



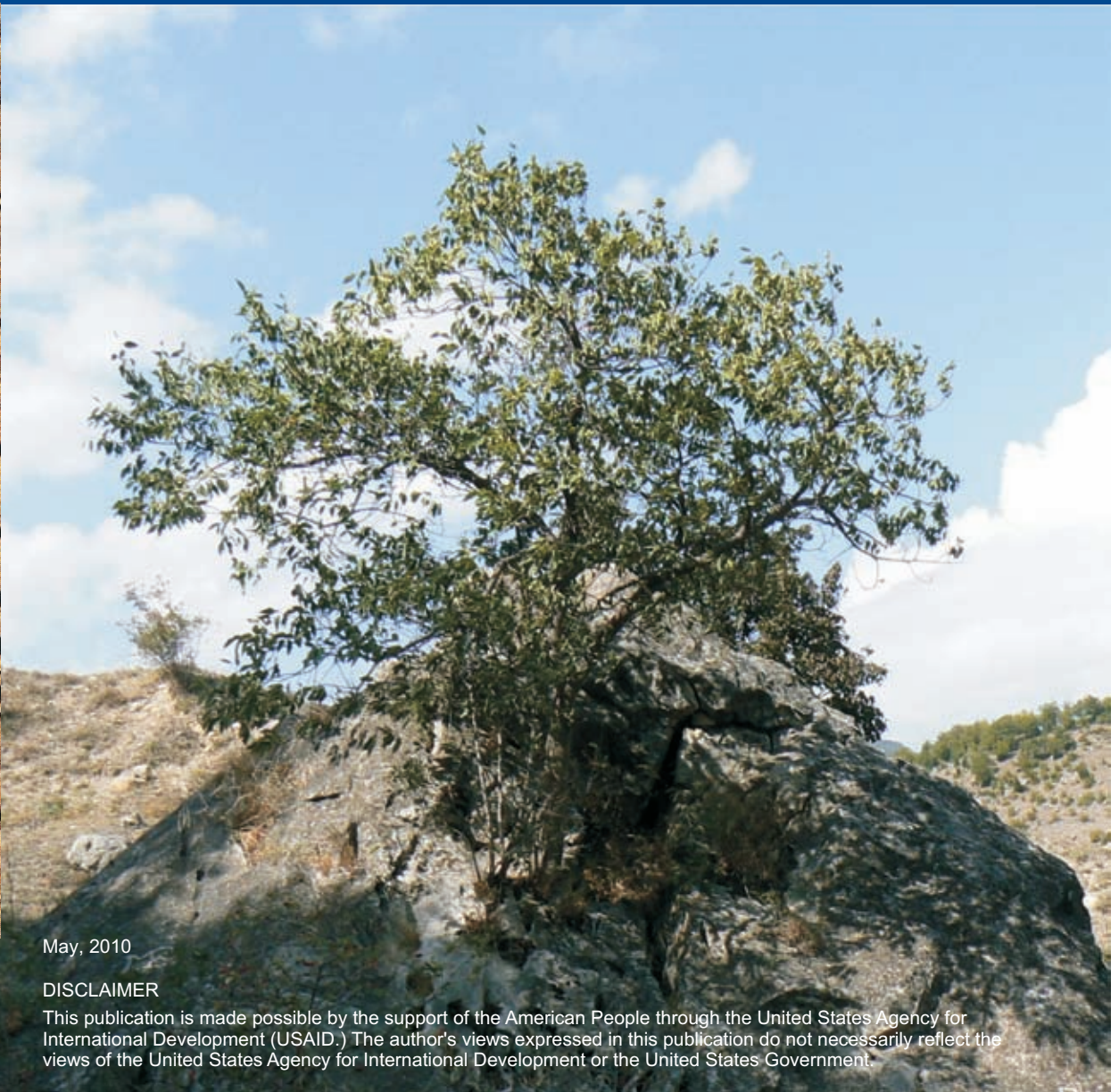
USAID
FROM THE AMERICAN PEOPLE

PHCR
Primary Healthcare Reform Project

HEALTH KNOWLEDGE, ATTITUDES, AND PRACTICES

BASELINE EVALUATION AMONG PATIENTS OF
SELECTED PHC FACILITIES IN ARAGATSOVN, ARMAVIR,
AND ARARAT MARZES

2008



May, 2010

DISCLAIMER

This publication is made possible by the support of the American People through the United States Agency for International Development (USAID.) The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

HEALTH KNOWLEDGE, ATTITUDES, AND PRACTICES

**BASELINE EVALUATION AMONG PATIENTS OF
SELECTED PHC FACILITIES IN ARAGATSOTN, ARMAVIR,
AND ARARAT MARZES**

2008

Preface

The Primary Healthcare Reform (PHCR) project is a nationwide five-year (2005-2010) program funded by the United States Agency for International Development (USAID) under a contract awarded to Emerging Markets Group, Ltd. (EMG) in September 2005. The project's primary objective is the increased utilization of sustainable, high-quality primary healthcare services leading to the improved health of Armenian families. This objective is operationalized by supporting the Ministry of Health (MoH) to implement a package of six interventions that links policy reform with service delivery so that each informs the other generating synergistic effects. These six interventions address healthcare reforms and policy support (including renovation and equipping of facilities); open enrollment; family medicine; quality of care; healthcare finance; and public education, health promotion and disease prevention.

“What impact are these interventions having?” is a question frequently asked but less frequently funded. Fortunately, provision was made in the PHCR project to address the “impact” question. PHCR developed a set of six tools to monitor progress and evaluate results. Three of these tools are facility-based and are designed to assess changes through a pre-test and post-test methodology at 164 primary healthcare facilities and their referral facilities. Three other tools are population-based and are designed to assess changes for the whole of Armenia's population, using the same pre-test and post-test methodology.

This report summarizes the baseline assessment of health knowledge, attitudes, and practices (KAP) among clients of target and comparison primary healthcare facilities in Aragatsotn, Armavir, and Ararat marzes (Zone 3-1), creating a referent for future evaluation of project impact on population health KAP in Zone 3-1.

The Center for Health Services Research and Development of the American University of Armenia, one of the sub-contractors to EMG, has primary responsibility for PHCR monitoring and evaluation. Dr. Anahit Demirchyan, Ms. Tsovinar Harutyunyan, Dr. Varduhi Petrosyan, and Dr. Michael Thompson are the primary authors of this study. Dr. Hripsime Martirosyan and Ms. Nune Truzyan are acknowledged for their valuable contribution in all stages of the study. We would also like to thank our interviewers (primary healthcare physicians in the target marzes) for their data collection efforts, as well as the patients who participated in the interviews. We are also grateful for the excellent support received from the Ministry of Health and marz officials and the opportunity to collaborate in strengthening health services in Armenia

We trust that the findings of this study will be of value in improving health outcomes through more informed decision-making. The report can be found on the PHCR website at www.phcr.am. Comments or questions on this study are welcome and should be sent to info@phcr.am.

Richard A. Yoder, PhD, MPH
Chief of Party
Primary Healthcare Reform Project

Table of contents

Preface.....	ii
Acronyms.....	iv
Executive Summary.....	v
1. Introduction.....	1
2. Study methodology.....	2
Sampling.....	2
Survey administration.....	3
Survey instrument.....	3
Training/pre-testing/data collection & entry.....	3
3. Results.....	4
Client knowledge.....	4
Client attitude toward health issues.....	5
Client practices.....	6
Client KAP levels by PHCR Project targeted topics.....	7
Client KAP levels by socio-demographic characteristics.....	7
4. Conclusions and Recommendations.....	9
Appendix 1: Client satisfaction and KAP survey instrument.....	10
Appendix 2. Journal Form.....	15

Acronyms

AUA	American University of Armenia
CHSR	(AUA) Center for Health Services Research and Development
FAP	Rural Health Post (from Russian abbreviation)
HIV	Human Immunodeficiency Virus
KAP	Knowledge, Attitudes, and Practices
MA	Medical Ambulatory
M&E	Monitoring and Evaluation
PE	Public Education
PHC	Primary Health Care
PHCR	Primary Health Care Reform
PMP	Performance Monitoring Plan
RH	Reproductive Health
SD	Standard Deviation
STD	Sexually Transmitted Diseases
TB	Tuberculosis
USAID	United States Agency for International Development
UTI	Urinary Tract Infection

Executive Summary

The Primary Healthcare Reform Project is a five-year program funded by the United States Agency for International Development under a contract awarded in September 2005 to Emerging Markets Group, Ltd. The project is designed to strengthen the Ministry of Health's capacity to introduce key reforms, which will increase access to and use of high-quality primary health care services. Main activities of the project include renovating and equipping health facilities; training primary health care (PHC) providers; introducing open enrollment, a system whereby patients choose their PHC provider; supporting quality improvement; rationalizing healthcare financing; and providing public health education.

The project utilizes a regional scale-up approach, which allows for zonal expansion of reforms throughout the country over the life of the project. Aragatsotn, Armavir, and Ararat marzes (Zone 3-1) were targets for the third year of implementation. The current assessment establishes baseline levels of clients' health-related knowledge, attitudes, and practices (KAP) in selected communities targeted by the project's Public Education (PE) component in this zone.

The assessment will be repeated at the completion of project activities in these marzes to assess changes in clients' health knowledge, attitudes, and practices introduced by the project. The specific foci of the KAP survey are child health (including breastfeeding, child safety, and immunization), reproductive health (RH), tuberculosis (TB), diabetes, hypertension, healthy nutrition, urinary tract infections (UTI), healthy bones, and healthy lifestyle.

This baseline assessment utilized stratified random sampling design. The self-administered questionnaires consisted of two parts (patient satisfaction and KAP surveys) and were administered to 336 clients of select primary health care facilities in Aragatsotn, Armavir, and Ararat marzes in June 2008. The Monitoring and Evaluation (M&E) team developed the KAP survey tool on the basis of the project's PE training modules and materials (leaflets and brochures) in close collaboration with the project's PE team. USAID representatives reviewed and commented on the instrument.

The key findings of the KAP survey are the following:

Respondents from target and comparison communities are comparable at baseline.

- Target and comparison groups did not differ significantly by the cumulative knowledge score (50.0% and 51.9%, respectively), attitude (60.0% in both) and practice (65.0% and 62.5%, respectively) scores, and the overall KAP score (55.2% and 55.7%, respectively).

Respondents desire health information mainly on prevention and on management of chronic conditions.

- The vast majority of respondents in both groups (88.9% in the intervention and 82.0% in the comparison groups) desired health information on general health issues, preventive care, cardio-vascular diseases, child health, hypertension, diabetes, bone diseases, and nutrition.

Information on chronic disease management is needed.

- The lowest KAP scores were detected for osteoporosis, UTI, hypertension, and diabetes, emphasizing the need in targeting PE activities in these areas. The highest KAP scores were found for healthy lifestyle, child care and breastfeeding, followed by reproductive health and STDs.

Men and the less educated need targeted educational interventions.

- Women had significantly higher attitude, practice and KAP scores than men (especially with regard to smoking). KAP levels increased with educational level. No association was found between KAP levels and clients' age, living standard, or average monthly income.

1. Introduction

The United States Agency for International Development (USAID) awarded Emerging Markets Group (EMG), an international consulting firm, a five-year contract (2005-2010) to run the Primary Health Care Reform (PHCR) Project in Armenia (see <http://www.phcr.am/> for a detailed project description). The Project is designed to improve population access to and use of high quality primary healthcare services through strengthening PHC (Primary Health Care) facilities and family medicine providers, on one hand, and improving public health awareness, health-seeking behavior and demand for PHC services, on the other.

The six main components of the PHCR Project are run in the partnership with IntraHealth International Inc., American University of Armenia, and Overseas Strategic Consulting, Ltd., and include the following activities:

Expansion of Reforms: assisting the Government in establishing a supportive regulatory environment for the advancement of reforms; renovating and equipping PHC facilities nationwide; designing and delivering training to facility management

Family Medicine: developing up-to-date curricula and training materials for continuous medical education; creating free-standing family medicine group practices; providing training to family physicians and nurses

Open Enrollment: introducing the open enrollment principle in the Armenian healthcare sector to promote customer-oriented services by fostering competition among providers

Quality of Care: improving the quality of care by introducing state-of-the-art quality standards and quality assurance procedures; introducing provider licensing and accreditation regulations

Healthcare Finance: increasing the transparency and efficiency of the distribution of healthcare funds through improved service costing and performance-based contracting practices; enhancing accountability at the facility level; determining the use of National Health Accounts

Public Education: enhancing awareness about PHC services offered; improving understanding of open enrollment and acceptance of family medicine providers; promoting health knowledge, healthy lifestyle, and health-seeking behavior.

The project utilizes a regional scale-up approach, which allows for the zonal expansion of reforms throughout the country over the life of the project. Aragatsotn, Armavir, and Ararat marzes (Zone 3-1) were targeted by the Project for the third year of implementation.

The current assessment establishes the baseline level of clients' health-related knowledge, attitudes, and practices (KAP) in Zone 3-1.

2. Study methodology

The study utilized a quasi-experimental non-equivalent control group design. The sample included patients served by PHC facilities from both intervention and comparison sites. The sites in the intervention sample were randomly selected from the list of facilities targeted by the Project in Aragatsotn, Armavir, and Ararat marzes. The sites in the comparison sample were randomly selected from the frame of PHC facilities located in the same area and not targeted by the Project or by any other similar PHC project.

Sampling

The Monitoring and Evaluation (M&E) team calculated the sample size by the STATA statistical software using a formula for two sample comparison of proportions to detect a 10% pre-post difference satisfaction level within the intervention group, with type one (alpha) error¹ of 0.05, and power² of 0.75. The resulting sample size was 196. The sample size for the comparison group was limited by feasibility and budgetary constraints, but was sufficient to detect practically significant differences between the intervention and comparison groups at baseline and at follow-up. The same formula for two sample comparison of proportions was used, but with power set to 0.65 and the size of the intervention group as reported above. The calculated sample size for the comparison group was 140.

This sampling strategy is slightly different from that used for the baseline assessments in Zones 1 and 2 (see the Baseline Patient Satisfaction Reports for Zone 1 and Zone 2). In the Zone 3-1 assessment, only the facilities directly targeted by the PHCR Project, rather than their referral facilities, were included in the sampling frame. The M&E team made this modification because, unlike the previous two assessments, this study had the added purpose of identifying the baseline level of health KAP (to later assess the effectiveness of the Project's public education [PE] interventions). The Project's PE interventions were conducted only in the communities directly targeted for renovation/upgrading activities and not in those communities served by the referral facilities; thus 30 referral facilities were excluded from the sampling frame and only 51 facilities directly targeted by the Project for renovation/upgrading activities were included. Of these 51 PHC facilities, 13 rural health posts (FAP) and one Medical Ambulatory (MA) were selected through stratified random sampling to meet the desired sample size of 196. The number of facilities selected from each marz was proportional to the number of facilities from that marz in the general pool of targeted facilities, and the number of comparison facilities from each marz was proportionate to their representation in the intervention group. Nine FAPs and one MA were selected for the comparison group by stratified random sampling to meet the desired sample size of 140 (Table 1).

Survey administration

At each facility included in the sample, the interviewers selected the last patients seen as respondents, proceeding through the list in reverse order until 14 respondents had completed interviews. This approach ensured a satisfactory level of diversity within the sample while

¹ *Alpha error*- the statistical error made in testing a hypothesis when it is concluded that a result is positive when it really is not.

² *Power* - number or percentage that indicates the probability a study will detect a statistically significant effect when there is a true effect. For example, a power of 80 percent (or 0.8) means that a survey or study (when conducted repeatedly over time) is likely to produce a statistically significant result 8 times out of 10.

maximizing the efficiency of the data collection process. Interviewers visited the patient at home and, after ensuring eligibility and willingness to participate, provided a self-administered questionnaire consisting of both patient satisfaction and KAP components (Appendix 1). The completed questionnaires were collected in envelopes sealed by the respondent to ensure confidentiality of the data. To assess the participation rate, a journal form was completed for each facility, logging the results of each visit/attempt made by the interviewer (Appendix 2).

Table 1. PHC facilities (intervention and comparison groups), Zone 3-1 baseline

Marz <i>region</i>	Facility	
	Intervention site	Comparison site
Aragatsotn	1. Tsaghkashen FAP	1. Yeghipatrush FAP
	2. Hartavan FAP	2. Ara FAP
	3. Meliqgyugh FAP*	3. Miraq FAP
	4. Norashen FAP	4. Aghdzq FAP
	5. Nor Amanos FAP	5. Gyalto FAP
	6. Tsamaqasar FAP	
Ararat	7. Aygepat FAP	6. Vardashat FAP
	8. Masis FAP	7. Arevshat MA
	9. Mrganush FAP	8. Jrahovit FAP
	10. Verin Dvin MA	
Armavir	11. Berqashat FAP	9. Bagaran FAP
	12. Shenik FAP	10. Lernamerdz FAP
	13. Tsaghkalanj FAP	
	14. Tsaghkunq FAP	

* Excluded as a target sites after data collection and analysis.

Survey instrument

The KAP survey, the second component of the combined questionnaire, was newly developed. The instrument, developed in close collaboration with the PHCR PE team on the basis of its training modules and materials (leaflets and brochures), focused specifically on issues targeted by the Project: child health (including breastfeeding, child safety, and immunization), reproductive health (RH), tuberculosis (TB), diabetes, hypertension, healthy nutrition, urinary tract infections, healthy bones, and healthy lifestyle. The instrument contained questions to collect socio-demographic information.

Training/pre-testing/data collection & entry

Interviewer training and pre-testing lasted one day. The PHCR M&E Team developed and delivered to interviewers a training guide containing important information regarding the research objectives, methods, sampling/interview administration, and timeline. Four interviewers participated (two from Aragatsotn, one from Armavir, and one from Ararat) in this assessment. The interviewers received all the items necessary to conduct the fieldwork, including facility code lists, journal forms, maps, instruments in Armenian and Russian, envelopes, folders, and pencils. Data collection started on June 10, 2008 and ended on June 28, 2008. The staff of the Center for Health Services Research and Development (CHSR) of the American University of Armenia (AUA), trained by the Project's M&E Team, entered the data into SPSS 11 statistical package. Double entry and subsequent cleaning ensured the precision of the entered information.

3. Results

The KAP survey, focused on the following issues targeted by the Project: child health (including breastfeeding, child safety, and immunization), reproductive health (RH), sexually transmitted diseases (STD), tuberculosis (TB), diabetes, hypertension, healthy nutrition, urinary tract infections, healthy bones, and healthy lifestyle. These data provided a baseline measure by topic and in aggregate for both the intervention and comparison groups. For knowledge, each correct response to one of the 16 items was valued as one, while incorrect or ‘don’t know’ responses were scored as zero. For eight attitudinal items a score of one was given for each favorable attitude and a zero to each unfavorable or indifferent response. For practices (4 items), responses consistent with evidence-based recommendations were scored as one; other responses were scored as zero. These scores were then converted to percentages. Summative scores were not calculated if answers to any element were missing. This led to missing values for up to 25% of the summary scores.

Client knowledge

Sixteen knowledge items consisted of 5 items on child health, breast feeding, immunization, and safety; 2 items on healthy nutrition; 2 on diabetes; 2 on STDs; and one on each reproductive health, hypertension, osteoporosis, TB, and UTI. Table 2 provides the proportion of correct answers. The intervention and comparison groups’ knowledge levels at baseline were similar. Significant differences were found for only two of the 16 items: the comparison group demonstrated better knowledge on exclusive breastfeeding, while the intervention group was more informed that contraceptive pills do not protect from STDs. Respondents demonstrated good knowledge on breastfeeding, child diarrhea, use of condoms, and threat of contracting HIV if getting an injection with unsterilized needle. More than two-thirds of the respondents knew that home-canned food could be threatening for health, and that a toddler should not be allowed to play with toys smaller than his fist. More than half answered correctly to the question about vaccination against whooping cough. However, the level of knowledge on other issues was limited. Very few respondents knew that UTIs occur more frequently in girls, that frequent urination is a sign of diabetes and that obesity is a contributing factor, that excessive coffee use could contribute to osteoporosis and risk of bone fractures, and that fried food is not healthy. Less than one-third of respondents knew that contraceptive pills do not protect from STDs, and less than half knew that profuse night sweating could be a sign of TB and that hypertension does not cause any noticeable symptoms in its early stages. The mean cumulative knowledge scores were similar for the intervention and comparison groups: 50.0% (sd³ 16.9) and 51.9% (sd 14.4), respectively.

³*Standard deviation* - a statistic that describes the average distance (of the observations) from the center of the data. When the observed data are tightly bunched together and the bell-shaped curve is narrow, the standard deviation is small. When the observations are spread apart and the bell-shaped curve is relatively flat, that means there is a relatively large standard deviation.

Table 2. Correct answers, by intervention and comparison groups

Knowledge statements	Intervention		Comparison	
	n	%	n	%
1. For the first six months of life, a baby does not need any food or drink except breast milk. (<i>true</i>)*	178	70.2	128	84.4
2. It is in child's best interest to be breastfed into the second year of his life. (<i>true</i>)	178	78.7	130	76.9
3. Heavily dressing a child is a better way to prevent him from getting whooping cough than vaccination. (<i>false</i>)	173	52.0	129	62.0
4. A child less than 4 years old should not be allowed to play with items smaller than his fist or toys with components that can easily come loose. (<i>true</i>)	181	63.0	127	69.3
5. When a child has diarrhea, he/she should be given liquids more than he/she normally drinks. (<i>true</i>)	177	78.0	130	77.7
6. Home-canned food can be threatening for health. (<i>true</i>)	178	67.4	132	68.9
7. Fried food is healthier than baked food. (<i>false</i>)	176	15.3	132	24.2
8. Excessive use of coffee cannot increase the risk of bone fractures. (<i>false</i>)	177	17.5	133	24.1
9. Obesity does not contribute to the onset of adults' (type II) diabetes. (<i>false</i>)	175	21.1	127	25.2
10. Frequent urination or excessive urine volume is not a sign of diabetes. (<i>false</i>)	176	23.9	133	21.8
11. At its early stages, high blood pressure does not cause any noticeable symptoms. (<i>true</i>)	173	43.9	128	43.0
12. Profuse night sweating could be a sign of tuberculosis. (<i>true</i>)	175	41.1	131	38.2
13. Urinary tract infections are more frequent in boys than in girls. (<i>false</i>)	175	20.0	128	14.1
14. Contraceptive pills protect from sexually transmitted diseases. (<i>false</i>)*	174	34.5	129	18.6
15. Condoms can be re-used. (<i>false</i>)	176	82.4	130	83.1
16. A person is at risk of contracting HIV if given an injection with an unsterilized needle. (<i>true</i>)	180	76.1	131	82.4
Cumulative knowledge score, mean (SD)	50.0 (16.9)		51.9 (14.4)	

* statistically significant difference, $p^4 \leq 0.05$

Client attitude toward health issues

Eight attitudinal items in the instrument included healthy lifestyle, child health, and reproductive health (2 items each), and diabetes and hypertension (1 item each). The proportion of respondents exhibiting the desired attitude varied widely by item (19-98%), but was generally similar across the intervention and comparison groups (Table 3). The only statistically significant difference was detected in an item where the desired response was extremely high (>90%) for both groups; the intervention respondents were more likely to agree that regular check-ups were important and necessary to maintain health ($p=0.022$). The

⁴*P-value* - a measure of statistical significance. The p-value represents the probability that a difference between groups happened by chance. An example would be a difference in the average birth weight of newborns in two different income groups. A lower p-value for any difference in outcomes indicates a lower probability that the difference was a result of chance. Results with a low p-value are considered statistically significant. For example, a p-value of 0.01 ($p = 0.01$) means there is a 1 in 100 chance that the result occurred by chance. For most social science research, a p-value of 0.05 or less is considered acceptable.

greatest attitudinal deficits were related to physical activity as a preventative measure for hypertension and providers' capacity to recommend contraceptive methods. Attitudes related to children's need for teeth brushing and adherence to vaccination schedules were also concerning. The mean cumulative attitude score was 60.0% (sd 18.8) for both groups.

Table 3. Desired attitudes, by intervention and comparison group

Attitudinal statements	Intervention		Comparison	
	n	%	n	%
1. Most people need regular medical check-ups in order to maintain their health. <i>(desired)*</i>	185	97.8	133	92.5
2. Many people can become healthier by changing their lifestyle and behaviors. <i>(desired)</i>	182	78.0	133	76.7
3. Physically active lifestyle cannot prevent hypertension. <i>(undesired)</i>	181	21.5	134	19.4
4. Diabetes complications may be prevented if blood glucose level is well controlled. <i>(desired)</i>	178	69.1	132	65.9
5. Vaccine schedules are general guides and it doesn't really matter if the schedule is strictly followed. For instance, it is OK if a child is vaccinated within six months of the appropriate time. <i>(undesired)</i>	179	46.9	132	45.5
6. There is no need to brush teeth of a preschooler. <i>(undesired)</i>	181	55.2	130	53.8
7. At least three years of spacing between births is good for both mother's and newborn's health. <i>(desired)</i>	181	76.8	130	79.2
8. Healthcare provider cannot be helpful to a couple in selecting an appropriate method of contraception? <i>(undesired)</i>	176	35.8	130	37.7
Cumulative attitudinal score, mean (SD)	60.0% (18.8)		60.0% (18.8)	

* statistically significant difference, $p \leq 0.05$

Client practices

Four practice items in the instrument included two on healthy lifestyle (smoking and preventive primary care visits) and two on healthy nutrition (use of salt and solid fats such as butter, margarine, or lard). Table 4 shows the proportion of those who reported recommended behaviors. No statistically significant differences were found between the intervention and comparison groups. The proportion of non-smokers was dramatically higher than the population rates for the country, but this finding is an artifact of the large proportion of women (74%) in the sample. Examining smoking by gender provides smoking estimates closer to that of the population as a whole: 6.7% of women and 47.5% of men. The mean cumulative practice scores were similar: 65.0% (sd 25.0) for the intervention and 62.5% (22.5) for the comparison groups.

Table 4. Desired practices, by intervention and comparison group

	Intervention		Comparison	
	n	%	n	%
1. Non-smoker	185	85.4	134	87.3
2. Does not add salt in his/her meal before tasting it	179	69.8	132	62.9
3. Usually fries with vegetable oils	177	40.7	126	39.7
4. Had preventive health visit within past year	177	63.8	133	54.9
Cumulative practice score, mean (SD)	65.0 (25.0)		62.5 (22.5)	

Most respondents (88.9% - intervention group, 82.0% - comparison group) reported interest in receiving information on health-related topics in the future. Many participants stated they were interested in all topics. Among specific topics identified were general health issues, how to protect their health and the health of their family members, cardio-vascular diseases, child health/care, hypertension, diabetes, bone diseases, and healthy nutrition. A few mentioned drugs, headache, neural system disorders, allergy, TB, joint pain, vertebral pain, asthma, menopause, and pulmonary diseases. These areas of interest align with planned health education topics to be addressed by the PHCR PE activities.

Client KAP levels by PHCR Project targeted topics

Aggregate KAP scores also were computed by health topic (combining related knowledge, attitude, and practice items for a given topic) and reported as a percentage. This resulted in scores for child health & care (7 items), breastfeeding (2 items), vaccination (2 items), child care (2 items), child safety (1 item), healthy nutrition (4 items), healthy lifestyle (4 items), diabetes (3 items), reproductive health (3 items), hypertension (2 items), STDs (2 items), osteoporosis (1 item), TB (1 item), and UTI (1 item). Table 5 presents the results comparing the intervention and comparison groups by topic. No significant differences were observed between the two groups by topic or collectively. The highest (most desired) scores were seen for healthy lifestyle, child care topics (especially, breastfeeding), and reproductive health. The lowest scores were observed for osteoporosis and UTI and were rather low for hypertension, diabetes, and TB; thus, emphasizing the need for the PHCR Project PE activities to target these topics.

Table 5. Aggregate KAP scores by health topic, intervention and comparison groups

	Intervention group		Comparison group	
	n	Mean (sd)	n	Mean (sd)
Child care (cumulative)	159	63.9 (20.3)	116	68.0 (18.3)
Breastfeeding	175	74.6 (32.1)	126	80.6 (30.3)
Vaccination	167	50.0 (41.4)	125	53.2 (39.5)
Child care	173	67.3 (29.8)	124	66.5 (30.4)
Child safety	181	63.0 (48.1)	127	69.3 (46.3)
Healthy nutrition	160	48.4 (23.9)	119	49.6 (21.1)
Healthy lifestyle	174	81.5 (18.9)	130	78.5 (20.1)
Diabetes	168	37.9 (27.8)	125	38.1 (28.0)
Reproductive health	167	65.1 (28.5)	124	67.7 (28.5)
Hypertension	170	33.5 (30.2)	127	31.9 (32.50)
STDs	174	55.5 (31.6)	127	50.4 (29.9)
Osteoporosis	177	17.5 (38.1)	133	24.1 (42.9)
Tuberculosis	175	41.1 (49.4)	131	38.2 (48.8)
Urinary tract infections	175	20.0 (40.1)	128	14.1 (34.9)
Overall KAP score	125	55.2 (12.9)	96	55.7 (12.1)

Client KAP levels by socio-demographic characteristics

Tables 6 and 7 summarize respondents' KAP level by socio-demographic characteristics. Women had more favorable attitudes, practices, and overall scores than did men. Higher education level was associated with higher scores of desired knowledge, attitudes, and practices. Knowledge and practice varied across marzes, with Armavir residents generally with more favorable scores.

Table 6. KAP scores by age, gender, education, standard of living (whole sample)

	Knowledge score mean (sd)	Attitude score mean (sd)	Practice score mean (sd)	Overall KAP score mean (sd)
Age				
Younger (< 44)	50.3 (15.8)	61.2 (18.1)	63.2 (22.5)	55.4 (12.8)
Older (≥ 44)	51.5 (15.7)	58.7 (18.6)	64.6 (24.4)	55.4 (12.4)
Gender		*	*	*
Female	51.5 (15.5)	61.5 (18.3)	66.6 (21.0)	56.8 (12.2)
Male	49.7 (15.9)	56.6 (17.8)	55.4 (28.5)	51.9 (12.7)
Education	*	*		*
School (< 10 years)	49.2 (12.1)	56.4 (18.6)	59.8 (18.4)	52.7 (10.5)
School (10 years)	49.1 (16.2)	57.7 (18.0)	62.7 (23.5)	53.7 (12.8)
Professional/technical	56.5 (14.2)	62.5 (17.7)	64.8 (25.6)	59.8 (11.3)
Institute/University or postgraduate	50.4 (18.1)	66.5 (18.2)	66.8 (23.6)	56.6 (13.9)
Standard of living				
Below average	51.5 (16.6)	59.0 (16.9)	59.9 (22.7)	55.7 (12.1)
Average	51.6 (16.2)	60.2 (18.3)	66.1 (24.0)	55.9 (12.8)
Above average	50.0 (12.4)	61.9 (19.6)	63.0 (23.2)	55.1 (11.8)

* statistically significant within category differences, $p \leq 0.05$

Table 7. KAP scores by monthly household income and marz (whole sample)

	Knowledge score mean (sd)	Attitude score mean (sd)	Practice score mean (sd)	Overall KAP score mean (sd)
Monthly household income (drams)				
< 25,000	48.9 (15.4)	56.3 (15.1)	64.0 (22.8)	53.3 (12.1)
25,000 – 50,000	54.6 (16.4)	61.0 (18.3)	63.9 (25.6)	58.5 (13.1)
51,000 – 100,000	51.7 (15.5)	64.1 (18.2)	62.7 (23.7)	56.2 (12.3)
> 101,000	52.9 (14.9)	62.9 (19.2)	56.2 (12.3)	56.1 (12.4)
Marz	*		*	
Aragatsotn	48.1 (13.0)	64.0 (19.8)	64.0 (22.5)	54.1 (11.)
Ararat	54.5 (19.3)	60.0 (16.3)	59.9 (25.0)	55.4 (14.5)
Armavir	52.0 (15.3)	69.5 (17.7)	69.5 (22.5)	58.7 (10.6)

* statistically significant within category differences, $p \leq 0.05$

4. Conclusions and Recommendations

Several important findings with implications for guiding further development of PE activities of the PHCR Project and its evaluation emerged from this survey.

The intervention and comparison groups are largely similar at baseline.

- Cumulative knowledge scores were similarly low in both groups (50.0% and 51.9%).
- Cumulative attitude scores were the same in both groups (60.0%)
- The two groups did not differ in terms of mean practice scores (65.0% versus 62.5%).
- The overall KAP score was similar (55.2% for the intervention group and 55.7% for the comparison group).
- This comparability at baseline will strengthen the credibility of follow-up results.

Most respondents desire health education information. Most (> 80%) respondents expressed interest in receiving information on one or more health education topics. Many were interested in general health information and prevention of diseases, as well as information on cardio-vascular diseases, child health, hypertension, diabetes, bone diseases, and healthy nutrition.

Knowledge is highest for healthy lifestyle and child care topics. Healthy lifestyle scores approached 80% and child care scores averaged approximately 65%, as did reproductive health. STD knowledge was slightly lower at 55%.

Chronic disease knowledge is the lowest. The lowest KAP scores were observed for osteoporosis and UTI (approximately 20%), hypertension and diabetes (approximately 35%), and TB (approximately 40%). These findings stress the need for targeting these topics by the PHCR project's PE activities.

KAP scores vary by key respondent characteristics.

- Women were more likely to have favorable KAP scores, suggesting the need to target men.
- KAP scores were positively associated with education, suggesting directing messages to the less educated.

Appendix 1: Client satisfaction and KAP survey instrument

Facility Code _____

Date: _____ / _____ / _____
Day Month Year

Dear client,

Primary Health Care Reform Project conducts this survey together with the Ministry of Health with the aim to assess the quality of primary health care (PHC) services in your residency area. We need your help to understand how to improve the primary health care for your community. Your address was selected randomly from the list of people who visited your primary health care facility recently. The healthcare providers of that facility know about this survey and support it. However, your participation in this study is voluntary and the information you give us will be confidential, which means that your name will not be mentioned anywhere and the information provided by you will be presented only in a summarized form. It is very important that you respond honestly. Please, carefully read each question and the possible responses. Choose and mark () the response option that best represents your opinion about the last visit to the polyclinic (ambulatory, FAP) made during the last month by you, your child or a household member whom you accompanied. Please, note, if you accompanied a household member, the questions concerning care refer to the care provided to that person.

Please, respond to the questions starting from the next page.

1. Do you think that during your last visit to the clinic, the provider (doctor or nurse):
 1. Was really attentive to you? 1.Yes 2.To some extent 3.No
 2. Appeared to enjoy caring for you? 1.Yes 2.To some extent 3.No
 3. Seemed impatient? 1.Yes 2.To some extent 3.No
 4. Gave complete explanations? 1.Yes 2.To some extent 3.No
 5. Talked down to you? 1.Yes 2.To some extent 3.No
 6. Was not enough thorough? 1.Yes 2.To some extent 3.No
 7. Considered your preferences regarding your care? 1.Yes 2.To some extent 3.No
 8. Understood you when you shared your problems? 1.Yes 2.To some extent 3.No
 9. Seemed disorganized and flustered? 1.Yes 2.To some extent 3.No
 10. Appeared to be skillful? 1.Yes 2.To some extent 3.No
 11. Treated you with respect? 1.Yes 2.To some extent 3.No
 12. Explained things in an understandable manner? 1.Yes 2.To some extent 3.No
 13. Made you to feel free to ask questions? 1.Yes 2.To some extent 3.No
 14. Helped you to understand your illness? 1.Yes 2.To some extent 3.No
 15. Discussed with you the treatment options? 1.Yes 2.To some extent 3.No

2. Was the following true for your last visit to the clinic?
 1. You had to wait too long before receiving care. 1. Yes 2. No
 2. It was difficult for you to make an appointment with the provider. 1. Yes 2. No
 3. People unrelated to you were present during your visit. 1. Yes 2. No
 4. You received health educational materials for reading. 1. Yes 2. No
 5. You paid the doctor (or nurse) for the care you received. 1. Yes 2. No

3. Do you think the information you shared about yourself with the provider will be kept confidential? 1. Yes 2. No 99. Don't know
4. Could you get all the medicines prescribed during your last visit?
 1. Yes 2. No 3. No medicine was prescribed
5. Did you receive free of charge or discounted medicine during your last visit?
 1. Yes 2. No 3. There was no need
6. How would you assess the cleanness of the clinic at the time of your last visit?
 1. Satisfactory 2. Unsatisfactory 99. Don't know
7. How would you assess the clinic conditions (renovation, equipment, supplies) at the time of your last visit? 1. Satisfactory 2. Unsatisfactory 99. Don't know
8. Would you again refer to the same provider if you had a similar problem?
 1. Yes 2. No 99. Don't know
9. Would you recommend the same provider to your friends and relatives?
 1. Yes 2. No 99. Don't know
10. Overall, how would you assess the care you received in the clinic during your last visit?
 1. Excellent 2. Good 3. Fair 4. Poor
11. Out of the following, what three measures would you consider the most important to make the services at the clinic better? (*please, mention no more than three options*)
- | | |
|---|---|
| 1. Increase facility space | 8. Supervise providers |
| 2. Improve hygiene/cleanliness | 9. Increase working hours of the clinic |
| 3. Increase free of charge drug supplies | 10. Involve community in supervision |
| 4. Buy necessary equipment | 11. Increase the frequency of home visits |
| 5. Make doctor regularly available | 12. Provide a telephone to the facility |
| 6. Increase salary of providers | 13. Eliminate informal payments |
| 7. Increase professional level of providers | 14. Other (<i>specify</i>) _____ |
12. How long did you wait at your PHC facility to see the provider at your last visit?
_____ minutes
13. What was the reason for your last visit to the primary healthcare facility?
(*Please describe*) _____
14. Have you visited or do you plan to visit another facility for the same problem, because you were unsatisfied with the services you received during your last visit?
 1. Yes 2. No
15. **Please, indicate your:**
- a. Age:** _____
- b. Gender:** 1. Female 2. Male
- c. The highest level of education you completed:**
1. School (less than 10 years)
2. School (10 years)
3. Professional technical education (10-13 years)
4. Institute/University or Postgraduate
- d. Your family's general standard of living:**

1. Substantially below average
2. Little below average
3. Average
4. Little above average
5. Substantially above average

e. Average monthly income of your household:

1. Less than 25,000 drams
2. 25,000 – 50,000 drams
3. 51,000-100,000 drams
4. 101,000-250,000 drams
5. More than 250,000 drams
99. Don't know

f. How many people live in your household (including children)? _____ people

Health Knowledge, Attitude, & Practice Survey

The following questions assess your attitudes about several health-related issues. Your answers will help us to better organize and evaluate health education activities in your community. Thanks in advance.

For each statement given, please indicate whether you think it is true or false.

17. For the first six months of life, a baby does not need any food or drink except breast milk.	1. True	2. False	3. Don't know
18. It is in child's best interest to be breastfed into the second year of his life.	1. True	2. False	3. Don't know
19. Heavily dressing a child is a better way to prevent him from getting whooping cough than vaccination.	1. True	2. False	3. Don't know
20. A child less than 4 years old should not be allowed to play with items smaller than his fist or toys with components that can easily come loose.	1. True	2. False	3. Don't know
21. When a child has diarrhea, he/she should be given liquids more than he/she normally drinks.	1. True	2. False	3. Don't know
22. Home-canned food can be threatening for health.	1. True	2. False	3. Don't know
23. Fried food is healthier than baked food.	1. True	2. False	3. Don't know
24. Excessive use of coffee cannot increase the risk of bone fractures.	1. True	2. False	3. Don't know
25. Obesity does not contribute to the onset of adults' (type II) diabetes.	1. True	2. False	3. Don't know
26. Frequent urination or excessive urine volume is not a sign of diabetes.	1. True	2. False	3. Don't know
27. At its early stages, high blood pressure (hypertension) does not cause any noticeable symptoms.	1. True	2. False	3. Don't know
28. Profuse night sweating could be a sign of tuberculosis.	1. True	2. False	3. Don't know
29. Urinary tract infections are more frequent in boys than in girls.	1. True	2. False	3. Don't know
30. Contraceptive pills protect from sexually transmitted diseases.	1. True	2. False	3. Don't know
31. Condoms can be re-used.	1. True	2. False	3. Don't know
32. A person is at risk of contracting Human Immunodeficiency Virus if he is given an injection with an unsterilized needle.	1. True	2. False	3. Don't know

Appendix 2. Journal Form

Date: _____

City/Village _____

Interviewer's name _____

Cluster number: _____

Starting address: _____

<i>Visit/attempt number</i>	01	02	03	04	05	06	07	08	09	10	11	12	13	14
<i># of eligible respondents</i>														
<i>Result</i>														

<i>Visit/attempt number</i>	15	16	17	18	19	20	21	22	23	24	25	26	27	28
<i># of eligible respondents</i>														
<i>Result</i>														

<i>Visit/attempt number</i>	29	30	31	32	33	34	35	36	37	38	39	40	41	42
<i># of eligible respondents</i>														
<i>Result</i>														

<i>Visit/attempt number</i>	43	44	45	46	47	48	49	50	51	52	53	54	55	56
<i># of eligible respondents</i>														
<i>Result</i>														

RESULT CODES

- | | |
|---|-----------------------------------|
| 1. Completed interview | 5. Refusal |
| 2. No eligible females | 6. Refusal by selected respondent |
| 3. Nobody at home | 7. Unoccupied house |
| 4. Selected respondent (from baseline) is not at home | 8. Respondent incompetent _____ |
| | 9. Other _____ |
| | 10. Incomplete interview |