

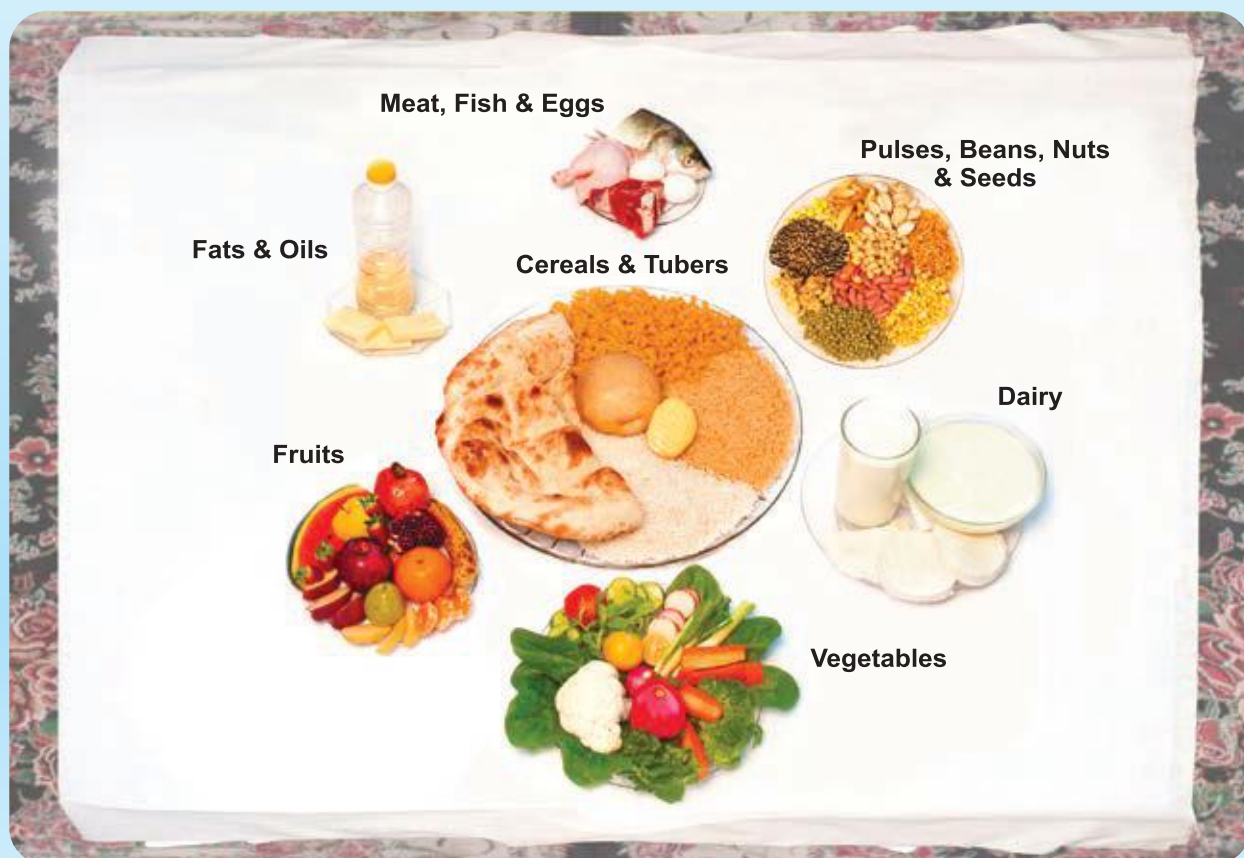


Food and Agriculture
Organization of the
United Nations



National Food-Based Dietary Guidelines for Afghans

A manual





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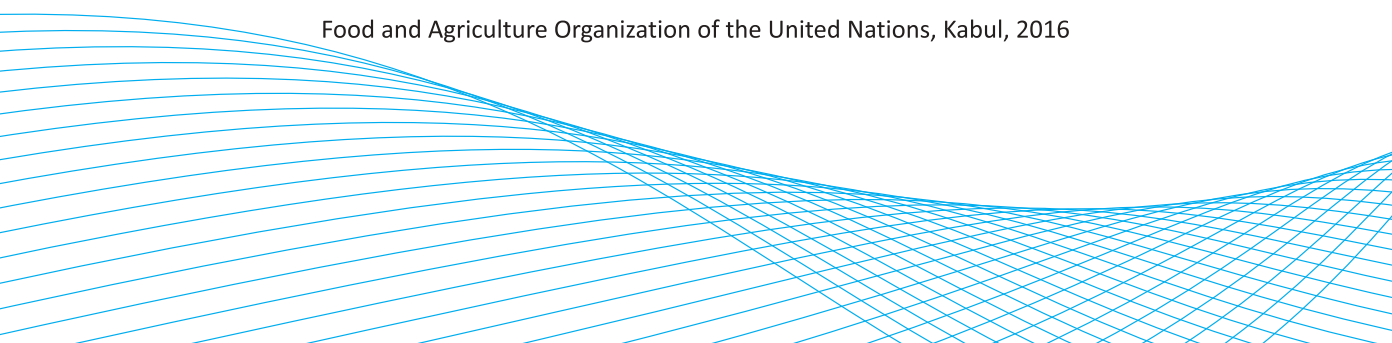
A manual

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Preface

Diet is one of the single most important contributors to health, but also to disease. Food-Based Dietary Guidelines (FBDGs) provide information on healthy eating and lifestyle aimed at preventing all forms of malnutrition, including non-communicable diet-related diseases and keeping people well-nourished and healthy. The FBDGs is a fruit of joint efforts and collaboration made by mainly four institutions: the Ministry of Public Health (MoPH), the Ministry of Agriculture, Irrigation and Livestock (MAIL), the Ministry of Education (MoE), and Food and Agriculture Organization of the United Nations (FAO).

The development, promotion and dissemination of FBDGs for Afghans is an important part of the strategy of the Ministry of Public Health (MoPH) for improving the nutritional status of the Afghan population. Its realization is in accordance with the Ministry's mission of improving the health and nutritional status of the Afghan people. The aim is to achieve this in an equitable and sustainable manner, through the provision of quality health services, advocacy for the development of healthy environments and living conditions, and the promotion of healthy eating and lifestyles.

Health matters are one of the Ministry of Education (MoE) main objectives. For this purpose the Ministry of Education has developed and incorporated the health and nutrition messages in the school text books in accordance with the level of students' understanding and age. These same messages can be conveyed to the families through students as well.

Food security and nutrition in Afghanistan is the most important objectives of the Ministry of Agriculture, Irrigation and Livestock (MAIL). The FBDGs documentation accentuates the role of MAIL at two dimensions: a) food availability and b) food provision. In order to achieve these objectives, the content of the FBDGs will contribute to areas of priorities of MAIL aligned with the National Priority Programme and also those guidelines will be disseminated for the public awareness, through education and publicity messages by MAIL's agriculture extension and outreach activities at different levels.

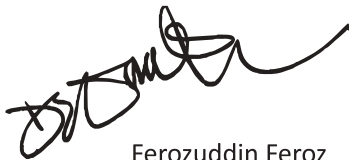
Food and Agriculture Organization of the United Nations (FAO) works with governments to promote food security and nutrition. In Afghanistan, FAO has been working with MAIL, MoPH, and MoE to strengthen policy formulation and coordination for food security and nutrition (FSN) objectives, as well as to improve household nutrition and food security. Globalizations, urbanization, changes in lifestyle and in the food supply have resulted in a shift in dietary habits and loss of traditional food cultures. The FBDGs translate nutrient recommendations into simple

information using language and symbols that the public can easily understand, and focus on foods that are commonly consumed, portion sizes, and behaviours. In doing this, FAO Afghanistan draws two Corporate Strategic Objectives – the first, whose focus is to contribute to the eradication of hunger, food insecurity and malnutrition and the second, whose focus is to increase the resilience of livelihoods to threats and crises. This is further contextualized nationally in the Country Programming Framework (CPF) whose aim is to support food and nutrition security in Afghanistan.

The FBDGs is meant to be a key source of information that the Government of Afghanistan can use for educating the public on nutrition education and behaviour change. It is meant to be used by health providers, teachers, journalists, agriculture extension agents and others working directly with the public, using language and symbols that the average person understands. The dietary guidelines can also be used to inform food and agricultural policies and serve as a basis for the establishment of dietary standards for school meals and other institutional feeding programmes.

On behalf of the Islamic Republic of Afghanistan, MoPH, MAIL and MoE wish to express their appreciation to FAO for technical and financial assistance in development and publication of the FBDGs.

We are confident that the information provided in this manual and the knowledge and skills that are obtained through implementation and dissemination of the FBDGs will strengthen efforts to improve nutrition and health among the people of Afghanistan in the future.



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Special thanks are due to all the FBDGs working group members who contributed greatly to the development and consumer testing of the FBDGs by conducting focus group discussions and household trials in different provinces. Words are not enough to express our thanks to the 540 individuals and 220 households in different parts of Afghanistan, who shared their knowledge and ideas, and provided essential feedback on the draft guidelines, all of which culminated in the finalization of the FBDGs.

Thank you all for helping us.

Collation of material and preparation of the Food-Based Dietary Guidelines were the work of Ms Ellen Muehlhoff (FAO), Dr Ramani Wijesinha-Bettoni (FAO), Dr Muhebullah Latifi (FAO), Ms Carmen Dardano De Newman (FAO), Ms Zonia Angela Phillips, and with the support of the multi-sectoral team.

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1. Introduction

National Food-Based Dietary Guidelines (FBDGs) are an important educational tool that converts scientific information on nutritional requirements and food composition into simple, culturally-appropriate messages that can be easily understood by the general public. Based on current nutritional science, they give advice about ways to improve diets and encourage people to make good food choices to help them stay healthy, using language and symbols that are easy for the public to understand and apply. FBDGs are targeted at a country's healthy population; in many countries they cover children from two years of age onwards. However, taking into consideration that infants and young children are at greater risk of becoming malnourished than other family members, the FBDGs for Afghans include specific messages about breastfeeding and complementary feeding of infants and young children. More detailed guidance on appropriate complementary feeding is available in the FAO/UNICEF guidebook for complementary feeding¹. Future plans include the development of a set of guidelines specifically for feeding infants and young children, given that children under two years of age are especially vulnerable and require special feeding and care.

This booklet serves as a technical background document that has been written for professionals who inform and educate the general public about eating for good health. It presents the Afghan FBDGs and provides the scientific basis for them. The booklet includes information on the country's food and nutrition situation, explains food groups, recommended quantities or servings, gives food composition data for commonly consumed foods in Afghanistan and provides some nutritious recipes.

The booklet is targeted at health professionals, nutrition educators, teachers, nutritionists, dietitians and other health care providers, as well as organisations with a health education focus or component. The document can also be of use to policy-makers in agriculture, social protection, education and health involved in designing and implementing nutrition-specific or nutrition-related programmes that aim to contribute to people's diets and health. Interested members of the public can also find useful information on how to eat healthily, although this document is not specifically intended for their direct use.

The dietary guidelines are illustrated by the Food Guide graphic (the tablecloth), which includes information on the suggested amounts of foods needed daily. Using the correct food quantities from all the food groups will help people to ensure they get all the nutrients the body needs for staying healthy.

The current document can be used together with the document "Eating Well with Afghanistan's Food Guide: A Resource for Educators", which gives more detailed ideas on how to put each of the guidelines into action.

¹ FAO/UNICEF. 2008. Healthy Food, Happy Baby, Lively Family. Improved feeding practices and recipes for Afghan children and mothers. Prepared and published by arrangement with FAO and the Ministries of Agriculture, Irrigation and Livestock, and of Public Health, Government of Afghanistan. Available at http://www.fao.org/ag/humannutrition/15403_0397cd6b1f6ca0073374b4c8c9f642644.pdf Accessed 2014-08-23.

Summary of the current food and nutrition situation in Afghanistan

A limited food supply and lack of access to safe water, combined with poor sanitation conditions and hygienic practices that result in a high prevalence of diarrheal disease and gastrointestinal parasitic worm infestations, have been identified as some of the underlying causes of malnutrition in Afghanistan².

Based on the National Risk and Vulnerability Assessment 2011-12 (NRVA 2011-12) survey³, 30% of the population are food-insecure (consume <2100 kcal/person/day), of whom 27% are severely food insecure (consume <1 500 kcal/person/day). The survey found that a large percentage of the population consumes a cereal-based diet (>500 g/person/day) that is generally low in micronutrient content. About 19% of the people have a low intake of protein (<50 g/person/day).

The nutrition policy 2009–2013 of Afghanistan⁴ highlighted the nutrition problems facing the country, including food insecurity, poor infant feeding and care practices, poor health and hygiene, the inter-generational cycle of undernutrition and the problems of micronutrient deficiencies. The recently published National Nutrition Survey (NNS) 2013⁵ provides further information on these issues. Comparing the current nutrition situation with available information from almost a decade back, Afghanistan has made progress with reduction in the prevalence of stunting (low-height-for age) and underweight (low weight-for-age) among children of 0–59 months of age. Stunting in children under five years old has decreased from 60,5 % in NNS 2004 to 41% in NNS 2013. However, this prevalence is still alarmingly high. Rates of malnutrition among women of reproductive age have also declined. Significant undernutrition among women of reproductive age was reduced from 21% in NNS 2004 to 9% in NNS 2013. However, the NNS found that rates of overweight and obesity have almost doubled: in NNS 2004, 12% of women were overweight, with a Body Mass Index (BMI) of 25–29 kg/m² while 3% were obese (BMI 30 kg/m² or more), whereas according to the NNS 2013, 20,7% were overweight and 8% were obese. The NNS 2013 included a survey of elderly persons above 50 years. Again, the co-existence of both undernutrition and overnutrition was noted, with 9% of the people being thin or undernourished (BMI <18.5 kg/m²), while rates of overweight and obesity were 26% and 12%, respectively, for this age group.

The NNS 2013 confirmed that micronutrient deficiencies are widespread in Afghanistan. Anaemia is common in women of reproductive age (40%) and among children 6–59 months of age (45%). Vitamin A deficiency among young children 6–59 months of age (50%) was identified as a severe public health problem for Afghanistan.

² Draft National Public Nutrition Policy and Strategy, 2013. Ministry of Public Health, Islamic Republic of Afghanistan.

³ Central Statistics Organization. 2014. National Risk and Vulnerability Assessment 2011–12. Afghanistan Living Condition Survey. CSO, Kabul.

⁴ National Public Nutrition Policy and Strategy, 2009–2013. Ministry of Public Health, Islamic Republic of Afghanistan.

⁵ National Nutrition Survey Afghanistan, 2013. Ministry of Public Health, Islamic Republic of Afghanistan.

Vitamin A deficiency in women of reproductive age was 11%. Zinc deficiency was observed in both women (23%) and children 6–59 months of age (15%). Iodine deficiency was fairly common among both women of reproductive age (41%) and children 7–12 years of age (30%). (These were the only two population groups tested for iodine deficiency.) The majority of women of reproductive age (96%) and children 6–59 months (81%) were found to be deficient in vitamin D, with a large proportion of women of reproductive age (65%) and the majority of children 6–59 months of age (64%) suffering from severe vitamin D deficiency.

The NNS 2013 included a survey of Knowledge, Attitudes and Practices (KAP). The findings of the KAP module revealed that knowledge about micronutrients was generally poor; only about one third of respondents had knowledge about vitamins across Afghanistan. Most Afghan mothers (70%) were not aware of vitamin A and its health benefits. At national level about 64% respondents were aware of iodized salt. Quantitative testing showed that 66% of households were using adequately iodized salt (≥ 15 ppm). Survey respondents were also asked about the use of fortified commodities such as fortified flour, ghee/oil and milk. National results showed that 38% of households used one or more fortified commodities; 48% of respondents reported that they were not using any kind of fortified foods; and 10% did not know about fortified foods. Regarding hygiene, observations by the survey team showed that only 45% of households had soap available at hand washing places. These findings imply an urgent need for action both in terms of general population awareness raising and practical health and nutrition education for all age groups.

Objectives of the FBDGs for Afghans

The dietary guidelines for Afghans are aimed at addressing the major public health concerns that are diet related. They are based on an evaluation of food availability, and are compatible with cultural eating patterns in the country. The ten practical guidelines, i.e. the messages, thus describe food consumption patterns that people in Afghanistan should follow in order to be well nourished.

Nutritional needs differ at different stages of life, from conception to adulthood and to old age, and these are reflected in the dietary guidelines. The first 1000 days of life (between conception and the child's 2nd birthday) are the critical "window of opportunity" in a child's mental and physical growth, as the appropriate nutrition during this 1000-day window can have a profound impact on a child's ability to grow, learn, and rise out of poverty⁶. The Afghanistan FBDGs contain specific guidelines targeting pregnant and lactating women, and infants and young children, thus addressing some of the most pressing nutrition problems identified in the country.

The guidelines for Afghans have been developed to meet the following general population objectives:

- encourage healthy food choices in terms of variety, quality and quantity;
- ensure dietary adequacy to prevent undernutrition and micronutrient deficiencies, especially among children and pregnant and lactating women; and
- prevent overweight and obesity, which increase the risks of chronic, non-communicable diseases.

These guidelines should be promoted in national nutrition education and health promotion programmes through health centres, clinics, schools, mosques, as well as through the mass media and other locally appropriate forms of communication⁷. They should also be integrated into educational curricula for health staff and nutritionists, teachers and others who are directly involved with public information and education, to improve nutrition and health throughout the country. The guidelines can also be used to focus attention on increasing the intake of micronutrient-rich foods that are vitally important for ensuring health.

⁶ <http://www.thousanddays.org/>

⁷ For details on promotion and dissemination, see the *National Communication Strategy for Promotion and Dissemination of Food-Based Dietary Guidelines (FBDGs) 2016-2020*.

2. The need for food and nutrients

From infancy through to our senior years, good nutrition is essential at every stage of life to keep our bodies healthy and prevent disease. Nutrition is the intake of food and the energy and nutrients contained in foods relative to the body's dietary needs. To be healthy, people need a well-balanced diet combined with regular physical activity. Poor nutrition can lead to poor physical and mental development, weaker immune systems leading to greater risks of getting ill, decreased ability to work, and reduced productivity. Optimal nutrition supports the individual to obtain their full genetic potential.

The following sections attempt to give a brief summary of some of the key concepts regarding food and nutrients. The reader is advised to read the original sources for more detailed information: *Human Nutrition in the developing world* and the *FAO Family Nutrition Guide*⁸.

What are nutrients?

A healthy diet provides foods that supply the correct amount of nutrients needed for health. It provides a variety of clean, safe foods in sufficient quantities to meet the nutritional needs of each person. Such a diet supports optimal health and wellbeing, while at the same time preventing the development of diet-related chronic diseases.

The food we eat provides us with different nutrients. Nutrients are substances that provide energy for growth, physical activity and basic body functions (breathing, thinking, temperature control, blood circulation and digestion), and materials for the growth and repair of the body, and for keeping the immune system healthy.

There are many different types of nutrients in food, such as carbohydrates, proteins, fats, vitamins, minerals and water. Different foods contain these nutrients in varying amounts. Each type of nutrient serves a particular function in the body. Nutrients are divided into two classes, macronutrients and micronutrients.

Macronutrients are needed in large amounts. These are:

- Carbohydrates, in the form of sugars, starches and dietary fibre;
- Proteins; and
- Fats. Types of fat are saturated fatty acids (SFA), monounsaturated fatty acids (MUFA), polyunsaturated fatty acids (PUFA), *trans* fatty acids and cholesterol.

Micronutrients are essential to the body, but are needed only in small amounts, and include:

- vitamins, such as vitamin A, the vitamin B complex (including folate), vitamins C, E and D; and
- minerals, such as iron, iodine, zinc, calcium and magnesium.

⁸ *Human nutrition in the developing world* prepared by M.C. Latham [FAO] Food and Nutrition Series, No. 29. Rome, 1997. Available at <http://www.fao.org/docrep/w0073e/w0073e00.htm> Accessed 2014-08-22, with material adapted from *Family Nutrition Guide*, prepared by A. Burgess and P. Glasauer. FAO, Rome, 2004. Available at <ftp://ftp.fao.org/docrep/fao/007/y5740e/y5740e00.pdf> Accessed 2014-08-21.

Macronutrients – Carbohydrates, Proteins, Fats

Carbohydrates

There are three types of carbohydrates: starches, sugars and dietary fibre. Carbohydrates are the major source of food energy for most of the world's population. Dietary energy is measured in units called kilocalories (symbol: kcal). Each gram of carbohydrate provides 4 kcal of energy.



Food sources of carbohydrates (starches)

Foods rich in carbohydrates are cereals such as rice, maize and wheat; cereal products such as bread, macaroni, spaghetti; and root crops such as potatoes and sweet potatoes. Legumes such as peas and beans also provide smaller amounts of carbohydrates.

Dietary fibre

Fibre is an important part of a healthy diet. A diet high in fibre has many health benefits. It can help prevent heart disease, diabetes, weight gain and some cancers, and can also improve digestive health.

Dietary fibre comes from plant foods. Fibre is commonly classified as soluble (it dissolves in water) or insoluble (it doesn't dissolve):

- Soluble fibre: This type of fibre can help lower blood cholesterol and blood sugar levels. It is found in oats, peas, beans, apples, citrus fruits and carrots.
- Insoluble fibre: This type of fibre promotes the movement of material through your digestive system and increases stool bulk, so it can be of benefit to those who struggle with constipation or irregular stools. Whole-wheat flour, wheat bran, legumes (e.g. chickpeas and lentils), nuts, and vegetables (especially those where the skin is eaten, like tomatoes, green beans and potatoes) are good sources of insoluble fibre.

Sugar

Sugar provides only energy, with no other nutritional benefits. A small amount of sugar can be added to foods like porridge and tea to improve their taste. In addition to sugar added to foods, chocolates, biscuits, puddings, sweetmeats, jams, etc., all contain sugar. Many of these sugary foods, especially commercially processed ones, also contain a lot of fat. Sweets and carbonated soft drinks may be taken occasionally but should never be eaten instead of meals. Frequent consumption of sugary foods and very sweet tea, especially between meals, can lead to tooth decay. Frequent consumption of sweetened carbonated drinks and fruit juice can lead to obesity. Obesity, especially severe obesity, is associated with a high risk of coronary heart disease, diabetes, hypertension, eclampsia during pregnancy, orthopaedic problems and other diseases.

Proteins

Cells and tissues in the body are mainly made from proteins that are made up of amino acids. There are about 20 amino acids that join together to make different proteins. There are nine essential amino acids that are required from food; the other amino acids can be made by the body. Proteins are needed for the growth and repair of the body. Proteins can also provide the body with energy. Like carbohydrates, 1 gram of protein provides 4 kcal of energy. However, as foods containing protein are generally eaten in smaller quantities than cereals, they contribute less to a person's total energy intake.

Food sources of proteins

Good sources of protein are all types of meat, poultry, fish, milk, cheese, yoghurt, eggs, beans, soybean, almonds, walnuts, pistachios, and seeds (pumpkin, sesame, sunflower, melon and watermelon seeds). Breast milk is also a good source of high quality protein.

Cereals such as rice and wheat also contain significant amounts of protein, and because these are staple foods and eaten in large quantities, they provide most of the protein for many people in Afghanistan.

Different foods have different combinations of amino acids. Except for soybean, the proteins from plant foods do not have all the essential amino acids in one food type. However, when different plant foods are eaten together, all the essential amino acids are provided. It is therefore important to eat combinations of foods in the same meal, for example, rice and beans or naan with lentils or with a little meat, fish, egg or dairy foods. Some common Afghan dishes contain a good mix of foods, such as rice, curd and mungbeans (*kechery krut*); pumpkin and chickpeas (*qorma kadu*); and eggplant with yoghurt (*banjan krut*). Eating in this manner will ensure that all the essential amino acids can be provided for healthy growth, maintenance and repair of body tissue.



Fats and oils

Fats and oils are a concentrated source of energy, providing 9 kcal energy per 1 gram of fat, which is more than twice the energy yielded by carbohydrates and proteins. Fat can therefore add a lot of energy to the diet without increasing the volume or bulk of the diet. This is important for people doing heavy physical work. It is also important for infants and young children with small stomachs, who need a lot of energy and nutrients for physical growth and mental development relative to their body size. Some fatty or oily foods contain important vitamins, such as vitamins A and D, and fat makes it easier for the body to absorb these vitamins. Thus fats and oils, and specific types of fat, are essential to health. They also improve the taste of meals.



Dietary fats and oils are made up of fatty acids. The fatty acids are divided into two main groups: saturated and unsaturated. All fats and oils eaten by humans are mixtures of saturated and unsaturated fatty acids.

Unsaturated fatty acids

This group includes both polyunsaturated and mono-unsaturated fatty acids. Unsaturated fatty acids contain groups called omega-3 and omega-6 fatty acids, which help to protect the body from heart disease. Some of the omega-3 and omega-6 fatty acids are 'essential fatty acids': they must be obtained from food because the body cannot make them. They are needed for building cells, especially the cells of the brain and nervous system.

Food sources of unsaturated fatty acids

Foods containing mainly unsaturated fatty acids are most vegetable oils, walnuts, almonds, pistachios, sunflower seeds, sesame seeds and other oilseeds and oily fish. Foods rich in omega-3 fatty acids are oily sea fish and some seeds and pulses, such as linseed and soybean. Foods rich in unsaturated fatty acids are good choices for healthy eating.



Saturated fatty acids

These fatty acids have important health implications because excess intake of saturated fats is one of the risk factors associated with arteriosclerosis (the hardening and narrowing of the arteries, which leads to stroke and heart attacks) and coronary heart diseases. Therefore these fats should be limited in the diet, and where possible, substituted with foods containing unsaturated fatty acids.

Food sources of saturated fatty acids

Fats from animals (i.e. meat fat such as sheep fat and beef fat, butter and ghee/ butter oil) contain saturated fatty acids; vegetable oils generally contain only very small amounts of these harmful fats.

Trans-fatty acids

When vegetable oils are processed to make them "harder" (e.g. for use in margarine and other solid fats), some of the unsaturated fatty acids are changed into *trans*-fatty acids, as the oils become partially hydrogenated. These *trans*-fatty acids are considered very harmful to health as they lower the 'good' cholesterol and increase the 'bad' cholesterol in the body (also see 'cholesterol' below). Eating too many foods with a lot of saturated fatty acids or *trans*-fatty acids can increase the risk of heart disease.

Food sources of trans-fatty acids (partially-hydrogenated fatty acids)

Foods containing *trans*-fatty acids are margarine, fried foods, such as chips (French fries) and other commercially fried foods, such as doughnuts; as well as processed and ready-made foods such as commercially baked goods, biscuits, cakes and ice cream. Processed foods containing *trans*-fatty acids should be avoided as they are very harmful to health. Nutrition labels on packaged foods can help identify foods containing *trans*-fats. (See box "Read food labels for healthier choices" under Guideline 4, later on in this document).

Cholesterol

Cholesterol is a lipid present in all human cells. Cholesterol is found only in animal foods, but the body can make it from other fat sources. We need some cholesterol for our bodies to grow and function properly.

There are two kinds of cholesterol in the blood: 'good' and 'bad'.

High levels of 'good' cholesterol (high-density lipoprotein - HDL) can *reduce* the risk of heart disease. Eating foods containing mainly unsaturated fatty acids can *increase* the level of good cholesterol.

High levels of 'bad' cholesterol (low-density lipoprotein) can lead to an *increased* risk of heart disease. Eating a diet containing mainly saturated fats, i.e. animal fats rather than plant fats, as well as food containing *trans* fats, tends to *increase* the level of bad cholesterol, especially if the diet is also high in carbohydrates (in particular, sugary foods).

Micronutrients – Vitamins and Minerals

Vitamins and minerals are called micronutrients. They are needed in much smaller amounts than protein, fat or carbohydrates, but are essential for good nutrition. They help the body to work properly and stay healthy. Some minerals also make up part of the body tissue: calcium and fluoride are found in bones and teeth, and iron is found in the blood.



Vitamins

Vitamins are substances present in very small amounts in foodstuffs, which are necessary for metabolism, normal growth, and the maintenance and repair of body cells. The group is divided into water-soluble and fat-soluble vitamins.



- *Water-soluble vitamins* Vitamin C and the B vitamins are water-soluble. These vitamins are quickly absorbed into the blood and body cells. Excess amounts of these vitamins are not stored by the body, but are passed out in the urine. Therefore we need to include food sources of these vitamins in our daily food intake.
- *Fat-soluble vitamins* Vitamins A, D, E and K are fat-soluble vitamins. These vitamins are absorbed into the cells of the body very slowly. Excess amounts of these vitamins are stored in the liver to meet later needs.

Vitamin A

Vitamin A deficiency (VAD) is the leading cause of preventable blindness in children, and increases the risk of disease and death from severe infections. In pregnant

women, VAD causes night blindness and may increase the risk of maternal mortality⁹. In developing countries, vitamin A deficiency typically begins during infancy, when infants do not receive adequate supplies of colostrum (the thick, yellowish milk produced the first few days after the birth of the baby) or breast milk. Chronic diarrhoea also leads to excessive loss of vitamin A in young children, while vitamin A deficiency in turn increases the risk of diarrhoea.

Food sources of vitamin A

Vitamin A is found naturally only in foods of animal origin, notably breast milk, liver, eggs, milk and many dairy products. However, many dark-coloured fruits and vegetables contain pigments (called carotenes) that the body can convert to vitamin A. Foods rich in carotene include carrot, pumpkin, green leafy vegetables like spinach and watercress, deep yellow and orange sweet potatoes, mangoes when in season and apricots.

Vitamin D

The function of vitamin D in the body is to allow the proper absorption of calcium. Likewise, vitamin D stores in the body are affected by low calcium from the diet. Lack of vitamin D is associated with the disease rickets, characterised by deformity (bowing) of the arms and legs. In adults, especially post-menopausal women, lack of calcium and vitamin D can lead to osteoporosis, a condition which increases the risk of bone fractures in the elderly. A growing body of research shows that vitamin D may be beneficial in preventing heart disease, some cancers, osteoporosis, as well as infectious diseases, such as tuberculosis and even seasonal influenza¹⁰.

Sources of vitamin D

In human beings, vitamin D can either be made in the skin from a cholesterol-like precursor by exposure to sunlight or be obtained preformed from foods. Both forms of vitamin D behave in the same way in the body.

Vitamin D occurs naturally only in very few foods, such as in the fat of certain animal products. Eggs (especially egg yolk), fatty fish and fish-liver oils, and certain types of mushroom are good sources in normal diets. Meat and dairy products contribute small quantities. Cereals, vegetables and fruit contain no vitamin D.

Sun exposure is the main source of vitamin D, but excessive sun exposure is also the main cause of skin cancer, including melanoma. Enjoying the sun safely, while taking care not to burn, can help to provide the benefits of vitamin D without unnecessarily raising the risk of skin cancer.

Covering up the skin increases women's and children's risk of vitamin D deficiency. The World Health Organization recommends 5 to 15 minutes of sun exposure of

⁹ WHO, 2014. <http://www.who.int/nutrition/topics/vad/en/>

¹⁰ Harvard School of Public Health Nutrition Source: Vitamin D and Health
<http://www.hsph.harvard.edu/nutritionsource/vitamin-d/>

hands, face and arms two to three times a week, which is sufficient to keep vitamin D levels high¹¹. Closer to the equator, where UV levels are higher, even shorter periods of exposure may be sufficient.

Vitamin B Complex

Thiamin, riboflavin, niacin, vitamin B₆, folate, pantothenic acid, vitamin B₁₂ and biotin belong to what is sometimes called the vitamin B complex. One of the most important B vitamins is folate.

Folate (vitamin B₉, folic acid) is needed to make healthy blood cells. Folate deficiency during pregnancy can lead to birth defects.



Food sources of folate

The richest sources of folate are liver and kidney. Egg yolk, dark green leaves, oranges, brown rice and chickpeas are also good sources. Other vegetables and meats contain smaller amounts.

Vitamin C is needed to increase absorption of iron from food, to make collagen (connective tissue) that binds the body's cells together, and to serve as an antioxidant¹². Prolonged vitamin C deficiency can lead to scurvy, which occurs periodically in remote regions of Afghanistan especially during the winter months when fresh vegetables and fruit may not be available. The signs of scurvy are bleeding gums and sore, swollen joints. Scurvy can lead to death.

Food sources of vitamin C

Most fruits, especially citrus fruits like lemon, orange and sweet orange, as well as fruits like strawberries and guava, are sources of vitamin C. Many green leafy vegetables, including garden cress, spinach and gourd/radish leaves, as well as green peppers, tomatoes and lady's fingers are good sources of vitamin C too. However, vitamin C is easily destroyed by heat; prolonged cooking of vegetables may destroy most of the vitamin C present. Eating fresh fruit and vegetables is important.

Minerals

Minerals are chemical substances found in food, needed by the body in very small amounts for growth and development. Some important minerals are calcium, iron, iodine, fluorine and zinc.

¹¹ <http://www.who.int/uv/faq/uvhealtfac/en/index1.html#>

¹² Substances with disease fighting properties that protect cells from damage by other substances called free radicals. Examples of dietary antioxidants include beta-carotene, lycopene, and vitamins A, C and E.

Iron

Iron is essential for transporting oxygen to various sites in the body as needed. Iron deficiency can lead to anaemia. Iron deficiency anaemia can be due to various reasons: low iron content in the diet; the body not absorbing the iron properly; or due to excessive blood loss. For example, hookworm infections, which are common in many countries, result in loss of blood which may cause anaemia. Women with heavy menstrual losses can lose a significant amount of iron and are at considerable risk of iron deficiency.

Women of childbearing age, pregnant women, infants and young children have the greatest need for iron. Signs of iron deficiency anaemia include feeling tired and weak, decreased work and school performance, slow mental development during childhood, and increased susceptibility to infection.

Food sources of iron

Food sources containing haem iron are the best for increasing or maintaining healthy blood iron levels. Such foods include organ meats, beef, lamb, poultry and fish.

Non-haem iron, from cereals and vegetables, is less well absorbed by the body. Eggs, dairy products, legumes and nuts, and vegetables, such as spinach, all contain iron, but in the non-haem form, which is not well absorbed.

Tea and coffee inhibit the absorption of iron, and should not be taken for two hours before or after a meal with iron containing foods. Iron absorption can be increased by combining foods from different food groups, for example, by adding a little animal source foods, especially meat, to plant foods; and by eating iron-rich foods together with vitamin C-rich foods.

Iodine

Iodine is needed for the proper function of the thyroid gland, and for the normal growth and development of children. Iodine deficiency is the most common cause of preventable mental retardation in the world. In pregnant women, iodine deficiency can cause birth defects and growth retardation in the foetus, as well as miscarriage and stillbirth. Enlargement of the thyroid gland, called a goitre, is one of the visible signs of iodine deficiency.

Food sources of iodine

Iodine is widely present in rocks and soils. The quantity in different plants varies according to the soil in which they are grown. Iodine tends to get washed out of the soil, and throughout the ages a considerable quantity has flowed into the sea. Sea fish and most vegetables grown near the sea are useful sources of iodine. Drinking-water provides some iodine but very seldom enough to satisfy human requirements. In Afghanistan, salt iodization has been mandatory since 2010. Salt with iodine added is available in shops, and should be used.

Zinc

Zinc is an essential mineral, and plays a role in immune function, protein synthesis and wound healing. Zinc deficiency in children is associated with increased illness and death from diarrhoea. In pregnant women zinc deficiency may result in the foetus not growing well, leading to low birth weight babies.

Food sources of zinc

The richest sources of zinc tend to be protein-rich foods such as meat, seafood and eggs. Other good sources of zinc are beans and nuts, however, as with iron, only relatively small amounts of zinc from plant foods can be absorbed by the body.

Sodium/Salt

Too much sodium is harmful and can lead to high blood pressure (hypertension) in some people, which is associated with strokes and heart disease. Most people obtain the greatest part of their sodium from salt (sodium chloride), which can be added in cooking, added at the table, added in processing (for example, in sausages and in tinned fish canned in brine), or found in foods processed in some manner, such as cheese. However, as mentioned before, iodized salt is an important source of iodine. Only a small amount of salt is needed from food to maintain health. The recommended intake of salt is 5 grams of salt per day (2.5 g sodium).

Water

Water is needed for many functions in the body: to make cells and body fluids; for chemical reactions to occur; and to make urine, which carries waste from the body. It is essential to maintain an adequate intake of clean water (usually around 8 cups a day) to replace the water lost by the body, especially in hot weather and during physical activity. People may also become dehydrated (suffer excessive loss of water) when they have diarrhoea, vomiting or fever. Dehydration can cause physical and mental tiredness in the short-term, and in the long-term can increase the risk of developing kidney stones.



In addition to clean drinking water, sources of water are beverages, soups, broths, fruits, vegetables and tea.

Table 1 summarizes the functions of some of the nutrients covered above.

Table 1. Summary of important functions of some nutrients

Nutrient	Main function in the body
Macronutrients	
Carbohydrates – starches and sugars	To provide energy needed to keep the body breathing and alive, for movement and warmth, and for growth and repair of tissues. Some starch and sugar is changed to body fat.
Carbohydrates – dietary fibre	Fibre makes faeces soft and bulky and absorbs harmful chemicals, and so helps to keep the gut healthy. It slows digestion and absorption of nutrients in meals, and helps to prevent obesity.
Fats	To provide a concentrated source of energy and the fatty acids needed for growth and health. Fat aids the absorption of some vitamins, such as vitamin A.
Proteins	To build cells, body fluids, antibodies and other parts of the immune system. Sometimes proteins are used for energy, when there is insufficient energy in the diet to meet requirements.
Water	To make fluids such as tears, sweat and urine, and to allow chemical processes to happen in the body.
Micronutrients	
Iron	To make haemoglobin, the protein in red blood cells that carries oxygen to the tissues. To allow the muscles and brain to work properly.
Iodine	To make thyroid hormones that help to control the way the body works. Iodine is essential for the development of the brain and nervous system in the foetus.
Zinc	For growth and normal development, for reproduction and to keep the immune system working properly.
Fluorine	To protect the teeth against decay.
Calcium	Calcium is the most abundant mineral in the body. It is important for preventing osteoporosis and bone disease. The calcium in bones also acts as a store for maintaining calcium levels in the blood, which is essential for healthy nerves and muscles.
Vitamin A	To prevent infection and to keep the immune system working properly. To keep the skin, eyes and lining of the gut and lungs healthy. To see in dim light.
B-group vitamins	To help the body use macronutrients for energy and other purposes. To help the nervous system to work properly.
Folate	To make healthy red blood cells and to prevent abnormalities in the foetus.
Vitamin C	To aid the absorption of some forms of iron. To destroy harmful molecules (free radicals) in the body. To help wound healing.
Vitamin D	To allow the proper absorption of calcium, build bone and ensure bone health, protection from heart disease and possibly other non-communicable diseases.

SOURCE: Adapted from *Family Nutrition Guide*, prepared by A. Burgess and P. Glasauer. FAO, Rome, 2004. Available at <ftp://ftp.fao.org/docrep/fao/007/y5740e/y5740e00.pdf> Accessed 2014-08-21.

3. Standard diet and food groups

The best way to make sure that we get enough of each nutrient and enough energy is to eat a mixture of foods every day. The following dietary recommendations at three different levels of energy intake have been selected in order to help people to combine different foods to prepare and eat healthy meals.

Nutrient intake goals

The amounts of nutrients that should be obtained from foods are called nutrient intake goals. The purpose of such goals is to specify quantities of nutrients that meet nutritional needs at the population level, while at the same time preventing the development of chronic disease. Thus the population nutrient intake goals represent the average intake of energy and nutrients needed for a healthy lifestyle.

Three different typical energy levels for Afghanistan are given below (Table 2). These cover the daily energy requirements of the majority of the population, depending on age, gender and levels of physical activity.

The eating patterns recommended provide energy from the macronutrients in the diet in the following proportions: proteins 15% of dietary energy (%E), fat 25%E and carbohydrates 60%E for the 2200 kcal and 2800 kcal diets; and protein 13%E, fat 30%E and carbohydrates 57%E for the 1300 kcal diet. The pattern is slightly different for the 1300 kcal diet in order to take into account the smaller stomachs of young children who need energy and nutrient-dense foods. The more nutrient-dense foods are those that contribute more beneficial nutrients (especially micronutrients) than calories to the overall diet. The best examples are vegetables and fruit. Other examples are meat, legumes and milk.

Levels of physical activity

Levels of physical activity were considered for adults and for adolescents 13-18 yr.¹³

Sedentary or light physical activity: People doing jobs that do not require much physical effort, or people who are not required to walk long distances. Examples are people who generally use motor vehicles for transport, do not exercise or participate in sports regularly, and spend most of their leisure time sitting or standing, talking, reading, watching television, listening to the radio or using computers.

Heavy physical activity: People who engage regularly in strenuous work or in strenuous leisure activities for several hours. For example, those who every day walk long distances or use bicycles for transportation; engage in high energy-demanding occupations such as cultivation, or perform high energy-demanding chores for several hours each day; and/or practise sports or exercise that demand a high level of physical effort for several hours, several days of the week.

Moderate physical activity: These are people whose lifestyles are more strenuous than those in the sedentary category, but not as demanding as those who do heavy physical activity.

¹³ *Human energy requirements.* Report of a Joint FAO/WHO/UNU Expert Consultation. Rome, 2004.

Table 2. Population groups covered by three energy requirement levels

Daily energy need	Population group
1300 kcal	<ul style="list-style-type: none"> • Pre-school children 2–5 yr (both sexes)
2200 kcal	<ul style="list-style-type: none"> • Schoolchildren 6–12 yr (both sexes)* • Adolescents 13–18 yr (light physical activity, both sexes) • Male adults (light physical activity) • Female adults (light physical activity) • Elderly people (>60 yr, both sexes)
2800 kcal	<ul style="list-style-type: none"> • Adolescents 13–18 yr (moderate to heavy physical activity, both sexes) • Male adults (moderate to heavy physical activity) • Female adults (moderate to heavy physical activity) • Pregnant women • Breastfeeding women

NOTES: *Schoolchildren 6–9 yr: 1600 kcal; Schoolchildren 10–12 yr: 2000 kcal.

Food groups

Most foods contain many different nutrients and can be grouped in various ways. In order to better help consumers to select healthy diets, foods were divided into the following seven groups based on nutrient content and their typical use in a mixed meal:

1. Cereals and tubers (e.g. naan from wheat, rice, sweet potatoes)
2. Pulses, beans, nuts and seeds (e.g. lentils, walnuts, pumpkin seeds)
3. Dairy (milk and products) (e.g. milk, cheese, yogurt)
4. Meat, fish and eggs (e.g. beef, liver, egg yolk)
5. Fruit (e.g. melon, apple, grapes)
6. Vegetables (e.g. spinach, okra, pumpkin)
7. Fats and oils (e.g. corn oil, butter)

Many of the foods commonly eaten in Afghanistan belonging to each of these food groups are shown in Annex B. Each food group contains a list of foods that provide roughly the same amount of carbohydrates, proteins and fats per serving.

How much of each food group should be eaten on average each day?

This depends on a person's gender, age and activity level. Table 3 below provides recommendations on the number of food servings to be consumed from each food group, given at three different typical energy levels. The information is aimed at nutrition educators to help consumers identify the amount of food needed from each food group in order to achieve and maintain a healthy body weight and overall health. Please note, very young children (2-3 years old) may need to be given a smaller number of servings of cereals and tubers than indicated in Table 3, while keeping the quantity of nutrient-dense foods such as meat/fish, vegetables, legumes, and milk the same.

Some foods and drinks people may be commonly consuming, such as sugary foods, snacks and sweet carbonated beverages, are not included in Table 3, as these foods are bad for the health. Therefore, they should be generally avoided, or taken in very small quantities only. People should be encouraged to choose the foods that are listed, as these provide more nutrients than the foods and drinks that are not listed.

Table 3. Number of servings from different food groups needed for the three energy levels

Food group	Three energy levels		
	1300 kcal	2200 kcal	2800 kcal
	Number of food servings per day		
Cereals and tubers	2.5	6	8
Pulses, beans, nuts and seeds	0.5	1.5	2
Dairy (milk and products)	2	3.5	4
Meat, fish and eggs	1.5	2	2.5
Fruit	2.5	2.5	3
Vegetables	2.5	3	3
Fats and oils	4.5	5.5	7

NOTES: 1600 kcal level: same number of servings of pulses, meat, fruit and vegetable groups as 1300 kcal, plus 1.5 serving more of cereals, 1/2 serving more dairy and fats than the 1300 kcal level. 2000 kcal level: same number of servings of dairy, fruit, vegetables and fats as 2200 kcal level, but 1/2 serving less of cereals, pulses and meat than 2200 kcal level.

What is a serving?

A serving is a reference amount of food which contains a specific caloric value. Table 4 lists amounts of foods that are equal to one serving for each of the food groups for diets corresponding to the three energy levels (1300 kcal, 2200 kcal and 2800 kcal).

The amount of food that a person takes on their plate (that they plan to eat in one sitting) may correspond to one or more servings, depending on how much food they take. For instance, an apple eaten after a meal equals one serving of fruit. If a banana is also eaten at the same meal, this would count as 2 servings of fruit (1 apple + 1 banana). Half a naan eaten at one meal counts as two servings of grain products, since one serving is defined as quarter of a naan.

The information from Table 3 and Table 4 should be combined to show how much food to recommend from a particular food group per day. For example, for the *meat, fish and eggs* group, one serving is defined as 70 kcal. From the example food items given for this group, one large hardboiled egg gives (approximately) 70 kcal. From Table 3, for the 2200 kcal energy level, this suggests that 2 eggs are needed per day. However, ideally, a person will not be eating only eggs from this group for the whole day. Including 1 serving of cooked beef or lamb (30 grams) in addition to the one egg will result in consuming the ideal quantity needed for the day from this food group. However, to reach the target energy intake of 2200 kcal, foods from all the other food groups need to be eaten in the amounts recommended within the same day. Tables 3 and 4 have been designed so that the ideal patterns results in at least 94% of the target energy, fat, protein and carbohydrates levels being achieved.

It is important to keep in mind that Tables 3 and 4 are provided only as a model, to give an idea of the approximate amounts of food needed from each food group every day. Another way to check if foods are eaten from all the food groups in the recommended amounts is by looking at the plate sizes in the Food Guide in the next section. The plate size for each food indicates the relative amount or proportion of each of the food groups that should be consumed daily. The proportions shown consider both the relative contribution made by each food group to dietary energy, and the average volumes of food from each food group. The proportion given is intended to highlight the foods that should be eaten in larger amounts, compared with those that should be eaten less. The graphic is not a mathematically correct representation of this proportion, but just a visual guide.

It is also important to remember that a balanced diet must be composed of a variety of different foods from each of the food groups. The nutrient composition of foods commonly consumed in Afghanistan is given in Annex C.

Table 4. What counts as a serving?

Cereals and tubers	1 serving = ~140 kcal. ~1/4 Naan (50 g piece); ~2/3 cup (125 g) cooked brown or white rice; ~1/4 cup (40 g) raw brown or white rice; 1 small potato boiled (160 g boiled weight); 1 medium sized potato raw (200 g including skin); ~ 2/3 cup (90 g) cooked macaroni or spaghetti; ~1/4 cup raw macaroni or spaghetti (40 g)
Pulses, beans, nuts and seeds	1 serving = ~140 kcal. ~1/2 cup (100 g) boiled lentils/peas (chickpeas, green peas)/mung beans; ~1/4 cup (40 g) raw dry lentils/peas (chickpeas, green peas)/mung beans; 20 g walnuts; 30 g almonds or pistachios; 2 tablespoon (30 g) sesame seeds.
Dairy (milk and products)	1 serving = ~70 kcal. ~1/2 cup whole cow's milk or goat's milk; 1/4 cup sheep milk or buffalo milk; 15-20 g whole milk powder (which when reconstituted makes 1/2 cup of liquid milk); ~1/2 cup (120 g) plain yoghurt made from whole milk; 20 g cottage cheese; 20 g sweetened condensed milk.
Meat, fish and eggs	1 serving = ~70 kcal. 30 g cooked lean beef or lean lamb; 55 g raw lean beef or lean lamb; 30 g cooked chicken (stewed, meat only); 60 g raw chicken breast without skin or 30 g raw chicken legs without skin; 1 large, hardboiled egg; 30 g-60 g cooked fish (cooked with dry heat); 50 g boiled beef liver; 55 g raw beef liver; 30 g cooked lamb liver; 50 g raw lamb liver.
Fruit	1 serving = ~80 kcal. 1 small apple with peel; 1 small banana; 1 pear; 2 tablespoons (~30g) dried fruit e.g. raisins; 1 large slice melon; 3 large pitted, dried dates (30g); 2 small plums or apricots; ~100g grapes.
Vegetables	1 serving = ~35 kcal. 1 cup cooked vegetables, 1/2 cup raw vegetables, although it will depend on the vegetable, for example: 1 cup boiled beetroot slices (85 g) or 1/2 cup raw beetroot; ~1 cup (100 g) boiled okra or raw okra, or ~1/4 cup fried okra (25 g); ~1 cup (100 g) boiled carrot slices or raw carrot slices; ~1 cup boiled, mashed pumpkin or 1,5 cup raw pumpkin.
Fats and oils	1 serving = ~45 kcal. 1 teaspoon vegetable oil (5 g); ~1 teaspoon butter (6 g); 1 teaspoon ghee from cow's milk (5 g); 1 teaspoon sheep fat (rump) (5 g).

NOTES: An empty cup = 250 ml; 1 teaspoon = 5 ml; 1 tablespoon = 15 ml. The weight of each food will depend on its density (for example, the weight of 2/3 cup of cooked macaroni is only ~90 g, while the weight of 2/3 cup cooked rice is ~125 g. This is because macaroni has a smaller density than rice, so a smaller mass (weight) is needed to make up the same volume (2/3 cup).

4. Food-Based Dietary Guidelines for Afghans

The tablecloth below shows dishes from each food group that should be included in the daily diet. The size of the various plates indicates the approximate amounts of each of these food groups in a healthy diet. Some foods should be eaten in larger amounts compared with others that should be eaten sparingly. The 10 messages developed for Afghans are given below the tablecloth.

PROMOTING **HEALTHY EATING** and **LIFESTYLE** in AFGHANISTAN

Food-Based Dietary Guidelines



1. Eat different types of food daily.
2. Eat different types of fruit and vegetables daily.
3. Eat lean meat, poultry, fish, eggs and dairy products.
4. Reduce sugar intake and avoid sweet carbonated beverages.
5. Use less salt and eat fewer fatty foods and highly-processed foods.
6. Pregnant and lactating women should increase intake of all the food groups daily, especially foods that are rich in iron.
7. Give infants only breast milk for the first 6 months of life.
8. From 6 months onward, feed infants and young children different nutritious foods in addition to breast milk and continue breastfeeding until 24 months.
9. Use clean and safe water for handwashing, drinking and food preparation.
10. If you live a sedentary life, do some physical activity for at least 20–30 minutes daily.



Food and Agriculture
Organization of the
United Nations



5. Understanding and practising each guideline

The 10 guidelines for Afghans are:

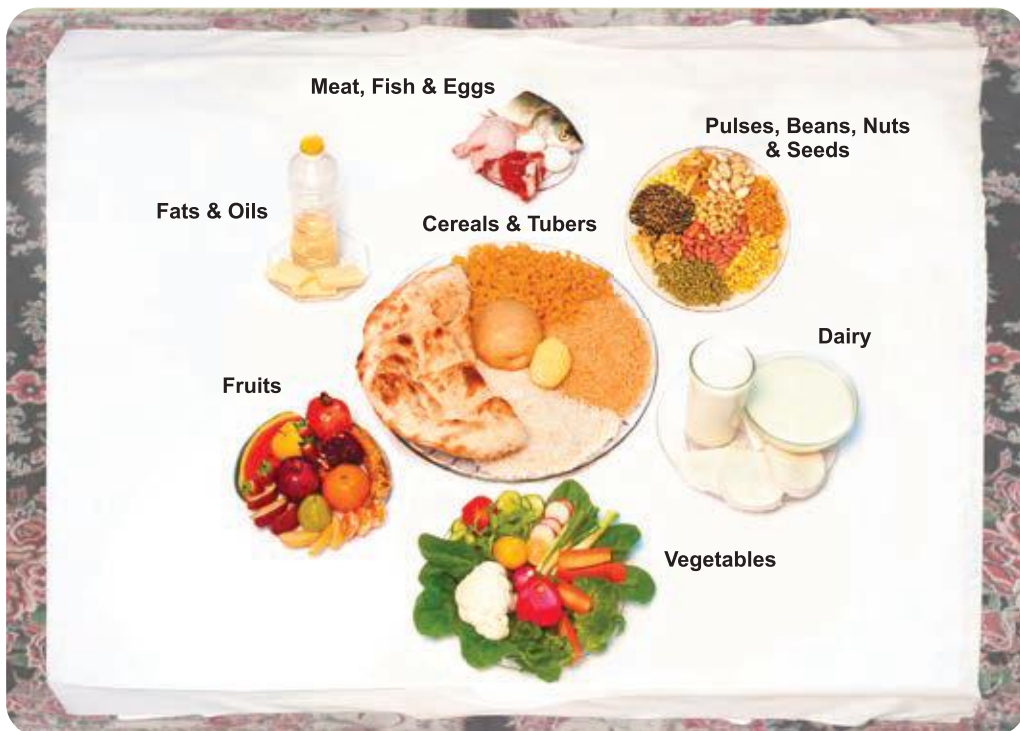
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8. From 6 months onward, feed infants and young children different nutritious foods in addition to breast milk and continue breastfeeding until 24 months.
9. Use clean and safe water for handwashing, drinking and food preparation.
10. If you live a sedentary life, do some physical activity for at least 20–30 minutes daily.

The following sections give more information on each of these guidelines, with tips on how to put this information into practise.

Guideline 1.

Eat different types of food daily

A balanced diet provides the correct amounts of energy and nutrients people need to stay healthy. Seven food groups are shown on the tablecloth below. The approximate amounts of each of these food groups to be eaten as part of a healthy diet is indicated by the size of the various plates. Whenever possible, it is important that people try to eat foods from all the food groups every day. It is also important to include several different foods from within each food group daily when possible. This makes the diet more varied and interesting, and helps to ensure that over time it provides a mix of nutrients that will meet the body's needs.



Use the plates on the tablecloth to help make food choices

- Use different foods from each food group from day to day and within each day. This is because all foods in each group do not always contain the same type of nutrients. For example, lemons are rich in vitamin C, while apricots are rich in vitamin A, although they both belong to the fruit group. So if a salad sprinkled with lemon juice is eaten as part of lunch, it is good to eat a couple of apricots after dinner.

- When planning what to cook for a meal, think of different colours, tastes and textures.
- Use foods when they are in season: the price will be lower and the quality better.
- When cooking, use different cooking methods, such as baking, boiling or stir-frying.
- In winter months when fruit and vegetables are rare, use dried fruits and vegetables like apples, apricots and tomatoes.
- Fermented vegetables like cabbages and kale may also be used in winter months. They are a very good source of vitamin C.

Benefits of eating different types of nutritious foods daily

Eating different kinds of foods from ALL the food groups will ensure that the body receives all the nutrients and other substances that it needs to work and keep healthy. Healthy local recipes for families to try are given in Annex D.

- Eat plenty of vegetables and fruits daily.
- Eat cereals including bread, rice, pasta and noodles, and tubers. Choose wholegrain when possible. For example, brown rice (unpolished rice with only the husk of the grain removed) instead of white rice.
- Eat pulses, beans, nuts and seeds.
- Include lean meat, fish and poultry.
- Include milk and fermented milk products like yoghurt, *doogh*, *chaka* and *qorut*.
- Drink plenty of water.

Guideline 2.

Eat different types of fruit and vegetables daily

Fruits and vegetables are micronutrient-rich foods, and provide the body with vitamins, minerals, antioxidants, water and fibre. Most vegetables and fruits are good sources of folate, potassium vitamin A (as pro-vitamin A carotenoids, which the body can convert into vitamin A) and vitamin C.

Fruit and vegetables are an important component of a healthy diet and, if consumed daily in sufficient amounts (400-500 g per day), can help prevent chronic diseases such as diabetes, heart disease and certain cancers¹⁴. Fruits and vegetables also add colour and flavours to meals, and they taste good!

How to eat more vegetables

- Add vegetables to meat and rice dishes.
- Use vegetables as part of a meal.
- Eat washed raw vegetables like carrots and cucumbers for snacks.
- Add vegetables to soups.
- Prepare vegetable salads.
- Eat local vegetables when in season.
- Think about types of wild/less used vegetables, or parts of vegetables that are usually discarded, but are actually nutritious and good to eat. Some examples are broad bean and cauliflower leaves, squash and pumpkin flowers, *bulan*, *shurak*, and *sech*.



How to eat more fruits

- Eat fruits for snacks.
- Use fruits as part of a meal.
- Prepare fruit salads for desserts instead of puddings and cakes.
- Add fruits to vegetable salads and cereals.
- Eat local fruits when in season.



¹⁴ WHO & FAO. 2003. Diet, nutrition and the prevention of chronic diseases. Report of a Joint WHO/FAO Expert Consultation. WHO Technical Report Series 916. Geneva, World Health Organization.

Other benefits of eating different kinds of fruit and vegetables daily

- Good health, healthy skin—makes your skin ‘glow.’
- Protects the body from infection and disease.
- Builds stronger immune system.
- Important sources of antioxidants and water.
- Helps to maintain a healthy body weight.
- Allows for easy bowel movement.

To get a healthy variety, choose different colours!

Try to get as much colour as possible:

- orange — carrots, apricots, pumpkins, etc.
- red — tomatoes, beetroot, apples, etc.
- purple — berries, grapes, aubergines, etc.
- green — kiwi, beans, okra, etc.
- yellow — peppers, lemons, bananas, etc.



Guideline 3.

Eat lean meat, poultry, fish, eggs and dairy products

The daily diet needs to contain a small amount of animal source foods (choose from lean meats, fish, poultry, dairy products or eggs) to get an adequate intake of minerals like iron, zinc and calcium, and vitamins like vitamin B₁₂, as well as protein. These micronutrients and high quality protein are harder to obtain from plant foods alone. Lean red meats (e.g. lean beef and lamb) are low in fat. Fish is a source of omega-3 fats. In order to ensure healthy iron levels in the blood, good choices of meat include liver, kidney, spleen and offal, chicken giblets and hearts (i.e. the darker part of the meat).

Remember, even including a small amount of animal foods every day can greatly improve the quality of your diet. Young women, pregnant and lactating mothers and young children should eat animal source foods daily, or as often as possible.

However, avoid eating fatty pieces of meat. Instead of cooking with butter oil (ghee) and other animal fat, try to use vegetable oils in moderation.

Did you know?

- Fermented dairy products such as yoghurt, *doogh*, *chaka* and *qorut* are also a source of high value animal protein. They are easier to digest than milk.
- Liver of all types is a very rich source of iron and vitamin A.

Guideline 4.

Reduce sugar intake and avoid sweet carbonated beverages

Foods that contain a large amount of sugar include sugar-sweetened fruit juices and carbonated soft drinks, box drinks, cakes, ice cream, puddings, sweets, jams and jellies.

Sugar sweetened sodas and other drinks that are high in sugar can displace the need for nutritious foods and drinks. People who eat a lot of sweet food often eat less of other, more nutritious foods. Sweet, sticky foods are bad for the teeth, and a high sugar intake is known to contribute to dental caries. Sugar provides only energy, with no other nutritional benefits.

Many sugary foods, especially commercially processed ones, also contain a lot of fat. People who often eat sugary foods and consume sugar-sweetened soft drinks may be at risk of becoming overweight. Obesity, especially severe obesity, is associated with many health problems such as coronary heart disease, diabetes, high blood pressure (hypertension) and orthopaedic problems.

How to consume less sugar

- Read labels to check sugar content (see box below). Choose foods that are low in sugar.
- Eat sugary foods only in moderation.
- Use ripe fruits in porridge instead of sugar, e.g. banana slices on top of porridge.
- Use local fruits, vegetables, nuts and seeds for snacks instead of sugary snacks.
- Add less sugar when preparing foods and drinks.
- Drink tea or coffee with little or no sugar. Choose fruits rather than fruit juice. Fruit juices do not have much fibre, and are high in sugar.

How to avoid sweet carbonated beverages

- Drink clean water instead of sweetened drinks. Remember that water is the best option!
- Choose unsweetened fruit juice instead of carbonated soft drinks.

Read food labels for healthier choices

Some imported foods found in Afghanistan contain food labels. These *nutrition facts* labels provide information about some of the nutrients in packaged foods. This information can be used to help make healthy food choices.

What do food labels show?

- Information is generally given in values per 100 g or 100 ml. Some manufacturers may also give values per food portion (e.g. 2 biscuits).

Nutrition Factsheet

Serving Size Serving Per 200 g	
Amount Per Serving	
Nutrients	Value
Protein	10 g
Carbohydrates	40 g
Unsaturated Fat	5 g
Trans Fat	2 g
Cholesterol	free
Sodium	1 g

- Information on energy, protein, fat, carbohydrates, fibre, sugar and salt is generally given.
- Sometimes, food labels only give the figure for sodium, not for salt. Salt is made up of sodium and chloride. To calculate the salt content when only the sodium content is given, multiply the sodium content by 2.5. For example, if the sodium content is given as 2.4 g/100 g food, this means the salt content of that food is 6 g/100 g. Intake for the day should be less than 5 g salt (or 2 g sodium).
- Different types of fat and fatty acids may be shown (saturated, polyunsaturated and mono-unsaturated, cholesterol, hydrogenated fats or trans fats; omega-3, omega-6, etc.).
- Sometimes information on micronutrients, especially ones where the product has been fortified, may also be shown.
- Labels may sometimes give Recommended Nutrient Intakes (RNI) or Recommended Daily Amounts (RDA). These are estimates of micronutrients that are needed daily to meet the nutrient requirements of almost all healthy individuals of an age and sex-specific population group.

What to consider in a food label

- Always try to reduce the intake of saturated fats and trans fats. Whenever possible, choose unsaturated fats, especially poly-unsaturated fats (PUFA) instead of saturated fats.
- Choose foods that are low in cholesterol, sodium (salt) and added sugars.
- Choose foods that are high in calcium, vitamin D and other micronutrients, and dietary fibre.

Use the guide below to help make healthy choices

Remember, check the food label to identify foods that are “Low” in sugar, fat, saturated fat and salt, avoiding foods that are “High” in them.

Nutrients	High per 100 g	Medium per 100 g	Low per 100 g
Sugars	Over 15 g	Between 5 g & 15 g	5 g and below
Fat (total)	Over 20 g	Between 3 g & 20 g	3 g and below
Saturated fats	Over 5 g	Between 1.5 g & 5 g	1.5 g and below
Salt	Over 1.5 g	Between 0.3 g & 1.5 g	0.1 g and below

Guideline 5.

Use less salt, and eat fewer fatty foods and highly-processed foods

Salty foods are high in sodium. Sodium is one of the main dietary contributors to hypertension (high blood pressure).

Some fats are easy to see, such as butter, margarine, vegetable oils and the fat on meat. Other fats are hidden, such as the fat in nuts, cheese, biscuits, cakes, pastries, snack foods, deep-fried foods such as chips and *bullani*, and many take-away foods.

Highly-processed foods, especially packaged, ready-made foods, are often high in fat, sugar and/or salt and should be avoided. Examples of such foods are potato chips, sausages, salty canned nuts, cookies and some ready-to-eat canned foods that contain a lot of salt, like cooked fish and beans.

Are all processed foods bad?

Although drying apricots, or fermenting and pickling vegetables (to make *atchars*) can also be described as a process, this is not what is meant here! Neither are foods like frozen vegetables, yoghurt, cheese, or tomato paste, where nothing extra has been added to the original food. These types of food processing is good: it is an essential way of helping households preserve their food and thus increase the availability and diversity of their diet throughout the year. Storing and processing foods when they are available in large quantities (after harvest) can also prevent wasting produce that cannot be eaten immediately.

How to use less salt

- Instead of eating salty snacks like salted nuts, choose fruit, raw vegetables or nuts without salt.
- Do not add salt to food at table.
- Remove salt from the table.
- When cooking or preparing food, reduce the amount of salt used, and use iodised salt only.
- When possible, eat fresh lean meat rather than dried meat which can be salty.
- Choose fresh foods instead of packaged foods.

How to reduce consumption of fatty foods

- Choose to bake or boil foods instead of frying.
- Read food labels to check fat content. (See box above: Read food labels for healthier choices)
- Avoid highly-processed foods like sausages, which are high in fat.
- Remove visible fat from pieces of meat and poultry before cooking.
- Select lower fat or healthier milk alternatives like doogh.
- Try to choose healthier fats, such as cooking oils which contain unsaturated fatty acids rather than animal fats like ghee and sheep fat (rump), which contain saturated fatty acids.

How to cut down on highly-processed foods

- Don't buy what you can prepare at home! For example, prepare your own salad dressing, cooked beans or cooked chickpeas, instead of buying ready-made products.
- Choose fresh foods whenever possible.

Useful tips

- Use fresh herbs and pickled or fermented vegetables or lemon juice instead of salt to season and flavour foods. Try parsley, mint powder and mixed pepper (dried green chili + dried bread + garlic).
- Always use fresh, homemade foods instead of processed, packaged foods.

Guideline 6.

Pregnant and lactating women should increase intake of all the food groups daily, especially foods that are rich in iron

Girls and women need to eat well throughout their lives but particularly when women are planning a baby, are pregnant or breastfeeding. If they eat a healthy, balanced diet they are likely to stay active and well, produce healthy babies and breastfeed successfully. A woman needs more energy and nutrients during pregnancy and breastfeeding.

All women who could become pregnant and those who are pregnant or breastfeeding need to increase their intake of foods high in iron and folate/folic acid. Folate before and during pregnancy provides protection against birth defects in the foetus. Anaemia (caused by lack of iron) during pregnancy increases the risk of premature delivery, low birth weight, maternal and child mortality and infectious diseases. It may affect growth and development of the baby both in the womb and in the long term. Therefore, during pregnancy, women need to consume additional iron to ensure they have sufficient iron stores to prevent iron deficiency.

At certain times, for example during pregnancy and lactation, some women may need micronutrient supplements in addition to eating good meals. Most women need iron and folic acid tablets during pregnancy.

A good diet should provide enough of the other micronutrients that pregnant women need, including calcium and vitamin A. However, high medicinal doses of vitamin A, as are sometimes given to young children, are not recommended during pregnancy. Do not give high doses of vitamin A to any woman who could be pregnant as they can harm her unborn baby. For this same reason, it is better not to eat liver during pregnancy.

In situations where vitamin A is likely to be deficient, mothers should receive vitamin A supplements as soon after delivery as possible and not more than six weeks later. This provides a store for use during breastfeeding.

Pregnant and lactating women, particularly those who wear burka, are more at risk of vitamin D deficiency. Vitamin D is particularly important for these groups of women in order to ensure that the baby is not born with vitamin D deficiency or does not become vitamin D deficient. Eggs and fatty fish are a good source of vitamin D. In addition, 10 to 15 minutes of sun exposure of the hands, face and arms two to three times a week will help to keep vitamin D levels appropriate.

Some women are already overweight when they get pregnant. Those who are at risk of obesity/overweight should be cautious about taking high energy foods (especially sugar-rich foods and fats), and focus on eating a healthy, balanced diet and staying active. Moderate exercise (e.g. walking) every day is recommended for all pregnant women. Regular attendance of antenatal clinics to monitor weight and other health indicators, such as iron status is recommended for pregnant women.

How to eat more nutritious foods daily

- Eat at least 4 times each day.
- Eat extra vegetables and fruits daily.
- Eat extra meat, fish or eggs, and dairy products such as yoghurt every day. Organ meats such as kidney, heart and spleen (i.e. the darker part of the meat) are particularly rich in iron. Although liver is also very rich in iron, liver is not recommended for pregnant women because of its very high content of vitamin A and the potential risk of toxicity.
- Avoid sugary foods and sweet carbonated drinks, salty foods and highly-processed foods.

Benefits to pregnant and lactating women from eating extra amounts of nutritious foods

- Provide for the extra nutritional demands of the woman's body during pregnancy
- Produce healthy babies and breastfeed successfully
- Prevent birth defects in the infant

The food a mother eats during pregnancy not only affects the development of her baby, but can also affect the baby's health later in life.

Which foods are rich in iron?

- Food sources containing haem iron are the best for increasing or maintaining healthy blood iron levels, e.g. kidneys, offal, heart, chicken giblets and hearts; beef, lamb, poultry and fish. Although liver contains a lot of iron, it is not recommended during pregnancy because of its very high vitamin A content.
- Non-haem iron, from cereals and vegetables, is less well absorbed by the body. Eggs, dairy products, legumes and nuts, and vegetables, such as spinach, have only this form of iron.
- Iron absorption can be increased by combining foods from different food groups (e.g. including a small amount of animal source foods, especially meat in meals; and eating iron-rich foods together with vitamin C-rich foods, such as eating an orange after a meal).
- Tea and coffee prevent the body from properly absorbing iron, and should not be taken for two hours before or after a meal.

Guideline 7.

Give infants only breast milk for the first 6 months of life

Breast milk is the perfect food for the baby's first six months of life, and no manufactured product can equal it. During this time, infants should not be given any other foods such as water, milk from cows or other animals, butter, ghee, oil, tea, *nabat* (sugar lumps or rock candy), nor soaked bread.

Why breast milk only for the first 6 months?

- Breast milk contains all the nutrients, hormones and antioxidants an infant needs to thrive.
- Breast milk has antibodies that protect the baby from childhood diseases.
- It protects babies from diarrhoea and infections that causes problems with breathing (acute respiratory infections).
- Breast milk can also lower the risk of chronic conditions later in life, such as obesity, high blood pressure and diabetes.
- Breast-fed babies are healthier and achieve optimal growth and development compared with babies who are fed formula milk
- Studies have shown that breast-fed babies do better than formula-fed babies in intelligence and behaviour tests, into adulthood.
- Breastfeeding allows bonding between mother and baby.

How to give only breast milk for first 6 months

- Start breastfeeding within one hour after the baby is born. Feed the baby colostrum, the thick, yellowish substance coming from the mother's breast, which should not be discarded.
- Breastfeed the baby on demand – as often as the baby requires. The more the mother breastfeeds, the more milk she will produce.
- Allow the baby to empty one breast before changing to the other breast.
- Breastfeed the baby both day and night.

For a mother to produce enough milk, her baby must suckle often enough, and must also suckle in the right way. The following advice is taken from the National Infant and Young Child Feeding (IYCF) training guidelines¹⁵.

¹⁵ National Infant and Young Child Feeding (IYCF) Training Guidelines, Public Nutrition Department, Ministry of Public Health.

Good attachment

- The baby's chin touches the breast.
- The baby's mouth is wide open.
- The baby's lower lip is turned outwards.
- You can see more of the areola (dark area of the breast around the nipple) above the baby's mouth and less below.

Four key points for good position:

- The baby's head and body should be in a straight line.
- The baby's face should face the breast, with their nose opposite the nipple.
- The mother should hold the baby close to her body.
- With newborn babies, the mother should support the baby's bottom, and not just the head and shoulders.



SOURCE: FAO/UNICEF 2008. Healthy Food, Happy Baby, Lively Family. Improved feeding practices and recipes for Afghan children and mothers.

Guideline 8.

From 6 months onward, feed infants and young children different nutritious foods in addition to breast milk and continue breast feeding until 24 months

After a baby is six months old, breast milk alone cannot supply all the nutrients for growth. The baby is now able to eat and digest other foods, and therefore, semi-solid and solid foods should be introduced after 6 months to meet the baby's increasing nutritional and developmental needs. Adding food to the diet of a child when breast milk is no longer enough is called complementary feeding.



By the end of the first year of life, the baby should be consuming a wide variety of family foods in addition to breast milk, in order to get the nutrients needed for growth. In order to allow their skin to form vitamin D, children over the age of 6 months should be exposed to sunlight in the early morning or late afternoon for a few minutes a day or twice a week. However, since young children have very sensitive skin, care must be taken to avoid burning (reddening) of the skin.

How to introduce new foods

- Introduce iron-rich cereals, vegetables, fruit and meat after 6 months, while continuing to breastfeed.
- Introduce only one new food at a time, then combine foods later.
- The food should not be watery but should be semi-solid like *halwa* or *ferni*.
- Start by giving 2–3 tablespoons of enriched cereals twice a day, and well-cooked foods, soft but thick in consistency (see Table 5).
- As the child becomes older, you can increase the quantities of food and the feeding frequency.
- At 12–24 months children can increase intake by having foods from family meals.

Table 5. Amounts of foods to give young children

Age	Texture	Frequency	Amount at each meal
6 months	Soft porridge, well mashed vegetables, meat, fruit	2 times per day plus frequent breast feeds	2–3 tablespoonfuls
7–8 months	Mashed foods	3 times per day, plus frequent breast feeds	Increasing gradually to 2/3 of a 250 ml bowl
9–11 months	Finely chopped or mashed foods, and foods that baby can pick up	3 meals plus 1 snack between meals plus breast feeds	3/4 of a 250 ml bowl
12–24 months	Family foods, chopped or mashed if necessary	3 meals plus 2 snacks between meals plus breast feeds	A full 250 ml bowl or more

SOURCE: FAO/UNICEF 2008. Healthy Food, Happy Baby, Lively Family. Improved feeding practices and recipes for Afghan children and mothers.

NOTE: Clean, safe preparation and feeding of complementary foods are essential to reduce the risk of contamination and illness.

The characteristics of good complementary foods:

- Rich in energy and contain good quality protein, vitamins and minerals.
- Soft consistency to enable the child to swallow easily.
- Contain no bones or hard pieces that might cause choking.
- Low dietary bulk (as children have small stomachs, and will feel full soon).
- Is easily eaten and digested by the child.
- Free from anti-nutritional factors¹⁶ and low in fibre.
- Ingredients are readily available locally.
- Are safe, hygienically prepared and fed.

¹⁶Some plant foods contain anti-nutrients, such as phytates in wholegrain cereals, nuts, seeds and pulses; polyphenols in legumes, coffee and tea; and oxalates in spinach, almonds and sesame seeds. These anti-nutrients affect the human body's ability to make use of protein and amino acids, and of minerals such as iron, zinc and calcium.

Complementary foods to give

- Feed a variety of foods to make sure all the nutrients are obtained.
- Flesh (meat) and organs or offal such as kidney, heart and, spleen, poultry, eggs, or fish should be eaten daily, or as often as possible.
- Milk, curd, cheese and eggs should be included.
- Vitamin A-rich fruits and vegetables should be eaten daily.
- Add a little oil to increase the energy content

Practices to avoid

- Do not add salt or sugar to foods given to infants.
- Do not give infants and children honey, tea, whole nuts, fruit juices and reduced-fat milks.
- Do not give milk from cows or other animals to infants less than 12 months old.
- Do not give foods with bones or hard pieces that might cause choking.

Complementary food can be made using rice and potato with added fish, meat, egg or beans. Also include yellow and leafy vegetables such as pumpkin, squash and radish leaves. Add a little oil to increase the energy content.

A young child's iron needs

- Full term babies are born with enough iron stores, provided the mother was well nourished during pregnancy. However, these iron stores are used up by about six months. After this time, there is a gap between a child's iron needs and what they receive from breast milk. This gap needs to be filled by giving iron-rich complementary foods daily.
- If the child does not get enough iron from food, the child will become anaemic. The child will be more likely to get infections, and will grow and develop slowly.
- Dark flesh (red meat) and organs of animals, poultry and fish, are the best sources of iron.
- Dark green leafy vegetables, pulses and legumes contains a lot of iron, but iron from plant foods is less easily absorbed by the body. Eating even a small quantity of animal foods together with these foods and eating vitamin C-rich foods (fresh fruits and vegetables) will increase the absorption of iron from plant foods.
- It can be hard for children to meet their iron needs without a variety of animal foods in their diet. Fortified or enriched foods, such as fortified flours, cereals or iron-enriched instant complementary foods, or special food supplements, can help to meet iron needs.
- Zinc is another nutrient that helps children to grow and stay healthy. It is usually found in the same foods as iron. If they are eating foods rich in iron it is likely that they are also receiving zinc.

Some ways of including animal foods in the diets of young children

Some families do not give meat to their young children because they think it is too hard for the children to eat it. Sometimes they avoid fish, fearing that the fish bones may choke the child. Good ideas to try:

- Cook meat with rice or other staples and vegetables, and then mash them together.
- Scrape meat with a knife to make small pieces.
- Pound dried fish so bones are crushed to powder and then sieve before mixing with other foods. Pounded dried fish that includes the bones of the fish is also a good source of calcium.
- Choose cheaper options: organ meats such as liver or heart are often less expensive and have more iron than meat. However, because of its very high vitamin A content, liver is not recommended for children under the age of 1 year. Older children can be given a small amount of liver once a week.

Guideline 9.

Use clean and safe water for handwashing, drinking and food preparation

Food safety is important for healthy living. Several diseases may be transmitted through foods if clean and safe water is not used. Poor sanitation and dirty hands can contaminate food: one of the most common results is diarrhoea. For young children, diarrhoea is one of the biggest dangers.



Good Hygiene

- Always wash hands with soap and water after having cleaned your baby, after going to the toilet, after blowing your nose, after touching animals, after working in the garden and after handling household or garden rubbish or chemicals.
- Always wash hands before handling food and often during food preparation.
- Wash hands before eating.

How to make water safe

- Boil water or use water from a safe source, such as a borehole or protected well.
- Protect the drinking water supply.
- Use a clean container to collect water.
- Store water in a clean, covered container.



When preparing foods

- Wash your hands and child's hands with soap and water before handling food, and frequently during food preparation.
- Wash and dry chopping boards in bright sunlight; wash all surfaces and equipment used for food preparation.

Other tips for keeping food safe

- Cook foods thoroughly, especially meat, offal, poultry, eggs and seafood. Meat should have no red juices;
- Boil eggs so they are hard. Do not eat raw or cracked eggs.
- Separate raw meat, poultry and seafood from other foods. Use separate knives and chopping boards for these foods.
- Reheat cooked leftover food thoroughly, until it is boiling hot throughout.
- Heat cooked food to a high temperature just before serving.
- Use fresh food, don't use food that is old or rotten.
- Wash fruit and vegetables, especially if eating raw.

See the *WHO 5 keys to safer food*¹⁷ manual for more ideas for food safety at home.

¹⁷ <http://www.who.int/foodsafety/publications/5keysmanual/en/>

Guideline 10.

If you live a sedentary life, do some physical activity for at least 20-30 minutes daily

This guideline is very important for people who have sedentary or light activity lifestyles. Examples are office workers in urban areas, who only occasionally engage in physically tiring activities, and women who do light household chores and care for children in their homes.

Being active means moving parts of the body and using the muscles. Physical activity can be from activities that are part of daily living or work (e.g. climbing stairs to get to your office every day), from sport or from doing exercises. Moving the body frequently uses up energy. Being less active increases the risk of overweight and obesity, which could lead to several severe health problems such as heart disease and diabetes. Physical activity is also very important for children and adolescents: the regular performance of physical activity, together with good nutrition, is associated with health, adequate growth and well-being, and probably with lower risk of disease in adult life.

Daytime outdoor physical activity can help to maintain vitamin D levels in the body. Ten to fifteen minutes of sun exposure of the hands, face and arms two to three times a week is recommended¹⁸.

How to be more physically active

- When going short distances, try walking instead of taking the bus or driving.
- Get involved in some community sporting activity, such as football, volleyball or wrestling.
- Do sport activities with your children.

Benefits of exercise and including physical activity in your daily life

- Makes you feel happier and more relaxed.
- Makes you sleep better.
- Keeps your muscles in good condition.
- Helps to keep your bones strong.
- Helps maintain a healthy body weight.
- Lowers the risk of developing diseases such as heart disease and diabetes.
- Gives you more mental energy and physical energy.

¹⁸ Children over the age of 6 months should be exposed to sunlight in the early morning or late afternoon, for a few minutes a day or twice a week.

How much exercise do we need?

- Adults need at least 30 minutes of moderate to vigorous activity most days of the week.
- Children need at least 60 minutes a day of moderate-intensity physical activity.
- Both children and adults should try to build in physical activities such as brisk walking, climbing stairs or cycling as part of everyday activities.

Annex A.

Developing the Food-Based Dietary Guidelines for Afghans: the process

Development Process

The guidelines were developed by a multi-sectoral group of experts from various ministries including public health, agriculture, irrigation and livestock and education, together with experts from the various UN Organizations and NGOs. The recommended process for developing Food-Based Dietary Guidelines, as shown in Figure A.1, was used in Afghanistan. The two final stages (implementation and regular monitoring and evaluation) will be carried out as described in the National Communication strategy for Promotion and Dissemination¹⁹.

In order to test the draft guidelines, 45 focus group discussions involving 540 individuals were conducted across the eight geographical regions of Afghanistan. The focus group discussions were conducted in both urban and rural areas consisting of male (23 groups) and female (22 groups) participants. Each of the 10 messages were tested in fifteen focus groups. Based on the results of the focus group discussions some of the preliminary messages were revised and/or adjusted.

Four possible graphical representations (a tray, a bowl, a tablecloth and a flat basket) of the food groups in the recommended dietary proportions were also tested. The final selected graphic (a tablecloth) was chosen by over 80% of the focus group participants as their preferred choice. In order to ensure that pictures of foods used in the development of the graphic were representative of those consumed by the Afghan population, an analysis was carried out to determine the most commonly consumed foods using different food categories.

The ten final guidelines thus obtained were validated in the field by implementing household trials. The objectives of these trials were a) to test if people were willing, capable and motivated to follow the recommendations; and b) to identify education issues and needs to be considered during dissemination and promotion of the FBDGs. This trial involved 225 households (125 urban, 100 rural). Each household was asked to practice one guideline for one week. A reminder card with the guideline written on it, together with tips on how to follow the guideline, were read out, explained and left with each household. In a second visit conducted a week later, trained interviewers collected information to determine to what extent the guideline had been followed, and how easy/difficult it was for the people to follow the guideline.

¹ For details on promotion and dissemination, see the National Communication Strategy for Promotion and Dissemination of Food-Based Dietary Guidelines (FBDGs) 2016-2020.

Nutrient intake goals

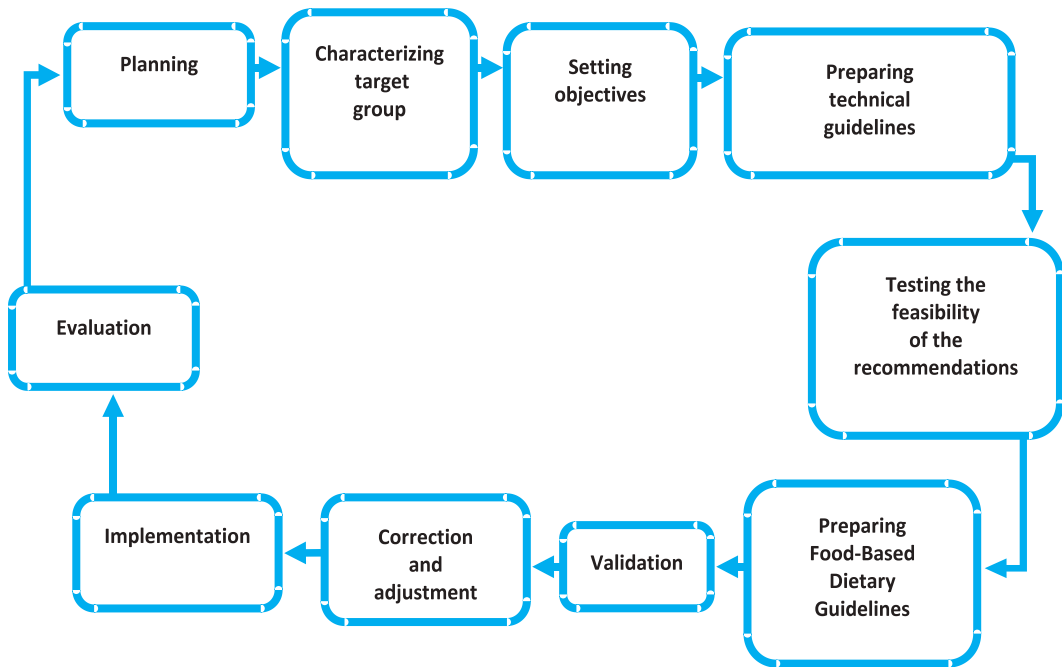
The population nutrient intake goals represent the average intake of energy and nutrients needed for a healthy lifestyle. A reference framework which covers the daily energy requirement of the majority of the population was established. The three reference categories set were: 1300 kcal, 2200 kcal and 2800 kcal of energy each day, to ensure that energy intake needs for different ages, genders and levels of physical activity were covered (Table A.1). In addition, energy levels of 1600 kcal and 2000 kcal were also considered, to cover schoolchildren 6-9 years and 10-12 years, respectively.

Once energy requirement levels were defined, nutrient goals for each energy level were calculated as shown in Table A.1. A slightly different pattern (compared with the other two energy levels) was selected for the 1300 kcal diet in order to take into account the smaller stomachs of young children who need energy and nutrient-dense foods. Micronutrients were also taken into consideration.

Table A.1. Population framework nutrient goals

Nutrient class	Nutrition distribution	
	kcal	gram
1300 kcal/day category		
Carbohydrate (57%)	741	185
Protein (13%)	169	42
Fat (30%)	390	43
2200 kcal/day category		
Carbohydrate (60%)	1320	330
Protein (15%)	330	82
Fat (25%)	550	61
2800 kcal/day category		
Carbohydrate (60%)	1680	420
Protein (15%)	420	105
Fat (25%)	700	78

Figure A.1. Process used in the development of Food-Based Dietary Guidelines



Source: “Developing Food-Based Dietary Guidelines – A Manual from the English-speaking Caribbean”. FAO, 2007.

Annex B.

Foods commonly eaten in Afghanistan

FOOD GROUP	ENGLISH	DARI	Serving ¹
Cereals & tubers (starchy foods)	Barley	Jaw	~1/4 Naan; ~2/3 cup cooked or ~1/4 cup raw rice; 1 small boiled or 1 medium sized raw potato; ~ 2/3 cup cooked or ~1/4 cup raw macaroni or spaghetti .
	Bread	Naan	
	Macaroni	Macaroni	
	Maize [corn]	Jawari	
	Potato	Kachaalo	
	Rice	Berinj	
	Rye	Jawdar	
	Semolina	Aard-e-Soji	
	Spaghetti	Ash	
	Wheat	Gandoom	
	Wheat-flour	Aard-e-Gandoom	
Vegetables	Basil	Raihan	1 cup cooked vegetables, 1/2 cup raw vegetables, although it will depend on the vegetable, e.g. 1 cup boiled or 1/2 cup raw beetroot; ~1 cup raw or 1cup boiled or ~1/4 cup fried okra; ~1 cup boiled or 1 cup raw carrot; ~1 cup boiled (mashed pumpkin) or 1.5 cups raw pumpkin.
	Beet greens	Barg-e-lablabo	
	Beetroot	Lablaboo	
	Broad Bean Leaves	Barg-e-baquli	
	Broccoli	Broccoli	
	Cabbage	Karam	
	Carrot	Zardak	
	Cauliflower	Gulpi	
	Clover	Shabdar	
	Coriander	Gashniz	
	Cucumber	Badrang	
	Dill	Shebet	
	Eggplant	Badunjan-e-seya	
	Garden Cress	Tratezak	
	Garden heliotrope	Khulfa	
	Garlic	Seer	
	Ginger	Zanjabil	
	Green bean	Fasilia	
	Green chilli or green pepper	Murch-e-Taza/Sabz	
	Green Onion	Nosh Peyaz	
	Lettuce	Kahou	
	Mint	Nana	
	Mushroom	Samaaroq	
	Okra	Bamya	
	Onion	Peyaz	
	Parsley	Jafari	
	Pumpkin	Kado	
	Pumpkin Flowers	Gul-e-Kado	
	Radish Leaves	Barg-e-Muli	
	Radish, Red/White	Muli shorkha/turb	

¹ An empty cup = 250 ml; 1 teaspoon = 5 ml; 1 tablespoon = 15 ml. The weight of each food will depend on its density (for example, the weight of 2/3 cup of cooked macaroni is only ~90 g, while the weight of 2/3 cup cooked rice is ~125 g. This is because macaroni is less dense than rice, so a smaller mass (weight) is needed to make up the same volume (2/3 cup).

National Food-Based Dietary Guidelines for Afghans

FOOD GROUP	ENGLISH	DARI	Serving ¹
	Rhubarb	Rawash	
	Saffron	Zafaran	
	Spinach	Palak	
	Sweet paper	Murch-e-Dolma	
	Tomato	Badenjan-e-Rumi	
	Turnip	Shalgham	
	Zucchini	Kadocha	
Fruit	Apple	Seeb	1 small apple or small banana; 1 pear; 2 tablespoons dried fruit e.g. raisins; 1 large slice melon; large pitted, dried dates ; 2 3 small plums or apricots; ~100 g grapes.
	Apricot, dried	Keshta	
	Apricot Fresh	Zardaloo	
	Banana	Kela	
	Blackberry	Shah Toot	
	Cherry	Gelas	
	Date, dried	Khurma	
	Fig	Angir	
	Grape	Angur	
	Guava	Amrot	
	Kiwi	Kiwi	
	Lemon	Lemou	
	Loquat	Loquat	
	Mango	Am	
	Melon	Kharboza	
	Mulberry	Toot	
	Orange	Narenj	
	Peach	Shaftaalo	
	Pear	Naak	
	Persimmon	Amlok	
	Pineapple	Ananaas	
	Plum	Alo	
	Pomegranate	Anaar	
	Prunes	Aloi Bokhara	
	Quince	Behe	
	Raisins	Keshmesh	
	Service berry	Senjed	
	Strawberry	Toote Zamini	
	Sugar cane	Naishakar	
	Sweet orange	Keno/malta	
	Water melon	Tarboz	
Meat, fish & eggs	Beef	Goosht-e- Gaw	30 g cooked lean beef or lean lamb; 55 g raw lean beef or lean lamb; 30 g cooked or 60 g raw chicken breast without skin; 30 g raw chicken legs without skin; 30 g–60 g cooked fish (will vary with type of fish); 55 g raw beef, veal or lamb liver; ~50 g cooked beef, veal liver; 1 large, hardboiled egg.
	Camel Meat	Goosht-e- Shotor	
	Chicken Meat	Goosht-e- Moorgh	
	Deer Meat	Goosht-e- Aaho	
	Duck Meat	Ghosht-e- Morghaabi	
	Egg-Duck	Tokhm-e- Morghaabi	
	Egg-Hen	Tokhm-e- Moorgh	
	Egg-Turkey	Tokhm-e- Filmoorgh	
	Fish	Mahi	
	Goat Meat	Goosht-e-Booz	
	Liver	Jeegar	
	Mutton	Goosht-e-Gosfand	
	Partridge Meat	Goosht-e- Kabk	
	Pigeon Meat	Goshte-e- Kabotar	
	Quail Meat	Goosht-e- Bodana	
	Rabbit Meat	Goosh-e- Khargosh	

National Food-Based Dietary Guidelines for Afghans

FOOD GROUP	ENGLISH	DARI	Serving ¹
	Sparrow Meat	Goosht-e- Gonjeshk	
	Tripe	Shekamba	
	Trotters (lamb or beef head/feet)	Kala wa Paacha	
	Turkey Meat	Goosht-e-Filmorgh	
	Veal	Goosht-e- Gosaala	
Pulses, beans, nuts & seeds	Almond	Baadaam	~1/2 cup boiled or ¼ cup raw lentils/ chickpeas/ green peas/mung beans; 20 g walnuts; 30 g almonds or pistachios; 2 tablespoon sesame seeds.
	Apricot seed	Tokhme Zardalow	
	Beans	Lobia	
	Broad Bean	Baquli	
	Chickpea	Nakhod	
	Coconut fresh	Naarial	
	Coconut water	Ab-e-Naarial	
	Groundnut [peanut]	Mongpali	
	Hazelnut	Fondoq	
	Lentils	Adas	
	Melon seed	Tokhme Kharboza	
	Pea	Nakhod Sabz	
	Pistachio nut	Pista	
	Poppy seed	Tokhme khashkhash	
	Pumpkin seed	Tokhme kado	
	Red Gram	Nask	
	Sesame seed	Konjed	
	Soybeans	Soybean	
	Pine nut (chigoza)	Jalghoze sia	
	Split pea	Daalnakhod	
	Sunflower seed	Tokhme guli aaftab parast	
	Walnut	Chaarmaghz	
	Watermelon seed	Tokhme tarbooz	
Dairy (milk & products)	Buttermilk/fermented or soured milk/diluted curd or diluted yoghurt	Doogh	~½ cup whole cow's milk or goat's milk; ¼ cup sheep milk or buffalo milk; 15–20 g whole milk powder (which when reconstituted makes ½ cup of liquid milk); ~½ cup plain yoghurt; 20 g cottage cheese; 20 g sweetened condensed milk.
	Cheese	Paner	
	Curd (coagulated buttermilk)	Chaka	
	Dried curd/dried buttermilk	Qorot	
	Milk cream	Qaimaq	
	Milk, buffalo	Sher-e-Gawmesh	
	Milk, camel	Sher-e-Shutor	
	Milk, cow	Sher-e-Gaw	
	Milk, goat	Sher-e-Boz	
	Milk, sheep	Sher-e-Gosfand	
	Whole milk powder	Sher-e-khoshk	
	Yogurt	Maast	
Fats and oils	Butter	Maska	1 teaspoon of oil, butter ghee or sheep fat.
	Cottonseed oil	Roghan-e-ponba dana	
	Cow ghee	Roghan-e-gaw	
	Linseed oil	Roghan-e-Zegher	
	Maize [corn] oil	Roghan-e-Jawari	
	Mustard oil	Roghan-e-Sharsham	
	Olive oil	Roghan-e-Zaiton	
	Poppy Seed oil	Roghan-e-khash khash	
	Sesame oil	Roghan-e-Konjed	
	Sheep fat (rump)	Roghan-e-Donba	
	Sunflower oil	Roghan-e-guli aaftab parast	

Annex C.

Nutrient content of foods commonly available in Afghanistan

GENERAL NOTES: Values refer to 100 g of raw food, edible portion on fresh weight basis, where "edible portion" refers to the part of the food that can actually be eaten, i.e. without seeds, bone, and skin, for applicable foods. For example, meat part only of chicken legs; melon without the skin; walnuts without the shell; etc.

Scientific names are given for plant foods only.

NOTES ON NUTRIENTS

Fat = total fat. Available carbohydrate = carbohydrates available by difference.

Dietary fibre = total dietary fibre (when only crude fibre values are available, this is indicated by use of square brackets [crude fibre]).

Vitamin A expressed in microgram (μg) retinol activity equivalent (RAE) = μg retinol + $1/12 \mu\text{g}$ β -carotene + $1/24 \mu\text{g}$ α -carotene + $1/24 \mu\text{g}$ β -cryptoxanthin.

Folate = total folate

Vitamin C = mainly L-ascorbic acid, while USDA vitamin C values refer to total ascorbic acid.

SOURCES: The primary source is *Food Composition Table for Bangladesh* (Institute of Nutrition and Food Science, Centre for Advanced Research in Sciences, University of Dhaka, 2014). Foods indicated with an asterisk (*) have been taken from the USDA National Nutrient Database for Standard Reference, Release 27, 2014, as they are not found in the Bangladesh table.

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (µg)	Folate (µg)	Vit. C (mg)
Barley, whole-grain (uncooked)	<i>Hordeum vulgare</i>	324	11.7	10.9	2.2	56.4	17.3	26	5.5	2.77	1	34	0
Bread ("Afghan naan-type")*	<i>Triticum aestivum</i>	275	32.1	9.1	1.2	55.7	2.2	86	1.4	0.84	0	24	0
Bread, sliced "breakfast bread" (white)	<i>Triticum aestivum</i>	272	30.4	8.0	1.4	55.6	2.5	119	2.2	0.68	0	30	0
Macaroni, dry*	<i>Triticum durum</i>	371	9.9	13.0	1.5	74.7	3.2	21	1.3	1.41	0	18	0
Macaroni, cooked*	<i>Triticum durum</i>	158	62.1	5.8	0.9	30.9	1.8	7	1.28	0.51	0	73	0
Maize/corn flour, whole, white	<i>Zea mays</i>	355	10.9	6.9	3.9	69.6	7.3	7	2.4	1.73	0	25	0
Maize/corn, yellow, dried (uncooked)	<i>Zea mays</i>	344	13.1	9.9	3.4	64.7	7.3	12	2.9	3.27	11	20	0
Rice, brown, raw (uncooked)	<i>Oryza sativa</i>	350	12.6	7.6	2.3	73.4	2.8	10	2.8	1.90	0	49	0
Rice, brown, boiled	<i>Oryza sativa</i>	113	72.0	2.4	0.7	23.9	0.5	6	1.0	0.58	0	11	0
Rice, white, raw (uncooked)	<i>Oryza sativa</i>	350	12.2	6.6	0.3	79.7	0.8	5	0.9	1.09	0	6	0
Rice, white, boiled	<i>Oryza sativa</i>	112	71.9	2.1	0.1	25.5	0.3	5	0.4	0.33	0	1	0
Semolina, wheat (uncooked)	<i>Triticum aestivum</i>	346	12.8	10.9	1.4	70.6	3.9	17	1.1	2.18	0	57	0
Vermicelli, wheat (uncooked)	<i>Triticum aestivum</i>	347	11.7	8.9	0.6	74.9	3.2	22	2.0	1.38	0	18	0

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (µg)	Folate (µg)	Vit. C (mg)
Vermicelli, boiled	<i>Triticum aestivum</i>	151	61.6	3.9	0.3	32.6	1.4	11	0.9	0.57	0	5	0
Wheat flour, brown, whole grain	<i>Triticum aestivum</i>	334	12.3	11.3	2.1	62.2	10.7	52	4.9	3.02	0	29	0
Wheat, flour, white	<i>Triticum aestivum</i>	347	12.2	10.6	1.6	70.3	4.4	13	3.8	1.55	0	20	0
Wheat, whole (uncooked)	<i>Triticum aestivum</i>	344	10.0	11.2	2.9	62.0	12.2	41	4.9	2.79	0	38	0
Tubers													
Potato, flesh + skin (uncooked)*	<i>Solanum tuberosum</i>	77	79.3	2.0	0.1	17.5	2.2	12	0.78	0.29	0	16	19.7
Potato, boiled, cooked without skin, flesh, with salt**	<i>Solanum tuberosum</i>	86	77.5	1.7	0.1	20.0	2.0	8	0.31	0.27	0	9	7.4
Sweet potato, orange flesh (uncooked)	<i>Ipomoea batatas</i>	97	73.7	0.9	0.3	21.1	3.0	30	0.6	0.30	719	11	23.0
Sweet potato, pale-yellow flesh (uncooked)	<i>Ipomoea batatas</i>	105	71.7	0.9	0.3	23.1	3.0	25	1.0	0.14	3	11	20.4
Pulses and legumes													
Chickpea (Bengal gram), whole dried (uncooked)	<i>Cicer arietinum</i>	350	8.9	20.4	6.0	44.8	17.4	203	8.8	2.68	3	186	Trace
Chickpea (Bengal gram), whole, boiled	<i>Cicer arietinum</i>	182	52.5	10.6	3.1	23.3	9.1	94	4.0	1.26	2	48	0
Lentil, dried (uncooked)	<i>Lens culinaris</i>	317	12.2	27.7	0.8	43.2	13.2	23	5.1	3.89	3	36	0

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (µg)	Folate (µg)	Vit. C (mg)
Lentil, boiled	<i>Lens culinaris</i>	155	56.9	13.6	0.4	21.2	6.5	12	2.2	1.72	1	9	0
Mung bean (green gram), split dried (uncooked)	<i>Vigna radiata</i>	351	9.8	23.7	1.2	60.9	0.7	69	7.2	2.73	3	140	Trace
Mung bean (green gram), split, boiled	<i>Vigna radiata</i>	161	58.5	10.9	0.5	28.1	0.3	30	2.9	1.13	1	32	0
Pea (green pea), dried (uncooked)	<i>Pisum sativum</i>	327	11.7	22.1	2.1	48.3	13.0	75	4.8	3.49	3	33	Trace
Pea (green pea), boiled	<i>Pisum sativum</i>	170	54.0	11.5	1.1	25.2	6.8	37	2.3	1.64	2	9	0
Red gram, split, dried (uncooked)	<i>Cajanus cajan</i>	347	10.8	22.3	1.5	60.4	1.5	55	2.7	2.10	3	103	Trace
Soybean, dried (uncooked)	<i>Glycine max</i>	424	9.2	32.9	19.9	23.6	9.3	241	11.3	5.7	1	100	Trace
Leafy vegetables													
Bitter gourd leaves, green (uncooked)	<i>Momordica charantia</i>	55	84.0	4.9	0.5	6.1	3.1	110	5.2	0.95	357	128	78.3
Bottle gourd leaves (uncooked)	<i>Lagenaria siceraria</i>	26	90.2	2.5	0.6	0.6	4.4	94	3.1	0.49	198	73	47.7
Garden cress (uncooked)*	<i>Lepidium sativum</i>	32	89.4	2.6	0.7	5.5	1.1	81	1.3	0.23	346	80	69
Lettuce, green leaf (uncooked)*	<i>Lactuca sativa</i> var. <i>crispa</i>	15	95.0	1.4	0.2	2.9	1.3	36	0.86	0.18	370	38	9.2
Pumpkin leaves (uncooked)	<i>Cucurbita maxima</i>	29	90.8	2.4	0.4	2.8	2.1	40	2.2	0.2	162	36	37.2

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (μg)	Folate (μg)	Vit. C (mg)
Radish leaves (uncooked)	<i>Raphanus sativus</i>	32	90.7	1.8	0.7	3.4	2.6	147	2.8	0.48	156	70	68.9
Spinach, boiled	<i>Spinacia oleracea</i>	47	83.1	5.4	0.9	1.6	5.3	157	3.1	1.2	672	177	15.5
Spinach (uncooked)	<i>Spinacia oleracea</i>	26	90.8	3.0	0.5	0.9	2.9	90	2.2	0.9	409	194	21.18
Watercress (uncooked)*	<i>Nasturtium officinale</i>	11	95.1	2.3	0.1	1.3	0.5	120	0.2	0.11	160	9	43
Other vegetables													
Common bean, green, raw*	<i>Phaseolus vulgaris</i>	31	90.3	1.8	0.2	7.0	2.7	37	1.03	0.24	35	33	12.2
Beetroot (uncooked)*	<i>Beta vulgaris</i>	43	87.6	1.6	0.2	9.6	2.8	16	0.8	0.35	2	109	4.9
Cabbage (uncooked)	<i>Brassica oleracea</i>	24	92.7	1.5	0.3	2.6	2.5	30	0.5	0.40	5	43	16.1
Carrot, boiled	<i>Daucus carota</i>	43	87.3	1.1	0.3	7.3	3.1	34	0.5	0.07	364	9	0.7
Carrot (uncooked)	<i>Daucus carota</i>	34	89.7	0.9	0.3	6.0	2.6	26	0.4	0.07	329	15	1.4
Cauliflower, boiled	<i>Brassica oleracea</i> var. <i>botrytis</i>	28	91.4	2.7	0.3	2.7	2.1	36	0.8	0.37	1	32	46.4
Cauliflower (uncooked)	<i>Brassica oleracea</i> var. <i>botrytis</i>	27	91.8	2.6	0.3	2.5	2.0	33	0.8	0.41	1	57	72.7
Chilli, green, with seeds (uncooked)	<i>Capsicum annuum</i>	45	85.5	2.8	0.1	5.9	4.7	22	1.6	1.97	10	10	102
Cucumber, peeled (uncooked)	<i>Cucumis sativus</i>	17	95.1	0.8	0.1	2.9	0.7	13	0.6	0.17	4	14	7.2

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (μg)	Folate (μg)	Vit. C (mg)
Eggplant (Brinjal), purple (uncooked)	<i>Solanum melongena</i>	24	91.4	1.9	0.1	2.0	4.1	21	0.4	0.57	4	34	1.3
Fennel, bulb (uncooked)*	<i>Foeniculum vulgare</i>	31	90.2	1.2	0.2	7.3	3.1	49	0.73	0.2	48	27	12
Garlic (uncooked)	<i>Allium sativum</i>	147	61.6	6.9	0.6	27.6	2.1	25	1.6	1.08	0	4	24.1
Gourd, bitter (uncooked)	<i>Momordica charantia</i>	31	90.4	2.1	0.3	3.6	2.6	16	1.8	0.35	24	45	90.6
Leek (uncooked)*	<i>Allium ampeloprasum</i>	61	83.0	1.5	0.3	14.2	1.8	59	2.1	0.12	83	64	12
Okra/lady's fingers, boiled	<i>Abelmoschus esculentus</i>	32	90.0	1.7	0.1	4.7	2.5	72	0.7	0.23	15	26	8.7
Okra/lady's fingers, raw	<i>Abelmoschus esculentus</i>	39	87.7	2.1	0.2	5.7	3.1	93	0.9	0.34	19	60	17.5
Okra/lady's fingers, fried	<i>Abelmoschus esculentus</i>	127	72.1	3.4	7.4	9.0	5.0	128	1.4	0.67	26	60	24.5
Onion (uncooked)	<i>Allium cepa</i>	59	83.7	1.4	0.1	12.2	1.9	24	0.9	0.41	2	19	4.5
Pepper, sweet, green (uncooked)*	<i>Capsicum annuum</i>	20	93.9	0.9	0.2	4.6	1.7	10	0.34	0.13	18	10	80.4
Pumpkin, boiled	<i>Cucurbita maxima</i>	29	90.4	2.2	0.5	2.1	3.8	79	1.1	0.14	554	14	20.1
Pumpkin (uncooked)	<i>Cucurbita maxima</i>	18	93.9	1.4	0.3	1.3	2.4	52	0.7	0.11	369	16	21.1
Radish (uncooked)	<i>Raphanus sativus</i>	18	94.3	0.9	0.1	2.5	1.6	24	0.4	0.38	Tr	25	17.3
Tomato, red, ripe, boiled	<i>Lycopersicon esculentum</i>	30	90.6	2.1	0.5	2.7	3.1	24	0.4	0.66	16	15	14.1

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (µg)	Folate (µg)	Vit. C (mg)
Tomato, red, ripe, fresh	<i>Lycopersicon esculentum</i>	16	95.0	1.1	0.2	1.4	1.7	13	0.2	0.41	9	15	12.3
Tomato sauce (no salt added)*		24	91.3	1.2	0.3	5.3	1.5	14	0.96	0.22	22	9	7
Turnip (uncooked)	<i>Brassica rapa</i>	26	92.1	1.1	0.2	4.1	1.8	32	0.4	0.52	0	15	24.7
Nuts and Seeds													
Almond*	<i>Prunus dulcis</i>	579	4.4	21.2	49.9	21.6	12.5	269	3.71	3.12	0	44	0
Cashew nut*	<i>Anacardium occidentale</i>	595	5.9	18.0	46.9	23.5	3.3	50	5	5.78	1	25	0
Coconut, desiccated	<i>Cocos nucifera</i>	652	4.3	5.6	62.2	8.5	17.8	32	4.7	0.90	0	13	0
Groundnut (peanut)	<i>Arachis hypogaea</i>	585	5.3	22.5	46.6	14.8	8.5	76	2.9	3.39	0	175	0
Hazelnut*	<i>Corylus spp.</i>	628	5.3	15.0	60.8	16.7	9.7	114	4.7	2.45	1	113	6.3
Pistachio nut, dried	<i>Pistacia vera</i>	574	4.5	19.2	44.9	18.2	10.3	117	5.3	2.2	16	51	5.3
Pumpkin seed, dried	<i>Cucurbita maxima</i>	580	6.3	25.1	47.3	10.6	6.0	45	8.1	7.21	1	58	1.5
Sesame seed, whole, dried	<i>Sesamum indicum</i>	563	5.3	17.7	45.8	14.3	11.7	969	10.5	7.70	0	97	0
Sunflower seed, dried	<i>Helianthus annuus</i>	552	4.7	17.1	40.1	26.4	8.6	78	5.3	5.00	2	227	0
Walnut	<i>Juglans regia</i>	684	4.5	15.2	64.5	7.3	6.7	100	4.8	3.09	1	98	1.3
Condiments and Spices													
Cardamom	<i>Elettaria cardamomum</i>	261	20.0	10.2	2.2	37.8	24.4	130	4.6	2.81	0		0

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (µg)	Folate (µg)	Vit. C (mg)
Chilli, red, dry	<i>Capsicum frutescens</i>	313	10.0	15.9	6.2	35.2	26.6	160	2.3	2.48	747	106	47.4
Cinnamon, ground	<i>Cinnamomum aromaticum</i>	243	10.6	4.0	1.2	27.5	53.1	1000	8.32	1.83	15	6	3.8
Clove, dried	<i>Syzygium aromaticum</i>	267	25.2	5.2	8.9	27.4	28.1	740	4.9	1.93	6	21	0
Coriander leaves, fresh*	<i>Coriandrum sativum</i>	23	92.2	2.1	0.5	3.7	2.8	67	1.77	0.5	337	62	27
Coriander seed, dry	<i>Coriandrum sativum</i>	336	11.2	14.1	16.1	13.4	40.8	630	17.9	4.58	0	0	0
Cumin seed	<i>Cuminum cyminum</i>	402	10.0	18.3	17.6	37.2	10.5	1020	44.5	3.89	64	10	7.7
Fennel seed	<i>Foeniculum vulgare</i>	329	8.3	15.8	14.9	13.0	39.8	1200	16.4	3.70	7		0
Fenugreek seed	<i>Trigonella foenum-graecum</i>	330	10.7	21.8	6.9	32.8	24.6	155	23.6	4.70	8	64	Tr
Ginger root, fresh	<i>Zingiber officinale</i>	72	81.1	1.9	0.8	13.3	2.0	17	1.1	0.36	0	11	5
Nutmeg, dried	<i>Myristica fragrans</i>	480	14.3	7.5	36.4	21.1	19.0	120	4.6	1.22	5	69	0
Pepper, black	<i>Piper nigrum</i>	302	11.7	11.8	3.3	43.5	25.3	443	16.7	1.34	27	14	0
Poppy seed	<i>Papaver somniferum</i>	523	5.7	17.2	43.1	6.8	19.5	1490	9.6	9.05	0	82	1
Mint leaves, fresh	<i>Mentha spicata</i>	35	87.4	3.0	0.7	0.6	6.9	110	15.6	1.76	62	114	22.0

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (µg)	Folate (µg)	Vit. C (mg)
Turneric, dried	<i>Curcuma longa</i>	335	11.5	6.9	8.4	47.3	21.1	168	33.2	3.78	1	39	0
Fruits													
Apple, with skin	<i>Pyrus malus / Malus domestica</i>	62	83.3	0.3	0.2	13.5	2.4	6	0.1	0.04	3	3	4.0
Apricot*	<i>Prunus armeniaca</i>	48	86.4	1.4	0.4	11.1	2.0	13	0.39	0.2	96	9	10
Apricot, dried*	<i>Prunus armeniaca</i>	241	30.9	3.4	0.5	62.6	7.3	55	2.66	0.39	180	10	1
Banana, ripe	<i>Musa spp.</i>	95	75.2	1.3	0.8	19.2	2.6	11	0.3	0.24	2	20	1.0
Cherry, sweet*	<i>Prunus avium</i>	63	82.3	1.1	0.2	16.0	2.1	13	0.36	0.07	3	4	7
Date	<i>Phoenix dactylifera</i>	150	59.2	1.2	0.4	33.4	4.1	22	1.0	0.2	2	25	14
Dates, dried	<i>Phoenix dactylifera</i>	301	18.0	2.2	0.6	67.5	8.3	63	1.9	0.4	3	20	0.4
Fig, ripe	<i>Ficus carica</i>	40	88.1	1.3	0.2	6.7	3.1	80	1.1	0.15	7	5	5
Grape, green	<i>Vitis vinifera</i>	94	75.3	0.5	0.6	20.2	2.9	22	0.5	0.07	3	8	29
Guava*	<i>Psidium guajava</i>	68	80.8	2.6	1.0	14.3	5.4	18	0.26	0.23	31	49	228
Lemon	<i>Citrus aurantifolia</i>	56	86.0	0.8	1.0	10.2	1.3	65	0.3	0.07	4	17	45.9
Mango, orange flesh, ripe	<i>Mangifera indica</i>	70	81.7	0.9	0.5	14.7	1.6	14	0.5	0.87	292	71	34.7
Melon, ripe	<i>Cucumis melo</i>	17	95.0	0.3	0.2	3.1	0.8	17	0.2	0.06	105	21	33.9
Mulberry*	<i>Morus nigra</i>	43	87.7	1.4	0.4	9.8	1.7	39	1.85	0.12	1	6	36.4
Orange, sweet, ripe	<i>Citrus sinensis</i>	49	86.3	0.2	0.1	10.7	2.4	31	0.1	0.07	11	46	54
Peach, raw*	<i>Prunus persica</i>	39	88.9	0.9	0.3	9.5	1.5	6	0.25	0.17	16	4	6.6

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (µg)	Folate (µg)	Vit. C (mg)
Pear*	<i>Pyrus communis</i>	57	84.0	0.4	0.1	15.2	3.1	9	0.18	0.1	1	7	4.3
Pineapple, ripe	<i>Ananas comosus</i>	47	87.2	1.0	0.1	9.7	1.4	18	0.7	0.22	5	12	33.9
Plum*	<i>Prunus</i> spp.	46	87.2	0.7	0.3	11.4	1.4	6	0.17	0.1	17	5	9.5
Pomegranate, ripe, with seed	<i>Punica granatum</i>	67	80.9	1.6	0.2	12.7	4.0	21	0.3	0.82	3	38	26
Raisin, seedless*	<i>Vitis vinifera</i>	299	15.4	3.1	0.5	79.2	3.7	50	1.88	0.22	0	5	2.3
Strawberry*	<i>Fragaria xananassa</i>	32	91.0	0.7	0.3	7.7	2.0	16	0.41	0.14	1	24	58.8
Watermelon, ripe	<i>Citrullus vulgaris</i>	22	94.2	0.5	0.2	4.4	0.4	12	0.4	0.15	29	3	23.9
Fish													
Fish, freshwater bass, (raw)*	Percichthyidae and Centrarchidae	114	75.7	18.9	3.7	0.0	0.0	80	1.49	0.65	30	15	2
Fish, tilapia (fillet, raw)	<i>Oreochromis mossambicus</i>	110	76.2	20.8	3.0	0.0	0.0	19	0.5	1.40	2	24	Tr
Meat													
Beef liver (raw)		130	70.8	20.4	3.6	3.9	0.0	4	3.5	3.71	4968	290	1.3
Beef, mix of lean and fatty meat (uncooked)*		278	58.2	17.5	22.6	0.0	0.0	8	1.85	3.59		7	0
Beef, meat, lean, boneless (raw)		103	76.0	20.7	2.3	0.0	0.0	4	2.0	3.52	0	7	0
Buffalo meat (raw)		95	78.7	19.4	1.9	0.0	0.0	12	1.6	1.93	0	8	0
Chicken breast, meat and skin (raw)*		172	69.5	20.9	9.3	0.0	0.0	11	0.74	0.8	24	4	0
Chicken breast, without skin (raw)		106	72.9	22.3	1.8	0.0	0.0	15	0.5	1.70	25	7	0

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (µg)	Folate (µg)	Vit. C (mg)
Chicken breast, without skin, cooked (braised)*		157	65.3	32.1	3.2	0.0	0.0	6	0.49	0.96	10		0
Chicken leg, without skin (raw)		128	71.9	19.2	5.7	0.0	0.0	18	1.0	2.09	23	4	0
Chicken leg, without skin, cooked (stewed)*		185	66.4	26.3	8.1	0.0	0.0	11	1.4	2.78	18	8	0
Chicken leg, meat and skin (raw)*		214	67.3	16.4	16.0	0.2	0.0	9	0.69	1.47	28	4	0.2
Chicken liver (raw)		114	76.5	16.9	4.8	0.7	0.0	18	9.0	2.50	3296	588	17.9
Duck, meat (raw)		130	72.3	21.6	4.8	0.0	0.0	4	2.4	1.90	24	25	0
Goat meat, lean (raw)		118	74.2	21.4	3.6	0.0	0.0	12	2.8	4.00	0	5	0
Lamb/mutton, liver (raw)		150	70.4	19.3	7.5	1.3	0.0	10	6.3	4.00	8250	205	20
Lamb/mutton, meat moderately fat (raw)		196	71.5	18.5	13.5	0.0	0.0	13	2.2	3.92	9	6	0
Lamb, mix of lean and fatty meat, cooked (fast roasted)*		274	58.2	21.1	21.0	0.1	0.0	7	1.44	2.61	16		0
Lamb, mix of lean and fatty meat, raw*		273	60.0	16.6	22.9	0.2	0.0	6	1.29	2.04	15		0
Pigeon meat (raw)		137	70.4	23.3	4.9	0.0	0.0	12	2.5	2.94	18	4	5.6
Quail, meat only, raw*		134	70.0	21.8	4.5	0.0	0.0	13	4.51	2.7	17	7	7.2
Turkey, meat & skin (raw)*		143	72.7	21.6	5.6	0.1	0.0	11	0.86	1.78	17	7	0
Veal, leg and shoulder, lean, raw*		109	76.4	20.3	2.5	0.0	0.0	17	0.88	3.48	0	13	0

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (µg)	Folate (µg)	Vit. C (mg)
Eggs													
Eggs, chicken, whole (raw)		139	72.3	14.5	9.0	Tr	0.0	29	1.5	2.36	165	50	0
Eggs, chicken, whole (boiled)		158	68.5	16.5	10.2	0.0	0.0	35	1.8	2.54	178	45	0
Egg, chicken, yolk (raw)		325	51.9	16.0	27.8	2.6	0.0	120	4.8	3.33	496	109	0
Egg, duck, whole (raw)		188	69.7	13.5	14.3	1.4	0.0	65	2.4	1.41	362	80	0
Egg, duck, whole (boiled)		214	65.6	15.3	16.2	1.6	0.0	73	2.7	1.52	391	73	0
Milk and dairy													
Skimmed milk [buttermilk], fluid, low fat		33	92.2	3.4	0.7	3.1	0.0	103	0	0.41	8	6	0.7
Cheese, cottage, high fat		346	40.3	24.6	25.1	5.4	0.0	790	0.3	3.55	205	40	Tr
Cheese, semi-hard (Gouda-type)*		356	41.5	24.9	27.4	2.2	0.0	700	0.24	3.9	165	21	0
Cream, fluid, heavy whipping*		345	57.7	2.1	37.0	2.8	0.0	65	0.03	0.23	411	4	0.6
Milk, buffalo, whole fat		101	83.3	3.8	7.5	4.7	0.0	206	0.2	0.22	47	6	1.7
Milk, cow, powder, whole		497	3.2	26.6	26.7	37.5	0.0	959	0.7	3.71	238	38	10.7
Milk, cow, whole fat*		61	88.1	3.2	3.3	4.8	0.0	113	0.03	0.37	46	5	0

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (μg)	Folate (μg)	Vit. C (mg)
Milk, cow, whole, condensed, sweetened		334	26.5	8.2	9.4	54.0	0.0	287	0.2	0.97	95	13	3.3
Milk, goat		68	87.2	3.5	4.1	4.3	0.0	152	0.2	0.3	32	1	1.15
Milk, human, colostrum		58	88.2	2.0	2.6	6.6	0.0	28	0.1	0.60	166	2	7.0
Milk, human, mature		69	87.4	1.2	4.0	7.2	0.0	32	0.1	0.26	56	5	4.3
Yogurt, (unflavoured), whole milk*		61	87.9	3.5	3.3	4.7	0.0	121	0.05	0.59	27	7	0.5
Fats and oils													
Butter, salted		733	15.9	0.9	81.0	0.2	0.0	24	0	0.09	633	3	0
Corn oil*		900	0.0	0.0	100.0	0.0	0.0	0	0	0	0	0	0
Cottonseed oil		900	0.0	0.0	100.0	0.0	0.0	0	0	0	0	0	0
Ghee, cow		898	0.1	0.0	99.8	0.0	0.0	1	0.2	0.01	642	0	0
Ghee, vegetable		900	0.0	0.0	100.0	0.0	0.0	2	0.2	0.04	0	0	0
Margarine		750	16.0	0.3	83.3	0.0	0.0	10	0.1	0.05	810	2	0
Meat dripping (beef fat/lamb, mutton fat)*		889	0.0	0.0	98.6	0.0	0.0	0	0	0	0	0	0
Mustard oil	<i>Brassica juncea</i>	900	0.0	0.0	100.0	0.0	0.0	0	0	0	0	0	0
Palm oil	<i>Elaeis guineensis</i>	900	0.0	0.0	100.0	0.0	0.0	0	0	0	0	0	0
Groundnut oil	<i>Arachis hypogaea</i>	900	0.0	0.0	100.0	0.0	0.0	0	0	0.01	0	0	0

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Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (µg)	Folate (µg)	Vit. C (mg)
Sesame oil	<i>Sesamum indicum</i>	900	0.0	0.0	100.0	0.0	0.0	0	0	0	0	0	0
Soybean oil	<i>Glycine max</i>	900	0.0	0.0	100.0	0.0	0.0	0	0.1	0.01	0	0	0
Beverages													
Coconut water	<i>Cocos nucifera</i>	20	94.5	0.6	0.3	3.2	1.1	20	0.2	0.10	0	3	3.3
Orange juice (unsweetened)	<i>Citrus spp.</i>	9	97.7	0.2	0.1	1.7	0.2	5	0.7	0.05	2	6	64
Soft drinks, carbonated		41	89.6	0.0	0.0	10.3	0.0	6	0.3	0.02	0	0	0
Soy milk (not sweetened)	<i>Glycine max</i>	54	87.8	2.8	2.4	4.9	0.5	13	0.43	0.3	0	9	0
Sugarcane juice	<i>Saccharum officinarum</i>	33	91.7	0.7	0.0	7.5	0.0	8	1.1	0.01	0	Tr	Tr
Tea (black tea) infusion (with sugar and milk powder, whole fat)	<i>Camellia sinensis</i>	41	90.4	0.7	0.8	7.6	0.2	28	0.4	0.11	6	1	0.3
Tea (black tea), infusion (with sugar)	<i>Camellia sinensis</i>	29	92.4	0.2	0.0	7.1	0.1	5	0.1	0.03	0	1	0
Tea (green tea) infusion (without sugar)*	<i>Camellia sinensis</i>	1	99.9	0.2	0.0	0.0	0.0	0	0.02	0.01	0	0	0
Tea, powder	<i>Camellia sinensis</i>	296	5.7	20.2	0.0	49.5	8.5	118	2.3	1.69	0	103	0
Water, drinking		0	100.0	0.0	0.0	0.0	0.0	3	0.1	0.00	0	0	0
Sugars and other food													

Food	Scientific name	Energy (kcal)	Water (g)	Protein (g)	Fat (g)	Available carbohydrate (g)	Dietary fibre (g)	Ca (mg)	Fe (mg)	Zn (mg)	Vit. A RAE (μg)	Folate (μg)	Vit. C (mg)
Beef sausage, pre-cooked*		405	43.8	15.5	37.6	0.0	0.0	15	1.53	2.92	25	5	0.7
Biscuit, sweet*		344	24.3	5.8	10.0	56.7	2.4	83	2.1	0.87	0	7	0
Chocolate (sweet)*		507	0.5	3.9	34.2	60.4	5.5	24	2.76	1.5	0	3	0
Honey		326	18.2	0.3	0.0	81.1	0.2	5	0.5	0.49	0	1	1.4
Ice cream, vanilla*		207	61.0	3.5	11.0	23.6	0.7	128	0.09	0.69	118	5	0.6
Jams and preserves*		278	30.5	0.4	0.1	68.9	1.1	20	0.49	0.06	0	11	8.8
Pickled cucumber, sour*		11	94.1	0.3	0.2	2.3	1.2	0	0.4	0.02	10	1	1
Sugar, white		398	0.4	0.0	0.0	99.5	0.0	12	0.2	0.10	0	0	0

Annex D.

Healthy local recipes to try

This section is based on material in the FAO/UNICEF publication 'Healthy Food, Happy Baby, Lively Family'.²¹

Cabbage Qorma (Qorma Karam) – for 7 people

Ingredients

- 1 kg small cabbage
- 2 cups of water
- 2 medium size onions (200 g)
- 2 medium size tomatoes
- 7 tablespoons oil
- 1 cup peas (*Dal nakhod*)
- Iodized salt to taste
- 1 cup yogurt



Preparation

- a) Soak the peas for a few hours. Drain them, and cook them in water for about 25 minutes in a normal pot or 10 minutes in a pressure cooker
- b) Put oil into a separate pot and add the onions
- c) Fry the onion until slightly brown
- d) Add tomatoes and cabbage and cook for 10 minutes
- e) Add the cooked peas and cook for 5 minutes
- f) Add yogurt and serve

Serve with one loaf of bread

²¹ FAO/UNICEF. 2008. Healthy Food, Happy Baby, Lively Family. Improved feeding practices and recipes for Afghan children and mothers. Prepared by C. Dirorimwe. Published by arrangement with FAO and the Ministries of Agriculture, Irrigation and Livestock, and of Public Health, Government of Afghanistan. Available at <http://www.fao.org/ag/humannutrition/15403-0397cd6b1f6ca0073374b4c8c9f642644.pdf> Accessed 2014-08-23.

Eggplant and cheese (Banjan Krut) – for a family dish of 5 people

Ingredients

5 medium eggplants (1 kg)
4 medium potatoes (½ kg)
2 large tomatoes (250 g)
10 tablespoons oil (200 g)
4 cloves of garlic (50 g) (2 for dish, 2 for krut)
2 medium size onions (200 g)
2 cups *krut*, cream (*chaka*) or yogurt (½ kg)
½ cup water
Iodized salt to taste



Preparation

- Fry the onion until light brown
- Add chopped tomatoes and garlic
- Add potatoes, egg plants and ½ glass of water and cook for 20 minutes
- Take off from the heat and add the *krut*, *chaka* or yoghurt and serve

Serve with one loaf of bread

Vegetable spaghetti (ash tarkari) - for 7 people

Ingredients

Around 250 g spinach (two big fistfuls)
or leek
400 g spaghetti
5 medium turnips
5 cloves of garlic
2 big onions
2 medium size tomatoes or tomato paste
Iodized salt to taste
2 big potatoes
 $\frac{1}{2}$ cup chickpeas plus $\frac{1}{2}$ cup beans (or 1 cup of either chickpeas, beans or lentils)
2 tablespoons oil
2 cups of cream or 3 cups of yoghurt
2 litres water



Preparation

- Boil the beans and chickpeas with 3 cups of water in a pressure cooker for 20 minutes
- Cut the vegetables and turnip
- Put the oil in a clean pot and fry the onion until light brown; add tomatoes or tomato sauce
- Add water, boiled beans, chickpeas, spaghetti, turnip and onions, and boil for 20 minutes
- Add salt and cook on low heat for 5 minutes
- Add cream or yoghurt and serve the food.

Bread is optional

Vegetable rice (Shola tarkari)

Ingredients

- 2 onions
- 2 medium size potatoes
- 2 medium size tomatoes or 1 tablespoon tomato paste
- 4 tablespoons oil
- ½ cup chick peas plus ½ cup beans (or 1 cup of beans or chickpeas)
- spinach - a few leaves
- 2 carrots
- 3 cups rice
- 6 cups water
- Iodized salt to taste
- Coriander - a few branches



Preparation

- Fry the onions
- Add potatoes and add the chick peas after cooking them in a pressure cooker
- Cut the coriander, spinach and carrot into pieces and add them
- Add salt and cook the mixture in a pressure cooker for 15 minutes

Annex E. Glossary

Animal source foods	All food items that come from an animal source such as meat, fish and poultry. Also eggs, milk and milk products such as cheese, <i>doogh</i> , <i>chaka</i> and <i>qorut</i> .
Anti-nutrients	These are found in some plant foods. Anti-nutrients affect the human body's ability to make use of protein and amino acids, and of minerals such as iron, zinc and calcium. Examples of anti-nutrients: phytates in wholegrain cereals, nuts, seeds and pulses; polyphenols in legumes, coffee and tea; and oxalates in spinach, almonds and sesame seeds.
Antioxidant	Substances with disease fighting properties that protect cells from damage by other substances called free radicals. Examples of dietary antioxidants include beta-carotene, lycopene, and vitamins A, C and E
Body Mass Index	Body Mass Index (BMI) is a calculated value that is an indicator of healthy weight for height. In adults a healthy BMI range is 18.5 to 25 kg/m ² .
Complementary feeding	Adding food to the diet of a child when breast milk is no longer enough to meet their nutritional needs. Complementary foods are introduced in addition to breast milk at 6 months of age.
Chronic disease	A disease that takes a long time to develop, and is not contagious. Chronic diseases cannot be cured, but they can be controlled through diet, lifestyle modifications and medication.
Diabetes	A medical condition where the body does not produce insulin, or the insulin does not work well, and as a result glucose (sugar) from the blood cannot enter the cells of the body.
Diet	The kinds of food that a person, animal, or community habitually eats. A balanced diet for good health needs to contain foods from all food groups.
Energy-dense foods	Food with a high content of calories (energy) with respect to its mass or volume. An example is vegetable oil or butter.
Food groups	Most foods contain many different nutrients and can be grouped in various ways. Here, foods are divided into seven groups based on nutrient content and their typical use in a mixed meal.
Iodized salt	Table salt that has been fortified with iodine. This is required by law in Afghanistan.

Kilocalorie (kcal)	A unit of energy measurement that is calculated expressed in relation to nutrition.
Macronutrients	Nutrients required by the body in fairly large amounts: carbohydrates, fats, protein.
Micronutrients	Nutrients needed by the body in very small quantities. They are absolutely essential to regulate and control body processes to sustain life and health. In human nutrition, the micronutrients are vitamins and minerals.
Micronutrient deficiency	Lack of vitamins and minerals required by the body in small amounts which are essential to the proper functioning of the body. They are found in a wide range of foods, which is one reason why a balanced diet with a wide variety of foods is important.
Mixed meal	A diet is likely to be healthy when it has three or more mixed meals each day. Most mixed meals will include a starchy food, and foods from different food groups. Ideally, one should include food from most of the food groups, most days of the week.
Nutrients	Substances found in food that are absorbed and used by the body for energy, growth, repair and protection from disease.
Nutrient-dense foods	The more nutrient-dense foods are those that contribute more beneficial nutrients (especially micronutrients) than calories to the overall diet. The best examples are vegetables and fruit.
Serving	A reference amount of food which contains a specific caloric value.
Infant	Refers to children below one year of age.
Young Children	Refers to children between 1 and 2 years of age.

The 10 Dietary Guidelines for Afghans

1. Eat different types of food daily.
2. Eat different types of fruit and vegetables daily.
3. Eat lean meat, poultry, fish, eggs and dairy products.
4. Reduce sugar intake and avoid sweet carbonated beverages.
5. Use less salt and eat fewer fatty foods and highly-processed foods.
6. Pregnant and lactating women should increase intake of all the food groups daily, especially foods that are rich in iron.
7. Give infants only breast milk for the first 6 months of life.
8. From 6 months onward, feed infants and young children different nutritious foods in addition to breast milk and continue breastfeeding until 24 months.
9. Use clean and safe water for handwashing, drinking and food preparation.
10. If you live a sedentary life, do some physical activity for at least 20–30 minutes daily.

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