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INFANT AND CHILD NUTRITION ASSESSMENT REPORT

Bakı – 2011

Infant and Child Nutrition Assessment

The reduction of child mortality rates is one of the Millennium Development Goals. The specific goal is to reduce mortality among under-fives by two thirds between 1990 to 2015.¹ Child mortality rates are largely dependent on neonatal mortality rates. Internationally, 37% of under-five deaths occur during the first month of life, and the majority of these deaths happen within the first week.²

Recent studies have revealed that starting breastfeeding within one hour after birth helps to reduce the risk of neonatal mortality by a factor of three. Exclusive breastfeeding until six months may help save the lives of 13-15% of children. Breastfeeding the child until it is two years or above, along with providing food supplements from the seventh month may reduce the risk of mortality by more than 6%.³

The reduction of mortality among children under five is part of the Action Plan of the “Azerbaijan State Program on Poverty Reduction and Continuous Development, 2008-2015”.

Azerbaijan provides certain activities at the state level, including through the Ministry of Health, which aim to promote breastfeeding. The Azerbaijan Republic Law on “Infant and Child Feeding” was adopted in 2003.⁴ Out of the countrywide 77 labor clinics 67 were deemed Child Friendly Clinics by UNICEF in 2004.⁵

The State Program on Mother and Child Health Protection (2006-2010) was launched in 2006.⁶ Six out of the seven Regional Perinatal Centers planned by the Program are already functioning (Baku, Nakhchivan, Ganja, Lankaran, Guba, Sabirabad). The remaining one is due to open shortly.⁷

Yet, the DHS-2006 results revealed that only 12% of the mothers were practicing exclusive breastfeeding until six months. 32% of newborns were breastfed within one hour after birth. This indicator is considerably lower among children born in towns, in comparison with those born in villages. 39% of newborns received some liquid before the first breastfeeding.

Breast milk is the optimal source of nutrition for infants. Breastfeeding is important for both the child and the mother.⁸ Breastfeeding is an excellent form of natural immunization, and as such can be considered separate from external immunization.⁹ Cells and antibodies contained in breast milk help regulate the baby’s immune responses and protect her from intestinal and respiratory

infections and antibodies produced by mother's body against infections she has overcome protect child from that infections. There are also factors contained in breast milk which enable the development of the child, particularly the immune and central nervous systems. Breastfeeding helps reduce risk of the lower respiratory infections.¹⁰ Early start of breastfeeding stimulates the mother's lactation and becomes a stimulus for further regular breastfeeding. Breastfeeding has a positive psycho-emotional influence on the mother and child, and also facilitates the quick and healthy contraction of the uterus during the early postpartum period.

Breastfeeding prevents ovulation and menstruation. This is a natural and physiological mean of pregnancy prevention. Effectiveness of this method increases if child is being breast fed by demand day and nights not less than 8-10 times a day with intervals no more than five hours.¹¹

Labour facilities are the main and the optimal sources of the best practices for newly delivered women. UNICEF and WHO launched Baby Friendly Clinic Initiative in 1991 aiming to modify all maternal facilities into breastfeeding supportive facilities. Labour facilities which refuse using formulas and child feeding bottles and implement 10 specific steps towards successful breastfeeding were eligible to be entitled as Baby Friendly Clinic. One of these 10 steps is to assure staying of a newborn in the same room with mother.¹²

The Infant and Child Nutrition Assessment was conducted under the 2010 Annual Work Plan signed between the Ministry of Health and UNICEF Azerbaijan Office. The implementation of the Project was conducted by the Public Health and Reforms Center of the Ministry of Health.

Goal of the Assessment. To analyze the current situation in infant and child nutrition by assessing knowledge, approach, and practices of mothers and health providers, as well as by studying market availability of child nutrients and compliance of product labeling with Azerbaijani legislation.

Objectives

1. To learn about knowledge and practices of breastfeeding, weaning and overcoming child feeding problems by interviewing mothers who have children between 0 and 2 years old in urban and rural areas.
2. To assess knowledge and approach of healthcare providers working in all levels health facilities and providing antenatal and postnatal care to mothers, by interviewing healthcare

providers about infant and child breastfeeding, weaning and possible solutions to resolve feeding problems.

3. To assess market availability of foods for child nutrition and compliance of product labeling with the Azerbaijan Republic Law on Infant and Child Nutrition.

Target Groups

- A) Mothers of children born between January 2009 and the end of December 2010;
- B) Healthcare providers (gynecologists, pediatricians, neonatal specialists, midwives, feldshers, and field/patronage nurses) working in healthcare facilities providing antenatal, postnatal counseling (women consultation clinics, pediatric polyclinics, “feldsher-akusher” posts (small rural posts staffed by midwives), doctor ambulatories, labour wards, perinatal centers, Pediatric Research Institute named by K. Farajova, OB/GYN Research Institute, and Republic Perinatal Center);
- C) Markets selling nutrition products for children

Assessment Tools

Assessment tools included interviews and observations.

Interview targets:

The interview was conducted among mothers of children 0-2 years old, and healthcare providers who provide counseling to women/mothers. Different questionnaires were designed for interviewing mothers and healthcare providers.

In order to better assess the responses of healthcare providers the interview was also conducted among their patients - recently confined women in maternity hospitals and labour wards. These questions for mothers were added to the healthcare providers' questionnaire. Questions about living conditions were also included into the questionnaire for mothers.

Observation:

An observation form for the market assessments was prepared.

Selection and Sampling

It was decided to conditionally divide the country territory into 5 areas for the assessment needs: Baku, North-East, North-West, South-West, and South-East.

Given that the population of Baku (2, 064 900 according to the State Statistics Committee, 2009) makes 23% out of the total population, and the fact that about 27% of all newborns are born in Baku, and that the major maternity centers (such as OB/GYN Research Institute, Pediatric Research Institute, Republic Perinatal Center, 5 city clinical hospitals, 14 joint city hospitals, and 6 labour wards) are located in Baku, the capital was considered as a separate cluster.

A city from each of the north-west, north-east, south-west, and south-east clusters (Guba, Ganja, Imishli, Lankaran) was selected by *purposive sampling*. There are Perinatal Centers located in three of those cities so many patients come in from surrounding towns and villages because of that.

In Baku, three of the city's eleven administrative rayons were selected. In addition, OB/GYN Research Institute named by K.Farajova, Pediatric Research Institute, and Republic Perinatal Center were also included in the assessment.

The sample size of the children born in 2009 and 2010 was calculated at 384. That number forms a confidence level of 95%. Bearing in mind that some respondents may refuse to answer the questions, this number was increased by 20%.

Samples from each age group were randomly selected from the lists of children obtained from the central district hospitals by Excel random function.

The number of healthcare providers to be assessed was given as 132, taking in consideration time and resources constraints. It was considered to have at least 20 healthcare providers from each cluster. While the number is not fully representative of national healthcare provision, it gives the opportunity to reflect different opinions of healthcare providers in this assessment.

Healthcare providers were selected by reliance on available subjects method.

Three markets were randomly selected in each of the selected cities.

Distribution of the children between 0 and 2 years and health providers across cities

#	City name		Number of mothers/children	Number of healthcare providers
1.	Baku	A. Sabunchu district	87	13
		B. Nizami district	51	6
		C. Nasimi district	55	6
		D. Republic Perinatal Center, Obstetrics-Gynecology Research Institute, Pediatric Research Institute		20
2.	Ganja		81	22
3.	Guba		53	22
4.	Lankaran		82	21
5.	Imishli		47	22
	Total		456	132

Eligibility criteria: 1. Living children 2. Full biological children

Exception criteria: 1. Adopted children 2. Step children

Questionnaire

A questionnaire for mothers was compiled based on WHO infant and child nutrition assessment indicators (*Indicators for assessing infant and young child feeding practices - WHO, 2007*), and also questions of A.Cornelli (*A.Corneli, adapted from question guides from the formative research study on factors influencing iron supplementation, breastfeeding, and dietary practices of internally displaced populations in Azerbaijan, 1998*) and in accordance with DHS-2006 questions.

The questionnaire for mothers included the respondent's personal information, knowledge of mother and source of knowledge, information about the child, the mother's experience, and information about living conditions. The questionnaire consists of 70 questions.

The questionnaire for healthcare providers was developed base on A.Cornelli's sample questions (*A. Corneli, Adapted from question guides from the formative research study on factors influencing iron supplementation, breastfeeding, and dietary practices of internally displaced populations in Azerbaijan, 1998*). Also, questions to assess the performance of healthcare providers were added. These additional questions were addressed to women being served in the corresponding hospital. The questionnaire consisted of 57 questions.

Questions on the market assessment were designed based on the Azerbaijan Republic Law on "Infant and Child Nutrition". The assessment form consists of 10 questions.

Although these questionnaires included both closed and open ended questions, the answers were codified in order to be appropriately entered into the SPSS database.

Training of interviewers, pilot testing and field work

A presentation was prepared as part of the training for the interviewers. The Project Coordinator held that training one day prior to the start of the field work. The presenter explained the rules of the assessment and clarified the questions on the questionnaires. Initially, interviewers conducted a pilot testing in Baku under the supervision of the Project Coordinator. Based on pilot results the questions were revised and edited. The corrections were mainly on issues of wording, design and formatting. The editions were approved by the Ministry of Health's Senior Pediatrician and experts of the Pediatric Research Institute named by K. Farajova and the Public Health and Reforms Center.

Then the districts were divided between interviewers.

The field work was completed in ten days. Seven interviewers were divided across three routes: Guba-Ganja, Imishli-Lankaran, Baku. Three interviewers worked in Baku and the remaining four in other cities. The completed forms were collected upon the end of the field work. The interviewers exchanged their thoughts at the final meeting.

Data Input

The obtained data was entered into computer database using SPSS 17 program. Four operators put data into database within 7 days. Double data entry was used to avoid possible errors.

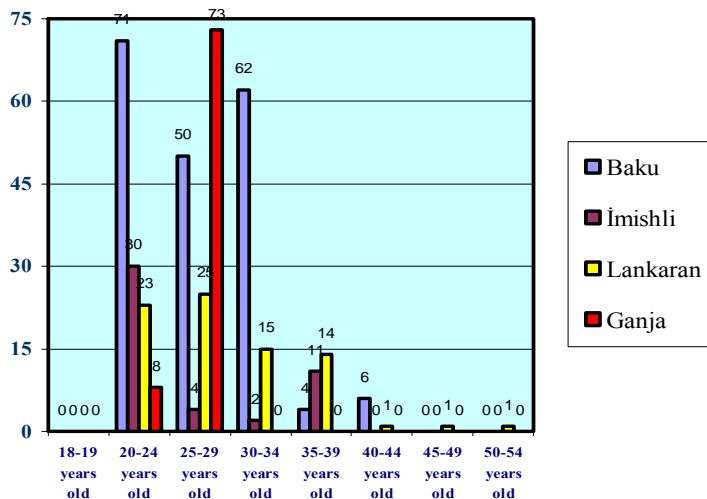
DATA ANALYSIS

Mothers' Questionnaire

Respondents' Information

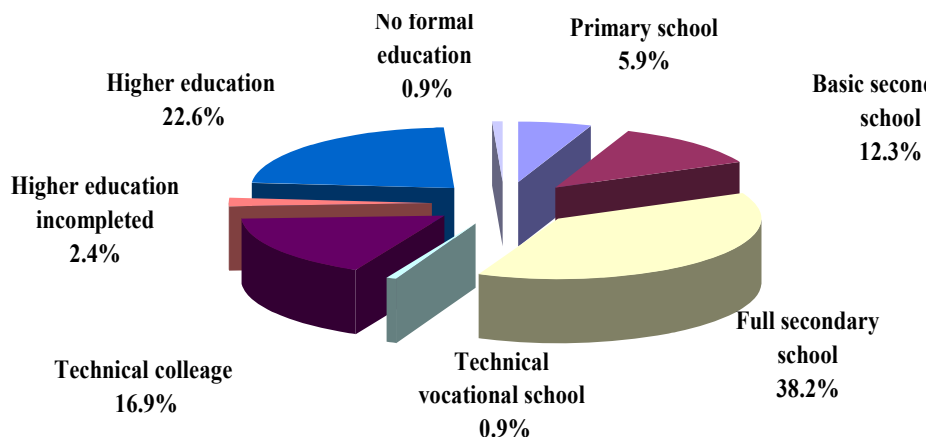
Most of 456 mothers who participated in the assessment (98.2%) were married women aged between 18-52. 1.5% of the respondents were divorced/separated, and 0.2% were widows. 25.7% of respondents' families had 5 members, 25.4% had 4 members, 18.2% had 6, 12.3% had 3, 8.6% had 7, 4.6% had 8, 3.9% had 10 or more, 1.1% had 9, 0.2% had 2 members. 45% of the mothers had one child, 40.4% had two children, 12.1% had three children, 2.6% had four or more children. Assisting with childcare was provided in 28.3% of cases by mother-in-law, in 7% of cases by the spouse, in 5.9% by mothers, in 4.8% by mother-in-law and spouse, in 3.5% by mother-in-law and mother, in 2.9% by mother-in-law and sister-in-law, in 2.4% by mother-in-law and father-in-law, in 1.8% by sister-in-law, in 1.1% by mother-in-law and brother-in-law's wife, in 0.7%- by children, in 0.4%- father-in-law, in 0.4%- mother-in-law and children, in 0.2%- by brother-in-law's wife. In 23% cases nobody provided assistance. The remaining mothers gave different answers.

Diagram 1. Respondents' age (by numbers)



The education level of mothers was estimated as follows: 38.2% full secondary, 22.6% higher education, 16.9% technical, 12.3% basic secondary, 5.9% primary school, 2.4% not completed higher education, 0.9% technical/vocational school, and 0.9% had received no formal education.

Diagram 2. Education level of mothers (%)

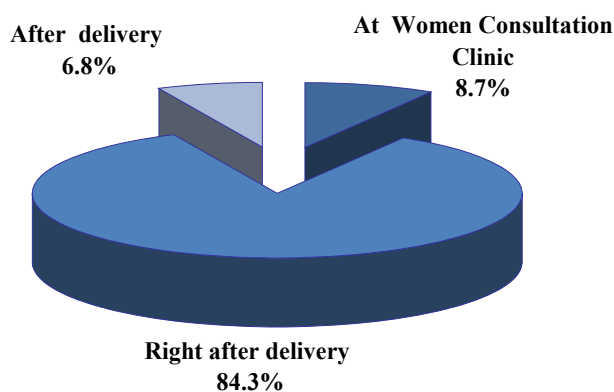


82.7% of the mothers were housekeepers or students, 10.1% took a temporary break from work through maternity leave, and 7.2% were employed. 27.5% of the children whose mothers worked or studied were given general family food when the mother was absent from the home, 13.9% received milk yield during these periods, and 27.8% received common family food.

Maternal knowledge of infants feeding, and source of the knowledge

80.7% of mothers (88) were taught about breastfeeding technique by health providers. Of those who were not taught 39.8% were from Lankaran, 35.2% from Imishli, 17% from Baku, and 8% from Ganja. 84.3% of mothers were taught how to breastfeed immediately after delivery, 8.7% in a female counseling office, and 6.8% at a later point following delivery. 0.3% of mothers stated they knew it themselves.

Diagram 3. When mothers were taught on breastfeeding technique



91.7% of mothers received information about infant feeding. 84% obtained this information from health providers; 12.2% from mother-in-law, mother, friend, neighbour; 2.2% from TV, radio, or books; and 1% didn't remember source of information. The remaining 0.7% gave different answers.

65.9% of mothers received information about infant feeding immediately after delivery, 19% after delivery, and 14.6% before delivery. 70% of the mothers got this information in labour wards, district central hospitals, or a perinatal centers, 16.8% from polyclinics, 9.4% from a women consultation clinic.

When and where mothers receive information about child feeding

Before delivery	14.6%	Women consultation clinic	9.4%
Immediately after delivery	65.9%	Maternity hospital, Central District Hospital, Perinatal Center	70%
After delivery	19%	Polyclinics	16.8%

77.1% of the mothers were supplied with child health information by health providers (92.6% from doctors, 6.9% from doctors and nurses, 0.5% from nurses), 15.8% from doctor and mother-in-law, 5.1% from the mother-in-law and mother.

Where from mothers get related to the health of children information

Healthcare providers	77.1%
Healthcare providers and mothers-in-law/mothers	15.8%
Mothers-in-law/mothers	5.1%

44.3% of the mothers believed that child should be breastfeeding up to age of one, 37.9% up to two years old, 9% up to the moment breast milk production ceased, 7.5% up to six months, and the remaining 1.3% gave different answers.

8.8% of mothers surveyed in Baku, 8.5% in Imishli, 7.5% in Ganja, 5.8% in Guba, 4.9% in Lankaran believe that a child should be breastfeed up till six months old. 55.4% of mothers surveyed in Baku, 42.7% in Lankaran, 37.5% in Ganja, 31.9% in Imishli, 26.9% in Guba believed that a child should be breastfeed until one year old. 59.6% of mothers from Imishli, 51.9% from Guba, 43.8% from Ganja, 41.5% from Lankaran, 24.9% from Baku believed that a

child is to be breastfed up to 2-3 years old. 15.4% from Guba, 11.3% from Ganja, 10.4% from Baku, 4.9% from Lankaran believed that breastfeeding should be continued until the breast milk production ceases. Nobody from Imishli gave such an answer.

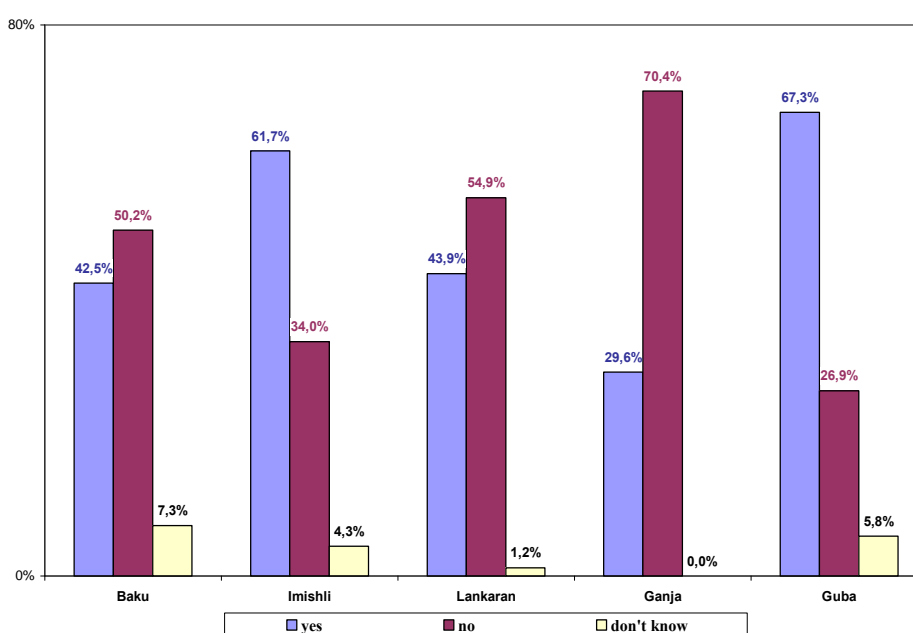
How long a child needs to be breastfed, according to mothers

6 months	7.5%
One year	44.3%
Up to 2-3 years	37.9%
Until breast milk production ceases	9%
Other answers	1.3%

When asked to explain their answers, 75.4% mothers cited health benefits for the child, 8.6% said it has health benefits for both child and mother, 2.2% health benefits for the child and protection from pregnancy, 0.9% said that it is good for the mother, 0.2% said that it is good for child and the remaining 12.7% gave different answers.

50.3% mothers did not believe that child should be breastfed exclusively without being given any additional liquid during six months, 45.3% thought that an exclusive breastfeeding was the best option, 4.4% were not sure of the answer.

Diagram 4. Respondents' answers to the question if exclusive breastfeeding without additional giving of water, tea or other fluids is enough for the child up to six months



Answering the question “What to do if newborn or infant refuses breastfeeding?”, 78.2% of respondents said the infant should be given baby formula, 5.3% recommended additional food, 1.8% other milk, 1.3% baby formula and additional food, 0.9% regular food from the family dinner table. 8.8% said mother should try again with breastfeeding, 3.1% gave different answers, and 0.7% refused to answer this question.

40% mothers think that additional food means formula.

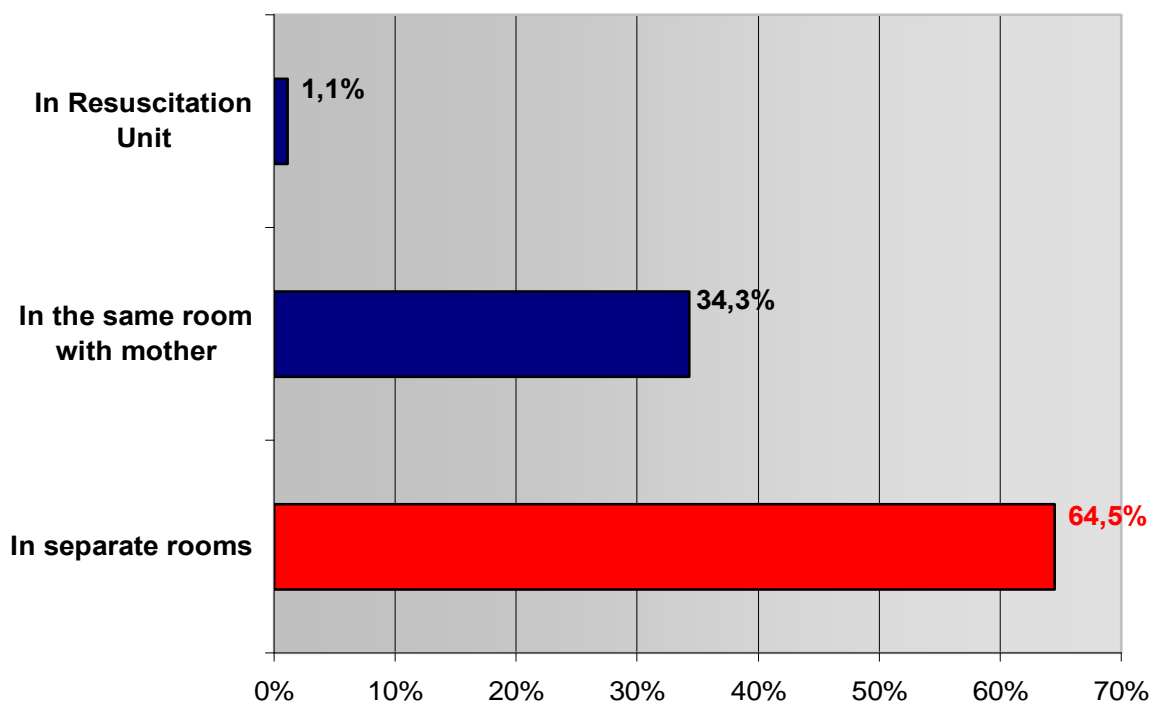
69.1% think that giving additional food should be started after six months, 26% thing it should be started within the five months.

Information about children

52.2% of surveyed mothers participating delivered boys, 47.8% delivered girls. 86.8% of them delivered naturally, 12.8% by Caesarean section. Most of the children were born in public hospitals (92.9%), with 4.4% in private hospitals, and 2.7% at home.

After the birth, 64.5% of newborns were placed in a separate from their mothers’ rooms, 34.3% in the same room with mother, 1.1% in intensive care wards.

Diagram 5. Placement of newborn children in maternity hospital



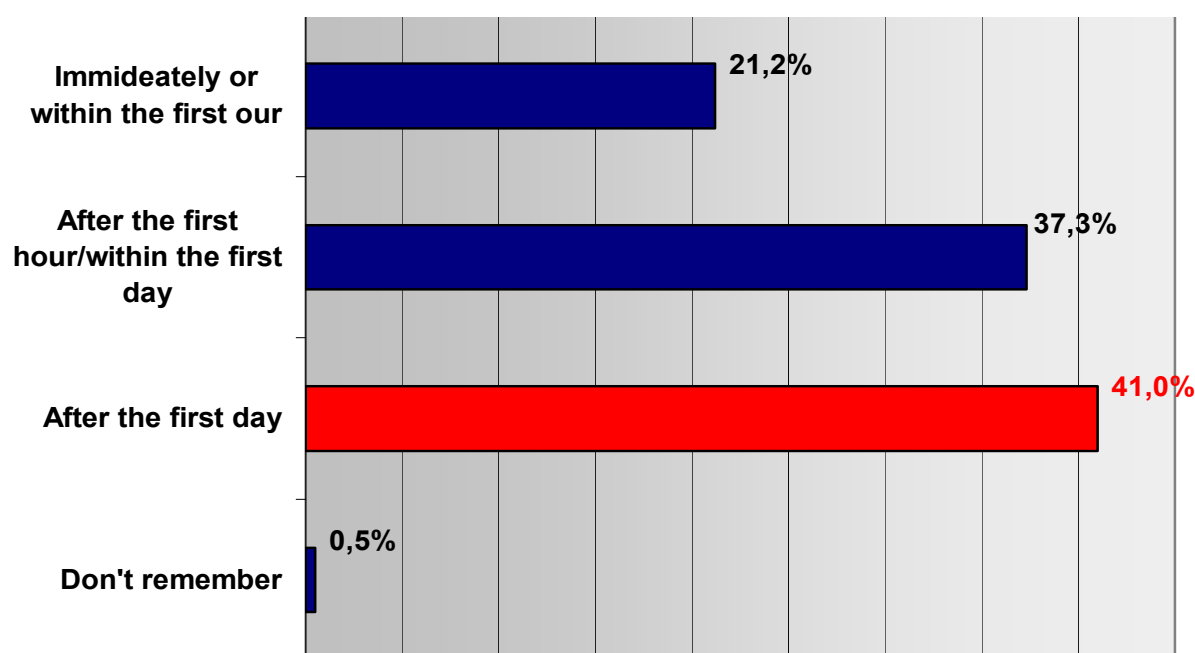
Mothers' knowledge and experience on breast feeding

95.1% of mothers with children under two years old breastfed them for some period of time, 4.9% (21 mothers) had never breastfed. The reasons were explained as follows: 37.5% - because of shortage or absence of breast milk (9 mothers), 12.5% - of breast milk being infected (3), 12.5% (3) - because of a child refused breastfeeding, 8.4% (2) because of disease (tuberculosis, HIV), 29.1% (7) provided other explanations.

50% of the mothers (12) who never breastfed their children fed children with baby formula (41.7% of the children were 0-5 months age), 20.8% - with food from the family table (57.1% of children were 16-23 months age), 12.5% - with formula and additional food, 8.3% - with formula and regular family food. The remaining women gave different answers.

21.2% of the children started breastfeeding immediately or within one hour after birth.

Diagram 6. At what moment do women start breastfeeding



48.4% of the children under two years were on a breastfeeding and 47.2% of them were 0-6 months old at the time of the mothers' interview. 75.8% of 0-5 months old children were on a breastfeeding at the time of mothers' interview. 75.4% of mothers who were not breastfeeding said they had a shortage or total lack of breast milk, or baby refused the breast.

65.6% of 209 mothers continued breastfeeding their children up to 6 months, 29.1% up to 12 months and 5.3% were breastfeeding up to 18 months. 31.9% of those children were exclusively breastfeeding for several days, 15.7% for one month, 11.4% for two months, 12.9% for three months, 8.1% for four months, 3.8% for five months, 11.4% for six months.

85.6% of children who were not on a breastfeeding at the time of assessment and 92.3% of children who were on a breastfeeding at the time of interview received breast milk at night time. 31.3% of children who were not breastfed at night time were 0-5 months old.

40.4% of women who were not breastfeeding at the time of interview described that they breastfeeding at anytime per their children's request.

20.2% of the children who were not on a breastfeeding at the time of assessment received regular family food (90.9% of them were 12-23 months, 9.1% 6-11 months old), 14.7% were given additional food and regular family food (90.6% of them were 12-23, 9.4% 6-11 months old), 13.8% received formula (80% of them 0-5; 20% 6-11 months old children), 10.1% received supplemental food and some other milk (54.5% of them 6-11 months old, 45.5% 12-23 months old), 7.8% received supplemental food, some other milk and regular family food (82.3% of them were 12-23; 17.7% 6-11 months old).

Answering the question "How many times you gave milk to your baby yesterday?", 44.6% of mothers who were not breastfeeding said 1-2 times (54.7% of their children were 16-23, 24.4% 6-11; 17.4% 12-15; 3.5% 0-5 months old); 20.7% said 3-4 (32.5% of their children were 6-8, 30% were 16-23, 17.5% 9-11, 15% 12-15, and 5% 0-5 months old), 11.9% 5-6 (60.9% of their children were 0-5; 26.1% 6-8; 8.7% 9-11, 4.3% 16-23 months old); 6.2% 7-10 times (91.7% were 0-5, 8.3% 6-8 months old). 16.6% of mothers responded that they did not give any milk the day before the interview. 50% of the children who had not received milk at this point were 16-23, 28.1% 12-15, 18.8% 6-11, 3.1% 0-5 months old.

Responding to the question "How many times did you breastfeed your baby yesterday?", 31.5% of mothers answered: "5-6 times" (43.8% of their children were 0-5 months old; 23.4% 9-11; 17.2% 6-8; 7.8% 12-15; 7.8% 16-23 months old), 25.6% responded "3-4" (36.5% of their children were 0-5 months old; 23.1% 6-8; 19.2% 9-11; 13.5% 12-15; 7.7% 16-23 months old), 22.7% said "7-8" (65.2% of those mothers' babies were 0-5 months; 19.6% 6-8; 10.9% 9-11; 4.3% 12-15 months old); 10.3% said "more than 9 times" (61.9% of those children were 0-5

months old); 8.9% - “1-2 times” (32.2% of those children were 0-5 months old). 1% of mothers were not breastfeeding their children the day before the interview (the mothers of 12-19 months old children).

52% of the 202 mothers who responded to the question “Is your breast milk enough for your child?” answered “yes”, and 48% of them answered “no”. 37.1% of those who said “no” had babies aged between 0-5 months.

Responding to the question “How did you come to the conclusion that your breast milk is not enough for your child?”, 86.6% said that a child was crying often, was weak, fatigued and sleepy, and that the child is small.

78% of the children under two years old received supplemental food where 13.1% of them were 0-5 months old. 34.4% of the children under 6 months received supplemental food.

30.3% out of 324 children received 3 different types of food; 27.5% - 4; 17.2% - 5; 13.9% - 2; 5.9% - 6; and 5.2% received one type of food. 34.1% children received supplemental food the day before the mothers’ interview on a single occasion; 23.7% twice; 20.4% three times; 15.3% four times; and 6.6% more than four times. 53.9% received food by spoon (6.1% of them 0-5 months old); 19.5% by nourishing glass bottle and spoon (12.3% of them 0-5 months old); 8.4% by spoon and cup (3.6% of them 0-5 months old); 6% by nourishing bottle and 4.5% by nourishing plastic bottle and spoon. The remaining mothers gave different answers.

How many types of food children received the day before the mother’s interview and by what mean.

1 type	5.2%	spoon	53.9%
2 types	13.9%	nourishing glass bottle and spoon	19.5%
3 types	30.3%	Spoon and cup	8.4%
4 types	27.5%	Nourishing bottle	6%
5 types	17.2%	Nourishing plastic bottle and spoon	4.5%

55.3% of respondents reported starting giving supplemental food at six months, 43.5% within the first five months. 1.2% of mothers did not remember when they started giving supplemental food. Decision to start giving supplemental food was made by 52.8% of mothers in response to a

doctor's advice, and 27.9% were following advice from family and/or friends. The remaining mothers gave different answers.

64% of mothers reported that the first liquor they had given to their child was drinking water or sweetened water; 11.4% another drink; 8.8% tea or sweetened tea; 5.3% formula; 2.3% fennel drink. The remaining mothers mentioned honey, milk, juice and formula. Only 10.2% of infants aged 0-6 months were not given an alternative drink to breast milk.

83% of all children were given a liquor on the day of the birth or within the three days after the birth. 37.1% of mothers reported that the fluid was given in the hospital, 33.9% - followed an advice from hospital personnel, 19.6% - followed an advice from family and/or friends.

70.8% of children under two have been fed by using a feeding bottle the day before the interview. Most of those children were younger than one year old (31.5%. 0-5 months; 18% 6-8; 15.4% 9-11months).

Observations

According to 70.6% of mothers, the day before the interview their children had been given food three times, 18.9% reported four times, 7.9% one-two, 2.6% five or more times.

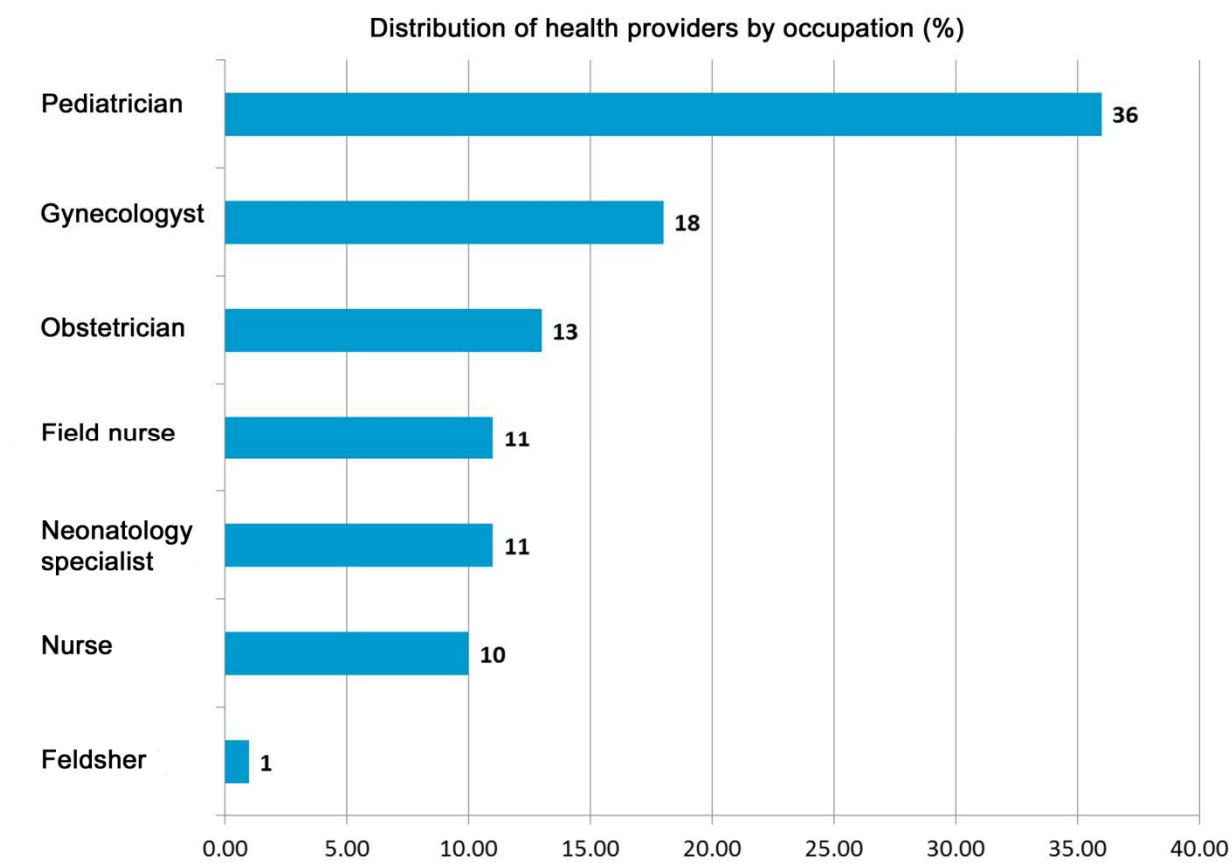
Only 7.4% of mothers reported living in rented accommodation, 89.2% in private and/or state accommodation. 42.8% lived in three roomed property, 25.3% in a two roomed one, 16.9% in four rooms, 6.6% in five rooms, 3.9% in one room, 2.4% in seven or more rooms, and 2.1% in six rooms. Houses are heated mainly by gas and electric heaters (74.4%). 5.5% of respondents reported absence of tap water. Only two families did not have electricity, both in Lankaran.

The majority of mothers reported having a telephone (81.9%), refrigerator (97.8%) and television (99.6%). 66.1% reported having a washing machine, and 40.5% have air conditioning.

Interview with healthcare providers

132 health providers participated in the assessment. 24 of them were gynecologists (18.2%), 47 pediatricians (35.6%), 15 neonatal specialists (11.4%), 13 nurses (9.8%), 18 midwives (13.6%), 14 field nurses (10.6%) and one feldsher (0.8%).

Diagram 7.



129 healthcare providers stated that they do advise mothers/pregnant women on feeding, the remaining three professionals (two field nurses and one midwife) stated that they do not as they don't consider it as part of their responsibility.

Length of service

Up to 5 years	9.3%
Up to 10 years	4.7%
Up to 20 years	33.3%
Up to 30 years	30.2%
Up to 40 years	17.8%

In response to the question “What kind of advice on breastfeeding you give to new mothers?” 51.2% answered that they advise on when to start breastfeeding; 14% said they advise on when to start breastfeeding and also on giving supplemental food; 12.4% said that they advise on starting and continuing breastfeeding, and weaning; 6.2% - on starting and continuing breastfeeding, weaning, starting supplemental food and other answers.

64 health providers (49.6%) believe that advice on infant and child feeding should be given before delivery; 22 (17.1%) immediately after delivery; 19 (14.7%) before and immediately after delivery; 10 (7.8%) after delivery; 9 (7%) before and after delivery; 5 (3.9%) before, immediately after delivery and then again at a later point following delivery. 65.6% of health providers who responded before delivery had participate in the training on child nutrition.

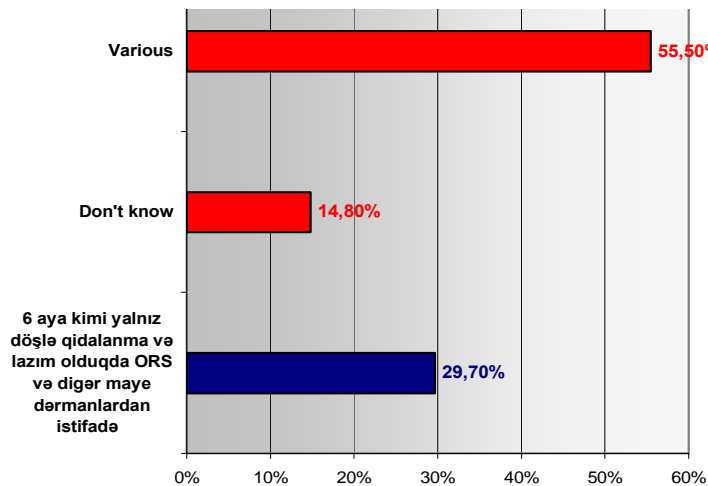
Appropriate time to give an advise to women on newborn and infant feeding, according to healthcare professionals

Before delivery	49.6%
Immediately after delivery	17.1%
Before and immediately after delivery	14.7%
After delivery	7.8%
Before and after delivery	7%
Before, immediately after and after delivery	3.9%

81.4% of healthcare providers consider breastfeeding to be successful when the infant catches the nipple and areola and sucks the breast without noise, whereas 17.8% consider it to be successful when the infant only catches the nipple and sucks with a smacking sound. Of those questioned, there were seven field nurses, seven pediatricians, four midwives, three gynecologists, and two nurses.

Determination of exclusive breast feeding was given by 38 (29.7%) healthcare providers, 19 (14.8%) did not know, and 71 (55%) gave different speculations on the issue.

Diagram 8. Implication of breast feeding according to the health professionals



Nevertheless, 84.5% healthcare providers believed that 0-6 month old infants should be exclusively breastfeed, whereas 60.6% of them previously received a training on the subject. 12.4% stated that 0-6-month old infants need other fluids along with breast milk. The remaining 2.3% said that babies should be given breast milk and supplemental food.

Healthcare providers' opinion on infants up to 6 months appropriate feeding

Exclusively breast feeding	84.5%
Breast feeding with adding other liquids	12.4 %
Breast feeding with adding other food	2.3%

Asked whether or not breast milk without any extra water, tea or other drink is enough during the first six months, 82.9% healthcare providers answered “yes”, 16.3% said “no”, and 0.8% said they don't know. 58.9% of those who gave a positive answer to this question had received training on infant feeding.

Answering the question when giving water, tea or other fluids to the baby should be started (in addition to the breast milk), 69% healthcare providers said from 6 months (of that group, 64.8% had received training), 21.7% healthcare providers said the baby could be given fluids from the first day of birth as required; 3.1% said from one year, and 6.2% gave other answers.

Appropriate time to start giving water, tea or other fluid in addition to the breast milk, according to healthcare professionals

From 6 month	69%
Whenever required from the first day	21.7 %
Other answers	6.2%
From one year	3.1%

67 healthcare providers (i.e. 52.3%) stated that baby breastfeeding should be continued up to the age of 2 years; 45 (35.2%) - up to one year, nine (7%) - until breast milk is ceased; 6 (4.7%) - up to 6 months, and one (0.8%) - up to three years old.

Appropriate duration of breastfeeding period, according to healthcare professionals

Period	Percentage
Up to 6 months	4.7
Up to 1 year	35.2
Up to 2 years	52.3
Until milk production ceases	7.0
Other	0.8

Asked “How many times a 0-6 month old infant breastfeeding should take place during a day?”, 62.8% responded “as often as an infant demands”; 26.4% said 4-6 times per day, 4.7% said every 3 hours, and 6.2% gave other answers.

81.4% healthcare providers consider it appropriate to put newborn at the breast immediately or within one hour after delivery - 60% of that group had received training on infant feeding. Majority of them were from Baku, Ganja, and Guba cities (21%, 20%, 18%, respectively).

59.7% healthcare providers deem breastfeeding during the night is needed, while 40.3% thing is not. 44.2% of those who disagree with night time breast feeding were pediatricians; 25% were gynecologists; 11.5% midwives, 9.6% field nurses, 5.8% nurses, and 3.8% neonatal experts.

Appropriate time for the first breastfeeding and need for night time breastfeeding, according to healthcare professionals

Immediately after birth or within one hour	81.4 %
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Needed	59.7 %
Don't needed	40.3%

In cases where the mother cannot breastfeed the infant under than six months old, 80.6% healthcare providers consider it as appropriate to give the baby formula, 1.6% suggested animal milk, and others came up with different views. 70.6% believe that nourishing glass or plastic bottles should be used for baby feeding, 17.1% stated that cup, spoon or both should be used for baby feeding.

Appropriate food and ways of feeding infant under 6 months in case breastfeeding is not possible, according to the health professionals

Formula	80.6 %
Animal milk	1.6%
Feeding bottle or plastic bottle	70.6%
Cup, spoon or both	17.1%

59% healthcare providers believe that frequent crying, slow weight gain, and low weight should be considered indicators of breast milk shortage.

Extra feeding should be started after 6 months if there are no contra indications according to 82.9% health workers; before 6 months according to 11.6%; 3.1% believe it should be started from 7-8 months, 0.8% from 9-11 months, and 1.6% from one year. When asked to explain why this extra feeding is necessary, 72.1% answered that it is because breast milk does not cover all the nutritional needs of the child.

Appropriate time to start giving additional food, according to health professionals

From 6 months	82.9%
Before 6 months	11.6%
From 7-8 months	3.1%
From 9-11 months	2.4%

38.1% health workers advise give to infant three different kinds of food; 30.2% say one or two; 24.6% say four, 7.1% say five. In addition, 7.9% advise to give some extra sweet food.

72.1% advise that an infant between 6 and 12 months should be breastfeeding and given extra food. The remaining healthcare providers (27.9%) gave various different answers: 42.6% think that babies of this age need to be breastfeeding 4-6 times a day; 35.7% say the babies should be feeding whenever they request it; 18.6% say up to three times; 2.3% gave other answers, and 0.8% did not know.

68% healthcare providers stated that babies between 6-12 months should be given additional food up to 2-3 times a day in addition to breastfeeding; 23.4% think 4-5 times a day; 3.9% whenever the infant demands it; 0.8% say every 3 hours; 2.3% did not know, 1.6% gave other answers.

According to 41.1% of health workers, babies of 6-12 months who are not on a breastfeeding need to receive milk up to 3 times a day; 41.1% say 4-6 times; 4.7% think - whenever infant demands it; 3.1% say every 3 hours, 2.3% 7-10 times a day. 22.7% think that babies of 6-12 months who are not breastfeeding do not need to receive milk.

48.8% healthcare providers believe that babies of 6-12 months who are not on a breastfeeding need to receive food up to 4-6 times a day; 47.3% say up to 3 times a day; 1.6% say whenever infant demands it; 0.8% say every 3 hours. 0.8% healthcare providers did not know, and 0.8% gave different answers.

27.9% healthcare providers believe that children between one and two years old need a breastfeeding and supplemental food, 25.6% recommend breastfeeding and regular family food, 14.7% say these age group can eat only regular family meals and fruits and vegetables, 12.4% suggest breastfeeding, supplemental food and regular family meals, 11.6% say regular family meal.

When asked what they knew about fortified food products, 18.2% did not know, and the remainder presented various speculations.

64.1% healthcare providers consider the most common problem in their districts to be the shortage or absence of breast milk, and/or the infection of breast tissue (mastitis).

28.6% of healthcare providers advise mothers to continue breastfeeding even when they are experiencing redness, cracked nipples, abscesses, or a reduction in their breast milk output.

63.1% healthcare providers do not recommend mothers to breastfeeding if they have breast abscess or if they became pregnant (20.3% do not recommend breastfeeding while a breast abscess, 9.4% in case of pregnancy, 21.9% recommend to stop breastfeeding both in cases of breast abscess and pregnancy).

38.2% of healthcare providers believe that open tuberculosis, breast cancer, HIV, hepatitis B and C are all contra indications for breastfeeding.

66.9% of healthcare providers have educational materials for advising mothers on their children feeding.

55.8% of healthcare providers, mainly from Guba, Ganja and Baku, had participated in trainings on infant and child feeding.

Interviewing newly delivered mothers in the same health facilities where the interviewed healthcare providers were employed.

In total, 45 new mothers were interviewed. 73.3% of them delivered naturally, and 26.7% by caesarean section. 57.8% of newborns stayed in the same room as their mothers; 37.8% stayed in a different room; and 4.4% were placed in intensive care wards.

88.9% mothers were taught about breastfeeding techniques by healthcare providers. 91.1% of 40 mothers were taught about feeding. 95% of them got this information from healthcare providers. 20% received the information before the delivery, 77.5% immediately after delivery, and 2.5% at home.

42.2% mothers started breastfeeding within one hour after delivery. 50% of 44 mothers did not give any drink to their infant for first three days. 84.1% of them were advised to breastfeed exclusively for 6 months, while 9.1% were told to breastfeed and give water and tea in addition.

11.1% mothers believed that child should be breastfeeding up to 6 months; 33.3% up to one year; 44.4% up to two or three years old; 8.9% until breast milk production cease.

73.3% mothers believed that breastfeeding without giving any additional fluids is enough for the child up to 6 months of age; 26.7% disagree.

Assessment of baby food products sold in markets

21 supermarkets were included in the assessment.

The availability of child nutrition products in all districts is shown in the table below.

N	The name of product	Baku, Nasimi	Baku, Nizami	Baku, Sabunchu	Lankaran	Imishli	Guba	Ganja
1.	Nestle	✓	✓	✓	✓	✓	✓	✓
2.	Sahha	•	✓	✓	•	✓	✓	✓
3.	Nutricia	✓	✓	✓	•	•	✓	✓
4.	Friso	•	•	✓	✓	•	✓	✓
5.	Nutrilak	✓	✓	✓	✓	•	✓	✓
6.	Vinni	✓	✓	✓	✓	•	•	✓
7.	Aqusha	✓	✓	✓	✓	•	✓	✓
8.	Baby	✓	✓	✓	✓	•	✓	✓
9.	Humana	✓	✓	✓	✓	✓	✓	✓
10.	Heinz	✓	✓	✓	✓	✓	✓	✓
11.	Others	✓	✓	✓	✓	✓	✓	✓

✓ - Yes

• - No

“Baby” was available only in Ganja, “Heinz” only in Baku.

“Nestle”, “Sahha”, “Nutricia”, “Friso”, “Nutrilak”, “Humana” formulas could be favorably evaluated against most of the ten criteria of the Azerbaijan Republic Law “About Infant and Child feeding”. Only “Agusha” formula did not have information in Azeri on its label.

Conclusions

Most of mothers who participated in the assessment were married (98.2%). Generally (51.1%) families consist of 4-5 members. Most of mothers (89.2%) live in private or state apartments.

Apartments are usually (74.4%) heated by gas or electric heater. The majority of households have tap water, electricity, telephone, refrigerator, television and washing machine.

For the first time most of mothers (84%) obtained information about infant feeding from healthcare providers. 84% mothers obtained information about infant feeding, 77.1% - information related to the child health from healthcare providers. In the majority of cases (65.9%) this information was provided immediately after delivery, 19% received this information after delivery in maternal hospital or labour wards/units. Information about infant feeding was provided to pregnant women in women consultation clinics only occasionally (9.4%).

Mothers do not have sufficient knowledge about infant and child feeding. Thus, 44.3% mothers think that breastfeeding of child should be continued up to 1 year old. 50.3% believe it is impossible to exclusively breastfeeding a child six months long without giving any additional fluid. 40% of them think that additional food means formula. About 1/4 of mothers think that additional food should be given to a child within the first five months. Mothers from Baku have less knowledge about infant/child breastfeeding in compare with those from districts.

Children of the interviewed mothers in most cases (97.3%) were born in health facilities and most of them (95.1%) were on a breastfeeding for at least some period of time. Mothers who were never breastfeeding their children explained the reason of that subjectively.

Though the majority of children (97.3%) were born in health facilities where 67 out of 77 maternal hospitals were awarded a baby friendly clinic status, in most cases (64.5%) newborns were placed in separate from mothers' rooms.

Only about 1/5 of newborns were breastfeed immediately after or within one hour after delivery. Proportion of mothers who were breastfeeding children within one hour after delivery was higher in districts in comparison with Baku.

83% children were given a fluid during the first three days. In 37.1% cases fluids were given by medical personnel, in 33.9% - by mothers who were following advice of medical personnel, and 19.6% - by mothers who were following advise from family, friends. About half of the children under 2 year (48.4%) were breastfeed. $\frac{3}{4}$ of the children under 5 months were breastfeed. Nevertheless, 34.4% of children under 6 months received some additional food.

The majority of mothers who were not currently breastfeeding (85.6%) as well as of those who were currently breastfeeding (92.3%) breastfeed their children in the night time.

The day before interview 30.3% of children received 3 kinds of food, 27.5% received 4 kinds of food. In most cases (53.9%) they received the food by spoon.

Most children (55.3%) received additional food starting from 6 months, 43.5% from 5 months. Half of the mothers started giving additional food at that age following healthcare providers' advise.

Only 10.2% children under 6 months were not given any additional fluids.

70.8% children received some drink by feeding bottle the day before interview. Most of them were children under a year.

Most healthcare providers who participated in the assessment (81.3%) had 20-40 years of professional experience. Usually (51,2%) healthcare professionals provide mothers with some basic information on when to start breastfeeding. Most of them received training on the issue.

Only third of the interviewed healthcare providers knew a definition of the exclusive breastfeeding. Nevertheless most of them (84.5%) believe that children need exclusive breastfeeding within the first 6 months. Of those who think so 60.6% received training on the issue.

Most of healthcare providers (82.9%) think that breastfeeding within 6 months without giving any additional water, tea or any other liquid is enough for child. Of those who think so 58.9% received training on the issue.

In most cases advises given by healthcare providers to mothers/pregnants were incomplete.

More than a half (62.8%) of healthcare providers believes that baby breastfeeding should happen whenever baby demands it. Most of them (81.4%) think that newborn should be breastfeed immediately or within an hour after delivery. More than a half of those who think so (60%) received training on the issue.

40.3% healthcare providers think that breastfeeding at night time is not appropriate. More than 40% of them do not recognize the importance of breastfeeding up to two years long.

80.6% healthcare providers believe that child should be given formula in case a mother cannot breastfeed. 70.6% think that formula should be given by using a feeding bottle.

Most of the healthcare providers (82.9%) think that giving a supplemental food should start from the 6th month. Three types of food should be given, according to them. 7.9% of them advise to give some sweet food in addition.

72.1% healthcare providers think that a child from 6 months to one year old should be given breast milk and supplemental food.

Healthcare providers have not understanding about fortified food.

Healthcare providers (64.1%) point on shortage or absence of breast milk and breast tissue infection/mastitis as the most common problems.

28.6% healthcare providers advise to continue breastfeeding in cases of nipple cracks, abscess and lack of breast milk.

63.1% advise discontinue breastfeeding in case of pregnancy and breast abscess.

38.2% healthcare providers believe tuberculosis, breast cancer, HIV, hepatitis B and C are absolute contra indication for breastfeeding.

Most of healthcare professionals who were previously trained on the issue demonstrated a higher level of knowledge.

The assessment revealed that any kind of formula are available in Baku and Ganja. In Imishli and Lankaran formulas are being sold mostly in drug stores.

“Nestle”, “Sahha”, “Nutricia”, “Friso”, “Nutrilak”, “Humana” formulas were favorably evaluated against the ten criteria of the Azerbaijan Republic Law “About Infant and Child feeding”. Only “Agusha” formula did not have information in Azerbaijani language on its label.

“Vinny”, “Baby”, and “Heinz” formulas did not meet some of the ten defined criteria.

Weaknesses of the assessment

Answers to some questions were based on recall, which might lead to bias.

Mothers of deceased children were not included in the assessment, taking into account that it would be sensitive for them to answer the interview questions.

The presence of mothers-in-law during the interview also influenced the answers in some cases. For example, when asked who provided assistance with nursing, most of them mentioned their mothers-in-law.

Taking into consideration that baby food is available in pharmacies as well as markets in the districts, pharmacies were also included into the assessment.

Recommendations

1. Arrange training for healthcare providers on infant health, including breast feeding, counseling on that issue in order to enhance their knowledge on it.
2. Revise available curriculums on infant/child nutrition and bring them up to the modern standards.
3. Develop clinical protocols on infant/child feeding and arrange training for healthcare providers based on those protocols.
4. Ensure that counseling on infant health including on breastfeeding is incorporated into the antenatal care package.
5. Establish a monitoring system to track the child feeding advice healthcare providers give to women.
6. Develop and implement a large scale health communication strategy on child feeding/nutrition.
7. Improve the monitoring on labeling/information of child nutrition products.
8. Reinforce criteria for “baby friendly clinic” awarding

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