



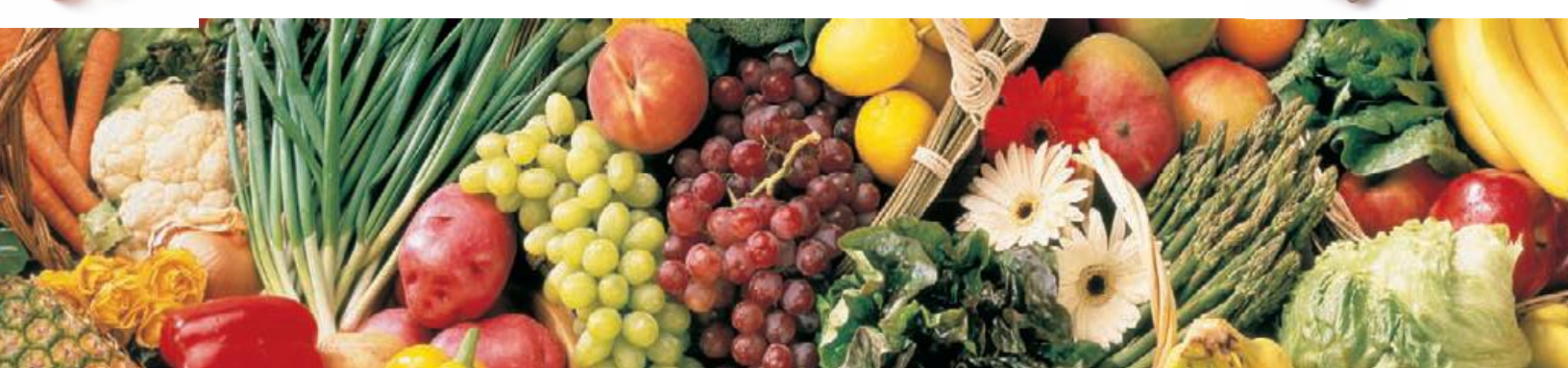
WHO



Ministry of Health



## RECOMANDATIONS ON HEALTHY NUTRITION IN ALBANIA



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## Acknowledgments

Dietetic manual was drafted out by the Work Group comprised of experts of the field of various institutions (Ministry of Health, Ministry of Agriculture, Food and Consumer Protection, Ministry of Education and Science, Economic Center for Children Education and Growth in Tirana Municipality, Institute Public Health, and Tirana Regional Public Health Directorate), which were involved in the process in the framework of the implementation of the Stability Pact Project “Strengthening Food Safety and Nutrition Services in the south –eastern European Countries”.

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## **Introduction**

Proposals submitted for this document suggest ways for improving health, focusing mostly on food, healthy nutrition, not leaving apart the importance of the daily physical activity.

The food and the way of nourishment play an important role in being healthy. The right for healthy food is part of the basic human rights, highlighted in the International Food Conference in 1992 and in the World Food Summit in 1996. Taking secure food is a necessity for public health protection.

This document guides people toward a healthy nutrition and aims to protect and promote health. The key objective is to reduce the possibilities for diseases generated from food. Nowadays it is necessary to undertake action for changing the attitude toward a healthy nutrition and better way of living. The individual in particular must consider the food an essential element of its actions for health protection.

Everybody should be responsible and try to undertake action to stay away from diseases, medical treatment and be oriented to diseases prevention.

It is very important to prevent chronic diseases that generate from the nutrition attitude. Diseases related with the diet and the way of living including cardiovascular diseases and cancer, take a high percentage of the total deaths in our country. Death from blood circulatory system diseases, come first, while death from cancer (mainly after 50 years of age) come secondly in the overall death frame. Inappropriate diet and life style take a considerable role on unfavorable health state and a higher mortality.

A considerable part of chronic diseases would be prevented by having a healthy way of nutrition and a suitable life style.

So it belongs to each of us to care for our health, considering it an immense value.



## **I. PHYSICAL ACTIVITY: PROMOTE HEALTHY LIFESTYLE**

Physical activity has lots of profitable effects toward health, despite the age being. People who live a healthy life and regularly make some easy exercises have fewer possibilities to be effected from chronic diseases, such as diabetes, cardio-vascular, cancer or mental diseases. Moreover the persons who have a regular daily physical activity can maintain their normal weight compared to the other people less active.

Nowadays way of living has reduced the physical activity due to the usage of cars, watching television and the reduced activity due to high technology domestic furniture. In addition there are also other habits (like smoking), gaining weight which indicate in being more exposed to chronic diseases.

To maintain good health it is very important to combine a healthy diet with physical activity, and to reduce the sedentary lifestyle, which is a vast risk for most of the chronic diseases.

Daily physical exercises are highly recommended. People who have incorporated physical activity in their daily routine have improved their physiological and psychological wellbeing.

World Health Organization refers that at least 30 minutes of physical activity 5 days per week would reduce the risk of heart diseases, obesity, and diabetes up to 50% and the high blood pressure diseases, as well as the psychological consequences of sedentary lifestyle such as stress, distress, depression, etc.

### **What is physical activity? Which is the recommended diet?**

Physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure.

A subset of physical activity behavior involves purposive and repetitive movements with the aim of improving cardio-respiratory or muscular fitness. Exercise is carried out in a more structured manner, often performed at a greater intensity.

## **Moderate-intensity and Vigorous-intensity Physical Activity include:**

### **Moderate physical activity**

(Requires a moderate amount of efforts and noticeably accelerates the heart rate.)

**Brisk walking**

**Dancing**

**Gardening**

**Housework**

**Hunting and gathering**

### **Vigorous/ intensive physical activity**

(Requires a large amount of efforts and causes rapid breathing and a substantial increase in the heart rate.)

**Running**

**Walking/climbing up**

**Fast cycling**

**Aerobics**

**Fast swimming**

### **Active involvement in games and sports with children**

**Carrying/moving/ loads/ 20 kg**

**Competitive sports and games football, volleyball, basketball, etc.**

**Carrying/moving heavy loads >20 kg.**

### **Recommendations on the physical activity of children 3-6 years old**

- Minimum of 60 minutes physical activity per day at a moderate amount at a certain time of the day or divided in 10 minutes throughout the day.
- Attractive and entertaining activities suitable for pre-school children.
- Create possibilities for the children to be active when they are accompanied by the adults.
- Engage them in various activities during the week

### **Recommendations on the physical activity of children 6-18 years old**

60 minutes moderate to intensive physical activity every day of the week including various activities.

The benefits from the physical activity for children and youth are as follows:

- Develop healthy musculoskeletal tissues (i.e. bones, muscles and joints)
- Develop a healthy cardiovascular system (i.e. heart and lungs)
- Develop neuromuscular awareness (i.e. coordination and movement control)
- Maintain a healthy body weight.

### **Recommendations on the physical activity for 18-65 years old**

30 minutes of moderate physical activity, 5 days per week;

20 minutes intensive physical activity, 3 days per week;

A combination of two abovementioned activities reduces the risk of chronic diseases, such as:

- Cardiovascular diseases
- Stroke
- Type II Diabetes



- Colon cancer
- Breast cancer

### **Recommendation on physical activity for + 65 year old**

30 minutes of moderate-intensity physical activity 5 days per week;

20 minutes of vigorous-intensity physical activity 3 days per week;

Equivalent combination of moderate-/vigorous-intensity physical activity; walking, swimming, jumping, and climbing up, cycling, gardening.

## **II. Nutrition pyramid**



The energy taken from the food at the pyramid base traditionally is measured in calories (kcal), but actually the metrical form Joule is used more. ( $1\text{kcal} = 4,2 \text{ kJ}$ ). Normally adults' need about 6500-14 000 kJ per day, depending on gender, age, body mass and the physical activity. WHO recommends more than the half of the daily energy should come from the mixture of food from the base of the pyramid i.e. bread, grains, pasta, rice and potatoes. This means that in a diet with 6000 kJ, at least the half of the energy (3000kJ) should be from the same food group.

WHO recommends the consumption of no less than 400 g vegetables (no potatoes) and fruits per day; it means 5-6 portions per day. A portion is made of one fruit, an apple, or

peach, or a vegetable meal of about 80 g/day. Fresh varieties are the best, and it would be the best if they are produced locally and in season.

You can sometimes use frozen and caned vegetables and fruits.

A little child should consume more than 200 g fruits/vegetables per day and an adult in activity needs 600 g fruits/vegetables.

Everyone despite the age being needs different kinds of nutrition elements such as carbohydrates, proteins, fat, vitamins and minerals of different quantity. Children differ from adults as they grow rapidly and so they need energy and nutrients. In general children have fewer reserves. Nutrition is a very essential element for children growth and development.



### III. TWELVE STEPS TO A HEALTHY DIET

1. Take a healthy diet based on different kind of vegetal and animal food.
2. Take bread, grains, rice or potatoes.
3. Take various kinds of vegetables and fruits many times per day (at least 400 g/day) possibly fresh and locally produced.
4. Keep your body weight within the recommended limits (one BMI about 20-25), maintaining everyday a moderate level of physical activity.  $BMI = \text{Weight (kg)} / \text{height}^2 \text{ (m)}$ .
5. Keep under control the consumption of fat (no more than 30 % of the daily energy) and substitute saturated fat with light vegetal oils such as light margarines.
6. Substitute greasy meat and meat by-products with peas, kidney beans, lentils, fish, poultry, or beef.
7. Use milk and its by-products (sour cream, yoghurt, cheese, etc. which have low rates of fat and salt.



8. Choose food containing less sugar and do not use too much sugar, reducing the sweet beverages and deserts.
9. Choose a diet which contains little salt. The total consume of salt must not exceed one tea spoon (6g) per day including salt found in bread and other processed food. Use iodine salt.
10. If you do consume alcohol, you should not take more than 2 beverages (each containing 10 g alcohol) per day.
11. Prepare safety food and hygienically clean. Stew, bake, toast, steam cook, micro oven cook, in order to reduce fat.
12. Encourage breastfeeding only. Breastfeeding of your baby should go on throughout the first year of life.

#### **IV. COOKING RECOMMENDATIONS (Food safety)**

**1. Choose the safest process for the food processing!** Some foods may not be safe if not processed beforehand. As such, we can mention pasteurized milk compared to the unprocessed milk.

**2. The food should be totally cooked.** Most of the food particularly poultry, meat and not pasteurized milk can be easily contaminated by microbes, only a thorough cooking can destroy them, if all the parts of the food reach the minimum temperature of 70<sup>0</sup> C. Meat and poultry kept frozen in the refrigerator ought to melt completely before cooking.

**3. The prepared food should be consumed as soon as possible.** Once the cooked food gets cold, microbes begin to multiply. The longer the food will be kept, the higher is the risk.

**4. Take care of cooked food!** In order to preserve the food, keep cold food cold (near or below 10<sup>0</sup> C) and hot food hot (near or over 60<sup>0</sup> C), particularly the food that have to be kept for more than 4 hours. The prepared food especially for children should be totally consumed and the remaining must be emptied out. In an overloaded refrigerator, hot food can not be kept cold, because it may maintain hot internally (over 10<sup>0</sup> C) for a long time. In this case bacteria grow rapidly.

**5. Warm over the food previously prepared!** Warming the food over is the best way to protect from bacteria taken throughout the food preservation. All parts of the food must reach the minimum temperature of 70<sup>0</sup> C.

**6. Avoid the contact of the prepared food with the unprocessed one!** Half-breed contamination may happen directly if unprocessed poultry is in contact with the prepared food, or indirectly when a cutter or unclean knife is used first in cutting the unprocessed food and later in the prepared food.

**7. Wash hands, now and again!** We should wash hands before and after the preparation of the food and after doing things like: baby diapering, using the toilet, touching the domestic animals, etc. After having prepared the food, we should wash our hands before touching the cooked food. The infected skin should be covered.

**8. Keep kitchen surfaces clean!** Every mote or spot is a potential risk for microbes. Plate napkins must be changed regularly and washed in high temperatures. Means used to clean the floor must be washed often.

**9. Preserve the food from insects, gnawers and other animals!** We should keep the food in well-closed containers, away from pathogen microorganisms which cause food diseases.

**10. Use potable water.** If there is any doubt for the quality of the water, you should boil it before making ice cubes or using it for preparing the food, especially if it is to be used for preparing the infants food.



## V. FOOD INGREDIENTS

### 1. Grains

Grains are source of energy. They are full of proteins.

Grains are poor in iron, zinc and calcium. They contain phytates which interfere in absorbing iron, zinc and calcium found in other grains and foods. Only the yellow corn can be a resource for the vitamin A.

The regular consumption of the grains is the basis for healthy consumption. Everyone should consume 6-11 units, many times a day.

1 grain unit = 1 slice of bread (40 g), 1 unit (40 g)

Daily recommendation

Consume grains many times a day.

Children should consume: oat flour, rice and rye bread. These contain fibrin and have impact in preventing heart diseases and diabetes while for children maintains under control their weight. They are different from the processed grains, such as white bread, white rice which are processed. For children is taken into account age, physical activity and sex. Example, for children who exercise for about 30 minutes per day it is recommended:

Boys and girls 4- 8 years old should consume 140-190 g;

Girls 9-13 years old should consume 165 g;

Boys 9-13 years old should consume 175 g.

These needs equal with:

1 slice of bread

1/2 portion of pasta or rice

## **2. Fruits, vegetables**

Vegetables, salads and fruits are the main source of vitamins and minerals. Taking additional vitamins and minerals is unnecessary because they may damage the organism.

Most of the countries have their own recommendations for additional vitamins especially for vulnerable target groups as well as for young children, women during the pregnancy and breastfeeding and older people. For example in United States the recommendation for taking vitamin D for people below 50 years old is 200 IU (5 µg) per day, 400 IU (10 µg) per day for people 50-70 years old and 600 IU (15 µg) per day for those over 70 years old.

Exposure to the sun rays is the main source of vitamin D, even 1-15 minutes exposure of arms or face, 3 times per week is sufficient for taking the needed vitamin D. Taking into account the fact that vitamin D is soluble in fat, a considerable amount of this vitamin is preserved by the human body in the form of a deposit, to complete the daily or monthly needs when the sun is missing.

**Vegetables** provide much vitamins and minerals for the children to be healthy and who need fibrins to stimulate digestion. Therefore it is necessary to have many varieties in children's diet.

Recommendations for children:

Children 4- 8 years old, 1 ½ cup;

Girls 9-13 years old, 2 cups;

Boys 9-13 years old, 2 ½ cups

## **Fruits**

Fruits are particularly good source of vitamin A and C. This group is also composed of minerals such as calcium and fibrin.

Recommendations for children:

Children 4-8 years old, 1 ½ cups

Girls 9-13 years old, 1 ½ cups

Boys 9-13 years old, 1 ½ cups

## **3. Milk and its by-products**

This group includes milk and other products such as yogurt, cheese which are a very good source of vitamin A and D, calcium and proteins.

Vitamin A helps eyesight, skin and hair. Vitamin D helps in absorbing calcium. It also helps in nerves functioning.

Recommendation:

Children 4-8 years old 2 cups;

Girls 9-13 years old, 3 cups;

Boys 9-13 years old, 3 cups.

#### **4. Meat, meat by-products, fish, eggs, kidney beans, nuts, etc..**

This food group provides proteins for our body, which help children growth, development of body tissues and muscles. It also supplies vitamin B complex and iron, which help in bones, teeth and muscles strengthening.

Consume recommended:

4 to 8 years of age: 105 g to 110 g;

9 to 13 years of age girls: 175 g;

9 to 13 years of age boys: 175 g.

Naturally 35 g poultry or fish counts for 35 g of this group. In general 35 g equal with

1/4 bowl of cooked peas;

1 egg;

1 spoon of peanut butter;

15 g nuts

#### **5. Fat (grease, fat)**

Fats serve as building blocks of membranes and play a key regulatory role in numerous biological functions. Fats supply energy and essential fatty acids and serve as a carrier for the absorption of the fat-soluble vitamins A, D, E, and K and carotenoids.

The child after 2 years of age doesn't need too much fat. At this time is recommended to substitute gradually the saturated milk with skimmed milk (average of fat 2-3 %) or milk by-products without fat. Juicy fruits must be given in limited quantities.

**For children 3-6 years of age** the recommended fat intake should not exceed 30% of the total calories and possibly it should be reduced to 25% after 6 years of age. The best source of fat is olive oil but sunflower oil has an acceptable percentage of fat, too. While we should avoid the use of food fat saturated such is greasy meat, butter, greasy cheese. We should also take care of the cholesterol amount, which should be kept under control. It is an important substance for the body, but it should not be used more than needed. The amount of cholesterol overtaken gets deposited in the internal arterial vessels, causing latter harmful consequences such as arterioscleroses and infarct. Food very rich with cholesterol is animal guts like headpieces, liver, yolk, greasy meat, cheese and butter.

#### **6. Salt**

The total salt intake must not be more than a tea spoon (6 g) per day, including the salt of bread and other canned, processed food. Salt should have the needed quantity of iodine.

The high prevalence for high blood pressure, diseases and death from cerebral vascular diseases, is related with the overuse of salt. Therefore it is recommended a limit of 6 g salt per day. Most of the people take more than this quantity, often not being aware, because salt is hidden in other foods such as bread, cheese and other canned processed food.

Recommendations for the consumers:

- Processed food should be labeled. If not, consumers should ask for the salt content.
- Food products containing a huge quantity of salt (smoked, canned food and pickles) should be taken in small proportions and not regularly.

- There should be reduced the quantity of salt added throughout cooking or processing food. In addition it is recommended to add some spicy ingredients to make the food have a good taste.

## 7. Carbohydrates

**Carbohydrates are the main source of calories.** There are two main kinds of carbohydrates:

**Simple carbohydrates** are composed of monosaccharide (glucoses and fructose) and disaccharides (lactose and saccharine), or the ordinary sugar.

**Compound carbohydrates or polysaccharides** (starches, fibrin), some of them are easily digested e.g. starches, while some others are indigestible (fibrin). Digestible carbohydrates provide the necessary energy for the organism, while the indigestible carbohydrates play a regulatory intestinal role and impact in well functioning of intestines.

All carbohydrates of the organism get transformed into glucoses before being used.

### Needs for carbohydrates

Carbohydrates complete the needs of organism for energy. In case it is not taken enough, the organism would be forced to synthesize glucoses from the amino acids, so it will use proteins as energy source, causing further metabolism disturbances, fall in the level of glucoses in the blood, weight lose.

## 8. Alcohol, alcoholic ingredients in different beverages

If you do take alcohol, the intake limit should be not more than 2 beverages (each containing 10 g alcohol) per day.

Alcohol produces from the carbohydrates fermentation and has an energy value of 29 kJ per gram. Alcohol intoxication because of overtaking increases mostly the risk for diseases and eventual death.

Negative effects on health coming from overtake of alcohol are noticed in the brain, blood, intestines, nerves and pancreases. Women are recommended to take small quantities of alcohol. Pregnant women should avoid taking alcohol.

Beverages (alcohol content- % volume/volume)	Standard beverages (ml)	Alcohol content (g)
Beer (5%)	2500	9.8
Wine (11%)	120	10.4
Alcohol (40%)	30	9.4

## 9. Vitamins and mineral additions

Vegetables, salads and fruits are the best source of vitamins and minerals. The intakes of additional vitamins and minerals or multivitamins are considered to be unnecessary especially if people follow the recommendations given in this manual.



## Vitamin D

Sunrays are the main source of vitamin D, even if one gets exposed to the sun for 1-15 minutes, three times per week, it is taken enough vitamin D to meet most of the needs. Walking should be promoted in order to combine the effect of physical activity on bones with the intake of vitamin D from the exposure to the sunrays.

This vitamin is necessary to prevent children rachitic. Its is found in some food as well as in a chemical substance of the human skin which gets converted to vitamin D when exposed to the sun and than gets absorbed from the organism. Vitamin D is soluble in fat. Lately, in the women's breast milk it is found another form of vitamin D soluble in water. The presence of vitamin D in our body helps in depositing calcium toward bones and teeth. It helps to control the level of calcium in our blood. The absorbed calcium is eliminated by the kidneys.

Vitamin D is found in milk, butter, cheese and eggs. Fish oil is very saturated with vitamin D. The best way for a child to take this vitamin is from the sun exposure, as well as breastfeeding.

**The breast has around 20-200 UI vitamin D per liter.**

In case the mother has taken good diet, the insufficiency of vitamin D is rare, especially during the 4-6 first months. However many authors recommend to give some drops of vitamin D to the infant.

## D by

### Vitamin D food sources

Food	µg vitamin D	IU vitamin D
Fish	5-15/100 g	200-600/100 g
Fortified Milk	2.5/cup	100/ cup
Fruit juice fortified with vitamin D	2.5/ cup	100/ cup
Cereals fortified with vitamin D	1 - 1.5/ cup	40 - 60/ cup

## Vitamin A

Vitamin A is necessary for the normal function of the eye (particularly reaction of the eye in the dark), protects the skin from getting dry and helps the development of bones. Vitamin A in food is found in two forms: **Retinol and Carotene.**

**Retinol** is found only in food generated from the animals. It is soluble in fat. Liver, fish, egg and fat milk are rich in retinol.

**Carotene** is found mainly in vegetal generated food. Carotenes have a mixture of a yellow-orange colored substance, which is converted by the organism into beta carotenes. The sources of carotenes are green or yellow leave vegetables. Vitamin A is sustainable to cooking and doesn't dissolve into water.

### Vitamin A can be found in:

Breast milk, liver, yellow of the egg, orange colored fruits (but not in oranges), mango, exotic fruits, (the darker the colored the more vitamin A), green leave vegetables such as spinach, broccoli, pumpkin.

### Food sources of Vitamin A

Standard content in food	Vitamin A (mcg RAE) <sup>1</sup>	Calories <sup>1</sup>
Cooked liver, kidneys, 3 ounces/100 gram	1490-9126	134-276
Carrot juice , 3/4 cups	1692	71
Minced pumpkin, 1/2 cup	953	42
Fresh cooked carrots, 1/2 cup	671	27
Cooked spinach, 1/2 cup	573	30
Pieces of cooked vegetables 1/2 cup	474	40
1 small carrot	301	20
Cooked green salad 1/2 cup	276	19
Canned sardines, 100 gram	219	222
Green salad, 1 cup	207	8
Red sweet paprika, cooked, 1/2 cup	187	19

### Vitamins of group B

Between Group B vitamins, **thiamine, or vitamin B1, riboflavin, vitamin B2, niacin**, is more important. These are soluble in water.

The main functions are to disintegrate the carbohydrates during the energy production, and to regulate the use of proteins from the body.

The recommended needs shown for 1000 kcal for adult people are:

<b>Thiamine ( vitamin B1)</b>	<b>0,4 mg for 1000 kcal</b>
<b>Riboflavin (vitamin B2)</b>	<b>0,55 mg for 1000 kcal</b>
<b>niacin</b>	<b>6,6 mgr for 1000 kcal</b>

The main sources which are rich with thiamine, riboflavin and niacin are meat, fish, eggs, milk, nuts, grains, cereals.

### Vitamin E

Vitamin E is soluble in fat. It takes an important part in the regeneration process of the cells. The need for such a vitamin depends on the diet taken by the child especially fat essential acids. There should be about **0,4 mg vitamin E per 1 gram fat essential acids**.

### Vitamin B12 and folic acid

These vitamins are important for the processes of blood formation. Folic acid and vitamin B12 are found in green vegetables. They are not too much resistant toward heat and are soluble in water.

**Insufficiency of vitamin B12 causes *anemia*** (leucopenia, thrombocytopenia, neuropathies)

## Vitamin C

Vitamin C is necessary for many processes of the organism, regeneration of damages tissues, wounds, linking calcium of bones, construction of the blood capillary walls and preservation of their elasticity.

Vitamin C helps in absorbing iron from the food, actually it is mentioned the role of this vitamin in protecting our body from infections.

The best source of vitamin C is the women breast milk. It is rich in vitamin C, three times more than the other types of milk.

Vitamin C is found in fruits and vegetables, fresh fruits such as orange, tangerine, water melon, banana, peaches, tomatoes and paprika. In vegetables it can be found in green leaves like spinach, cauliflower, cabbage and broccoli.

### Food sources of Vitamin C

Standard content in food	Vitamin C (mg) <sup>1</sup>	Calories <sup>1</sup>
Red sweet fresh paprika, 1/2 cup	142	20
Red sweet cooked paprika, 1/2 cup	116	19
Orange juice, 3/4 cup	61 to 93	74 to 84
Kiwi, medium size fruit	70	46
1 medium size orange	70	62
Green fresh paprika, 1/2 cup	60	15
Cooked broccoli, 1/2 cup	51	26
Cooked green paprika, 1/2 cup	51	19
Mixed vegetables juice, 3/4 cup	50	23
Fresh blackberries 1/2 cup	49	27
Broccoli, 1/2 cup	39	15
Tomato juice, 3/4 cu	33	31
Cooked cauliflower , 1/2 cup	28	17
Pine-apple, 1/2 cup	28	37
Mango, 1/2 cup	23	54

## MINERALS

In human's organism there is a variety of minerals, which take part in various processes. According to their quantity in organism, minerals are divided in micro minerals (e.g. sodium chloride, chlorine, calcium, and phosphor).

Sodium chloride, calcium, chlorine are basic elements for the key organism processes. The need for calcium is about 400-700 mg/day for children and 400-500 mg/ day for adults.

### Iron

Only a little amount of iron taken by various foods gets absorbed by the organism. This amount depends on the kind of iron in food. Some animal generated foods such as meat, liver are a good source of iron, which is easily absorbed.

While in some vegetal originated food like green vegetables, grains, kidney beans, etc. iron I found in such a form that can not be easily absorbed by the organism.

Women breast milk contains iron easily absorbed by the organism. For the mother it is important to take an iron diet during pregnancy, in order that the child to be born has enough iron for its needs during his 4-6 first months of his life.

**Iron needs in the first year of life are 0-5-1mg/kg/ day.**

#### **Calcium**

It is very useful for the organism and it should be taken from milk and its by-products (cheese, yoghurt) consume. It can also be taken from fish consume.

**Zinc** can be found in liver, meat, poultry, fish, yolk, mussels, etc.

#### **Iodine**

It is very useful for the growth and development of the child. Its absence causes goiter, and if its highly absent it may cause cretinism, mixedema.

***WHO recommends the following iodine quantity per day:***

<b>Age</b>	<b>Microgram/day</b>
0-12 month	90-100
1-10 year	90-100
Teenagers	100-150
Adults	100-150
Pregnant women	200-250
Women breast feeding their baby	200-250

#### **10. Water**

Usually the food provides more than the half of the daily amount of the water. Water can be taken from various juices and food as well. Water is probably the most important nutrition, as far as no one can resist without it, even if for a short period of time. The need for water is indicated by the environmental conditions. For example, in hot climate conditions our body loses a considerable amount of water, not only sweating but also from the air expired.

Water is one of the most important nutrition elements for the organism. Without it, life wouldn't exist. Water takes the major part of liquid and tissue in human's organism. Water cleans the organism from the unnecessary products and regulates the body temperature. It is very important to have a regularly hydro intake balance. If lost large quantity of water, because of vomiting, diarrhea, high fever, etc., it should be substituted immediately.

Water needs are especially high for little children, because of the low capacity in urine concentration and the high ratio body mass/weight.

For each 100 gram body weight added, the child should take 75 gram of water.

Needs for the water differ in accordance with certain factors; **surroundings temperature, diet content, etc.**

The infant taking breast feeding regulates itself the need for water. Breast milk contains the useful amount of water to meet the infant's needs.

Water needs for different group ages

Age	Water in ml/kg/day
1-6 Month	130-150
6-12 Month	120-130
1-2 Year	100-120
2-6 Year	90-100
7-10 Year	70-80
Adult	40-50

Source: Nelson Textbook of pediatrics

## VI. LABEL FOOD PRODUCTS

Processed food products are packaged and labeled before being provided for the consumer. The label has all the complete and precise information related to the nature, safety, quality of food product.

In order to choose the right food product in the market, the consumer should take care of the information given in the label.

The label of a food product should have the following data:

### ***Obligatory data:***

- Name of the product
- The list of product ingredients and the quantity of specific ingredients
- Use timing and expiry date
- Special preserving and use conditions
- State the neto weight
- Address of manufacturer and packaging company
- Place of origin of food product in order to inform well the consumer
- Guidance on the use of food product as far as if these guidelines lack it is impossible to know how to use it.
- Alcohol rate for beverages containing more than 1.2% alcohol.

The consumer should be aware of the following:

- Product's ingredients; various substances causing allergy (e.g. grain containing gluten, egg, fish, Soya, etc.), special ingredients like caffeine which have impacts in our health and genetically modified ingredients, so that to prevent harmful effects for our health.
- Time of use and expiry date, which has a direct impact in the quality and safety of the food product.
- Particular preserving conditions and use should be followed strictly in order to take a safe and qualitative food.



- Food product label may contain the proper information on the food values related with:
  - Energy value;
  - Nutritive value; proteins, carbohydrates, fat, fibrin, sodium, vitamins, salt and mineral salt, as well as:

**Nutritive statement means** any message indicating or suggesting special nutritive values of a certain food, such as:

**Low content of energy**

Only if a product has less than 40 kcal (170kJ)/100 g solid product or more than 20 kcal (80 kJ)/100 ml liquid product, should be stated that the food has low content of energy.

**Low content of fat**

If the food product has no more than 3 g fat/100g solid product or 1.5 g fat/100ml liquid product (1.8 g fat/100ml in the half skimmed milk), should be stated that the food product has a low content of fat.

**No sugar**

If the product contains no more than 0.5 sugar/100ml, should be stated that the product contains no sugar.

**Low content of natrium and salt**

If the food contains less than 0.12 g Na, or the same value of salt per 100 g or 100 ml, should be stated that the food has low content of natrium or salt. For water, excluding mineral natural water, this value must not be above 2 mg per 100 ml.

**Source of protein**

To state that a food is source of protein, should be done only in case 12 % of the energy of a certain food is provided by the proteins.

**Health statement** means any message indicating or suggesting that there is a relation between a certain category of food or one of its ingredients with the health.

Health states can be:

- **Functional**, e.g.: helps in keeping cholesterol at a proper level for the health; contains calcium/helps on strengthening bones; rich in fibrin/helps digestion, etc.
- **can refer to reduction of disease risk** e.g.: helps in reducing the level of cholesterol in blood; the diet with low composition of natrium reduces the risk of high blood pressure, etc.

**Statements prohibited in the food product label:**

- Overall states like e.g. excellent for the organism, helps in keeping our body healthy and young.
- Statements suggesting that if the product will not be consumed, will impact the health
- Statements referring to weight loss

Food products produced in place have the proper information labeled in Albanian. In the imported products, the data for the label of the product and its characteristics (nature, values, and composition), way of use, preserving conditions, expiry date, and address of the importing company should be written in Albanian in the original label or in the counter label.

## VII. Body mass index (BMI)



Body mass should be kept within the recommended limits (BMI norm 20-25). This can be achieved having daily physical activity. The formula for the definition of the body mass index is:  $BMI = \text{Weight (kg)} / \text{Height}^2 \text{ (m)}$

BMI = Body Mass Index.

Maintain weight and health we should choose a nutrient diet, as shown in the food pyramid CINDI, balanced with daily physical activity.

People over weighted should try to lose weight or at least not take too much weight and become obese. Obesity, (BMI more than 30), increases the diabetes risk, no insulin dependency, high blood pressure, heart diseases or blood vessel diseases, cancer, arthritis, etc.

The risk of diabetes, high blood pressure and heart diseases is higher for the people fat in the belly part of the body. Measuring of the belly is a worthy to indicate those who risk if going over the norm.

For men the risk of obesity is accompanied with metabolism complications if the perimeter of the belly is over 95 cm and the risk grows if the perimeter is more than 100 cm. For women the risk of obesity is accompanied with metabolism complications if the perimeter of the belly is over 80 cm and the risk grows if the perimeter is more than 90 cm.

To maintain a healthy weight, people need to keep a balance between the intake energy and the energy spent. Most of the people pass the major part of day doing activities which do not require much energy like, use of cars, use of computers or watching television. Instead, it is recommended to do an active physical life.

We aim to make everyone inactive especially children, teenagers and adults became active in their lives. We should encourage them to make exercises, walk, use bicycle which spends about 250-800 kj per hour. Those who have a sedentary life, people overweighting or obese, if they stand up for about 3 hours per day (compared to staying seated), will increase the energy spend in 24 hours.

People, who try to lose weight, should do it gradually. A safe rhythm of losing weight is about 0,5 kg per week until they reach their objective. Immediate diets for losing weight reducing the energy instantly or not allowing someone take food such as vegetables,

fruits, bread and potatoes, are not recommended. Extreme attitudes for weight loss like use of laxatives (amphetamines) and diuretics are dangerous for our health.

## **VIII. FAT IN DIET AND THE RISK FOR HEART CORONARY DISEASES (SKZ)**

Fat provides energy and especially fat acids, some of which impact absorb of soluble vitamins in fat (A, D, E and K). High amounts of fat intake increases the risk of chronic diseases, particularly cardiovascular diseases. In addition, high intake amounts of a certain fat or oil may cause weight raise, so the required amount of fat depends on the needs of someone for energy.

WHO, recommends that healthy diets should have at least 30% fat.

Three main types of fat are: saturated fat, monounsaturated and polyunsaturated. Saturated fat must produce no less than 10% of the total energy. Polyunsaturated fat should take 7% of the total energy. Normally, fatty food contains a mixture of all fats, but portions for each differ. In a healthy diet, almost half of the energy from fat should be taken from the monounsaturated fat and the rest from a mixture of saturated and polyunsaturated fat.

Monounsaturated fat is found mainly in vegetal oils, olive oil, oil produces from some plant's seeds, peanut oil, and grape seed oil.

Saturated fat is mainly found in animal generated food, such as pork fat, meat and its by-products, milk and its by-products, some kinds of vegetal margarine. High consumption of saturated fat is closely related to high cholesterol level potentially harmful LDL and total cholesterol in serum. Certain saturated fats increase also the risk of thrombosis, which cause accidents of blood vessels in cerebrum or myocardial infarction.

Polyunsaturated fats generate from two main sources, plants and fatty fish and are very important for people. Omega-6 group contain linoleic fat and are found in light margarine generated from sunflower oil, corn, soy and cotton seeds. They have an important role in absorbing antioxidants (vitamin E and carotenoide) and soluble vitamins in fat as well as in reducing the cholesterol LDL level. If overtaken it also reduces the level of protective cholesterol HDL. As mentioned earlier the recommended energy coming from polyunsaturated fat should be reduced to 7% of the total daily energy and at least 1/6 of it should come from fish's fat.

The second group of polyunsaturated fat acids (omega-3) generates from fish's fat like bleak, trout and sardines. It is proved that if we consume twice a week fish, it reduces the risk fat set up within the blood vessels and the formation of blood coagulation, reducing so the risk for thromboses, accidents of brain blood vessels or myocardial infarct. Fish rich in fat may have little but positive effect in reducing triglycerides level, which is a risk for cardiovascular diseases. The weekly consume of fish oil reduces the risk of cardiovascular diseases in many different ways.

**It is recommended substituting fat meat and other meat by-products with peas, kidney beans, lentils, fish, poultry or lean meat.**

Kidney beans, beans, lentils, nuts as well as meat, poultry, fish (including mussels and sardines) and eggs shown in the second level of the nutrition pyramid, are key sources of proteins and iron. Legumes, beans, peas, kidney beans, and canned horse beans, are a good source of iron but the iron found absorbs less than the iron taken from animal generated products such is meat, fish, etc.

Milk and its by-products, meat and animal products contain the highest percentage of saturated fat in a diet. Animal fat usually is saturated, so if we consume meat we should take only little portions just to complete our feeding needs. We should choose meat without fat and all the visible fat should be removed. Meat by-products like sausages, salami and canned meat usually contain high percentage of saturated fat, so they should be substituted with kidney beans, beans, fish, eggs, poultry or meat without fat.

The recommended average consume of red meat should be less than 80 g per day: “Prefer to choose fish, poultry or meat of other animals rather than domestic ones instead of red meat”.

#### **Risk of cardiovascular diseases**

<b>Diet factor</b>	<b>Diet Source</b>	<b>Effects toward SKZ risk</b>
Saturated fat acids (AYS)	Butter, pork fat, unskimmed milk, cheese, meat, sausages, coconut's oil.	There is a strong link between the high intake level of some AYS (especially myristic, lauric and palmitic) with the high levels of total cholesterol and LDL.  Additional risk for trombooses caused by some AYS, such as stearic one.
Polyunsaturated Fat Acids Omega -6	Corn oil, sunflower oil.	Total blood cholesterol and LDL reduction, but if taking too much, there is a possibly for the reduction of protective HDL.
Omega -3	Fish oil, vegetables oil and nut's oil.	LDL blood cholesterol reduction (but only in case the initial level is high), and there is possibility for increase of HDL. Antithrombotic and antiarryhythmic strong activity.
Monounsaturated fat acids	Olive Oil	LDL blood cholesterol reduction (probably a separate effect or cause of AYS substitute) HDL protection
Intermediate Fat	Hydrogenated fat in margarine, biscuits,	Rice of total blood cholesterol LDL,

Acids	cakes, fast foods.	reduction of HDL cholesterol and increase of lipoproteins
Total fat		More harmful than AYS.
		This doesn't impact strongly the level of blood cholesterol, but indicates in other risk factors like obesity, Factor VII, thrombosis. Fat overtaking is often linked with high consume of AYS.
Cholesterol in diet	Eggs, meat, butter, milk	Rise of blood cholesterol.

## IX. GENERAL NUTRITION RECOMMENDATIONS FOR CHILDREN

**Daily intake recommended to young children. Average amounts for different group ages.**

	MONTH OLD				YEAR OLD			
Age	0-3	3-6	6-9	9-12	1-2	2-3	3-4	4-5
Energy kcal	100kcal/kg	115kcal/kg	95kcal/kg	100kcal/kg	1150	1350	1500	1620
Proteins gram	9.8	12	19	20	20	22	24	26

Source: M CAMERON: Manual of feeding of infants and young children

### Daily energy needs

AGE	KCAL/24 HRE
1-2 YEARS OLD	1100
2-3 YEARS OLD	1250
3-4 YEARS OLD	1400
4-6 YEARS OLD	1600
6-8 YEARS OLD	2000
8-10 YEARS OLD	2200
10-12 YEARS OLD	2500

Source: F. PANIZON, Principi e pratica di pediatria

Infant during his first year of life needs 100-150 calories per kg weight, 2-3 times more than an adult (40 calorie per kg weight).

The following table gives the division of recommended calories for the infant.

### Division of calories in food

FOOD	CALORIE %
PROTEINS	15%



<b>CHARBOHIDRATES</b>	55-60%
<b>FAT</b>	25-30%

Source: Nelson: Textbook of Pediatrics



### *Recommendation for children*

#### **Drink water**

Drink water every meal and between meals

Make water your preferred drink: It's better and fresher than the other sugar drinks.

#### **Take fruits and vegetables**

Taste fruits and vegetables every meal and after lunch.

#### **Take regular meals**

A healthy breakfast gives you energy. Stay in good physical form during all day. Take regular meals. Avoid frequent food taking between meals.

#### **Take food and drinks, wisely**

Take a variety of food. Light food: Rarely take fat and sugar food and in small portions.

#### **Switch off the television while eating.**

Have regular physical activity and be active all the time: play, do works, read or do some sport. Do not waste your time with videogames but do another activity.

Avoid taking food between meals: Give the proper time to your meal, taste your food and the conversation with your friends and relatives around the table.

### **What is a food portion for the children 2-6 years old?**

**Grains group:** Feeding portion includes 1 slice of bread, 1/2 cup of rice or pasta, 1/2 cup of cooked grains and 30 g of various grains. The child should take 6 portions from this group.

**Vegetables group:** Feeding portion includes 1/2 of minced pieces of vegetables or 1 cup of vegetables with leaves. The child must take 3 portions from this group.

**Fruits group:** Feeding portion includes 1 portion of fruits, about 3/4 cup of 100% juicy fruit, 1/2 cup of sugared fruits or 1/4 cup dried fruits. The child should take 2 portions a day from this group.

**Milk products group:** Feeding portion includes 1 cup of milk or yoghurt or 50 gram of cheese. The child should take 2 portions from this group.

**Meat group:** feeding portion includes 50-70 gram mutton, chicken or fish, ½ cup of cooked beans. You can substitute 25 gram of meat with 2 spoons of butter or 1 egg. The child should take 2 portions from this group.

## **X. NUTRITION RECOMANDATIONS FOR THE INFANTS IN THEIR FIRST YEAR OF LIFE.**

Food needs of infants reflect the particular needs of this age to cover the fast processes of growth and development of their body. In general the metabolism process and the food needs of the infants are bigger than the adults.

The newborn infant grows rapidly but they have specific requirements for nutrients taken from food. The infant's organism has lively needs for energy and growing materials which can be taken from proteins, fats and saccharine. Salts and vitamins do not provide energy but are very important for the growth and development of the infant. They assure the proper realization of all the chemical reactions that happen in the organism.

Food ingredients are:

**Macronutrients: PROTEINS, CARBOHIDRATES, FAT, DRINKS**

**Micronutrients: VITAMINS, MINERAL SALT**

A good nutrition from the birth is the best way not only to have a physical and mental normal development, but also prevents or reduces to minimum a lot of disorders and child's diseases (e.g. allergies, contagious diseases pathologies) to teenagers (e.g. colic, obesity or fatty, hypercholesterolemia, etc.) as well as to adults delays symptoms of diseases such as: diabetes, arterioscleroses, liver diseases, intestines, cancer and early aging.

The infant at the first year of life is recommended to be exclusively breastfed for six first months. We should not give the infant any other kind of food, except breast milk. By the end of sixth month of life we can gradually put on diet additional food.

Mothers having no possibility to breastfed their baby, they can use canned artificial milk made by breast milk substitute's formula.

Breastfeeding is the ideal and the most perfect feeding for babies.

The newborn babies should be exclusive breastfeed, during the first 6 months of live. After this period of time it would be combined with complementary food, at least at the first two years of live or more.

### **Advantaged of the breastfeeding:**

- It contains the exact nutrients a baby needs;
- Its easily digestible and is effective for the infant's organism as well as protects the infant against inflammation;
- Its cheaper than the artificial feeding;
- Helps the mother and infant to have a solid relationship,
- Helps growth and development of the infant;

### **Nutrition ingredients of breast milk and other artificial milks**

The quality and quantity of protein differs in various milks. Human breast milk contains *alpha*-lactalbumin and the cow's milk *beta*-lactalbumin.

Cow's milk has too much casein, which forms thick indigestible layers in infant's stomach, while in human's milk has less casein which forms thinner digestible layers.

Digestible proteins or serum proteins are also different. In human's breast milk most of these proteins are composed of anti-infection proteins, which help to protect the infant from infections.

No artificial milk, except the breast milk, contains anti-infection proteins. Anti-infection proteins of the human's breast milk include lactoferrine (which links iron and prevents the spread of bacteria needing iron), lysozyme (which kills bacteria), as well as anti-corps (immunoglobulin, mainly IgA).

Another essential anti-infection factor is bifida factor (increases *Lactobacillus Bifidus*, which stops the bacteria grow and makes infant's faeces breastfed, smell like sour milk). Breast milk contains also anti-viral and anti-parasite elements.

Infants artificially fed may have intolerance from animal milk proteins. It may cause diarrhea, abdominal pain, etc. Diarrhea may last in time and may impact in the malnutrition of the infant.

Infants fed with animal milk or formula milk, have more probability to be affected by allergies causing eczema or possible asthma, than the infants breastfed. In the first days of his life, an infant may have allergy and intolerance, even after a short time of using artificial feed.

### ***Fat variation in different kinds of milks***

Breast milk has essential fat acids which can not be found in cow's milk or formula milk. Essential fat acids are necessary for the development of infant's brain, eyes and blood vessels.

Digestible enzymes, lactase, lipase and other essential enzymes protect the little child who has an immature immune system.

The newborn intestines do not have all the required enzymes for the digestion of the milk's fat. Breast milk lipase enzyme helps in completing the intestine fat digestion.

Faeces of a breastfed infant are different from artificially fed infant. One reason is that faeces of an artificially fed infant contain more indigested food.

Low weight born infants artificially fed, lacking such essential fat acids, may have a slower mental and visual development.

### ***Vitamins in various milks***

Generally, human breast milk is composed of more vitamins than cow's milk.

Some group B vitamins are equally found in human breast milk and in cow's milk, but the most part of the group B vitamins are found 2-3 times more in cow's milk, rather than

in human breast milk. These high rates are beyond the infants needs. Breast milk contain a high amount of Vitamin A and Vitamin C.

It is often recommended to feed infants with juicy fruits, since the very first months of life to assure vitamin C. This might be proper for the infants artificially fed, but it's not necessary for a breastfed infant.

Breast milk may contain high quantity of vitamin A, if mother cares to take it in her diet.

### **Iron in milk**

Iron is very important to prevent anemia. Some kinds of milk have equal low amounts of iron (50-70 mikrogram/100 ml, i.e. 0, 5-0, 7 milligram per liter). But there is a big difference.

Only 10% of the iron present in cow's milk is digestible, while in breast milk 50%.

Infants fed with cow's milk may not take the necessary amount of iron so there is the risk for them to become anemic. Infants exclusively breastfed take sufficient iron and are protected against anemia caused by the insufficient iron at least until 6 months old, or longer.

### ***Breast milk advantages***

#### ***Protection against infections***

Breast milk is not only a food for infants, but it also a lively liquid that protects them from infections. During the first year of life, infant's immune system is not completely developed, so it can not fight infections like a child or an adult.

Breast milk contains leucocytes and lots of autoinfection factors, which help in protecting the infant against infections. Breast milk, also contains anticorps against previous infections his mother may have had.

#### ***Breastfeeding physiological benefits***

Breastfeeding helps the mother and the baby to establish a close affective relation, which makes both feel deeply satisfied from the emotional point of view. Close contact immediately after the birth helps in making this relation growing. Certain studies have proved that breastfeeding can help in developing baby's intelligence.

#### ***Protection from diarrhea***

Infants artificially fed can suffer from diarrhea for two main reasons: because artificial food has no autoinfection factor and artificial food is often contaminated by harmful bacteria. Breast milk is not impure.

Breast milk protects infants from death caused by diarrhea until being one year old, and for the infants until being 2 years old. Breast milk can help in protecting the infant from some forms of diarrhea, e.g. cholera and shigellosis until 2-3 years old.

#### ***Protection against respiratory infections***

Breast milk protects the infant from the upper respiratory system's infections. Studies performed have proved that breast feeding protects the infants from other infections, e.g ears infections and meningitis.

Exclusive breastfeeding assures all the needed nutrients and water for the infant, until 4-6 months old.

After 6 months breast milk is not sufficient, therefore infants should take other food, known as *complementary food*, except the breast milk. Not many infants may need complementary food at 4<sup>th</sup> or 5<sup>th</sup> month of age.

The complementary food may be given to the infant using a cup, a spoon and there is no need for bottle-nipples to feed.

But the breast milk remains the most important source of energy and nutrients till the second year of infant's life and beyond. It provides 1/3 of the proteins and energy an infant needs in his second year of his life.

### ***Risk of artificial milk feeding***

- Artificial feeding may interfere in the relation between the mother and baby. They maybe not grow a closely affective relation.
- An infant taking artificial food has more probability to be effected by respiratory system infections, diarrhea, ear infections or other infections.
- Diarrhea may take long and repeat frequently.
- The infant may take less milk and be mal fed, because he takes very few amounts of milk, or it is watered more than needed. The infant may probably suffer from vitamin A insufficiency.
- An artificially fed infant has more probabilities to die of infections and mal fed than a breastfed infant.
- The infant may have allergies like eczema and asthma.
- The infant may become intolerant toward animal milk, so it may cause him diarrhea, redness, impetigo and other symptoms.
- The risk of chronic diseases such is diabetes, grows in the latter years.
- An infant can take too much artificial milk and became obese.
- The infant may not have a proper intelligence development.
- A non breastfeeding mother is more likely to remain pregnant soon after and may become anemic after delivering her baby. She is exposed to the risk of ovarian and breast cancer.

### **Infant feeding according to the recommendations of World Health Organization**

#### ***Exclusive breastfeeding/only breast milk***

Exclusive breastfeeding implies that the infant takes no other kind of food, including water, except breast milk (excluding medicines and vitamins or mineral salt in the form of drops given for a short time); it is allowed to squeeze milk from the breast.

#### ***Mostly breastfeeding***



Mostly breastfeeding implies infant breastfeeding but at the same time the infant takes little water or other base water beverages, e.g teas, juicy fruits, etc.

### ***Bottle feeding***

Bottle feeding implies to feed the baby with a bottle, whatever milk it contains (breast milk or artificial milk) including even the milk squeezed from the breast.

### ***Artificial feeding***

Artificial feeding implies feeding of a child with canned milk or animal milk. No breast milk at all.

### ***Partially breast feeding***

Partial breast feeding implies giving to the infant partially breast milk and partially artificial food, grain or other.

### **Recommendations for starting additional artificial food**

**These recommendations should be made by the medical expert**

- to newborn underweight, or prematurely born, less than 1000 gram, or in the 32<sup>nd</sup> week of pregnancy
- to the children whose mothers are affected by HIV/AIDS
- to the child whose mother has serious maternal diseases (psychosis, etc.)
- children with acute disorders of liquid lose, e.g throughout photo therapy for icter.
- children whose mothers are taking drugs which react when taking breast milk, (drugs for cancer treatment, radioactive drugs, anti-tensile drugs, etc.
- In case breastfeeding is interrupted temporally, mothers should be helped to reset breastfeeding by squeezing the milk using a pump, or hands, as well as prepare her to be ready to restart breastfeeding.

### **Recommendations on successful breastfeeding of infants and little children**

- **Infant should begin breastfeeding within 1/2 - 1 hour after being borne.**
- **The infant should not take any liquid or food before starting breastfeeding.**
- **Infants should exclusively/only breastfed for at least 4 first months.**
- **Between 4-6 months should be given additional food only in case the infant is not adding weight or if feels hungry even though breastfed.**
- **Many infants do not need complementary food prior to 6 months of age.**
- **All infants older than 6 months should start taking complementary food.**
- **Infants should take breastfeed until 2 years old or even further.**

### **Breastfeeding would be successful if:**

Mother feels pleasant and quiet

- infant has taken good position with the breast and is effectively getting milk as much and as long as he wants to.
- the surrounding fits properly for breastfeeding

Breastfeeding is a learning experience for mother and infant.

Recommended the following:

**\*Early breastfeeding.**

- The infant should possibly take breastfeeding during the half hour after delivery, the time he is attentive.
- Position the infant immediately after delivery on mum's tummy and the skin to skin contact with her helps starting breastfeeding.
- During the time mother is breastfeeding her baby, the atmosphere should be calm.
- Newborn babies should take their time to get oriented, to seize, to lick and take in the breast; i.e. take a good position of breast suckling.
- Premature delivered infants or infants suffering from any diseases should start breastfeeding, as soon as the conditions are properly improved.

**\*Frequent, unlimited feeding, upon infants needs**

Infants take breastfeeding for as long as they want and as often as they want.

For the newborn, usually it takes 2-3 hours during the whole day and night (8-12 times or more in 24 hours).

The feeding time frame varies with the infant's age and feeding manner. It may take 20-30 minutes to have a normal, relaxed feeding.

**\*If necessary wake up the infant.** Most of the infants do not establish an effective feeding model till 36-48 hours after delivery. If the baby is sleeping, you should wake her up slowly and breastfeed at least every 3 hours during the day and 1-2 times during the night.

**\* The baby should position in such a way so to easily and properly grasp the breast.**

Baby good positioning and breast grasp is a key factor for a well-done breastfeeding. It helps in:

- The production of the needed milk
- The prevention of breast problems, sore nipples, swollen breasts and infections.

**\*Provide exclusive breastfeeding.**

Infants should take only breastfeeding. There is no need for additional food or drink, except the cases when the doctor recommends so. Additional food interferes in the process of milk production. In addition, the infant should not use nipple bottles because the way the baby suckles it, is different from breast suckling and this may slow down breastfeeding.

## **ARTIFICIAL NUTRITION OF INFANTS**

### **Cow's milk**

Nowadays cow's milk is not suitable for babies for the first year of life. Its components differ from breast milk components, i.e. proteins, lipids, vitamins and mineral salt. For this reason it should be used watered adding carbohydrates and fat. But usually this is not properly done and the preparation and preservation conditions may be not suitable. There are many forms of allergies proved in cow's milk, that may affect little babies, therefore it is not recommended to be used at this stage. Latest studies have proved that

cow's milk prevents iron's digestion in intestines, causing so the anemia as a result of iron missing.

### Formula milk

Formula milk is the best substitute to breast milk, but today there are too many in the market which can cause confusion related to its usage. We should know that generally it is divided in first stage formula milk which is used to babies up to 4-6 first months of age and the follow on formula milk for babies over 6 months of age.

The composition of these formulas is similar with breast milk. Only certain components differ.

### Formula milk composition

Components	First stage milk	Follow on milk
Calorie values (kcal/100ml)	64-72	60-85
Proteins (g/100ml)	1,2-1,9	2,0-3,7
Proteins (g/100kcal)	< 4	< 5,5
Casein/ sieroprotein Ratio	< 1	-
Fat (g/100ml)	2,7-4,1	2-4
Unsaturated fatty acids	> 50%	-
Linoleic acid	3-6%	-
Carbohydrates (g/100ml) mainly lactose	5,5-8,2	5,7-8,6
Calcium (mg/100ml)	> 40	> 60
Phosphor (mg/100ml)	20-35	>40
Iron (mg/100ml)	0,07-0,14	0,7-1,4

Fist stage milks address the needs of newborn and babies up to 4<sup>th</sup> month. Afterwards it is seen a progressive slow in breastfeeding because of the low composition of proteins in it. That's why it is recommended to pass to follow on milk which is richer in proteins and iron.

The daily portion should be according to energy needs, being aware of the calories found in powder milk, watering it in accordance with the recommendations given in the attached label.

The optimal concentration **13%** compared to the concentration in the women's breast milk, this percentage gives about **70 kcal/100 ml**.

### Additional vitamins and minerals

Vitamin D prophylaxis is more notable when mother is not sufficiently exposed to sunrays. Vitamin D has a distinct role in protecting our body from infections and

boosting the immune system. The main source of vitamin D is 7 dehydrocholesterol which is converted to vitamin D in the skin after the exposure to the sun light. The diet is the least important if regularly exposed to the sun light.

At certain circumstances, there can be a high risk of the insufficiency of vitamin D, e.g. north areas where in winter people expose less to the sun light, the level of vitamin D will be lower.

Vitamin D concentration in the women breast are proved to be lower 20 IU/L, the least than the daily recommended rate of 400 IU/d; but these rates hover too much and can be indicated by the diet mother has taken.

Therefore it is recommended to take additional vitamin D during pregnancy and breastfeeding, as well as add it to baby's food 0-3 years, even with breastfeed or formula milk.

Practice in some countries has shown that daily intake of about 400 IU Vitamin D, prevents rachitic, stimulates growth and keeps good rates of calcium and phosphor and no signs of toxicity.

### **Recommendations on additional minerals**

- Babies exclusively breastfeed should take 400 UI/d Vitamin D. It can go to 800 IU/d during winter for babies living in the remote mountainous areas.
- Pregnant women and those breastfeeding need to take 400 IU/d Vitamin D.
- Babies over 2 years old should take IU/d Vitamin D during winter.
- Taking phloridzyn is not recommended for babies under 6 months old.
- Babies exclusively taking breastfeed do not need additional iron until 6 month of age. Afterwards the iron taken from solid food is sufficient for healthy babies.

### **Cup feeding a baby**

Advantages of feeding baby with a cup as compared to bottle

- ▶ Cups are easier to clean with water and detergent, if it is not possible to boil
- ▶ Cups are not likely to be kept everywhere for long so to accumulate bacteria
- ▶ We should not leave the cup nearby the baby but the person who is feeding should keep the cup so that the baby looks at it, in order to establish the necessary contact.
- ▶ Cup feeding does not interfere in breastfeeding
- ▶ Cup feeding makes the baby skillful to check the quantity of food he wants.

### **How to cup feed a baby**

- Position your baby such that she is supported and upright, or on the lap
- Place the rim of the cup on the baby's lower lip
- Tilt the cup slightly so that the milk comes to the edge of your baby's lip.
- The cup slightly touches the baby's lower lip and the cup's edges come in contact with the outer part of the baby's upper lip.
- The baby starts taking milk and than opens her mouth and eyes.
- Premature born babies lap up the milk

- Normal babies or grown up babies suckle the milk, spitting it.
- Do not pour the milk into the mouth, but keep it level. You just keep the cup in her lips and let the baby lap up the milk with the tongue.
- Let the baby take as much as it wants - do not try to force-feed it. If she didn't take enough this time, maybe will take more next time, or you have to feed her more frequently
- Measure how much milk your baby takes within 24 hours – do not measure how much she takes in a meal.

### **Artificial feeding**

#### **Babies that can not be exclusively breastfed can take:**

- Squeezed breast milk
- Formula milk
- Cow's milk (Watered milk 1:1, 2:1, 3:1 and added 1 tea spoon of sugar for each cup feeding)

Artificial feeding can start immediately after baby's delivery (6-8 first hours) initially using low concentrations about 10%.

**The number of feeding meals should be 7 times in the first weeks, 6 times in the first two months and 5 times until the beginning of complementary food.**

### **QUANTITY**

#### **Babies weighting 2, 5 kg or more**

150 ml per kg/weight per day

Divide in 8 meals and given to the baby every 3 hours.

#### **Babies weighting less than 2, 5 kg**

Start on 60/ml kg weight

Increase the amount to 20 ml per day, until the baby takes totally 200 ml per day.

Divide it in 8-12 meals feeding every 2-3 hours

Continue until the baby weights 1800 gram or more and takes breastfeeding

Check babies feeding every 24 hours

The number of separate feedings can vary.

### **10 steps to successful breastfeeding**

Every facility providing maternity services and care for newborn infants should:

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within half an hour of birth.
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.

6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
7. Practice rooming-in - that is, allows mothers and infants to remain together - 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

### **Complementary/additional feeding**

To be sure that our baby is growing and developing well, we should know what kind of food, how much and how frequent give it to the baby. Breast milk should be the main food throughout all the first year and the second year one of the main. Breast milk provides all the needed elements which are exclusive against infections.

### **Complementary feeding means giving to the baby other food in addition to breast milk.**

A baby gradually learns to take the food of the family. At the end of this phase (usually around the 2<sup>nd</sup> year of age) breast milk is substituted completely by the food of the family, although sometimes baby can demand to suckle calmly.

There are two groups of food used for complementary food:

- Industrialized homogenous food prepared specifically for this period of time
- Ordinary family food is made lighter for the baby and to provide the proper needed nutrients.

For example, mother can prepare rice flour and milk pap for the baby.

Food preparation in the form of pure or grind as jelly changes the composition of the food compared to the family food, so that the baby can easily take.

Family food can be adopted by adding extra vitamin A, iron or more oil for energy.

### **When it is recommended to start with complementary food?**

The baby should take complementary food when he can not take any more the energy and nutrients only from breast milk at 4<sup>th</sup>-6<sup>th</sup> month of age. That's the time when baby's nerves and mouth muscles are enough developed to allow the baby chop, bite and chew the food. Prior to 4 months of age the baby pushes the food into the mouth because he is unable to take control of his tongue movements. At 4<sup>th</sup> to 6<sup>th</sup> month of age it's easier to feed with thin rice flour and milk pap, vegetable pure, etc., because:

Too early or too late complementary food is not desirable. The first signs for a baby to be ready to take complementary food are:

- The baby is at least 5-6 months old
- Takes frequently breastfeeding but its still hungry
- Does not put on weight

Giving complementary food in advance is unsafe, because:

- The baby does not need such food yet, it would substitute breast milk. If the baby takes such a food they would take less breast milk and even the mother's breast produces less milk. Therefore later on the baby would not have sufficient feeding
- The baby takes less preserving factors from breast milk
- The risk of diarrhea because the complementary food may not be pure compared to breast milk
- Food given instead of breast milk is usually thin, such as watered pap, rice four and milk pap or soups which are light foods for the baby. These foods fill the baby's stomach but provide less nutrients than breast milk, so the needs of the baby are not met
- Mothers have more probabilities to remain pregnant if they breastfeed their babies more frequently.

If the baby takes too late complementary feeding, it's risky because:

- The baby does not take additional food to meet her needs for nutrients
- The baby impedes growth, or delays it

### **Which are complementary/additional foods?**

High-quality complementary/additional foods are:

- Rich in energy, proteins and micronutrients (especially iron, zinc, calcium, vitamin A, Vitamin C and folates)
- Pure and safe
- Do not have pathogens (to cause diseases from bacteria or other harmful organisms)
- Do not have chemical elements, or toxics
- Do not have bones or other pieces that may hurt the baby
- Are well boiled
- Are not salty or spicy
- Are easily digestible for the child
- Are easy to find and to afford by the family
- Are easy to be prepared

Babies at the first year of age especially after 6 months have additional needs for iron in food because those needs cannot be afforded simply with breastfeeding.

### **Iron source and iron assimilation**

**The quantity of iron the baby assimilates from food depends on:**

- Iron contained in food
- Kind of iron (iron taken from meat and fish is more easily digestible than iron taken from plants and eggs).
- Other food included in the same meal (some stimulate iron digestion, some others react reducing it).
- Anemic baby (babies suffering from anemia digest more iron)

### **Foods rich with iron**

**Too much iron, digest well**

**Too much iron, digest less**

Livers  
 Other animal meat products, especially red  
 Animal meat, red meats Dark green leaves  
 Poultry, dark color meats  
 Iron fortified food (e.g fortified grain for babies)

Yolk  
 Legumes

Iron taken from eggs, milk and vegetal food (e.g corns, legumes, vegetables and fruits):

- **Increases, taking in the same meal:**
  - Rich food with vitamin C
  - Meat and animal, poultry giblets
  - Fish and sea food
- **Reduces drinking:**
  - Tea and coffee

**Baby's average energy needs for iron are:**

Age	Energy ( kkal/d)	Iron taken ( mg/d)
0-2 months	404	1.14
3-5 months	550	0.90
6-8 months	682	0.78
9-11 months	830	0.66
12-23 months	1092	0.049

Taking rich food with vitamin C with the same meal is the best way to improve iron digestion from eggs, milk and plant originated foods. Rich food with vitamin C include mango, orange and other citrus.

### **The importance of a diverse complementary feeding**

To meet the needs for feeding ingredients such as proteins, vitamins, etc., as well as paps should be taken combined with other foods. Other foods that fill better this gap are:

- Legumes (beans, peas, lentils)
- Animal based food, meat, poultry, eggs, milk, etc.
- Green leave vegetables and orange color fruits and vegetables
- Fats and saccharine

### **How can complementary food meet the needs for energy and nutrients?**

#### **What is the lack of energy and nutrients?**

To best way to fulfill the needs and to be sure that the baby has taken properly energy, proteins and micronutrients is to give to the baby mixed additional food for a healthy growth and development. A good mix of additional food during a day would be made off grain + legumes + an animal generated food + vegetables or green, orange color leave fruits, or the following:

- Grains + legumes + vegetables or green, orange color leave fruits for one meal
- Grains + an animal generated food + vegetables or green, orange color leave fruits for the next meal



- Taking a fruit with a meal improves iron digestion
- Adding a little fat or oil, puts in some extra energy.

Taking into account

**Food containing grain** (e.g. 3 filled spoons of cooked rice + 1 spoon of fatty):

- Help in meeting needs for energy and proteins
- Meet a few needs for iron
- Do not meet the need for vitamin A

If we would use potatoes instead of rice, they will have less effect toward meeting needs for proteins. Starch and amidon have no effect at all in meeting needs for proteins.

**Additional legumes** (e.g. 1 spoon of cooked peas, beans):

- Meet a little the need for energy
- Meet well the need for iron
- No effect at all for vitamin A

***Adding a fruit (e.g. half of a small orange)***

- Meet the need for energy and proteins
- Improves iron taking from rice and legumes
- Little effect related to vitamin A
- If we use a pear, apple instead of the orange we take more vitamin A and C.

***Adding fish (1 filled spoon)***

- Meet a little the need for energy
- Meets the need for proteins
- Little effect related to iron taking
- No effect on the need for vitamin A
- Improves taking iron from the vegetal originated foods.

***Adding dark green leave vegetables (1 filled spoon)***

- Meet a little the need for energy
- Provides proteins
- Provides iron
- Provides more vitamin A and meets the needs of this age

Babies 6-11 months of age need less complementary food because their energy demands are less. But consider the fact that their need for iron is higher, so it is very important to include in the diet foods rich in iron.

At 7-8 months of age the baby has its teeth and can coordinate his chin so as to chop the solid food. Also many babies at this stage can keep the cup of food themselves.

Meat, legumes and the yolk should be taken by the baby since 7 month of age in addition to fruits and vegetables already taken. They are rich in vitamins and minerals.

When start taking legumes, peas it is recommended to start taking one or two tea spoons and latter gradually increase the amount to two or three normal spoons.

Vegetables like lentils and peas have a high percentage of proteins. Proteins found in legumes have more feeding values than grains.

Use poultry because it is less allergic than the meat. We should remove fat and skin from the poultry. Stew it well to avoid all the parasites. The meat should be chopped in little pieces and grinded well to help the baby digest it. Give the baby first one or two tea spoons of meat, and then gradually rise the amount to two or three normal spoons at the end of the week.

Egg: As regards to taking egg, the baby should take the yolk after 7-8 months of age. The white of the egg may cause allergies, so it should be given to the baby after 10-11 months of age. Do not give to the baby more than two yolks. First give a few of it to the baby then gradually rise the amount until he takes the whole yolk.

Fish: To prepare the fish for the baby you should first remove the skin and the bones. Don't start giving fish to the baby if she is not used to eat various foods and tastes. You can give the fish to the baby with rice, grains and vegetables.

Yoghurt should be given separately to the baby, or it can be given with rice/poultry, rice/meat, rice/egg or any other combination.

**At the 9<sup>th</sup> month of age**, you should go on as much as you can breastfeeding your baby. At this time being the baby is adopted to many kinds of food in the house. Baby can take various vegetables in the form of soup, pure mixed with meat, poultry or fish as well as other legumes with rice.

Grains can be mixed with cow's milk. Baby should progressively take yoghurt, cheese, fruits and fresh juicy fruits beverages. She should also take some foods of the family but no salt, sugar or spicy added.

### **Foods to avoid**

Avoid the industrial cheese up to 1 year of age, because it has high percentage of salt and other conservants. Avoid all kinds of canned food

### **10-12 months of age**

At this age the child is ready to eat the food of the family.

### **Between meals feeding**

#### **Which is the best food to be taken between meals?**

Children need to take between meals to complete the lack of energy. The meals should be easy to prepare. The food taken in between meals provides energy and nourishing ingredients. Example:

- Banana, or other minced fruit
- Yogurt, milk and milk pap
- Bread with butter, margarina
- Biscuits
- Cakes
- Boiled potatoes

"Poor food/low nutritive values" have too much sugar (destroys teeths carie) and low nutritive values e.g coca cola, caramel/chocolate, etc.

### **Beverages**

- Juice for children should be pure and safe. So the water should boil and before squeezing fruits, first wash them well.
- Beverages should not substitute other additional food or breastmilk.
- Teas and coffee reduce iron taking.
- Beverages should not be given to the baby during the meal, but 2 hours in advance or afterwards.

### **What is the amount of food to be given to the baby and how often?**

The new taste of a food would be a surprise for the baby, so mothers should:

- First give to the baby one, two tea spoons twice per day
- Rise the amount of food and varieties gradually (at 9<sup>th</sup> month of age the baby should take many kinds of the family food)

A little baby gradually learns how to use his lips to take the food from the spoon and how to pass it over to the back of the lip to ingest it. The baby may spill some food over her chin or spit it, but this does not mean that she doesn't like to take that food. Being patient you can stimulate your baby learning to take new food, as well as enjoy new tastes.

### **Babies over 6 months of age must:**

- Continue being frequently breastfed
- Add the amount of food, based on the demands of the baby, stimulating her constantly
- Raise the number of meals. Additional food should be given 3 times a day at 6-7 months of age, but at 12 months of age the number of meals should be at least 5 (3 normal meals and 2 between meals).
- At the beginning the meals should be soft; latter they should be pure, or divided in small portion.

## **SUMMARY**

### **Feeding recommendations**

#### **Birth to 6 months of age**

- Breastfeed the baby as often as he wants day and night, at least 8 times per 24 hours.

#### **4 to 6 months of age**

- Breastfeed the baby as often as he wants day and night, at least 8 times per 24 hours
- Add other food only if the baby:
  - seems hungry after taking breastfeeding, or
  - does not gain the required weight
- If so, add complementary food (of 6-12 months of age)
- The baby takes such a food only 1-2 times per day after breastfeeding

#### **6 to 12 months of age**

- Breastfeed the baby as often as he wants

- Prepare good portions of:  
 Rice flour and milk pap; add some sugar and olive oil or butter and canned milk  
 Mixture of vegetable's pure, potatoes; mixture with fish or beans and green vegetables  
 You should give to your baby 3 meals a day if she is taking breastfeeding;  
 5 meals a day if she is not taking breastfeeding  
 Between meals rich with nutrients like eggs, bread, banana

### **Foods to avoid**

- ▶ Wheat should be avoided until the 6<sup>th</sup> month of age, because babies are sensitive toward it. This is related to its level of proteins and gluten which may cause allergic reactions.
- ▶ Cow's milk should not be added when preparing the pap with grains (rice or wheat flour) until 10<sup>th</sup> month of age. These foods are too concentrated and may cause problems with the digesting system. Cow's milk can be added after 10-12 month of age. Goat's milk can be added a bit earlier after 8<sup>th</sup> -9<sup>th</sup> month of age.
- ▶ until the first year of age do not add any spicy, salt, sugar, honey or other sweetening components. The baby doesn't need them.
- ▶ do not use the bottle to feed the baby because it would be difficult to learn him chew, gulp or use the spoon.
- ▶ hold over feeding with carrot or spinach to the 7-8 month of age, because they have a component named nitrate which impacts in the health of the child at this phase (raises the anemia because they prevent the iron to be absorbed by the intestines)
- ▶ do not mix different kinds of fruits, first use a mixture of grains with vegetables, one or two tea spoons, and then gradually raise the amount.
- ▶ do not mix two kinds of vegetables until the baby gets used with each of them separately.

### **Feeding a sick baby**

Little baby often suffers from different infections such as diarrhea and respiratory system infections. If their diet is suitable the symptoms can be relieved. Here are some advices to their mothers:

- Breastfeed your baby all the time although she is having diarrhea or vomiting;
- Feeding your baby with the proper amount of drinks and beverages is very important to fight infections, high fever, so it is recommended water boiled previously, cold tea or other fresh juices like carrot's juice. If the baby has diarrhea he needs oral dehydration drinks (can be taken in the drugstore);
- Sometimes infections affect the appetite because the baby has problems with the mouth or red lips. You should give to the baby soft food, maybe more qualitative than the usual diet. Small portions but frequently, soft food like grain flour and milk paps, soft fish, scrambled egg, fruits with fiber like banana for example. This is very important when the baby has a sore and red mouth or intensive cough;
- Be sure that the baby suffering from diarrhea, respiratory system infections or other serious infections, is taking more food rich with vitamin A.

## **10 rules to complementary baby feeding**

### **1. Be sure that your baby is ready to start with new food other than breast milk or formula milk.**

Pediatricians recommend for the first 6 months, milk alone is adequate. When your baby passes 6 months of age, he will need other food beside milk to meet his rapid growth needs. At this age the baby starts to stay seated, without support and can hold little things in his hands. She expresses interest when you have a plate in your hands and you're eating something.

Every baby is different from another. It's very important to understand the readiness of your baby and then decide to start solid feeding.

**2. Do things step by step.** You and your baby have all the time at your disposal to explore the entire world of feeding pleasure. First give to the baby little portions of food (half a tea spoon) and then step by step move to bigger portions till quarter a cup for a meal.

**3. Firstly you should consider that breast milk or formula milk is still important and it should continue to be part of their diet until they're at least 12 months old and then follow up with other food.** To keep having proper milk flow if you're breastfeeding your baby and in order to provide the most important feed for her during throughout the first year of age, breastfeed your baby or feed her with formula milk before passing to other foods like paps, soups, etc.

**4. The best way for your baby to do progress toward feeding is to let her try it herself.** What your baby may like or not like and the history of the family related to allergies/asthma, play an essential role on what food you should choose for your baby and when to start taking it.

**5. Get used to the fact that feeding time is tiresome and messy.** A good part of the food you have prepared for your baby will be spilled on the floor or in your and her clothes. This is part of the training course so change your clothes and don't worry.

**6. Get started only with one new food per week.** The right time to start with new foods is in the morning. This makes easier for you to observe any possible sign of your baby in case of any allergic reaction, such as red skin, few spots on the skin, nose leaking, etc. Take care of serious reactions. In case it happens you should immediately call for the doctor responsible for your area.

**7. Get prepared to expect for a change in baby's faces!** During the time you used additional food for your baby, you will find out a change in the color, composition and frequency of your baby's fasses. This is normal because of the food taken by the baby. It may happen that you see indigested pieces in the fasses of your baby.

**8. Always remember that the baby has a little stomach** so you better give her small portions of food and frequently during the day, rather than big portions in 3 meals.

**9. Follow your baby's feedback!** If your baby doesn't like a certain food or she is not hungry, do not force her to eat (your baby would not be harmed if she takes back breast milk or formula milk and no other food, for a couple of days). It is very important to create a joyous and pleasant atmosphere at the time the baby is feeding.

**10. Turn your baby's feeding into a social event!** Allow your baby sit in the table with the family at the feeding time so the baby will gradually start enjoying the social side if feeding with her family. Babies usually like this kind of interaction.

## **XI. NUTRITION RECOMMENDATIONS FOR CHILDREN 12 MONTHS OLD TO 2 YEARS OLD**

Even after first year of age, during the second year it is recommended to continue with breastfeeding of the baby on demand.

*Breast milk in the second year of age*, can provide 45 % of vitamin A baby needs even in the second year of life. Breastfeeding can help in preventing the insufficiency of vitamin A. It can provide almost all the needed vitamin C for the baby even if the mother herself has insufficiency of this vitamin.

Therefore breast milk feeding helps a baby taking sufficient energy and nutrients of high quality at least until the second year of age.

The baby throughout this period of time should take the right portions of following food:

- Mixture potatoes pure, meat, fish or beans and green vegetables;
- Wheat flour and cow milk pap, sugar and oil.

Feed the baby 3 complete meals and two between meals.

## **XII. NUTRITION RECOMMENDATIONS FOR CHILDREN 2-3 YEARS OLD.**

### **Oil and fatty:**

Use up to two tea spoons of vegetal oil/day (10 g) vegetal oil (mainly olive oil) for cooking and salads. Take one tea spoon (5 g) butter or vegetal margarine with high nutritive values.

### **DESSERTS**

Take the most one little sweet (1 portion < 50 g) per day, e.g. a small piece of cake, a cup of ice-cream (but remember that they contain sugar and other sugarcoated ingredients which damage the teeth so they should be rarely taken).

Take the most 10 g of sugar per day in the form of marmalade (20 g), honey (10 g) or pure sugar (10 g).

### **Meat, fish, egg and legumes**

Take the most 4 portions of meat per week (1 portion = 50 g), (substituting only once a week one portion of meat with a portion of ham and salami).

Once a week take a portion of fish (1 portion = 70 g).

Take 1-2 eggs per week, including here even the eggs used for cooking biscuits, cakes, etc.

Take a portion of legumes per week (1 portion = 40 g), peas, lentils, etc.

### **Milk and its by-products**

Take every day 3.5 portions of these products (1 portion= 100 ml milk / 100 g yoghurt /15 g solid cheese / 30 g soft cheese).

### **Grain and potatoes based products**

Take everyday 4.5 portions (1 portion= 50 g), potatoes, rice, pasta, bread, etc.

### **Fruits**

Take 1-1.5 portions of fruits per day (1 portion =100 g) possibly fresh and well diluted. (1 portion = half an apple, half a banana, 2 plums, 100 ml fresh juicy fruits, etc.)

### **Vegetables**

Take 1-1.5 portions per day (1 portion =100 g) or 100-150 ml vegetables juice.

### **Beverages**

Take everyday at least 3 glasses of sugarless juices (water, mineral water, original plant tea, fresh watered juicy fruits, no sugar added, etc.). The beverages should not contain caffeine or alcohol.

### **Children above 2 years old**

The child takes the family food 3 meals per day. In addition two times per day the child takes between meals e.g banana, apple, eggs, bread, etc.

It's particularly important to check the meals the child has taken since he has started to take other food until the 2<sup>nd</sup> year of age. It is recommended:

- Keep the food in an appropriate cup so as to check and be sure on the quantity of food the child takes.
- Stay with the child while he feeds and observe what he eats and help him if needed.
- Do not make the child hurry up. Wait for a while if he has stopped eating and then let him take the food again.
- Give to the child some food he can hold in his hands. Often little children want to take the food by themselves.
- Do not make the baby take food when he feels asleep
- Make the child feed on demand.
- Do not constrain the child to take food. This increases the stress and reduces appetite.
- Let the child touch, hold and eat the food himself.
- Be sure if the child is thirsty (but do not give them too much before and during meals because it reduces the appetite)
- Use games to make the baby eat a little more.

### **Recommendations for developing good habits of feeding children**

- Provide various kinds of food.
- Meet all the needs for grains, vegetables and fruits
- Choose or prepare least fatty foods.
- Try to gain a healthy body weight with a regular physical activity and healthy feeding
- Reduce salt, sugar.

### **Formation of healthy feeding attitudes**

#### ***6 rules to create healthy feeding habits***

#### **1. Make every bite valuable**

Every food your child takes, should have nutritive values. Some children may not have a good appetite so be sure that every food they take is really good for them. Avoid food without nutritive values such as sugar drops, cakes, chocolates, chips, etc.

#### **2. Delete the word "sweet" from the food vocabulary and use carefully the word "treat???"**

Give to the child healthy candies such as fruits and yoghurt can be part of a meal. Do not use candies as a reward or treat when the child does something good.

#### **3. Be persistent but do not constraint**

The child need sometimes to like a new food. Start giving him the new food patiently and calmly until he tries it. Does not constraint the child try a food he doesn't want or finish the food in their cup.

#### 4. Everyone needs to take breakfast

Breakfast is the main course of the day for everybody, including children. If children don't take breakfast, it would affect their vivacious state during all day and the child may feel tired. Breakfast should be rich with the needed proteins.

#### Healthy between meals

A little child has a small stomach and three meals a day may not give him the required energy for his growth and development. Therefore it's very important to feed the child between meals. In between meals children should take foods from 4 main groups, as follows: Bread/grains, sandwiches, fruits, vegetables, milk and its by-products, juicy fruits

**Orientation table on the healthy feeding of children 2-3 years old .**

Child's feeding 2-3 years of age	
FOODS	DAILY QUANTITY
Milk and yoghurt	300-400 ml
Paps and grains	15 g
Rice and pasta	150 g
Minced cheese	15 g
Fatless meat	40 g
or fish	60 g
Brown bread	30 g
Vegetables	150-200
1 egg (yolk + white)	1-2 eggs per week
Fruits	200 g
Juicy fruits	50-100 ml
Olive oil	15 g (2 normal spoons)
Sugar	20 g (2 normal spoons)
Jams	20 g (2 normal spoons)
Honey	15 g

### XIII. NUTRITION RECOMMENDATIONS FOR CHILDREN 4-6 YEARS OLD.



**Oil and fatty:**

Use up to two tea spoons of vegetal oil/day (10 g) vegetal oil (mainly olive oil) for cooking and salads. Take one tea spoon (5 g) butter or vegetal margarine with high nutritive values such as vegetal oil, peanut oil, sunflower oil.

**DESSERTS**

Take the most one little sweet (1 portion < 50 g) per day, e.g. a small piece of cake, a cup of ice-cream (but remember that they contain sugar and other sugarcoated ingredients which damage the teeth so they should be rarely taken).

Take the most 10 g of sugar per day in the form of marmalade (20 g), honey (10 g) or pure sugar (10 g).

**Meat, fish, egg and legumes**

Take the most 4 portions of meat per week (1 portion = 50 g), (substituting only once a week one portion of meat with a portion of ham and salami).

Once a week take a portion of fish (1 portion = 70 g).

Take 1-2 eggs per week, including here even the eggs used for cooking biscuits, cakes, etc.

Take a portion of legumes per week (1 portion = 40 g), peas, lentils, etc.

**Milk and its by-products**

Take every day 3.5 portions of these products (1 portion = 100 ml milk / 100 g yoghurt / 15 g solid cheese / 30 g soft cheese).

**Grain and potatoes based products**

Take everyday 3-4 portions (1 portion = 70-100 g), potatoes, rice, pasta, bread, etc. giving priority to integral foods

**Fruits**

Take 1-1.5 portions of fruits per day (1 portion = 100 g) possibly fresh and well diluted. (1 portion = half an apple, half a banana, 2 plums, 100 ml fresh juicy fruits, etc.)

**Vegetables**

Take 1-1.5 portions per day where at least one is fresh, unprocessed (1 portion = 100 g fresh vegetables/50 g vegetable leaves/100 g mix salad, or 100-150 ml vegetable juice). Children prefer vegetable salad cut in small cubes or vegetable sauce.

**Beverages**

Take everyday at least 3-4 glasses of sugarless juices (water, mineral water, original plant tea, fresh watered juicy fruits, no sugar added, etc.). The beverages should not contain caffeine like teas or cola.

**Feeding for children 4-6 years old**

Food	Quantity in gram/day
Milk/yoghurt	500 ml
Cheese	25-30
Meat/fish	50-80
Eggs	2 per week
Butter	5

Olive oil	20
Bread	100-150
Potatoes	150
Pasta/rice	80
Vegetables	200
Fruits	250
Sugar/honey/marmalade/jams	40

#### **XIV. NUTRITION RECOMMENDATIONS FOR CHILDREN 6-12 YEARS OLD**

Since 5 years old until the teenage it is a steady growth and development phase for the children. Certain children provide lower level of needed nutrients than recommended, for example iron, calcium, vitamin A and D, vitamin C and in many case the differences vary in different children.

Regular meals and healthy foods contribute in their growth and development, but not taking too much energy in their diet.

It is difficult to meet the nutrition needs of the child only with three meals per day, therefore it is necessary to add between meals aiming to complete the needs for calories and nutrients of this age, but taking care that these meals be light, in order not to lose the appetite for the main meal. Children should be encouraged to take enough food rich in energy and nutrients, never leaving aside fruits and vegetables. A diet which helps the formation of the new tissue of growth, it is very important to take the needed quantity of proteins, vitamins A, D and C) and mineral salts (especially calcium, iron and iodine).

A rich diet and taken properly throughout the day meets the abovementioned needs. Feeding habits gained during the childhood usually remain even in further ages, so it is very important to let the children know from the very early ages the best way of feeding.

Parents and teachers should take care that the children avoid some feeding mistakes at the age being, to know how to eat properly (chew well and take all the time needed for a normal meal), be physically active all the day (walking, playing, etc).

It is recommended that children do not focus on some monotonous diet choices but they should eat everything throughout all the day, while considering the breakfast the most important meal of the day take more milk and its by-products, fruits and vegetables. They should not take too much meat and other foods rich in saturated fat, sugar, salt and sparkling beverages.

##### **Mistakes made usually by the children:**

- They take nothing at all or eat too little for breakfast.

- They avoid between meals (morning and afternoon) or often take the food they like but with low nutrient values.
- They avoid or don't take too much fruits and vegetables during two main meals lunch and dinner.
- They exaggerate taking certain foods like sausage, chocolates, chips sugar drops or other packed desserts (which cause dental caries), sparkling beverages (sugar added and some of them contain caffeine).
- Fast-food takes a considerable amount in their diet. It is full of calories, fats, salt and sugar and poor in fibrins and vitamins.

**What to do:**

- Take the breakfast regularly. Take the food throughout all the day and choose more fruits and vegetables
- Don't exaggerate in taking sugar added foods and sparkling beverages. Don't take fast-foods.
- At least 1 hour/day apply physical activities like walking and games in nature.

**Girls 6-8 years old**

Calories	1,200 to 1,800; might be higher depending on the age, growth and physical activity
Proteins	10% to 30% of daily calories
Carbohydrates	45% to 65% of daily calories (the last 130 g)
Total fats	25% to 35% of daily calories
Sodium (natrium)	1,200 mg per day
Fibrin	25 g per day
Calcium	800 m per day

**Boys 6-8 years old**

Calories	1,400 to 2,000; might be higher depending on the age, growth and physical activity
Proteins	10% to 30% of daily calories
Carbohydrates	45% to 65% of daily calories (the last 130 g)
Total fats	25% to 35% of daily calories
Sodium (natrium)	1,200 mg per day
Fibrin	25 g per day
Calcium	800 m per day

**Girls 9-12 years old**

Calories	1,600 to 2,200; might be higher depending on the age, growth and physical activity
Proteins	10% to 30% of daily calories
Carbohydrates	45% to 65% of daily calories (the last 130 g)
Total fats	25% to 35% of daily calories
Sodium (natrium)	1,500 mg per day
Fibrin	26 g per day
Calcium	1300 m per day

**Boys 9-12 years old**

Calorie	1,800 to 2,600; maybe will be more depended by the age, and physical activity
Protein	10% to 30% of daily calories
Carbohydrate	45% to 65% of daily calories (130 gr)
Total fat	25% to 35% of daily calories
Sodium (natrium)	1,500 mgr daily
Fiber	31 gr daily
Calcium	1300 mg daily

## **XV. NUTRITION RECOMMENATIONS FOR TEENAGERS 13-18 YEARS OLD**

Teenage is the period between puberty and adult age (about 12-18 years of age). It is a delicate age in which occur many important physiological changes: rapid height growth, maturity of certain parts of the body, etc. Teens at this stage of life is grow rapidly so they have more needs for energy and nutrients especially proteins, iron, calcium and vitamin A, C, D.

A particular attention is paid to teenage girls who need to be well-fed not only for the typical development of this stage of their life, but also for preparing the organism to be able to manage pregnancies in the future. Therefore the needs for iron and calcium are bigger for the teenage girls so as to go rapidly toward maturity: insufficient cover of those feeding needs may cause anemia coming from the lack of iron, a reduction concerning the skeleton mineralization to a certain extend that may cause the untimely signs of adult's osteoporoses.

It is exactly this stage of their life when the youth in order to affirm their personality, or to lose weight for fitting to the fashion feeding and esthetic tendencies, often practice unbalanced healthy schemes, poor in nutrients and monotonous which cause the lose of essential feeding elements.

In general for this particular group it recommended to take milk, yoghurt (preferably partly skimmed), as well as frequent taking of fruits, vegetables, fish and fatless meat and lots of physical activity. At this stage of their age they should not be allowed to take typical fast-food.

### **Recommendations on behavior:**

- Avoid monotonous and unbalanced diets you take just because this is the “trend”.
- A teenage girl should be careful especially toward meeting her added needs for iron and calcium. Do not exclude from your diet meat and fish (rich sources of iron), milk and its by-products (best sources of calcium), etc.

### **Feeding recommendations for teenagers**

The recommended diet is suited to the needs of this age. It corresponds to the average values needed for the youth of this age, because the individual needs depends from the physical activity, too.

### **Oils and fats:**

Use mostly 2 tea spoons (10 g) high quality vegetal oil/day (mainly olive oil) for salads.  
Use 2 tea spoons (10 g) vegetal oil for cooking (sunflower oil, peanut oil, corn oil, etc.).  
Use 2 tea spoons (10 g) of butter or vegetal margarine which has very high nutritive values.

**Desserts**

Take mostly a small portion of desert (1 portion < 50 g) per day, e.g. a small piece of cake, a portion of ice cream (but remember that they contain sugar and other sugarcoated ingredients which damage the teeth)

Take the most 10 g of sugar per day in the form of marmalade (20 g), honey (10 g) or pure sugar (10 g).

**Meat, fish, eggs and legumes**

Take 4 portions of meat weekly (1 portion = 90 g), it is not recommended to take more, but less (substituting only once a week 1 portion of meat with a portion of ham or salami)

Take at least once a week a portion of fish (1 portion = 100 g).

Take 2-3 eggs per week, including eggs used in cooking such as biscuits, cake and creams, etc.

Take a portion of legumes per week (1 portion = 60 g) peas, lentils, etc.

**Milk and its by-products**

Take 2-3 portions of milk products (1 portion = 200 ml milk/ 180g yoghurt/30 g solid cheese/ 60 g soft cheese).

**Grain and potatoes based foods**

Take every day 3-4 portions (1 portion = 120-160 g), potatoes, rice, pasta, bread, etc giving priority to integral products.

**Fruits**

Take 2-3 portions of fruits per day (1 portion = 100-150 g) possibly fresh and well diluted.

(1 portion = half an apple, half a banana, 2 plums, 100 ml fresh juicy fruits, etc.)

**Vegetables**

Take 2-3 portions per day where at least one is fresh, unprocessed (1 portion = 100 g fresh vegetables/50 g vegetable leaves/100 g mix salad, or 100-150 ml vegetable juice).

Children prefer vegetable salad cut in small cubes or vegetable sauce.

**Beverages**

Take everyday at least 5-6 glasses of sugarless juices (water, mineral water, original plant tea, fresh watered juicy fruits, no sugar added, etc.). The beverages should not contain caffeine like teas or cola and alcohol.

**XVI. NUTRITION RECOMMENDATIONS FOR ADULTS**

There are too many factors that indicate in our feeding habits: our likes and personal needs, health state, social setting, occasional offers, publicity, etc. the following recommendations refer to adults in good healthy conditions.

Considering the fact that our health is related to our feeding habits, in order to keep a normal weight it is important to practice daily physical activity at least half an hour (possibly in the nature).

If you avoid smoking, keep stress under control and use relaxing techniques we can achieve a healthy life style.

#### Recommendations

- Take diversified food.
- Take the food regularly
- Balance and rational.

To balance eating means to take sufficient food and nutrients. If the feeding portions are reasonable, there is no need to avoid the favorite foods.

- Maintain your body weight.

A healthy weight is different in individuals and it depends on several factors such as height, age, heredity, etc.

Overweight is a result of taking too much calories (more than needed). Physical activity is the best way to waste the energy.

The message is simple: if you're gaining weight, eat less and be more active.

- Keep a balance in taking salt.

The overtaking of salt causes high blood pressure; therefore you should reduce the amount of salt you take especially if you're sensitive to it because it may cause high blood pressure. This mutual reaction between salt and blood pressure is not clear yet, but in any case you should consult the doctor.

- Start now and gradually make changes.

You should start changing the lifestyle gradually, e.g. eat a portion of fruits or vegetables, don't take one of the meals, use steps instead of the elevator.

#### Practical advices

##### **1. Desserts, salty food between meals and limited beverages energy-satisfaction**

Take rarely desserts, chips or salty biscuits as well as sugar-added beverages (e.g. cold teas, energy beverages, sparkling beverages, etc).

If you take alcoholic beverages, do not take too much and try to take with your meals. Use iodine fortified salt with limited portions (less than 5 g salt per day).

##### **2. Oils, fats and fatty fruits**

Use mostly 2 tea spoons (10-15 g) high quality vegetal oil/day (mainly olive oil) for salads. Use 2 -3 tea spoons (10-15 g) vegetal oil for cooking and preparing processed food (fry, stew, bake, etc) e.g. sunflower oil, peanut oil, corn oil, etc..

Use 2-3 tea spoons (10 g) of butter or vegetal margarine which has very high nutritive.

It is recommended to take a portion of fatty fruits per day (1 portion = 20-30 g almonds, hazelnut or nut, etc.).

##### **3. Milk and its by-products, meat, fish, eggs – take sufficient amounts everyday**

Take everyday alternatively one portion of meat or fish, an egg or a portion of cheese (1 portion = 100-120 g meat or processed fish, or 2-3 eggs, or 200 g fresh cheese, or 50-60 g ripened cheese).



Take 3 portions of milk or other by-products like yoghurt, curdle cheese with the lowest percentage of fat (1 portion = 200 ml milk, or 150-180 g yoghurt, or 60-90 g curdle cheese).

**4. Integral grains and legumes, other grain and potatoes – in every main meal.**

Take a plate of grains every main meal (i.e. 3 portions per day, 1 portion= 75-125 g bread or 60-100 g legumes like lentils, kidney beans, chick-peas, etc. or 180-300 g potatoes, or 45-75 g of pasta or rice, etc.) At least two portions should be integral.

**5. Vegetables and fruits - 5 per day, various colors**

Take everyday 3 portions of vegetables (1 portion = minimum 120 g vegetables salad or soup).

Take every day 2 portions of fruits (1 portion = minimum 120 g).

1 portion of fruits or vegetables per day may be substituted with 200 ml juicy fruit or vegetable juice with no sugar added.

**6. Beverages – Take sufficient all day**

Take 1-2 liter of beverages per day choosing those with no sugar added but potable water, mineral water and teas with little sugar added.

**7. Beverages – Take sufficient all day**

1-2 liter of beverages per day choosing those with no sugar added but potable water, mineral water and fruit or plant teas. Take limited quantities of beverages containing caffeine (coffee, black or green tea, etc.).

## **XVII. NUTRITION RECOMMENDATIONS FOR PREGNANT WOMEN**

Pregnant woman nutrition does not differ too much from the normal woman even though she has to cover her needs, as well as the needs of the baby growing inside her. However the expression “eat for two” seems to be exaggerated.

Gain weight during pregnancy:

The gain of weight of the pregnant woman and her additional needs for energy depend on her body mass index (BMI). Therefore:

- if the woman's BMI at the beginning of the pregnancy is  $\leq 18.5$  (i.e. below weight) her needs for energy are higher and she should gain weight between 12.5 to 18 kg during her pregnancy.
- if the woman's BMI at the beginning of the pregnancy is 18.5 and 25 (i.e. normal weight), she should gain weight between 11.4 to 16 kg during her pregnancy. A sign for good progress is if the pregnant woman has gained 3.5 kg during 20 first weeks and afterwards 0.5 kg per week.
- if the women's BMI at the beginning of the pregnancy is  $\geq 25$  (i.e. overweight), she should gain weight between 7 to 11.5 kg during her pregnancy.
- an obese woman at the beginning of pregnancy (BMI  $\geq 30$ ), should gain about 7 kg.

**What to do:**

- Do not gain much weight; take care to get all the needed elements for a successful pregnancy, such as proteins, calcium, iron, folates and water: take regularly fish, fatless meat, eggs, milk and its by-products and a considerable amount of fruits and vegetables.

- Particularly during the time of reproduction woman should be careful to take the needed amount of folates. This way we reduce the risk to damage the neural tube, as well as cause any defects to the fetus.
- During pregnancy avoid taking unprocessed or half processed animal food as they are risky for the health of the mother and baby.
- Avoid taking alcoholic beverages during pregnancy.

## **XVIII. NUTRITION RECOMMENDATIONS FOR WOMEN BREASTFEEDING**

Energy needs of breastfeeding mothers are higher than those of a pregnant woman. However it is recommended to the mothers to have a nutrition style not so different from pregnant woman, but taking into account the fact that energy needs are higher then for the latest.

For this target group in particular we have an increase of demands for proteins (over 17 g/day) calcium (over 200-400 g/day), iodine (over 50 µg/day), zinc (over 5 mg/day), copper, selenium, vitamin A (over 350 mcg/day of equivalent retinol), vitamins of group B, vitamin C and water. The best way to meet these nutrition needs consists on a reached diet and sufficient beverages.

### **Breastfeeding and energy needs**

Additional energy needs of mother breastfeeding her baby depends on the quantity of breast milk produced. Taking into consideration all the indicative factors, energy needs during breastfeeding are about 450-560 kcal /day until the 6<sup>th</sup> month of baby's age.

### **Needs related to breast milk production**

Breast milk production increases the over all demands for calcium, proteins and water: these demands should be met by means of feeding; otherwise the baby's feeding needs will be fulfilled through the maternal organism.

Water: Lose of water because of breastfeeding for about 750-800 ml milk/day, is about 650-700 ml more than normally.

Calcium: the content of calcium in the mother's breast milk is about 320 mg/l, which means that if the baby takes 750 ml breast milk the mother will lose everyday 240 mg calcium. With the aim to prevent the reduction of mineral saves in the mother's organism, it is recommended for her to take about 400 mg calcium daily.

### **Breastfeeding: Foods to avoid or reduce their use.**

- Some foods (garlic, onion, cabbage, hazelnuts) may add a particular taste and flavor to the milk, which makes breast milk unpleasant for the baby: in this case all these foods should not be taken from the mother.
- in addition we should avoid all the foods that despite the nutritive values, are potentials for specific signs of nutritive intolerance: fermented cheese, sea fruits, mussels, cacao, chocolates, strawberries, cherries, peaches, plums, etc.
- avoid alcoholic beverages and products which contain caffeine, during breastfeeding the baby.

- avoid totally super alcoholic beverages (ethylic alcohol passes to the milk and makes the baby feel asleep, have hypoglycemia, diarrhea, etc.)
- avoid wine, even if it has low percentage of alcohol. It can be taken in any rare case but always with food.
- avoid coffee, tea, cacao, cola beverages. You may use foods and beverages without caffeine.

What to do:

- During the phase of breastfeeding the baby, the mother has more nutritive needs than when she was pregnant; therefore it is very important to take various foods, water, vegetables, fish, milk and its by-products. These foods help the mother feel better and produce more milk to meet the needs of her baby.
- Avoid all the foods that have unpleasant flavors which would indicate the quality of the breast milk and that may cause allergies to the baby.
- Avoid alcoholic beverages.

## **XIX. NUTRITION RECOMMENDATIONS FOR WOMEN IN MENOPAUSE**

### **The diet needed during menopause**

The term “menopause” means the ceasing of the menstruation to the women (around 50.5 years old) and the end of the fertility. During this period of time happen lots of hormonal and metabolically changes which cause subjective disturbing problems which may go further to diverse pathologies that worsen significantly woman’s life quality.

In general this period of time is followed with weight gain and re dissemination of the fat from periphery to abdominal (around the abdominal area), which increases the risk of breast cancer, diabetes, cardiovascular diseases, etc.

If the woman takes correct and physiologically balanced food, it influences to minimize disturbances of this phase of life.

- During the menopause the needs for energy and other nutrients vary a lot, due to the hormonal modifications at this age, its very important to reduce the consume of certain foods (especially those rich in fats and calories). In addition normal meals should be rich with necessary supplements, such as calcium or vitamin D.
- Improving of nutrition habits should have positive effects on some characteristic pathologies of this period such as osteoporoses, coronary diseases, cancers (breast cancer or large intestine cancer), etc.
- This period of woman’s age can make her have a conflict relation toward the food like/dislike, sometimes causing crises of bulimia or nutrition disturbances.

Generally, woman’s healthy nutrition during menopause should be similar with that taken by a healthy adult, only some changes related to the age and hormone’s ratio. So the same recommendations are valuable highlighting the fact that it important to raise the level of grains and its derivates, fish, fatless meat, fresh fruits and vegetables, skimmed milk, olive oil, etc., and reduce taking saturated fat, cheese and milk by-products. There is not

any reason or counter indication related to wine taking or not taking, therefore it is allowed to take it during meals in the amounts specified for the woman in menopause.

Nutrition experts and doctors know well that feeding influences the mood swings of the woman. This is proved by many evidences which show that food such as fruits and vegetables contain antioxidants that influence the reduction of menopause's symptoms.

The diet in menopause includes various foods containing low percentage of fat, high amounts of fibrin which help the woman lose weight and improve digestion. Diets based on the abovementioned foods are rich with calcium which is very useful for the bones.

Change of life style helps through the menopause. Physical exercises for losing weight, such as exercises in the gym may help in fortifying bones. This kind of physical activity builds muscles and dissolves fat, too.

Many women exercise yoga, which helps them during menopause, because not all the foods are good for the bones and muscles. Respiration exercises help in stabilizing hot flashes, anxiety and mood swings. Yoga is relax, too. It makes you feel more relieved from stress and depressions which add menopause symptoms and make women gain too much weight.

It is easy to get fed during the menopause. It's enough to have three regular meals and one or two between meals. Its important to stay away from the alcoholic beverages, coffee and spicy food because those influence in worsening the warmth.

It is also important to try foods like soya milk, nuts, hazelnuts, pine-seeds, but don't take them regularly. Take sufficient water, 6-8 glasses per day.

**Choose one of the following foods as a between meal– you can take only two per day:**

- A handful of red grape and one of mountain cranberry.
- A handful of dry cranberries, plums and figs
- A handful of almonds, peanuts or nuts
- An apple, banana or orange
- Two small oat muffins or another grain
- A small cup of fatless yoghurt, the best would be soya yoghurt.
- A cup of homemade fruit salad

**Choose one of the following for everyday breakfast:**

- A cup of soya milk or skimmed milk pap, add a spoon of honey or a little salt.
- A piece of water melon, almonds.
- 2 slices of brown toast margarine and marmalade or with soft cheese with low percentage of fat.

- Grilled fish (salmon, sardines, mullet, wrasse, bass) with baked tomatoes and mash rooms
- A cup of integral flour with soya milk or skimmed milk.
- Soya yoghurt or other yoghurt with low percentage of fat, one normal spoon of dried fruits.
- One scrambled egg with one slice of integral bread.

**Choose one of the following foods for everyday lunch:**

- Avocado salad with ham
- Cuscut salad, cuscus mixed with pieces of vegetables or cuscus with chicory and salmon salad.
- Potatoes skins with tuna, baked peas, cheese or vegetables.
- Pita bread with chicken, tuna or cheese and salad.
- Two omelets with fresh pieces of vegetables according to your taste.
- Cauliflower soup and cheese.
- Pasta salad, a handful pine-seeds or broccoli and egg salad.

**Choose the following for everyday dinner:**

- Roasted salmon or tuna with potatoes and peas.
- Sesame and honey with green salad.
- Stew lamb with peas.
- Stew vegetables with pasta or rice mixed with poultry pieces, ham or egg.
- Roasted meat with cranberries, baked potatoes, carrots or cauliflower.

## **XX. NUTRITION RECOMMENDATIONS FOR ELDERLY**

Generally speaking, for the elderly who are healthy are valuable the same feeding recommendations as for adults, because from the quality point of view these recommendations do not change even though the needs for energy at this age decrease. But at a certain advanced age we should take care of some aspects such as: solitude, little incomes, invalidity, chronic diseases, depression, use of different medicines, etc., which have a negative influence in malnutrition of the people of this age.

### **Particular nutrition problems of the elderly**

Certain diseases and the loss of taste feeling can cause the decrease of appetite for the elderly. Worsened perception of thirsty can provoke the loss of liquids, loss of teeth and can cause difficulties in chewing the food, gastric or intestinal disturbances which can cause problems with the digestive system, problems of vitamin D, as the elderly do not expose to much to the sunlight, etc.

### **Special advices to elderly:**

- Take your diet throughout all day, choosing the same food with the same nutritive values with those recommended to adults. Take water regularly during all the day,

- 1-2 liter or 4-6 glasses, without waiting to get thirsty. Avoid added salt while preparing your food.
- Choose and prepare your food having in mind chewing or digesting difficulties.
  - Woman of the third age should be careful to ensure the necessary amount of calcium, especially after menopause when they start having problems with their skeleton mass.
  - Share your meals with your relatives and friends.

#### **What to do:**

- Try to take a rich and balanced daily nutritive diet.
- Avoid taking cold food, prepared a certain time in advance.
- Choose food proper with your chewing system and to be easy digestible for the elderly digestive system. Prepare accordingly the food you should take: meat, peeled fruits and divided into small pieces. Cook recipes like soups, pure, soft bread, soften it with water or milk.
- Avoid heavy meals.
- Take a good and complete breakfast which contains among other foods milk or yoghurt.
- Maintain an acceptable body mass having physical activity and not taking fat foods or desserts.
- Reduce the taking of animal fat choosing regularly fish, white meat (poultry, rooster, rabbit, etc), don't take too much cheese.
- Frequently take legumes, fresh fruits and vegetables.
- Do not take too much alcoholic beverages and do not take too much ordinary salt.
- Avoid lively animal foods or half processed such as row meat, creams or unprocessed wine base sauces, which cause contamination.

**Tab. Daily average nutrition needs for the population group ages accordingly.**

<u>Nutrients</u>	<u>Daily average needs</u>		
	Teenagers (14-18 years old)	Adults (19-64 years old)	Elderly ( > 64 year old )
Proteins %E	10-15*	10-15*	10-15*
Carbohydrates (total)%E	>55*	>55*	>55*
Fibrines g	>25*	>25*	>25*
Fat %	<30*	<30*	<30*
Cholesterol mg	<300*	<300*	<300*
Alcohol%	-	-	-
Vitamin D µg	0-15*	0-10*	10*
Riboflavine mg	1.6 ( M)** 1.3 ( F) **	1.6 ( M)** 1.3 ( F) **	1.6 ( M)* 1.3 ( F) **
Folate µg	400*	400*	400*
Calcium g	3.1**	3.1**	3.1**
Calcium	800*	800*	>800*
Sodium g	-	0.6-3.5**	0.6-3.5**
Magnesium mg	300**	150-500**	150-500**
Iron mg	13 ( M) ** 17 ( F) **/15(F) *	9 ( M) ** 16 ( F) **/15(F) *	9 ( M) ** 9(F) **

Iodine µg	150*	150*	150*
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*Values recommended by Eurodiet\* (2000) and SFC\*\* (1993)*

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## Annexes Table

### MODEL OF A MENU FOR INFANTS AT THEIR FIRST YEAR OF AGE

No.	Menu for infants 0-3 months	Unit
1	Daily calorie need	110 kcal/kg weight
2.	Number of daily meals	6 for infants fed artificially, while breastfed infants every time he asks for.
3.	Feeding	Every 3 hours for infants fed artificially, while breastfed infants every time he asks for.
4.	Quantity	150 ml/kg weight per day
5.	Infants breastfed	Exclusively breast milk
6.	Infants not taking breast milk	Processed canned milk using milk formula

No.	Menu for infants 3-6 months	Unit
1.	Daily calorie need	110 kcal/kg weight
2.	Number of daily meals	5 for infants fed artificially, while breastfed infants every time he asks for.
3.	Feeding	Every 3 1/2 hour for infants fed artificially, while breastfed infants every time he asks for.
4.	Quantity	150 ml/kg weight per day

### During first 6 months of life, an infant takes 700-800 ml milk per 24 hours

No.	Needs of a 6-10 month infant	Unit
1.	Daily calorie need	100-110 kcal/kg weight (1000-1100 calorie per day)
2.	Number of daily meals	4 and 2 intermediate meals
3.	Feeding	Every 4 hours



***Infant 6-8 months gradual intake of complementary food***

	<b>Various food</b>	<b>Fruits</b>	<b>Juicy fruits</b>	<b>Vegetables</b>
<b>1.</b>	Breast milk, rice, grains flour and milk paps (are good sources of carbohydrates and some minerals).	Fruits are a good source for vitamins and minerals, which help in digestion process. Some fruits can be given unprocessed e.g banana	Apple, pear, watered orange juice if the baby is able to use the cup or spoon.	After the baby is being used to some fruits and juicy fruits, can start with vegetables e.g potatoes.

**Nutrition in the 8<sup>th</sup>-10<sup>th</sup> month of age**

	<b>Various basic foods</b>	<b>Meat + fish</b>	<b>Juicy fruits</b>	<b>Vegetables + Fruits</b>
<b>1.</b>	Breast milk yoghurt, fresh cheese, not processed cheese  Rice, wheat and by-products Lentils, peas	Egg Meat, poultry Fish	Apple, peach, plum, grape juice or other	- Potatoes, cabbage, cucumber, tomatoes, parsley  - Banana, apple, pear

<b>No.</b>	<b>Menu for babies 12-16 months old</b>	<b>Unit</b>
<b>1.</b>	Daily calories need	95 calories kg/weight (1000-1200 calorie per day)
<b>2.</b>	Daily meals	4
<b>3.</b>	Nutrition	Every 4 hours and two between meals, before lunch and in the afternoon
<b>4.</b>	Quantity	250 gram per meal
<b>5.</b>	Proteins needs	10-15 % of daily calories = 3.5-4 gram/kg weight
<b>6.</b>	Fat needs	30% of daily calories = 3-6.5 gram kg/weight
<b>7.</b>	Carbohydrate needs	40% of daily calories = 12-14 gram/kg weight

Nutrition products and needed size for this age group	
USHQIMET	Daily size
Milk and yoghurt	400-500 ml
Biscuits	20 g
Pasta/rice in soups	40 g
Minced cheese/or melted cheese	10 g
White cheese	15 g
Veal	30 g
Fish	40 g
Olive oil/butter	10 ml
Vegetables	80 g
Potatoes	100 g
Carrots	80 g
Bread	30 g
Yolk	1-2 per week
Fruits	150-200 g
Sugar	20 g
Honey	15 g
Lentils/peas/beans	50 g

**Average energy needs for babies 1-3 years old. Total 960-1380 Kcal/day**  
**Daily division of calories**

Breakfast	15% of necessary calories
Lunch	40% of necessary calories
Dinner	35% of necessary calories
Between meals	10% of necessary calories

#### Model menu for babies 1-3 years old

Meal	Unit	Meal	Unit	Meal	Unit	Meal	Unit	Meal	Unit
<b>Breakfast</b>		<b>Morning</b>		<b>Lunch</b>		<b>Afternoon</b>		<b>Dinner</b>	
Milk	200 ml	Milk	200 ml	Rice or pasta	20 g	Yoghurt	125 g	Pasta with	50 g
Biscuits or	30 g	Biscuits or	30 g	with vegetables	50 g	with fruits		rice	
bread	(40 g)	bread	40 g	Ham or	30 g	or milk	100 g	Minced	7 g
				egg	1			cheese	
				Vegetables	70 g			Olive oil	15 g
				Olive oil	5 g			Fresh	40 g
				Fresh fruits	100 g			meat or	50 g
								fish	
								vegetables	70 g
								Fresh	100 g
								fruits	

#### MODEL MENU FOR CHILDREN 4-6 YEARS OLD

Energy needs for children 4-6 years old. Totally 1250-1830 kkal/day

##### Daily division of calories

Breakfast	15% of necessary calories
Lunch	40% of necessary calories
Dinner	35% of necessary calories
Between meals	10% of necessary calories

#### Model menu for children 4-6 years old

Meal	Unit	Meal	Unit	Meal	Unit	Meal	Unit	Meal	Unit
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<b>Breakfast</b>		<b>Morning</b>		<b>Lunch</b>		<b>Afternoon</b>		<b>Dinner</b>	
Milk or	250 ml	Fresh fruits	150 g	Rice or pasta with	30g	Yoghurt	125 g	Vegetal	30 g
White	250 g			vegetables		with fruits		pasta soup	
yoghurt with	10 g			Rice/pasta	50 g			Massive	30 g
fruits	30 g			potatoes	120 g	milk	100 ml	bread	150 g
Bread or	30 g			Olive oil	5 g	Toasted	10 g	or potatoes	30 g
toasted bread	35 g			Minced cheese	5 g	bread		or bread	
or biscuits				tomatoes	20 g	or biscuits	10 g	corn bread	50 g
Sugar or	10 g			Meat or	50 g			Fresh meat	70 g
marmalade or	30 g			Fresh fish or	70 g			or fish or	30 g
honey	10 g			eggs or	1			eggs or	
				ham or	30 g			ham or	60 g
				soft cheese or	40 g			curdle	50 g
				solid cheese	20 g			cheese or	
				Fresh vegetables	150 g			soft cheese	30 g
				Olive oil	5 g			or solid	15 g
				Massive bread or	40 g			cheese	120 g
				Brown bread	50 g			Olive oil	150 g
								Vegetables	
								Fruits	

### MODEL MENU FOR CHILDREN 6-8 YEARS OLD

Energy needs for children 6-8 years old. Totally 1565-2275 Kcal/day

#### Daily division of calories

Breakfast	15% of necessary calories
Lunch	40% of necessary calories

Dinner	35% of necessary calories
Between meals	10% of necessary calories

#### Menu model for children 6-8 years old

Meal	Meal	Meal	Meal	Meal	Meal	Meal	Meal	Meal	Meal
<b>Breakfast</b>		<b>Morning</b>		<b>Lunch</b>		<b>Afternoon</b>		<b>Dinner</b>	
Milk or	250 ml	Fresh fruits	200 g	Rice or pasta with	40			Vegetal	40 g
White	250 g	Or massive	40 g	vegetables		Yoghurt	125 g	pasta soup	
yoghurt with		bread or	25 g	Rice/pasta	80 g	with fruits		Massive	50 g
fruits	40 g	crackers	25 g	potatoes	200 g			bread	150 g
Bread or	40 g	or toast		Olive oil	7 g	milk	150 ml	or potatoes	30 g
toasted bread	40 g			Minced cheese	10 g	Toasted	20 g	or bread	
or biscuits				tomatoes	50 g	bread		corn bread	60 g
Or dry fruits	40 g			Meat or	80 g	or biscuits	20 g	Fresh meat	100 g
Sugar or	10 g			Fresh fish or	120 g			or fish or	
marmalade or	30 g			eggs or	1			eggs or	1
honey	10 g			ham or	60 g			ham or	30 g
				soft cheese or	60 g			curdle	70 g
				solid cheese	50 g			cheese or	50 g
				Fresh vegetables	150 g			soft cheese	50 g
				Olive oil	8 g			or solid	30 g
				Massive bread or	60 g			cheese	15 g
				Brown bread	70 g			Olive oil	120 g
								Vegetables	200 g
								Fruits	

#### MODEL MENU FOR CHILDREN 9-13 YEARS OLD

**Energy needs for children 9-13 years old. Totally 1985-2380 Kcal/day**  
**Ndarja ditore e kalorazhit**

Breakfast	15% of necessary calories
Lunch	40% of necessary calories
Dinner	35% of necessary calories
Between meals	10% of necessary calories

**Model menu for children 9-13 years old**

Meal	Unit	Meal	Unit	Meal	Unit	Meal	Unit	Meal	Unit
<b>Breakfast</b>		<b>Morning</b>		<b>Lunch</b>		<b>Afternoon</b>		<b>Dinner</b>	
Milk or	250 ml	Fresh fruits	250 g	Rice or pasta with	40g	Yoghurt or	125 g	Vegetal	40 g
White	250 g	Or massive bread	50 g	vegetables		milk	150 ml	pasta soup	
yoghurt with		or crackers	30 g	Rice/pasta	90 g	massive	25 g	Massive	70 g
fruits	70 g	or toast	30 g	potatoes	250 g	bread or		bread	
Bread or	50 g			Olive oil	7 g	biscuits or		or potatoes	150 g
toasted bread	50 g			Minced cheese	10 g	toast	20 g	or bread	200 g
or biscuits	20 g			tomatoes	50 g	marmalade		corn bread	80 g
Or dry fruits				Meat or	100 g	or	30 g	Fresh meat	60 g
Sugar or	30 g			Fresh fish or	120 g	chocolate		or fish or	120 g
marmalade or				eggs or	2	cream or	25 g	eggs or	2
honey				ham or	70 g	curdle		ham or	60 g
				soft cheese or	70 g	cheese or	25 g	curdle	100 g
				solid cheese	60 g	ham	20 g	cheese or	50 g
				Fresh vegetables	150 g		15 g	soft cheese	
				Olive oil	8 g			or solid	30 g
				Massive bread or	70 g			cheese	15 g
				Brown bread	80 g			Olive oil	150 g
				<b>Dreka</b>				Vegetables	200 g
								Fruits	

## SIX DAYS MENU FOR NURSURY BABIES

<b>BABIES 0- 3 MONTHS OF AGE</b> Daily calories needed 110-kcal/ kg weight Number of meals 6 <b>Feeding time every 3 hour for babies taking artificial food</b> Size 150 ml/kg weight per day									
Days of the week	Foods Breakfast	Gram	10.00 am	k.cal.	Foods Lunch	Gram	Afternoon	k.cal.	Total Calories
<b>Monday</b>	Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		110 kcal/kg weight
<b>Tuesday</b>	Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		110 kcal/kg weight

<b>Wednesday</b>	Breast milk exclusively for babies taking only		Breast milk exclusively for babies taking only		Breast milk exclusively for babies taking only breast		Breast milk exclusively for babies taking		110 kcal/kg weight
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	breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		
<b>Thursday</b>	Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		110 kcal/kg weight
<b>Friday</b>	Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		110 kcal/kg weight

<b>Babies 3-6 months old</b> Daily calories needed 110-kcal/ kg weight Number of meals 5 <b>Feeding time every 3 ½ hours for babies taking artificial food</b> Food size 150 ml/kg weight per day									
<b>Days of</b>	<b>Foods</b>	Gram.	10.30 am	k.cal.	Foods	Gram	Afternoon	k.cal.	Total calories



the week	Breakfast				Lunch				
<b>Monday</b>	Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		110 kcal/kg weight
<b>Tuesday</b>	Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		110 kcal/kg weight
<b>Wednesday</b>	Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		110 kcal/kg weight
<b>Thursday</b>	Breast milk exclusively for babies taking		Breast milk exclusively for babies taking only		Breast milk exclusively for babies taking only		Breast milk exclusively for babies taking only		110 kcal/kg weight

	only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		
<b>Friday</b>	Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		Breast milk exclusively for babies taking only breast milk OR Formula milk for babies that don't take breast milk. Canned formula milk for newborns		110 kcal/kg weight

<b>Babies 6-10 Months old</b> <b>Daily calories needed</b> 100-110 kg /weight (1000-1100 calories per day) The number of daily meals: 4 meals and 2 between meals Feeding time every 4 hours											
Days of the week	Foods Breakfast	Gram.	10.30 am	Gram	k.cal.	Foods Lunch	Gram	Afternoon	Gram	k.cal.	Total calories
<b>Monday</b>	Rice flour and canned milk pap	200	Juicy fruit	50-100	287+40	Fresh season vegetable pure; after 7 <sup>th</sup> month of age: Gravy vegetable pure	220	Yoghurt with fresh fruits	50-100	320+80	727
<b>Tuesday</b>	Rice flour and canned		Fruits pure	50-100	287+50	Flour soup or pasta soup or	200	Fruits pap	50-100	300+50-	687

	milk pap		(apple, pear, banana, peach)			rice or toast and white or melted cheese + gravy after the 7 <sup>th</sup> month of age. After 8 <sup>th</sup> month of age yolk					
<b>Wednesday</b>	Rice flour and canned milk pap	200	Juicy fruit	50-100	287+40	Fresh season vegetable pure; after 7 <sup>th</sup> month of age: Gravy vegetable pure	220	Yoghurt with fresh fruits	50-100	320+80	727
<b>Thursday</b>	Rice flour and canned milk pap	200	Fruits pure (apple, pear, banana, peach)	50-100	287+50	Flour soup or pasta soup or rice or toast and white or melted cheese + gravy after the 7 <sup>th</sup> month of age. After 8 <sup>th</sup> month of age yolk	200	Fruits pap	50-100	300+50-	687
<b>Friday</b>	Rice flour and canned milk pap	200	Juicy fruit	50-100	287+40	Fresh season vegetable pure; after 7 <sup>th</sup> month of age: Gravy vegetable	220	Yoghurt with fresh fruits	50-100	320+80	727

						pure					
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<b>Children 10-12 Months of age</b> Daily calories needed 100-110kg /weight 1000-1100 calories per day 4 daily meals and 2 between meals Feeding time every 4 hours <b>Note:</b> After the 11 <sup>th</sup> month you can start using cow's milk											
Days of the week	Foods Breakfast	Gram.	10.30 am	Gram	k.cal.	Foods Lunch	Gram	Afternoon	Gram	k.cal.	Total Calories
Monday	Rice flour and cow's milk pap	200-250	Well minced fruits	150-200		Minced vegetables soup with minced meat (vela, poultry, fish filet without bones)	250	Rice flour, cow's milk and fruits pap	100		
Tuesday	Rice flour and cow's milk pap	200-250	Fresh juicy fruit	150-200		Vegetables pure and minced meat	250	Yoghurt with fresh fruits	150 gram		
Wednesday	Rice flour and cow's milk pap	200-250	Well minced fruits	150-200		Minced vegetables soup with minced meat (vela, poultry, fish filet without bones)	250	Rice flour, cow's milk and fruits pap	100		
Thursday	Rice flour and cow's milk pap	200-250	Fresh juicy fruit	150-200		Roasted vegetables with gravy + white or cheese or other		Yoghurt with fresh fruits	150 gram		
Friday	Rice flour and cow's milk pap	200-250	Well minced fruits	150-200		Minced vegetables soup with	250	Rice flour, cow's milk and fruits	100		

						minced meat (vela, poultry, fish filet without bones)		pap			
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### Babies 12-16 months of age

Daily calories needed 95kalori kg /weight 1000-1200 calories per day

Proteins 10-15 % of daily calories=3,5-4g/kg weight

Fats 30% of daily calories = 3-6,5 gram/kg/weight

Carbohydrates 40% of daily calories =12-14 gram/kg weight

Number of daily meals 4 and 2 between meals

**Feeding time every 4 hours**

**Food size 250 gram every meal**

Days of the week	Foods Breakfast	Gram.	10.30am	Gram	k.cal.	Foods Lunch	Gram	Afternoon	Gram	k.cal.	Total calories
<b>Monday</b>	Milk and biscuits	250	Pieces of fruit	150		Soup with gravy and pasta or rice, carrots, and potatoes + Vegetables pure	150 + 100	Cake made by the nursery	100		
<b>Tuesday</b>	Pap 10%	250	Juicy fruit and yoghurt	150		Soup with gravy and seasonal vegetables + Minced meat pure	150 + 100gr	Biscuits or toast with milk	150		
<b>Wednesday</b>	Milk with pieces of toast	250	Pieces of fruits	150		Soup with gravy and pasta or rice, carrots, and potatoes + Vegetables	150 +	Rice cooked with milk and sugar	100		

						pure	100				
<b>Thursday</b>	Biscuits and milk	250	Juicy fruit and yoghurt	150		Soup with gravy and seasonal vegetables + Minced meat pure	150 + 100gr	Biscuits or toast with milk	150		
<b>Friday</b>	Pap 10%	250	Pieces of fruit	150		Soup with gravy and pasta or rice, carrots, and potatoes + Vegetables pure	150 + 100	Cake made by the nursery	100		

**Babies 16-36 months of age**

Daily calories needed 90kalori kg /weight 1200-1600calories per day

Proteins 10-15 % of daily calories=3,5-4g/kg weight

Fats 20% of daily calories = 2-2,5 gram/kg/weight

Carbohydrates 40%of daily calories =11-12 gram/kg weight

Number of daily meals 4 and 2 between meals

**Feeding time every 4 hours**

Food size 250 gram per meal

Days of the week	Foods Breakfast	Gram.	10.30 am	Gram	k.cal.	Foods Lunch	Gram	Afternoon	Gram	k.cal.	Total calories
<b>Monday</b>	Minced bread with milk and an egg	250	1 fruit	150		Gravy soup with pasta or rice, carrots and potatoes + Vegetables pure and	150	A piece of cake and a fruit	100		

						minced meat OR Cooked rice or pasta with cheese + roasted vegetables with minced meat	+ 100				
<b>Tuesday</b>	Bread, butter and jam or marmalade and e glass of milk	250	1 fruit	150		Cooked rice or pasta with meat sauce + roasted vegetables with gravy	150 + 100	Bread, butter and jam or marmalade and e glass of milk	100		
<b>Wednesday</b>	Bread, butter and cheese and e glass of milk	250	1 fruit	150		Beans or lentils or peas and carrots + potatoes pure and meat- balls	100 + 150	A piece of cake with jam and 1 fruit	100		
<b>Thursday</b>	Rice cooked with milk	250	1 fruit	150		Vegetables soup and minced meat 150 + Yoghurt, cheese and egg pie	150 + 100	Bread, butter and cheese and e glass of milk	100		
<b>Friday</b>	Bread, butter and jam or marmalade and e glass of milk	250	1 fruit	150		Gravy soup with vegetables + Poultry fill or fish fillet with potatoes and stew	150 + 100	A piece of cake and a fruit	100		

						carrots					
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### Chemical composition and energetic values of some foods

Food	kcal/ 100 g	Protein	Fat	Carbohydrates	Iron	Calcium
Biscuits	454	7,1	15	77,6	-	-
Flour	343	11,5	1	77	0,9	-
Bread	433	12,3	13,9	69	2,3	13
Rice	362	7	0,6	87,6	0,6	6
Kidney bean	17	2,1	0,1	2,4	0,9	35
Peas	76	7	0,2	12,4	1,8	47
Carrots	33	1,1	0	7,6	0,7	44
Potatoes	85	2,1	1	18	0,6	10
Tomatoes	17	1,2	0,2	2,8	0,4	11
Spinach	31	3,4	0,7	3	2,9	78
Pumpkin	11	1,3	0,1	1,4	0,5	21
Orange	34	0,7	0,2	7,8	0,2	49
Banana	66	1,2	0,3	15,5	0,8	7
Cherry	38	0,8	0,1	9	0,6	30
Apple	45	0,2	0,3	11	0,3	6
Pear	41	0,3	0,4	9,5	0,3	6
Peach	27	0,8	0,1	6,1	0,4	4
Grape	61	0,5	0,1	15,6	0,4	27
Veal	92	20,7	1	0,1	2,3	14
Poultry	97	22,2	0,9	0	1,6	19
Fish	101	16,7	3,5	0,7	1,2	38
Egg	156	13	11,1	1	2,5	50
Butter	758	0,8	83,4	1,1	0	15
Margarine	760	0,6	84	0,4	footprint	20
Olive oil	900	0	100	0	0	0
Chocolate	542	5,8	34	56,7	5	51
Marmalade	222	0,5	footprint	58,7	1,4	18
Honey	303	0,6	0	80,3	0,5	5
Cacao powder	443	20,4	25,5	35	14,3	51

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