

Healthy eating – The main key to health



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The main advises for Healthy eating:

- ⇒ Eat the balanced diet based more on the food of plant than animal origin.
- ⇒ Maintain your body weight in recommended interval (for adults BMI 18.5 – 25, waist circumference in women less than 80 cm, in men no more than 94 cm) Practice regular physical activity (protective effect on the health is seen in at least 30 minutes of continuous walking), source: IOTF
- ⇒ Eat variety of fruits and vegetables, minimum 400 g daily, preferably fresh and of local origin. Don't drink tea during the plant meals rich in iron (e.g. vegetables, legumes), because tea limits the availability of non-hem iron.
- ⇒ Control the fat intake, decrease the consumption of fatty foods (e.g. fatty cheese, chocolates, chips etc.) and prefer plant oils to animal fats.
- ⇒ Eat and drink low-fat milk and milk products with low content of salt.
- ⇒ Eat breads, cereals and pasta, preferably whole-grain and the rice several times a day.
- ⇒ Replace the fatty meat and meat products by legumes, fish and chicken and low-fat meat.
- ⇒ If you drink alcoholic beverages, limit your daily amount of alcohol to 20 g (e.g. 200-250 ml of wine)
- ⇒ Limit your salt intake; don't put additional salt to your meals. Total daily intake should not exceed 5 g (1 tea spoon), incl.-hidden salt. Use only iodized salt.
- ⇒ Choose foods with low content of sugar, limit consumption of sweets. Sweet drinks replace by sufficient amount of non-sweet liquids, e.g. boiled water.
- ⇒ Prepare your meals according to hygienic recommendation, save the food under safety conditions.
- ⇒ Support exclusively breastfeeding up to 6th month and then breastfeeding plus complementary feeding up to 2 years of age.

Eating is one of the life's great pleasures, which is based on people on peoples' tradition, cultures and environment. People eat according to their appetite and financial availability. They consume the food that they give preference to.

Diet must be correspondent to the required energy in human's body, which is based on its growth, age, body-weight, living conditions, work, climate, human's physiological conditions (pregnancy breast-eating). Human body, according to its physiological requirements must be ensured with the defined amount and proportion of nutrients. Food must be safe for people and distributed during the day.

Hypocrite's words are modern even nowadays: “Let your diet be your medicine, and your food will be your remedy”.

It's beyond doubt that nutrition plays a major role in human's health. Whole series of chronic diseases can be avoided by eating right food (diabetes, cardiovascular diseases, cancer, problems caused by the lack of iodine and other micronutrients, osteoporosis, obesity, oral diseases and others), the rate of which about 60% of total death.

What is healthy eating and how to achieve it?

There are principles of healthy nutrition, fulfillment of which regulates humans eating conditions, so defines those food products and daily portions, which will have any good effects on human's health and provides with needed energy and nutrients.

Nº	Food groups	Specification of 1 standard serving	Recommended portions per day	Amount of recommended portions per day (in grams)
1	Cereals (Breads, rolls, pasta, rice) æ	B. 1. bread(60ð); = 1 roll = cooked rice or pasta = 1/2cup of porridge (125g)	5-6	500-600
2	Vegetables (Except potatoes)	= 1 pepper = 2 carrots or tomatoes = a small bowl of raw leafy vegetables or mixed vegetable salad	3-5	400-500
3	Potatoes	= 1/2 plate of potatoes (100g)	2-3	200-300
4	Fruits	= -1 apple, orange, banana (100g), = strawberries, currants, blueberries = raspberries, mockari, (1cup) = a glass of fruit juice 100%-	2-3	300-400
5	Milk and dairy products (with reduced amount of fats)	= a cup of milk (250 ml), = 1/2 cup of yogurt, sour milk - (125ml), = a piece of cheese (30g)	2-3	200-300
6	Meat, poultry, fish, eggs, legumes	= cooked lean meat, poultry or fish- 80g, = 1 egg = - 1/4 cup of beans	1-3	150-200
7	Sweets	= 25g chocolate = half piece of cake = 1 lump of sugar = 20g of jam	1-2	20-25
8	Fats	Plant oils = 1 t/s 10g of plant oil = Margarine _ 15 g Animal fats -10 g	1	10-15

⇒ **Eat the balanced diet based more on the food of plant than animal origin.**

Plant contains a lot of biologically active substances, metabolites, which have been used in medicines since ancient times. Metabolites protect human body from chronic diseases (cancers, heart diseases and others) Most fruits and vegetables and as well as grains: breads, cereals contain fibers; Corns, beans, sunflowers contain phytosterins, nuts and berries – lignans, onion, lettuce, tomato's, cabbage – glucosinolates, grapes, strawberries, phenols, citrus, cherry, green-terpenes.

For ensuring human body with these nutrients it's necessary to eat various fruits and vegetables regularly.

2. Eat breads, cereals and pasta, preferably whole-grain and the rice several times a day.

The amount this product should be equal to which is recommended by health orgs.

The amount of one portion is 60-100g. Grains provide human body with needed and are rich with nutrients: carbohydrates (especially starch), fibers, minerals (Ca, K, Mg and other), but there are proteins too.

- ☐ **Eat 5-8 portions of various fruits and vegetables a day. Better to them raw. The amount of portion is equal to 100g fruit and 100g vegetables.**

Why are fruits and vegetables important for humans' health?

Fruits and vegetables contain vitamins, microelements fibers and other indispensable nutrients in huge amounts. Soluble nutritional fibers ensure fats modification and regulate the level of cholesterol and sugar in blood. Raw fruits and vegetables prevent human body from obesity, because they contain fats and energy in small amounts. Fruits and vegetables contain antioxidants (carotenes, vitamins C, E) lack of which causes high risk of heart diseases and cancers.

Taking vitamin C with iron rich products (legume, cabbage, greens, spinach) assists its absorption in human body, which decreases the risk of anemia.

If you take with the food mentioned above red meat, liver, fish, it will help absorption of iron by human body. Fruits and vegetables except iron contain also other microelements and minerals, as K, Mg, Ca, which decreases the risk of hypertension. Fruits and vegetables contain vitamins of group B, and folic acid. It is widely known that folic acid place an important role in the prevention of anemia and in the development of neurotic system of the baby. It is recommended for the women at their early age and in the beginning of the pregnancy to take food rich in folic acid. The best source of the folic acid is red legume lentil beans groundnut, soybean and bread, citrus, liver, vegetables (spinach, cabbage and etc.)

Before being preserved fruits and vegetables pay attention to the labels, as they should contain minimal amount of sugar, salt and fats.

Dietary fiber

Long heralded as part of a healthy diet, fiber appears to reduce the risk of developing various conditions, including heart disease, diabetes, diverticular disease, and constipation. Despite what many people may think, however, fiber probably has little, if any effect on colon cancer risk.

Fiber is an important part of a healthy diet, and you should get a least the minimum recommended amount of 20-35 grams of dietary fiber per day for adults. For children over age 2, the recommended intake is the child's age + 5 grams. The best sources are fresh fruits and vegetables, nuts and legumes, and whole-grain foods.

You can easily achieve 30 grams of fiber each day by eating 3 servings of fruit, 3 servings of vegetables, 2 servings of whole grain foods, and 1 serving of legumes, such as lentils, kidney, black and lima beans. To achieve 35 grams of fiber, eat 4 servings of fruit, 4 servings of vegetables, 4 servings of whole grain foods, and 1 serving of legumes.

Antioxidants

Our cells must constantly contend with nasty substances called free radicals. They can damage DNA, the inside or artery walls, and proteins in the eye--just about any substance or tissue imaginable. Some free radicals are made inside the body, inevitable by products of turning food into energy. Others come from the air we breathe and the food we eat.

We aren't defenseless against free radicals. We extract free-radical fighters, called antioxidants, from food. Fruits, vegetables, and other plant-based foods deliver dozens, if not hundreds, of antioxidants. The most common are vitamin C, vitamin E, beta-carotene and related carotenoids. Food also supplies minerals such as selenium and manganese, which are needed by enzymes that destroy free radicals.

Antioxidants were promoted as wonder agents that could prevent heart disease, cancer, cataracts, memory loss, and a host of other conditions.

It's true that the package of antioxidants, minerals, fiber, and other substances found in fruits, vegetables, and whole grains help prevent a variety of chronic diseases.

4. Stay on the recommended body weight by physical activity

One of the aim of the physical activity is to keep human body's normal weight. It's proved that right dietary and some daily physical activities (about 30-60 min) during a week are enough for healthy heart. And good regulation of the substances in human body and at the same time it is the best way for healthy heart and good regulation of the substances in human body and at the same time it the best way of preventing people from obesity.

These recommendations are for those people who are physically less active, their profession can be one of the reasons ("sedentary" life style) or some other factors. Owner weight increases the risk of the development of diabetes, hypertension, heart diseases, some cancers, arthritis and other diseases. Normal body mass index is shown in the chart and be BMI of 18,5-24,9 is considered healthy for grownup people, which must be preserved by the systematic control of the body weight. BMI is defined as the weight in kilograms divided by the square of the height in meters (kg/m^2). In Georgia from overweight suffers about 25-30% of the population.

The classification of overweight and obesity in adults according to BMI

classification	Body mass index (kg/m^2)	Risk of comorbidities
underweight	<18,5	Low risk
Normal range	18,5-24,9	average
overweight	≥ 25	
Pre- obese	25-29,9	increased
Obese class I	30-34,9	
Obese class II	35-39,9	severe
Obese class III	≥ 40	Very severe

Note

- a) If you have any problems with health at first you have to consult with the doctor about physical activities.
- b) Keep right dietary principles while impressing physical activity and
- c) Stop smoking

5. Balance fats. Give preference to plant fats

Fats provide ready source of energy for human body with indispensable fatty acids and fat-soluble vitamins (A, D, E, K).

Too much fat increases the risk of heart diseases and overweight.

Fats are groups of organic substances, which have more energy than proteins and carbohydrates. They consist of glycerin and fatty acids. Saturated fats are those, which resist our body temperature, but those, which don't, are unsaturated. Saturated fats are animal fats, but unsaturated plant fats (90%). Too much saturated fats increase the amount of cholesterol in blood, which may cause the risk of: thrombosis (which may lead us to heart infarct, stroke) and also overweight and obesity. But the physiological value of plant oils (sunflower, corn, soybean, olive, oil and etc.) is high, which is caused by the existence of polyunsaturated fatty acids. The decrease of these acids prevents human body from normal growing and has a bad influence on human's health. They are decrease prevents the process of cholesterol circulation and helps to the development fats, some of them are essential for human body, as body is unable to synthesize them. World health organization recommends giving preference to plant oils.

Fats and the risk of heart diseases.

#	Factor	Source	The influence on risks of heart diseases
1	Saturated fat	Butter, ham, milk fat cheese meat, sausage the of oil Coconuts.	<ul style="list-style-type: none"> ⇒ The level of cholesterol and the density of lipoproteins are high. ⇒ The risk of thrombosis is high
2	Polyunsaturated fat acids		
	Omega –6	Corn, sunflower and the oil of sunflower	<ul style="list-style-type: none"> ⇒ The level of cholesterol and the density of lipoproteins is low in blood
	Omega –3	Fish fats and fats which are found in vegetables and nuts	<ul style="list-style-type: none"> ⇒ The level of cholesterol and density of lipoproteins is low. ⇒ Its influence of ant thrombosis and antiarrhythmia is high
3	Monounsaturated fat acids	Olive oil, canola oil, rapeseed oil	<ul style="list-style-type: none"> ⇒ Reduces the level of cholesterol in blood Reducing of the level of cholesterol (it may have an independent effect or take place of saturated fats acid after turning them out)

Fats in moderation.

Limiting the amount of fat, especially saturated fats in the diet but not cutting it out entirely is the best advice for a healthy diet. Most dietary recommendations are that less than 30% of the day's total calories should come from fat and less than 10% of the day's total calories should come.

Fat distribution: apples and pears.

BMI does not give us information about the total fat or how the fat is distributed in our body, which is important as abdominal excess of fat can have consequences in terms of health problems. A way to measure fat distribution is the circumference of the waist. Waist circumference is not connected with the height and provides a simple and practical method of identifying overweight. If waist circumference is greater than 94-102 cm for men and 80-88 cm for women. It means that they have excess abdominal fat even if their BMI is about right.

The waist circumference measurement divides people into two categories: individuals with an android fat distribution (often told “apple shape”) meaning that most of their body fat is distributed around their stomach and chest and individuals with a gynoid fat distribution (often called pear shape) meaning that the most of their body fat is distributed around their hips, thighs and bottom. Obese men are more likely to be “apples” while women are more likely to be “pears”.

It is clear that obesity is not always simply a result of over indulgence in highly palatable foods or of a lack of physical activity. Overweight and obesity are influenced by many factors including hereditary tendencies, environmental and behavioral factors, aging, pregnancy and etc. However, dietary factor and physical activity strongly influence the energy balance equation and they are also the major modifiable factors. Indeed high fat dense-energy diets and sedentary lifestyles are the most associated with the increased prevalence of obesity worldwide. Conversely weight loss occurs when energy intake is less than the energy expenditure over an extended period of time. A restricted calorie diet combined with increased physical activity is generally the advanced proffered by dieticians for losing extra weight.

Miracle or wonder diets that severely limit calories or restrict food groups should be avoided as they are often limiting in important nutrients and cannot be sustained for prolonged periods. They do not teach correct eating habits and can result in yo-yo dieting (the gain and loss of weight in cycles resulting from dieting followed by overeating). This so-called yo-yo dieting may be dangerous to long-term physical and mental health. Individuals should not be over ambitious with their goal setting as a loss of just 10% of initial weight while brings measurable health benefits.

⇒ **Change your menu-fat meat and meat products into legumes fish poultry meat or nonfat meat.**

Fish, poultry, eggs and legumes – you can take two portions a day. These products are the source of albumin and haem-iron. Fish is very useful for decreasing the risk of cardiovascular diseases. It is recommended to take legumes with non-fat meat and liver or fish, as these products are the best source of haem-iron. Try to eat red meat at about 100g a day. Iron is a very important microelement of human body. Iron deficiency causes the development of anemia. Its rate is high in Georgia. A man should take 10 mg iron a day, a woman 15mg, pregnant and breast – feeding women should take 30mg a day.

⇒ **Take milk and milk product 2-3 portions a day. Try to use less salt and fat.**

Milk products contain Ca and protein. They are important for women, children and adults, especially for girls. It has an important role in forming strong teeth and bones. It also helps to substance circulation in the cell. Ca mainly in milk, sour-milk, cheese and not in cream and fat.

One portion of milk product contains about 300mg Ca. For people who doesn't take or can't take milk or milk products, is recommended to use those products, which are rich in Ca. For example: dark green-vegetables, grains and others.

⇒ **Give preference to that product which contains less sugar, sweets, and replace sweet drinks with water.** Sugar is dangerous for human's health, for e.g. it causes

dental caries. The more frequently you take product and drinks rich in sugar the higher is the risk of dental caries. For the prophylactics of your teeth brush them with the toothpaste containing fluorine and Ca. Sometimes products are made with artificial sugar. They don't cause the risk of dental caries and they contain less energy and calories. Much sugar also increases the risk of overweight.

- ⇒ Drink sufficient amount of liquids.

Grown-ups should take at least 1.5 L liquid, more during physical activity and in hot weather. Water is obviously a good source of liquid,

Give preferences to the product with less salt

You should take maximum 5gr or 1 teaspoon a day. Both the amount of added salt and hidden salt contained in processed food must also be taken into consideration.

Much salt can cause the risk of hypertension. Awhile being the product pay attention to the label where the amount of salt will be shown.

That product which contain much salt use in less amounts. Give preference to that product with less salt for e.g. vegetables and fruits.

Try to use less salt in your meals. Don't put salt in your food automatically, first taste it! Give preference to iodized salt.

10. Reduce alcoholic drinks.

Much alcoholic drink has a bad influence on humans' brains, liver, heart, muscles, and neural system, dietary conditions. It prevents normal substance circulation in human's body. In bodies of those people who are dependent on alcoholic drinks grows the risk of the deficit of substances: thiamin, riboflavin, niacin, folic acid, vitamin C. magnum and zinc.

Word health organization recommends taking no more then 2 portions of alcoholic drinks a day (alcohol must be maximum-20 g). It must halve for women.

Chart 4

Kinds of drinks	Standard portions (ml)	The amount of alcohol (in grams)
Beer (5%)	250	9.8
Wine (11%)	120	10.4
High alcoholic drinks (40%)	30	9.4

11. Prepare your meals according to hygienic recommendations, save food under safety conditions, reduce the amount of fats. Especially saturated fats.

While preparing meals take next conditions into consideration:

- Give preference to processed products. For eg: instead of raw milk use pasteurized milk
- Remember that raw products e.g. egg, raw milk may be contaminated with microorganisms.

- But after processing (70°C) the products microorganisms die. Meat and poultry should be unfroze before preparing meals
- Prepare as mush food as you can eat, because after preserving them microorganisms appear in the food.
- Protect meal saving conditions e.g.. Temperature.
- Don't put newly prepared food into the refrigerator until it gets cooler.
- Never preserve babies (breast milk) food.
- Heat you meal again after preparing and cooling it on 70°C to protect yourself from microbes.
- Don't put products in ready meal as it can be dirty
- Wash your hand before and after preparing meals.
- Keep hygiene in your kitchen.
- Protect your food from rodent and flies
- While preparing meal and washing food product use clean water

☰ **Support breast-feeding**

World health organization recommends exclusive breast-feeding during the first 6 month. Breast-milk is the best source of vitamins, and also it place in important role in boosting immune function of the infant and protects his body from the infection.

The basics for child and adolescent nutrition

1. Nutritional considerations within the first year of life
2. Nutritional considerations for toddlers (1-3 years olds)
3. Nutritional considerations for school – aged children
4. Nutritional considerations for adolescents
 - 4.1 Iron
 - 4.2 Iodine
 - 4.3 Calcium
 - 4.4 Diet regime
 - 4.5 Energy needs

Child's nutrition plays an important role, as in development of physical and psychomotor system, so its body ability to resist environment, or form its immune system. During the body growth, development of different systems and tissues the role of nutrition is very important especially for small children.

Different stages of the life cycle dictate (require) differing nutrient needs.

1. Nutritional considerations within the first year of life

Breast-feeding is the ideal form of feeding for new- born babies and infants. Human milk is an alive biological substance, which changes according to the child's needs.

It provides all the essential substances, which change according to the child's needs.

It provides all the essential substances in the best correlation for the growth and development of the child. Human milk is not only easily available food; it also has a protective function. It contains lots of factors, which protect children from many infections, non-infection and allergic diseases.

At the same time human milk plays an important role in boosting immune function. That's why breast – fed infants get ill more seldom than formula-fed babies. Human milk contains ferments, which help food-digestion in the intestines. It also contains hormones and growth factors, which provide all the system functions growth and development. On

the bases of the various researches it has been proved that breast-feeding provides child's intellectual (mental) development. At the same time it ensures normal chewing and mimic muscles development, which is very important for normal teething and speech development in the future.

Breast-feeding is economical, safe and convenient. It doesn't require boiling and heating. Breast-feeding considerably ensures child's development. Baby's contact with its mother, comfortable environment, satisfying of sucking reflex, safety, wholesome food, ensuring development of each body function, immune nervous and endocrinal system development are exactly connected with breast-feeding.

During the first few days after birth, colostrums the fluid is produced by the mammary gland.

The chemical consistence of the colostrums is individual. The colostrums are different from the nature milk in the plenty of proteins and salt, and relatively small amount of sugar fats. It is very nutritious and satisfies baby's requirements. The amount of produced colostrums is equivalent to the baby's stomach. That's why it is not necessary adding of complementary fluids and food in the infant's nutrition.

The colostrums protects baby from the deferent infections and allergy. It is very important for the infant in the period of the adaptation to the new environment, it is also practically the first vaccination of the infant.

During the breast feeding baby should be fed according to its requirements and not according the hours. We should feed infants as in the daytime, so at night. Night feeding ensures production of the milk. During the first week the number of meals should be 8-12 times a day and night. Every 1-1,5 month old baby will have already worked out its individual meal regimes.

The duration of each meal is regulated by the baby itself and it can continue from 5 min. to 45 min. During the meal it is compulsory that baby emptied the whole milk from each mammary gland as the consistence of the milk changes exactly during the mealtime. At the beginning of the meal, so called "front" milk is produced rich in proteins and protective substances and at the end of the meal so called "back" milk – rich in fats. If the baby is unable to empty the whole milk it is advisable to milk the rest and add it with the spoon.

During the first 6 months human milk meets all the requirements of the baby. The introduction of complementary foods by about completed 6 months is important.

It is advisable to continue breast-feeding until 2 years of age. After 1 year human milk changes into colostrums again and protects the child from the infections.

Breast-feeding is an optimal method of feeding of a one-year old child and prepared formula should be used only in strict medical conditions.

For the artificial feeding so called formula, containing human milk is used. There are 2 types of formula: adaptive and unadaptive.

Adaptive formula is a commercially prepared formula, which on the basis of special technological work, attempt to mimic as far as possible the composition of human milk. Unadaptive food products are: cow milk and sour milk with its mixture. There is no food identical to human milk. Though commercially prepared composition, so called formula is very close to human milk, than homemade food. Commercially prepared any kind of food composition is identical. It is made according to the international standards.

Formula –fed babies should eat according to fixed hours. Intervals during the meals mustn't be less than 3 hours. At night 6-8 hour interval is desirable.

Infant formula must be prepared under strict hygiene conditions (washing hands before preparing formula, sterilization of bottles and etc.) Formula must be made newly before every meal. Food – remains mustn't be used for the next meal. Formula must be prepared exactly according to the instructions given on the label.

Natural cow's milk may cause some problems, that's why it must be mixed (130ml cow milk + 70 ml water + 2 t.sp. sugar)

During the first year baby grows rapidly. It doubles its weight at the age of 5-6 month and triples at the age of 1 year. Minimal weight increase mustn't be more than 500g during the first 6 months and less than 400g during the next 6 months. Height increase is 25 cm during the first year. For the measurement of baby's gains in height and weight, special standard growth charts are used, which makes possible estimation of child's dynamical development, ensures displaying and controlling problems in time.

Situations where breastfeeding is contraindicated for medical reasons

There are very few situations in which breastfeeding is contraindicated.³These include:

- Infants with galactosaemia, a rare inborn error of metabolism.
- Infants born to mothers affected by HTLV I and II infections.
- WHO and UNAIDS currently estimate that a child breastfeeding from a mother who is HIV positive has a 15% risk of infection by this route. The situation has led in some settings to a loss of support for initiatives to promote breastfeeding and to some women avoiding breastfeeding even if they do not know their HIV status. It is, therefore, important that women be empowered to make fully informed decisions about infant feeding and that they be suitably supported in carrying them out. Counseling for women who are aware of their HIV status should include the best available information on the benefits of breastfeeding and on the risks of HIV transmission through breastfeeding. Counseling must include several infant-feeding options for consideration by HIV-positive mothers (Replacement feeding with commercial or home-prepared formula; Breastfeeding in the way generally recommended; Breastfeeding exclusively and stopping early; Use of heat-treated expressed breast-milk; and Wet-nursing). In all cases there should be timely and adequate complementary feeding. Infants of mothers with HIV/AIDS where suitable replacement artificial infant formula is acceptable, feasible, affordable, safe and sustainable should not be breastfed. However, if suitable replacement feeding is not acceptable, feasible, affordable, safe and sustainable, and if a safe source of expressed breast milk is not available, the safest alternative is exclusive breastfeeding until the infant is four to six months of age and is developmentally ready to obtain its full nutrient requirement via complementary feeding.

B. Situations where breastfeeding is temporarily contraindicated¹

- ⇒ Some viral diseases (herpes, varicella) can be transmitted to the baby and can cause very serious illness, especially if the baby is preterm or otherwise immune-compromised. Infants whose mothers have an active herpes simplex lesion on the nipple or areola should not be breastfed from the affected breast until the lesion has cleared. The infant may feed from the other breast if it is unaffected, provided contact between the baby and the active lesions is prevented (i.e. by keeping the affected breast covered during feeding from the unaffected breast) and given the expressed breast milk from the affected side via cup or spoon. The same recommendation applies to mothers with active herpes zoster lesions (shingles). Varicella (chickenpox)

present up to five days before and two days after delivery can be transmitted to the infant in a severe form. The mother should therefore be isolated during the contagious phase until lesions crust. Varicella-zoster immunoglobulin or standard immunoglobulin should be given to the infant as soon as possible. Breast milk should be expressed and given to the infant.

- ⇒ Infants born to mothers with active untreated tuberculosis should not be breastfed until treatment is fully established and the mother is medically deemed to be no longer infectious. These infants should also receive appropriate immunization and chemoprophylaxis. Breast milk should be expressed and given to the infant, since infection is not spread through the milk.
- ⇒ Where lactating mothers are receiving diagnostic or therapeutic radioactive isotopes, breastfeeding should be interrupted for a time equal to five half lives of the isotope used.
- ⇒ Nearly all common health problems can be treated pharmacologically by drugs which are compatible with breastfeeding. Where lactating mothers are receiving antimetabolites or chemotherapeutic drugs (cyclophosphamide, cyclosporine, doxorubicin, methotrexate) and a number of other drugs (e.g. amiodarone, bromocriptine, cabergoline, ciprofloxacin, ergotamine, indomethacine, lithium, sulphas, tetracyclines, cloramphenicol, first generation antidepressant such as monoaminooxidase inhibitors) should not breastfeed until these medications are discontinued and her breast milk is clear of these drugs.¹²⁴

C. Situations where breastfeeding is sometimes mistakenly thought to be contraindicated

- ⇒ Everybody is today exposed to environmental chemical agents. However, the benefits of breastfeeding outweigh any potential risk associated with these environmental contaminants. Current levels of chemical residues in breast milk in Europe are within acceptable limits and do not justify recommending restrictions to breastfeeding or eliminating specific foods from maternal diets.
- ⇒ A small amounts of Hepatitis B surface antigen (HBsAg) have been detected in some samples of breast milk, But There is no evidence that breastfeeding increases the risk of mother to child transmission. Any risk of transmission associated with breast milk is negligible compared to the high risk of exposure to maternal blood and body fluids at birth. So Breastfeeding is not contraindicated for infants born to mothers who are hepatitis B surface antigen–positive, mothers who are infected with hepatitis C virus (persons with hepatitis C virus antibody or hepatitis C virus-RNA–positive blood), mothers who are seropositive carriers of cytomegalovirus, and mothers who are febrile, unless fever is caused by a disease that contraindicates breastfeeding permanently or temporarily. HCV and HBsAg -positive mothers should consider abstaining from breast-feeding if their nipples are cracked or bleeding.
- ⇒ The vast majority of infants and young children who suffer from allergies or gastro-oesophageal reflux should continue breastfeeding and do not require special artificial formulae (e.g. Hypo Allergenic and Anti Reflux formulas).
- ⇒ Mastitis is not a contraindication to breastfeeding; on the contrary, effective milk removal from the breast is part of the recommended treatment. In addition, there is no evidence that babies who suck from an affected breast get infected.

Mothers needing expert information on the above issues or any other related issues and mothers having breastfeeding difficulties of any kind should have ready access to consultations with trained and competent health workers or skilled lactation consultants.

☐ **When must be introduced complementary foods in baby's meal?**

During the first 6 months as breast milk, so formula are ideally suited to meet child's needs, but after 6 months it is necessary to introduce complementary solid foods rich in vitamins and micro-elements into baby's diet. It must be taken into consideration that introduction of complementary foods early reduces the amount of breast-milk and often causes problems with digestion.

The introduction of complimentary of complimentary foods later is also harmful, as a child may have deficiency of necessary substances (micronutrients), which will be reflected in his health. In some specific cases complementary foods can be introduced earlier (4-5 months). By the recommendation of the World health organization if 4-5 month old child's weight drops behind and he shows interest in other foods, complementary foods can be introduced into baby's diet.

As complementary food products, can be used foods, which are different from the milk and complement child's diet with various necessary substances, microelements and vitamins. The necessity of enrichment of child's ration is conditioned by the following factors:

- Deficiency of energy and nutritional substances (proteins, Iron, calcium, zinc and other), which will be reflected in the child's growth, when breast-milk and formula can't meet child's increased requirements.
- Introduction of half solid foods provide speech development
- Active and stimulate intestines, chewing muscles, ferment processes.

Fruit juices and purees are generally the first foods that are introduced into baby's diet, with vegetable purees, meat, biscuits and etc. Introduction of egg-whites, citrus, preserved honey is not recommended until the first year of age.

The amount of every new food must be increased gradually. Two new kinds of food mustn't be introduced at the same time. The introduction of each new food is possible after it gets acquainted to the old one. Foods must be introduced with a spoon, not with a bottle. Food must be prepared before each meal under strict hygiene conditions.

According to the consistency food must be homogeneous, in order not to cause difficulty in swallowing. Together with the growth children are introduced more and more solid foods in order to get gradually accustomed to the process of chewing.

An important consideration in the first year of life is to introduce foods rich in iron as meat, yolk of egg, fish, beans, oats, buckwheat, apples and others. The deficiency of foods rich in iron causes anemia, which is the reason of child's frequent illnesses. Iron deficiency will be reflected on child's mental development.

2. Nutritional consideration for toddlers (1-3 years old)

During these years a child develops its independence and tries to do everything itself: holds a spoon, eats food and drinks from the glass. It is true that gets dirty, moves a lot, but it plays an important role in the development of the child's movement. Parents should support this process. In this period they should help the child develop hygienic habits (washing hands, using of aprons and napkins and etc.)

In view of the fact that children of this age grow quickly, are very active and consume much energy, they need a great variety of foods for their development.

A child should eat four times a day. It is advisable to have snacks with fruits and biscuits during the intervals. It is not recommended consuming of over salted, sour, bitter or other flavoring foods.

The food of a one-year-old child must be squeezed, chopped into small pieces, to make it easier for the child to swallow.

It is inadmissible to feed the child during the period of playing and running. During eating any kind of food a child must sit calmly. It is important to pay attention to the child.

A child's increased or reduced appetite, also other problems connected with his diet is a natural phenomenon at this age – he also tries to self-establish with his attitudes to the meals.

- If a child refuses to eat and doesn't gain his weight consult a doctor
- At this age child's weight increases by 2kg in every year, but 8-10cm in height.

3. Nutritional consideration for pre- school and school-aged children.

Nutrition of pre- school and school aged children differ as in amount, so in quality. At this age children eat family meals from the same table as other family members, though their requirement on the energy is higher than adults' which is caused by the intensity of substance change and the high rate of child's growth and development.

A child's weight during 3-7 years grows from 15 kg to 25 kg, height increases by 20-30cm. At this age child's unbalanced, monotonous nutrition stops its growth and development and causes a risk to the growth and differentiation of various organs.

Pre-school and school-aged children should eat four times a day. From 11 to 14 year olds it is allowed to eat 3 times a day like grown-ups.

Tasty foods nicely laid table and food appearance are very important. Unpalatable foods with bad appearance and poorly laid table lose one's appetite and are a cause of a dietary failure.

Consumption of some products is necessary daily, such as: bread, milk, meat, vegetables, fruits, and some – seldom (sour, cream, fish curds). Cereals, pasta, cooked potatoes, eggs, cheese are advisable for breakfast, but, meat and fish for dinner, for supper are recommended vegetables, cereals, milk, sour milk, curds, cheese. Greens can be used in huge amounts, but other seasonings such as pepper, horseradish and mustard in reduced amounts are recommended for adults.

At this age children need to drink plenty of fluids, especially if it is hot or they are physically active.

4 Nutritional considerations for adolescents.

The nutritional requirements of young people, especially at puberty (in 11-15 years old girls, but in 13-16 years old boys) are recommended to be diverse. So called the peak of growth takes place at this age, which is followed by the adolescents' enormous appetite.

Their nutrition should contain grains in enough quantity (bread), vegetables and fruits, milk-products and animal fats.

Consumption of many fats is not recommended. Which will protect adolescents from obesity and heart diseases in future; it is advisable to consume plant- oils.

It is not recommended to consume much sugar. Less amount of sugar will ensure normal quantity of sugar in blood and protects adolescents from the risks of caries, obesity, and diabetes.

It is necessary to work out right food habits:

- To chew foods well
- To eat slowly
- To keep oneself off snacks (hamburger, hot-dog, chips and etc)

It is important to follow hygiene

- To wash hands before each meal
- To wash fruits and vegetables before the meals.

It is recommended to drink 4-6 glasses of water a day.

In preadolescent years, LBM (lean body mass) is about the same for both sexes. Once adolescence starts the boy undergoes twice as much accumulation of LBM than girls.

4.1 Iron

Following the physiological peculiarities requirements of adolescents for iron is high. They tend to the risk of anemia, which is often caused by the deficit of iron. The amount of red pigments (hemoglobin) in blood entirely depends on the amount of iron. Hemoglobin carries oxygen in body.

In the last decade the rate of anemia in children rose 5.7 times, but iron-deficiency anemia – 4-2 times. The rate iron-deficiency anemia in children according to the regions varies from 20% to 24,3%. It is a reason of poor and artificial diet. The situation is same in adults. The rate of iron-deficiency in men according to the regions varies from 5,5% to 18,2%, in women from 40% to 44.3%. The rate of iron-deficiency anemia in pregnant is 65,2%, which is very dangerous not only for the mothers but also for the infants.

One of the most important diet considerations during adolescence is an increase in the intake of iron-rich foods such as: lean meat, fish, legume, halva, dark green vegetables, nuts and iron-rich grains.

Iron from animal foods absorbed better than from non-animal sources. Adolescents following vegetation diets are at an increased risk of iron-deficiency. However, vitamin C assists in the absorption of non-haem iron. A glass of citrus juice taken with iron-fortified foods can help with the amount of iron absorbed from these foods.

Iron rich sources are:

100 g product	Liver	Lungs	Meat	White mushroom	Peach	Quince	Bread	Apple	Potatoes	Cabbage	Plum
Iron (mg)	9?	10?	2-3?	5,2	4	3	2-3	2,5	1,2	1,4	2,1

4.2 Iodine

Iodine is an important microelement, which has a vital role for human body. It takes part in the synthesis of the thyroid gland hormone. It plays an important role in the functioning of human's body and they influence on various bio-chemical and physiological processes, including the synthesis of proteins. Thyroid gland hormones help to the physical growth and mental development. It is important to increase protein-rich food intake together with the iodine for the normal functioning of thyroid gland.

Iodine deficit is especially dangerous for the baby's and small children's health:

- Iodine deficit causes the growth of death, heart diseases, neurological cretinism and mental deficiency
- Iodine deficit causes goiter, cretinism and hinders physical growth in small children
- Iodine deficit during the pregnancy causes high risk of stillbirth, premature birth and physical and mental deficiency.
- Iodine deficit during the age of reproduction in women (15-49 years) causes childlessness.
- Goiter and hypothyroids caused by the iodine deficit often is a reason of physical weakness and intellectual deficiency.

Problems caused by the iodine deficit take place because of the iodine-deficient food intake.

The amount of Iodine in product

100 g Product	Cow milk	curds	Cheese	Meat	Fish	Sea cabbage	Wheat	Eggs	Strawberry	Apple	Cherry
Iodine (mkg)	3	12	15-25	4	150-300	200-600	8	9	10-16	2,9	7

Concentration upon units! mg vs. ug in table above

If the earth suffers from the deficit of iodine, it's natural that plants will contain small amount of iodine and respectively population will get products with the reduced amount of iodine. In this case iodized salt is recommended.

Georgia is one of those countries in the world, which has an iodine deficiency. The prevalence of thyroid gland diseases in Georgia is about 37,8%(in adults – 47,1%, children – 30,6%). Endemic goiter has a leading part among the thyroid gland diseases.

4.3 Calcium

The gain in skeletal weight is most rapid during the adolescent growth. Calcium is the main constituent element of bones. Calcium is rapidly consumed during the adolescent growth spurt. That why the needs on the calcium increases at this age.

During peak adolescent growth, calcium retention is on average about 200 mg/day in girls and 300 mg/day in boys. Its main source is: diary products (curds, sour-milk, yogurt, cheese, eggs, cabbage and others). The efficiency of calcium absorption is only around 30% so it is important that the diet supplies a great amount of calcium to help build the densest bones. The achievement of peak bone mass during childhood and adolescence is crucial to reduce the risk of osteoporosis in later years.

As well as a good dietary supply of calcium, vitamin D and phosphorous are needed for building up bones.

Physical activity is also essential for the development of the skeletal and muscle system.

Physical activity is also the best way for the weight-regulation. Activities such as: cycling, gymnastics, skiing, ball games and etc. Physical activities (e.g. walking) are recommended to be performed daily, but as minimum 3-5 times a week, at least 30-60 minutes a day.

The amount of calcium (Ca) in products

100 g Product	Cow milk	Curds	Cheese	Bread	Cabbage	Potatoes	Carrots	Green legume	Pumpkin	Persimmon	Mandarin	Apple
Calcium (mg)	120	140	550-700	20-40	48	10	50	65	40	127	35	16

4.4 Food habit: why are regular eating and snacks important?

Dietary habits are generally developed in early childhood. Home and school environments play a major role in determining child's attitude to individual foods.

Teenagers are exposed to periodic food fads, which is caused by the quick irregular snacks and slimming diets. One of the most frequently missed meals is breakfast. Studies show that breakfast plays an important role in the concentration and performance at school. That's why the role of breakfast is very important. Snacks form

an integral part of the children and adolescent's nutritional ration, as children cannot eat large quantities, at one sitting and often stay hungry. Mid – morning and mid-afternoon snacks can help to meet energy needs throughout the day.

4.5 Energy needs.

Children and adolescents consume much energy (the process of growth, substance circulation, physical activity and etc) and respectively they have to acquire energy need from food products. Consumption of various energy-rich foods ensures normal growth and development.

Reaction of each adolescent on stress and emotional upsets is individual, inspired by consuming much energy. Some adolescents have high and other low appetites. Mild or severe infections, nervousness, menstrual, dental or skin problem can result in changes in appetite.

The prevalence of overweight and obesity in children is now a major nutritional problem. Developing adolescents are particularly concerned about their body image and excessive weight can have profound effects on their physical health.

Obesity is often connected with the consumption of much food, sedentary lifestyle, deficit of physical activities and various diseases. Lack of activity plays an important role not only in the development of obesity, but also in the development of chronic diseases such as: heart diseases, diabetes, hypertension, physical activity is related to improvements in body flexibility, balance and coordination.

Healthy eating and a healthy way of life are important to how we look, feel and how much we enjoy life.

The right lifestyle decisions, with a routine of good food and regular exercise can help us to make the most of what life has to offer and can also help to reduce the risk of certain conditions.

What is the condition of healthy nutrition in Georgia?

By support of World health organization there has been held epidemiological survey in 5 regions of Georgia (Tbilisi, Kakheti, Imereti, Achara and Mtskheta-Mtianeti) in order to get acquainted with nutrition and food habits in September 2005. It was estimated how often family members consume food products in portions (in grams). Comparison was made with recommended standard portions, which we can see in the table.

In the observed region the nutritional structure is typical low level of consumed meat, fish and milk products. Nutrition principles are not fulfilling among majority of questioned respondents. This can be explained by the fact that it's in fact impossible for the majority of people to get regularly necessary food, because of the high prices and for their low availability and also there is a low level of population being informed about healthy nutrition.

From the given food groups:

- ⇒ Cattle meat, poultry, fish, eggs, legume, less than recommended portion consumed 58% of questioned family members, 34% consumed more than recommended portion, 8% consumed the recommended portion.
- ⇒ 38% consumed more than recommended portions of vegetable, less 40%, the recommended portion only 22%

- ⇒ 25% consumed more than recommended portion of fruits, 45% less than recommended, only 30% consumed the recommended portion.
- ⇒ This condition can be explained, as August and September months are rich in vegetables and fruits harvest, so not only the village population but the city population also consumes generally vegetables during this season. Village population have their own fruit and vegetable gardens, but for the city population vegetables and fruits are very cheap at this period of season and so it is more available for the population to acquire these foods in comparison with the other foods.
- ⇒ 75% consumed sweets more than recommended, 17% less than recommended and 8% only consumed the recommended portion. The rate of sweet consuming is very high.
- ⇒ 70% consumed grains (bread, pasta, buckwheat, rice, Hercules, cakes) more than recommended portions, 18% consumed less than recommended portion and 12% consumed the recommended portion. It is clearly seen from the studies that energetically value is mainly fill with bread and cereals.
- ⇒ 56% consumed fats more than recommended portions, 29% less, but only 15% consumed the recommended portion.
- ⇒ 25% consumed more than recommended portion of diary products, less-65% but only 10% consumed the recommended portion.

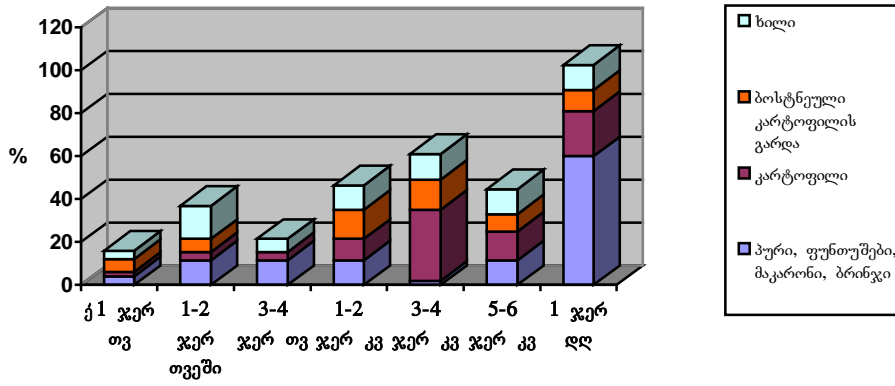
The fact that meal hours and menu is not distributed in the right way has to be taken into consideration. For examples, there have been noticed families, which have dinner meals instead of breakfast etc. The distribution of meals during the day varies in the following way: breakfast from 8 till 10 o'clock, dinner 14-15, lunch – 16-17, supper 19-22. In chosen regions food habits and abilities are very different from each other.

Georgian population's low level of information in the sphere of country's economical development and healthy eating causes the fact that it is impossible to provide families with nutritional foods and what's more the budget of home –economies is not distributed in the right way so the population (consumer of food) doesn't know exactly to which product give preference while buying them.

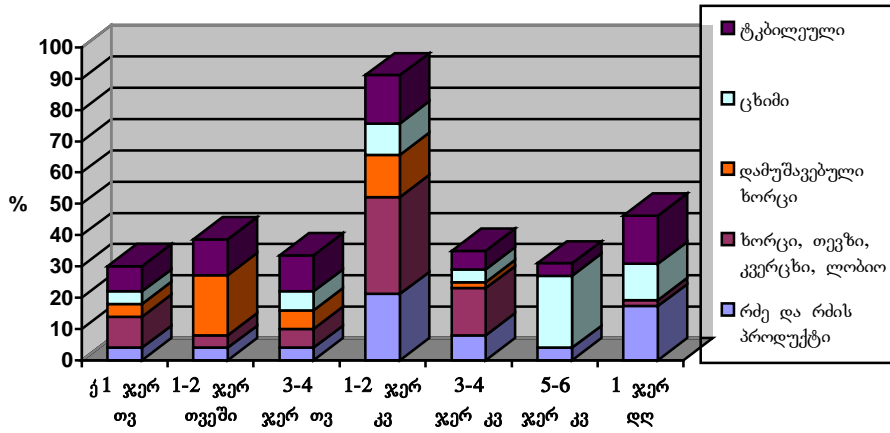
Analysis of nutrition about per week (according a day)

Food groups	The % of the consumers of recommended portion	The % of the consumers less than recommended portion	The % of the consumers high than recommended portions
cereals (bread,pasta, rice, buckwheat,herules,cakes)	12	18	70
vegetables	22	40	38
fruits	30	45	25
Milk and milk products	10	65	25
meat (of cattle, poultry) fish, eggs, legume	8	58	34
fats	15	29	56
sweets	8	17	75

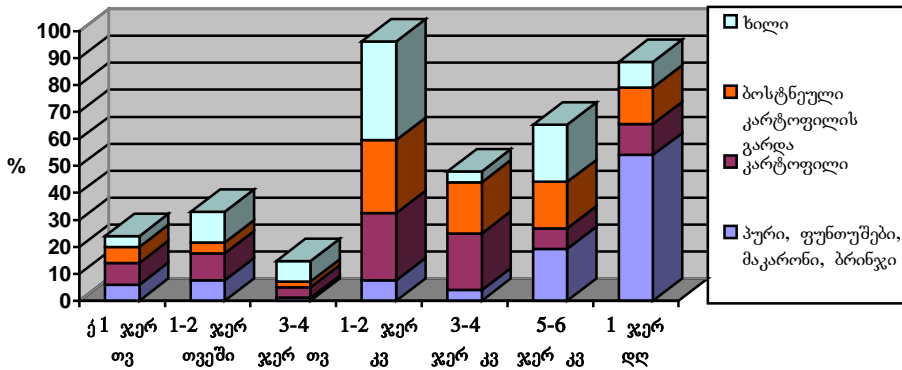
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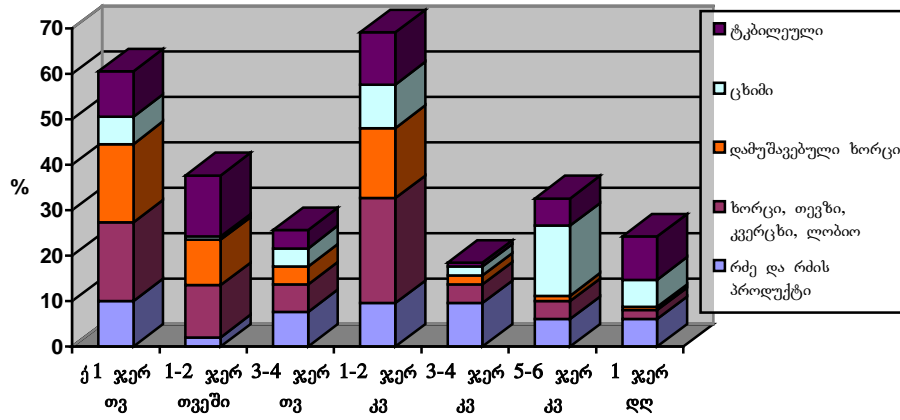
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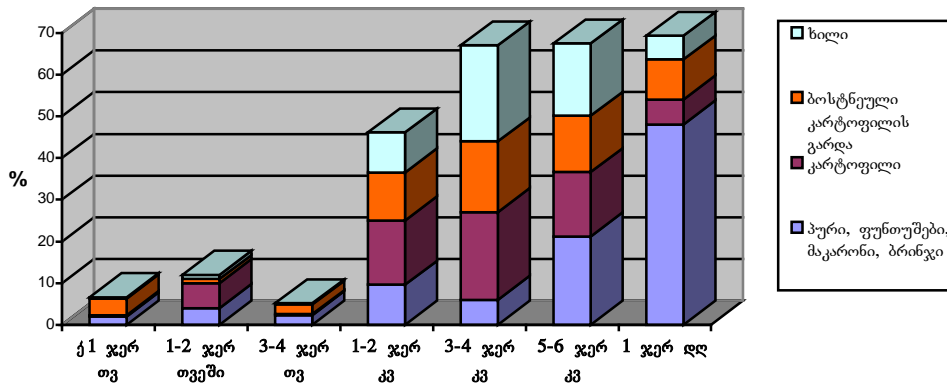
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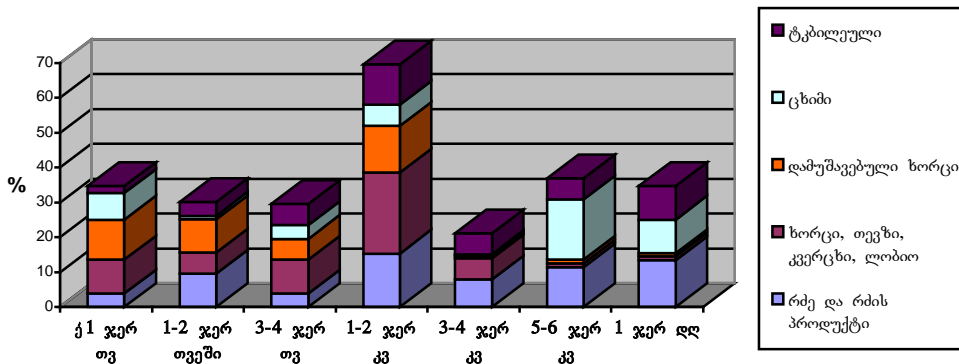
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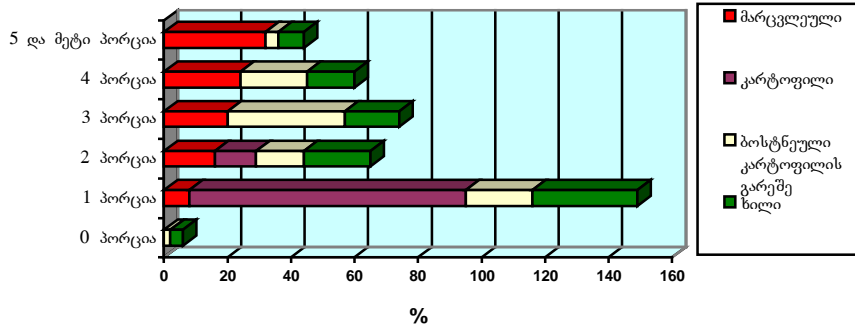
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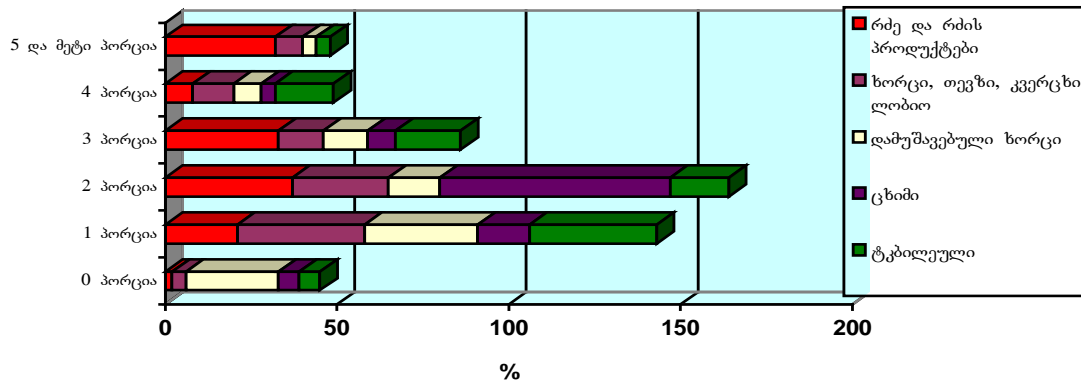
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ბამოკითხვის №06ა ღღუს სურსათის მიღებულ კორციათა რაოდენობა რმსკონფენტია პროცენტული განაწილებით



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How to recognize the dietary products are edible or not?

Before buying and consuming food products make sure that they are edible by their smell, taste and color.

Meat and meat products.

Before buying and cooking meat try to check it in natural light. Examine its surface, color, pay attention to the blood clots, filth, and mould and fly worms and smell.

Cow meat

According to the age edible cow meat (beef?) is: 1. Full grown-up cow has rosy meat, light yellow colored fat. 2. Young cow, which (2-4 years old) has light-rosy color, contains low amount of fat. 3. old cow's (8-10), meat is violet-red (bull's) and dark-red (cow's), the color of fat is dark yellow, which is accumulated especially under the its skin and in some inner organs (kidneys, genitals and others) 4. Bull, which has dark-red color and weakly developed fat, it has it's specific smell. 5. Barren cow's meat is soft and slightly sour, it has light colored fat. 6. Calf has soft meat; fat calf's meat is like a marble fat is easily melting it.

Pork

Good pork is fatter then beef, it boils easily and after cooking it gets light colored. Pork's quality is depended on its gender, age. It's better when pig is emasculated earlier, because the pork of a pig that is not emasculated has an unpleasant smell, meat is rough and unpalatable.

Mutton

Quality of mutton depends on its age and race. The best breeds are “Tushuri” and “Karachai”. There lamb and adult’s meat is especially good to eat, their age must not be more than 1 year.

Earlier emasculated whether has the best quality of meat – it is soft with melting fat.

Goats flesh

Young goats flesh is rose, with white fat, but adult’s meat is dark-red, but fat is yellow. Male goat’s flesh has a specific taste.

Buffalo’s meat

Buffalo’s meat is rough; red colored fat is a white, meat cook later.

Rabbit’s meat

Edible rabbit’s meat is rosy, it’s fat has a white color and it is easily melting.

Deer’s meat

Edible deer’s meat is gray or white, fat is white too.

Horse’s meat

Edible horse’s meat is dark-red, fat is dark yellow and easily melting. Horse’s meat has a sweet taste, specific smell like sweat. Cook’s later.

The surface of the edible meat is covered with the dry skin. It has a light rosy and red color. The surface of the newly sliced meat is a little wet, but not slimy. Edible meat is dense, when pressing its surface by your finger a litter hole appears, pay attention to the speed of its disappearance. If meat is at the beginning stage of spoiling, it is less dense and the hole disappears later (in one minute) but if the meat is spoiled it does not disappear at all.

If the meat is at the beginning stage of spoiling its surface is covered with dry skin or slime and sticks to the fingers. Sometimes you may see mould on the surface of such meat. The skin is dark. The surface of the slice is darker than edible one’s, wet and slimy.

The surface of the spoiled meat is very dry, wet and slimy, often it is covered with mould, and it is gray or green. The surface of the slice is gray, green or dark.

Before buying meat pay attention to its smell. Edible meat has a nice specific smell characteristic to each animal. After spoiling meat gets sour, musty. The spoiled meat of the fat animal gets a rancid smell that can be defined by the analysis of fats and albumens. Meat spoils at room temperature and requires sour smell and gets inedible.

How to estimate visually fat is edible or not?

Fat is white, yellow, and dense and after pressing it crumbles, it is without smell. If the cattle’s meat is at the first stage of spoiling its fat is gray without color, after pressing it by fingers it plasters and sticks to the fingers. Sometimes it has mould, a bad smell. Pigs fat is gray, it may have mould too, it has specific bad small. Sheep’s fat has the same characteristic as cattle’s fat.

Fat of the spoiled meat is gray, filthy, its surface is slimy has a rancid and sharp smell. When fat is greatly spoiled it gets green.

Bone marrow – fit bone marrow must fill the whole hollows of the bones, it must be yellow and brilliant. When meat starts spoiling marrow removes from bone edges, it gets softer and darker than before, it becomes white or gray and plasters.

Conditions of joints – joints are flexible in good meat, the surface is simple and brilliant. The substance in joints is transparent, at the first stage of spoiling, joints are seft, white or gray the surface

is covered with slime, but the substance in them is muddy. Joints are wet, dirty gray, slimy, in spoiled meat. Edible cold is soft, tasty aromated.

When hitting it frozen meat gives a sound noise. Frozen meat must be unfrozen before cooking it slowly. When meat is unfrozen quickly, it discharges its juice and the meat becomes less valuable.

Avoid freezing of the unfrozen meat for the second time. As it's nutritional value greatly reduces!

Estimation of the salted meat – salted meat is gray resistant to decaying microbes. It is edible or not can be estimated by its color and smell. Spoiled salted meat grows moldy, after that it starts decaying. The surface of inedible meat is darker than usual, sometimes slightly mucous. The color on the slice is equal, but it has a dark line around it, its less dense and has a sour musty smell. The surface of the spoiled meat is dark mucous sometimes molding. The colure of the slice is not equal – gray, dark red or brown. It has a sharp sour and decaying smell. The surface of the edible salted ham should be clean, without dirt mould and mucous. Existence of the dirty meat parts is a defect.

Edible salted ham is dense after boiling it becomes flexible the color on the slice is equal its rosy-red. The color of the meat must be white or rosy. Edible ham must have a pleasant smell. But boiled one must have the smell of ham. Boiled ham must be salted moderately and must have a pleasant smell. Slices of the ham made of edible pork, for eg: back, chest, beckon, neck and fillet must have the same characteristic.

Inedible smoked salted product is covered with mould. It is slimy in the muscles new bones you can see green parts. It has a small of decaying. Fat layer in chest and beckon is yellow and rancid.

The brine of the edible salted meat is red, transparent, it has a specific smell.

The brine of the spoiled salted meat has a brown-red and fills thy color, it is muddy, foamy, and it has a sharp sour decaying smell.

Domestic poultry and wild birds inside parts (organs) of killed poultry are not often removed. Half cleaned poultry is derived from only intestines and crops and other organs are still inside. Fully cleaned poultry is derived from all organs, head and legs too. Edible killed poultry must be emptied from blood; it must not have smell spots hard skill and mould. The meat of homegrown hens and turkeys are little yellow and fatty. It depends on the level of the poultry's food intake. Fit frozen poultry meat is often wight. Pay attention to the expiry date, which is shown on the label. Wild birds meat can be of: goose, duck, quail, partridge, wiled turkey, wild hen, pheasant and others. Birds killed by shooting are easily spoiled. The surface of the unfit bird's beak is slimy and vague, it has a decaying smell in the mouth fallen eyes. Inside organs are green and it has a specific rancid smell.

Sausages – before buying sausages pay attention to its cover, cleanliness, dryness or existence of the slime. Fit sausage has a dry hard cover without mould and slime, its color is rosy, fat is white. Sausage has its aromatic smell. If it is at the beginning stage of spoiling has a wet slimy and muddy cover, which comes from the minced meat easily, but does not tear away. You can find dark-gray circles on the slice. Other parts of the cover are rose. Here and their fat is yellow.

Minced meat is less thence on the surface, than inside. Sausage has a sour musty smell. You can still feel its slight aromatic smell. Spoiled sausage is covered with slime and mould, easily comes from minced meat and tears a way. Surface is gray or green. You can see a gray circle on the slice and it has a green-green spots inside, fat is dirty green. Its cover has a bed smell. Minced is decaying and fat is ranced.

If a sausage has a dry rough cover, equally colored, but it is not tasty and it is flavorless, there is a doubt that such sausage is made from old meat.

Meat preserves – before buying cans pay attention to their outlook, how hermetically sealed. It must not be defected, check its label and expiry date. While checking try to find out if cans are in flatted. Press their surface and bottom with your fingers. They will change their condition with a clicking noise that is characteristic of the cans. If the surface and the bottom will not change, their form and the meat inside have the signs of decaying meat preserves are unfit. The reason of the slight inflation of

cans might be the accumulation of hydrogen in them, that may be discharged in the meat guice after the reaction of the acids with the inside surface of the can it will be difficult to notice signs of decaying easily. Cans may be inflated after freezing also, and they can be checked only after unfreezing. After opening it you can feel a rancid smell of a spoiled meat, rusty spots. The surface of fit meat must be smooth, clean; sometimes it may have gray and dark spots.

Eggs-A shell of the fit egg is white, gray or rosy. Before buying it examine its outlook, cleanliness and the wholeness of the shell. Egg can be divided into the following groups: Which must be consumed within 5 days, it cant be kept in under zero temperature.

New egg must be kept in-2c or in the refrigerator not more than 30 days. If the egg is unfit or rotten after breaking it you can notice that yolks and whites are mixed with each other, dry parts can be stuck to the shell, such eggs have a bad smell and they must not be eaten.

Fish-The body of the fish must be whole not damaged; scales and skin must not be dirty. Fish may have some kinds of diseases; you may notice red specks on its sides and stomach. Skin-eater is a fish's parasite, which eats fish skin and sucks its blood. If you notice pimples on the fish skin it means that it has a plague. Such fish is unfit. After catching the fish it may keep in ice or in salt water. Before buying frozen and salted fish check its outlook and smell, pay attention to its taste, color and smell. Fish's stomach mustn't be inflated, the reason, which might be the process of decaying internal organs.

Check its smell in the areas of the gills. Pay attention to its surface it is slimy or not. If you want to smell its blood you may prick it with a knife and smell it at once.

The smell of the frozen fish can be checked with the hot knife. If you are in doubt cut it with scissors, make two slices: one should be across the white line-from its anus till its gills, the second from the same part at its side up to its head. Remove its left part and examine its internal organs. According to the conditions of the organs examine the internal surface of the stomach, pay attention to the existence of the red line across its backbone. At the first stage of spoiling you may notice following signs: its eyes will be fallen, its surface will be slimy, muscles will not be dense. It will have a slight smell of decaying, its stomach will be a little inflated, internal organs will be disintegrated, they will be yellowish-green and you notice a dark red line across the backbone. The eyes of the spoiled fish are fallen into the eye-hollows, they are bloody, gills are dark-gray and covered with slime, skin is dry, muscle soft, and some parts come off it easily. The fish has a sour or decaying smell. The stomach is inflated, intestines are gray and the liver is disintegrated.

Salted fish shouldn't be mechanically damaged, torn, musty, slimy, and moldy. It mustn't have orange-brown spots on the surface. At the first stage of decaying you notice smell and it will become red salted; the worms of flies and skin eater bugs may damage fish.

Fit fish should have a clean surface, thin stomach, a slight yellowish color, it must be dense, and also it may have a little sour smell.

Smoked fish is edible if its surface is clean, stomach is whole and dense. It may have a little cover of salt in gills, eyes, and tails. The cover of the scales should be lightly golden; those fish, which have silver or darker scales, shouldn't be musty or wet. Spoiled smoked fish may have some defects as: "bubbles", wrinkled and damaged skin. Fish may be "overboiled", "overheated", "without scales"- which may be caused by keeping it into the salted water, "crystalized."

Fish tins -they is made in oil and tomatoes juice. Edible tins must have a pleasant smell. Those tins, which are inflated and make a shaky sound, are good. Spoiled fish tins have bitter taste, a rancid smell and not characteristic color.

The surface of the spoiled caviar is moldy, dense. You may notice much juice inside; it has a sour or decaying smell, and bitter or musty taste.

Milk_ wholesome milk has a yellowish-white colour. Skimmed milk is a little blue. Its taste and smell must be characteristic of new milk. It mustn't have a musty smell, bitter taste, slime, and non-characteristic colour. If the milk is old, after boiling it turns sour. Before buying milk packets pay attention to the expiry date on the label.

Wholesome curds must have bluish-white color, pleasant smell. Spoiled curds have a bad smell and a sour taste.

Sour milk-When it is made from the normal milky t is dense and smooth, it has a yellowish color. If sour milk is made from the skimmed milk, it is white. Spoiled sour milk has a sharp sour smell and taste, it may also have mould. Such sour milk is inedible.

Butter-shouldn't be very soft. It shouldn't have a sour –rancid smell and taste, dark-yellowish color, mould. Before buying it pay attention to the expiry date of the label.

Cheese- it has a dry-smooth surface. Georgian cheese has a sour taste. You may notice bit bitterness and a specific smell. It has a yellowish-white color. It doesn't have a crust outside. It mustn't have a bitter taste and musty smell. Brine must be made correctly or the cheese may be spoiled easily and will not be kept long, its surface becomes soft and slimy. It changes color and becomes darker, moldy without the brine.

Kinds of Georgian cheese are: Sulguni, Tushuri, Imeruli and Osuri.

Cheese may have a bitter taste and specific smell if it is made from the milk of sheep and youth if it has a bad –musty smell and a bitter taste it is spoiled. If Sulguni is made from the milk of beit quality it shouldn't be covered with a rough crust. Its surface consists of layers. It may have a bit slim, deformation and slight splits. It must have a pleasant smell but if Sulguni is made of Sheep and gout's milk it may have a specific smell and taste. If a Cheese has a bitter taste, sharp smell it is inedible
Plant products – 1. Edible cabbage pickles - must be cut or chopped equally –with a yellowish color, aromatic smell, dense, juicy, and must have a sour-salted taste. Spoiled cabbage pickles are moldy, dirty gray and over-soured, they have a sourly musty smell, or bitter and sour taste.

2. Edible sour cucumbers – should have a sour-salty-taste and an aromatic flowering taste, there are dense, green. They mustn't be withered or mamuged. The salted water must be transparent or a bit muddy, with a pleasant smell.

3 edible tomato pickles – must be whole without splits, green dense, but red pickles smooth. The must have a sour-salted aromatic and flowering taste. Spoiled pickles are smiley, moldy, musty, sourly and have a strange smell.

If the vans of above-mentioned pickles are inflated they are inedible. Pay attention to the expire date of the tables.

4 Edible salted mushrooms have a specific smell and tasted their smell is like cabbage pickles smell. If salted . . . is spoiled has a musty and mould smell, such mushrooms salted water is muddy, foamy stringy and has a musty sharp sour and decaying smell.

While cooking Edible mushroom put 2-3 cloves of garlic or a bit onion, if it changes its color for eg. Union or garlic becomes dark they are inedible.

Flour – edible flour mustn't have a musty sour smell, it must be white with a yellowish shade. Edible rye flower must be gray; flour made of bran is dark

Cereals – Edible cereal as flour mustn't have moldy, musty, rancid or other smells.

Starch – Fit starch is white with a grayish chide. It mustn't have s strange smell and unpleasant taste.

Plant oil – edible plant oil mustn't have a strange smell and bitter taste. It must be transparent.

Recommended nutrient intake values (WHO).

Energy (MJ)	Men	Women	Protein	(g)
Infants			Infants	
0-3 month	2.28	2.16	0-3 month	-

4-6 month	2.89	2.69	4-6month	14.0
7-9 month	3.44	3.20	7-9 month	14.5
10-12 month	3.85	3.61	10-12 month	14.5
Children			Children	
1-3 year	5.15	4.86	1-3 year	14.7
4-6year	7.16	6.46	4-6 year	19.0
7-9year	8.24	7.28	7-9 year	27.3
Adolescents			Adolescents	
10-13 year	9.27	7.92	Men 10-13 year	42.0
14-18 year	11.51	8.83	Men 14-18 year	48.5
Adults			Women 10-13 year	38.7
19-50	10.60	8.10	Women 14-18 year	51.4
51-59 year	10.60	8.00	Adults	
60-64 year	9.93	7.99	Men 19-50 year	56.0
65-74 year	9.71	7.96	Men 51-70 year	55.0
Elders			Women 19-70 year	47.0
> 75 year	8.77	7.61	Elders	-
Pregnant			Men >70year	55.0
		-----	Women >70 year	47.0
The second trimester		-----	Pregnant	+10
The third trimester		+0.80	Breast-feeding	+16
Breast-feeding		+1.9-2.0		

	C Vitamins (mg)	Thiamine (mg)	Riboflavin (Mg)	Niacin (mg)
Infants				
0-6 month	25	0.2	0.3	2
7-12 month	30	0.3	0.4	4
Children				
1-3 years old	30	0.5	0.5	6
4-6 years old	30	0.6	0.6	8
7-9 years old	35	0.9	0.9	12
Adolescents				
boys 10-18 years old	40	1.2	1.3	16
girls 10-18 years old	40	1.1	1.0	16
Adults				
Men	45	1.2	1.3	16
Women	45	1.1	1.1	14
Elders				
Men > 70 years old	45	1.2	1.3	16
Women >70 years old	45	1.1	1.1	14
pregnant	55	1.4	1.4	18
Breast- feeding	70	1.5	1.5	17

	B₆ Vitamin (mg)	Polate (mcg)	Biotin (mcg)	Pantothenic acids (mg)
Infants				
0-6	0.1	80	5	1.7
7-12 month	0.3	80	6	1.8
Children				
1-3 year	0.5	160	8	2
4-6 year	0.6	200	12	3
7-9 year	1.0	330	20	4
Adolescents				
Boys 10-18 years old	1.3	400	25	5
Girls 10-18 years old	1.2	400	25	5
Adults				
Men 19-50 years old	1.3	400	30	5
Men >50 years old	1.7	400	30	5
Women 19-50 years old	1.3	400	30	5
Women > 50 years old	1.5	400	30	5
Elders				5
Men > 70 years old	1.7	400	30	5
Women >70 years old	1.5	400	30	5
Pregnant	1.9	600	30	6
Breast-feeding	2.0	500	35	7

Ca (Calcium)	(mg)	P (Phosphor)	(mg)	Fe (Iron)	(R)
Infants		Infants	300	Children	
0-6 month (breast-milk)	300	Children	350-450	1-6 years old	4
0-6 month	400	Adolescents		7-9 years old	6
7-12 month	400	boys 10-18 years old	775	Adolescents	
Children		Girls 10-18years old	625	Boys 10-13 years old	10
1-3 years old	500	Adults	550	Boys 14-18 years old	12
4-6 years old	600	Elders	550	Girls 10-13 years old	9/22 (menstr)
7-9 years old	700	Pregnant	550	Girls 14-18 years old	21
Adolescents	1300	Brest- feeding mothers	+400	Adults	9
Adults				Men19-70 years old	9
Men 19-65 years old	1000			Women19-70years old	20
Women 19-50 years old	1000			Elders	8-9
Women 51-65 years old	1300			Pregnant	100
Elders	1300			Breast-feeding mothers	40
Pregnant	1200-1300				
Breast-feeding	1000				

Se	(mkg)	I	(mkg)
Infants		Infants	
0-6 months	6	0-12 months	50
7-12 months	10	Children	
Children		1-6 years	90
1-3 years	17		
4-9 years	21	7-9 years	110
Adolescents		Adolescents	
boys 10-18 years	34	Boys 10-11 years	135
girls 10-18 years	26	Boys 12-18 years	120
Adults		Girls 10-11 years	135
men 19-65 years	34	Girls 12-18 years	120
weman 19-65 years	26	Adults	
Elders		men 19-65 years	130
men >65 years	34	weman 19-65 v	110
wemani >65 years	26	elders	
pregnant		Men >65 years	130
First trimester	-	weman >65 years	110
Second trimester	28	Pregnant	200
Third trimester	30	Breast-feeding mothers	200
Breast-feeding mothers			
0-6 months	35		
7-12 months	42		

	Vitamin A (mcg)	Vitamin D (mcg)	Vitamin E (mg)	Vitamin K (mcg)
Infants				
0-6	375	5	2.7	5
7-12 month	400	5	2.7	10
Children				
1-3 year	400	5	5	15
4-6 year	450	5	5	20
7-9 year	500	5	7	25
Adolescents				
Boys 10-18 years old	600	5	10	35-65
Girls 10-18 years old	600	5	7.5	35-55
Adults				
Men 19-50 years old	600	5	10	65
Men 51-64 years old	600	10	10	65
Men 65-70 years old	600	15	10	65
Women 19-50 years old	500	5	7.5	55
Women 51-64 years old	500	10	7.5	55
Women 65-70 years old	500	10	7.5	55
Elders				
Men > 70 years old	600	15	10	65
Women >70 years old	600	15	7.5	55
Pregnant	800	5	7.5	55
Breast-feeding	850	5	7.5	55