatisfactory practice and poor knowledge of preventive medical care and childcare (*recommended actions: initiate relevant health education activities; implement screening programs for cervical cancer, breast cancer, blood cholesterol level, etc.*).
 - Poor knowledge and unsatisfactory reproductive health practices (*recommended actions: empower existing family planning services, initiate relevant health education activities*).
 - Need for advocacy for healthier life style (*recommended actions: initiate educational activities on healthy diet/nutrition and against smoking, alcohol usage, drug abuse*).
- The majority of households have poor access to medical services, due to low perceived/actual affordability.
 - The difficult socio-economic status of the target population is the primary causal factor for low accessibility of health care services. Thus, the chance of success of planned interventions on primary health care level (screenings, preventive check-ups, health education etc.) may be the highest if these interventions assume provision of some free of charge services.

Appendices:

ⁱ Demirchyan, A, Zhamgaryan, R, Thompson, ME, Gagnon, DE. The Use of a Household Survey in the Community Assessment Process, *CommonHealth, Journal of the American Health Alliance*, Spring 2001, Volume 9, Number 1.

ⁱⁱ Thompson ET, Harutyunyan T, A Pre-Post Panel Evaluation of the Green Path Campaign for Family Health, Armenia 2000. AUA Center for Health Services Research, May, 2001

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^{iv} Radloff, LS, Locke, BZ. The Community Mental Health Assessment Survey and the CES-D Scale, Chapter 9, from *Series in Psychosocial Epidemiology, Volume 4, Community Surveys of Psychiatric Disorders*, edited by Weissman MM, Myers JK, Ross CE. Rutgers University Press, New Brunswick, New Jersey, 1986