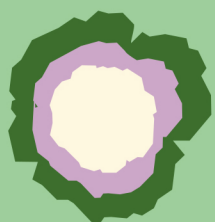
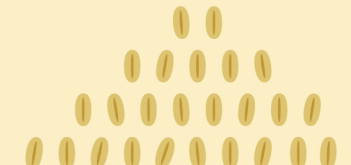




الهيئة العامة للغذاء والتغذية
PUBLIC AUTHORITY FOR FOOD AND NUTRITION
P. A. F. N

Kuwait Food Based Dietary Guideline



كلية العلوم الحياتية
College of Life Sciences



كلية الصحة العامة
College of Public Health



جامعة الكويت
KUWAIT UNIVERSITY



معهد دسمان للسكري
Dasman Diabetes Institute



معهد الكويت للأبحاث العلمية
KUWAIT INSTITUTE FOR SCIENTIFIC RESEARCH



وزارة الصحة

Copyright © 2023 Public Authority for Food and Nutrition. All rights reserved. For permission to photocopy or use material electronically from this work, please access www.pafn.org.kw Paperback: **ISBN 978-9921-0-2992-5**

Foreword

In line with the Sustainable Development Goals (SDG), the food-based dietary guideline is a crucial step in the national action strategy to prevent and control non-communicable diseases in Kuwait. The prevalence of chronic diseases in Kuwait is high and rising at an unprecedented rate. Cardiovascular disease, obesity, type 2 diabetes, chronic respiratory diseases and some types of cancer have been extensively documented and found to impact the health and wellbeing as well as the quality of life among all age groups of the population in Kuwait.

The recent rapid economical and urban shifts in the state of Kuwait have accelerated the nutrition transition promoting an obesogenic environment. Poor eating habits, insufficient physical activity, sedentary lifestyles and tobacco use are known to be the main drivers of these chronic diseases and are implicated in the development of micronutrient-related diseases such as nutrition-related iron deficiency (IDA). Altering modifiable behavioral risk factors may help promote general health, improve dietary behaviors, increase physical activity, encourage smoking cessation, thus reducing the risk of chronic non-communicable diseases and alleviate the economic burden on healthcare services.

Kuwait food-based dietary guidelines (KFBDG) have been developed by eight experts from renowned institutes in Kuwait; Public Authority for Food and Nutrition, Ministry of Health Food and Nutrition Department, Dasman Diabetes Institute, Kuwait Institute for Scientific Research, Kuwait University - College of Public Health and College of Life Sciences. Their expertise ranges from an array of fields in Public Health Nutrition, Applied Research, Social and Behavioral Science, Clinical Nutrition and Medicine. Their collaborative effort enabled the development of recommendations related to dietary habits, physical activity and lifestyle practices with health outcomes.

The nine messages included aim to promote overall health, improve dietary habits, and reduce the risk of lifestyle-related diseases. Each message is based on simple information to improve nutrition knowledge and instill necessary skills. The recommendations are achievable and are based on available and culturally accepted foods to facilitate the adoption of healthy eating and lifestyle practices in different settings, including homes, working places and schools.

Considering the scarcity of data on the rapidly changing consumption behavior of the Kuwaiti population, KFBDG has been tailored to the nutritional needs of the population. Moreover, the messages guidance highlights the importance of eating behaviors in the home environment, raises awareness on food security and food sustainability, as well as the promotion and protection of breastfeeding.

As a whole, the guideline messages are integrated and linked together to comprehensively offer the population in Kuwait with sound recommendations to support their journey towards a healthier and more sustainable future.

Acknowledgment

The Public Authority For Food and Nutrition would like to offer its sincere thanks and gratitude to the Kuwait Foundation for the Advancement of Sciences for providing financial support for the issuance of this guideline, and would like to extend its gratitude to the working group who contributed to the completion of the Kuwait Food Based Dietary Guidelines.



Working group

Public Authority for Food and Nutrition

Dr Nawal AlHamad, MD, PhD

Former Assistant Undersecretary, Deputy Director General

Mrs Wajid AlOthman, MSc.

Senior specialist Community Nutritionist

Dr Entisar AlShami, MD, MSc

Food Security Department

Dasman Diabetes Institute

Dr Ebaa AlOzairi, MD, MRCP,

CCT, ABPNS, FACN

Chief Medical Director

Endocrinology and Nutrition

Ministry of Health

Food and Nutrition Administration

Dr Nawal AlQaoud, MD, DCH, MSc.

Director Food and Nutrition Dept.

Pediatric Nutritionist

Dr Maryam AlDwairji, MD, PhD, RNutr

Senior specialist Nutritionist

Kuwait Institute of Scientific Research

Environment and Life Research Center

Dr Sameer Al Zenki, PhD

Science and Technology Director

Consumer representative

Salma AlEssa

Kuwait University

College of Public Health

Department of Social and Behavioral Science

Dr Dana AlTarrah, BSc, MSc, PhD, RNutr

Assistant Professor of Child Health

Clinical Nutritionist

College of Life Sciences

Department of Food and Nutrition

Dr Ahmed Al Dughpassi, BSc, MSc, PhD,

Assistant Professor of Nutrition

Dietitian

Great appreciation to Dr. Salam Al-Ablani, Director of the Scientific Culture Department, and Dr. Laila Al-Moussawi, Director of Publishing Scientific and Technical Programs and Acting Director of the Scientific Culture Department at the Kuwait Foundation for the Advancement of Sciences.

Extended Acknowledgment

Support Team

Public Authority for Food and Nutrition

Dr Mona AlSumaie, MD, PhD
Community Nutrition Promotion Department

Mr Syed Malt, MSc
Senior Specialist Nutritionist

Mrs Eman AlDehany
Community Dietitian

Mrs Fatema AlShemali
Community Nutritionist

Mrs Dalal AlNaibary
Community Dietitian

Mrs Fatema AlBisher
Community Dietitian

Ministry of Health Food and Nutrition Administration

Hana Sabri Freihat
Senior Dietitian

Sawsan Saliem Shatnawi
Senior Dietitian

Content design and layout

Advancement of Sciences Publishing and
Distribution (ASPD)

Food Graphic Design

Mr Mohammad Sharaf
Sharaf Studio

Photography

Mr Yousef ALbattashi
Photography

AlBohayra Farm Provision
of photos

Contents

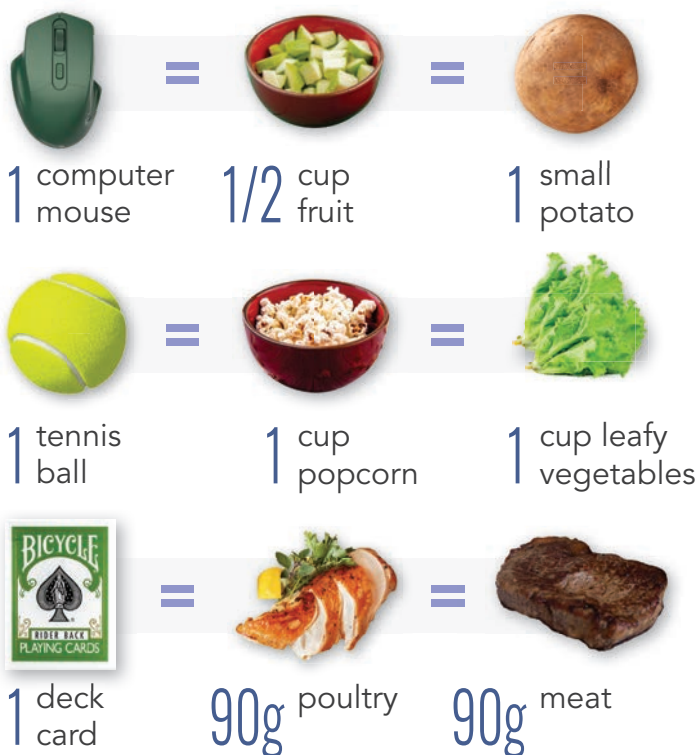
p. 6	Food serving size guide
p. 8	Eat a healthy and balanced diet consisting of the five food groups everyday
p. 20	Make natural and minimally processed foods the base of your daily meals
p. 22	Drink adequate amount of water every day
p. 24	Limit your intake of fat, added sugar and salt
p. 30	Know your food: Read the food labels to make healthier choices
p. 32	Practice safe and clean food handling methods
p. 34	Adopt a healthy lifestyle and protect your environment
p. 38	Maintain a healthy body weight
p. 40	Move more and stay active

Food serving size guide

Background

A serving size is a useful guide to help measure food intake. Measuring the serving size of food is encouraged to avoid over and under consumption of food. You can weigh food using scales, or volumetric tools or commonly used objects.

Visual guide to serving size



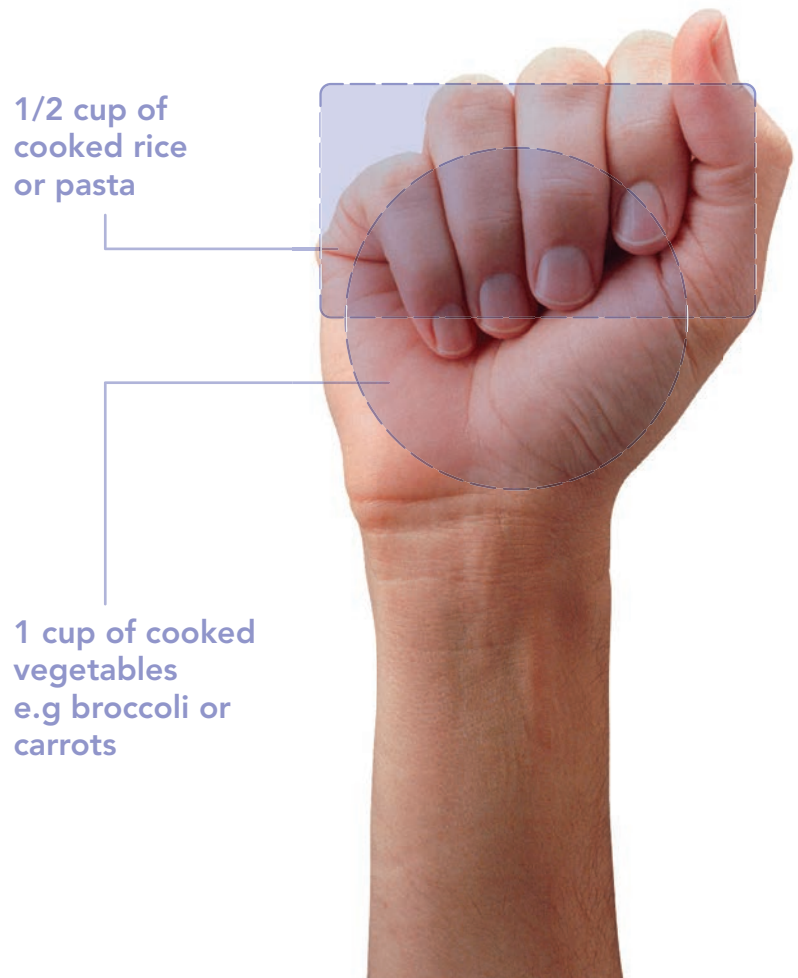
Volumetric tools

250 ml 1 cup

5 ml 1 teaspoon

15 ml 1 tablespoon

Visual guide to serving size



1 Eat a Healthy and Balanced Diet Consisting of the Five Food Groups Everyday





Vegetables

3-5 servings/day

-  8 florets of broccoli
-  1/2 cup cooked carrots
-  2 cups leafy greens




Fruits

4 servings / day

-  1 medium apple
-  2 small kiwi
-  1/2 cup (125 ml) fruit juice


Cereals

7/8 servings / day for women / men

-  1 slice wholemeal bread (40 g)
-  1/2 cup cooked pasta / noodles
-  2 tablespoons cooked rice / quinoa




Dairy and Alternatives

2-3 servings / day

-  1 cup fresh milk or laban
-  40g hard or soft cheese
-  1/2 cup yoghurt

Meat, Poultry, Fish and Alternatives

2/3 servings / day for women / men

-  1 large egg
-  1/4 cup chickpeas
-  90g cooked red meat or equivalent

Vegetables



Background

Vegetables provide the body with vital nutrients such as vitamins, minerals, antioxidants, water, and fiber, which are essential for health and well-being.

Tips

- Choose locally grown and seasonal vegetables when available.
- Enjoy vegetables with each meal. These can be fresh, grilled, steamed, or baked.
- Keep a platter of raw vegetables easily available to snack on throughout the day.
- Consume starchy vegetables (e.g., potatoes) in moderation.

Benefits

- Daily consumption of vegetables may reduce the risk of heart disease, obesity, type 2 diabetes and may protect against certain types of cancer such as colorectal cancer.
- Potassium-rich vegetables (e.g., tomatoes, and leafy greens) may help lower the risk of high blood pressure and heart diseases.
- Consuming vegetables regularly may help in maintaining a healthy body weight.

Key Recommendations

Consume 3 - 5 servings of a variety of vegetables per day.

Examples of one serving of vegetables

2 cups raw leafy vegetables (kale, spinach, arugula)

1/2 cup cooked vegetables (e.g., vegetable stew)

1/2 cup unflavored popcorn or sweetcorn

1/2 cup cut-up vegetables (fresh, frozen or canned)

1/2 cup unsweetened vegetable juice (e.g., carrot juice)

1/2 medium potato or sweet potato

Special Groups

Women of child-bearing age:

Folate is an important vitamin for fetal development and growth. A daily intake of 400 µg folic acid supplement with a diet high in dark green leafy vegetables (e.g. spinach) is recommended before and during pregnancy to reduce the risk of anemia and fetal malformations.



Fruits



Background

Fruits provide the body with important nutrients such as vitamins, minerals, water, antioxidants and fiber.

Benefits

- Daily consumption of fruits may lower blood pressure and reduce the risk of heart disease, obesity and some types of cancer, such as colorectal cancer.
- A diet rich in fruits is found to strengthen the immune system.
- Snacking on fruits keeps you fuller for longer, helps in maintaining a healthy body weight and aids digestion.

Tips

- Choose seasonal and local fruit, and keep fruits accessible and available at home.
- Add a variety of colorful fresh whole fruits, or dried fruits to your meals and snacks.
 - Apple or orange to salad
 - Sliced banana to cereals
 - Strawberries to yoghurt
 - Raisins, dried plums with a handful of raw nuts
- Choose whole fresh fruits over fruit juices and canned fruits in syrup, which are high in added sugar.
- Prepare your own smoothie using fresh fruits and low fat-milk or yogurt.

Key Recommendations

Consume 4 servings
of a variety of fruits
per day

Examples of one serving of fruit

1 medium apple

1 medium pear

2 small kiwi fruit

1/4 cup of dried fruit

7 medium strawberries

1 medium orange

1 medium banana

1/2 medium mango

1/4 cup of dried dates

1 medium peach



Cereals



Background

Cereals are a great source of energy and dietary fiber. These are divided into:

Wholegrain Cereals

Wholegrains are cereals that are minimally processed and are rich in many nutrients including fiber, B vitamins (niacin, folate, riboflavin, and thiamin), and minerals (selenium, magnesium, and iron).

Wholegrains include whole wheat flour, brown rice, oats, bulgur, and brown (wholegrain) pasta, whole grain bread, and traditional dishes like harees and jareesh.

Wholegrains are composed of three edible layers: bran, germ and endosperm. Most of the benefits of wholegrains are found in the germ and the bran.

Refined Grain Cereals

Refined grains are cereals that have been highly processed and stripped from their original composition. Refined grains are low in fiber and B vitamins. These include white flour, white bread and white pasta.

Benefits

Consuming wholegrain cereals reduces the risk of heart diseases, type 2 diabetes and some types of cancers.

The high fiber content of wholegrain cereals aid digestion and help prevent constipation.

The high fiber content of wholegrain cereals provide a feeling of fullness which may aid weight maintenance and help prevent overeating.

Key Recommendations



Recommended daily intake of cereals is 8 servings for men and 7 servings for women.

Always make sure to choose whole grain cereals



Tips

- Choose more wholegrain and minimally processed food products (e.g., oats, brown rice, wholegrain bread and whole wheat pasta).
- Include wholegrain traditional dishes in your diet such as harees and jareesh.
- Consume refined grain products such as fatayer (cheese or meat pastries), white rice, and pasta in moderation.
- Limit your intake of pastries (e.g., croissants, donuts and muffins).
- Avoid ultra-processed cereal-based food products (e.g., cookies and instant noodles).

Examples of one serving of cereal and cereal products

1	medium slice toast	1/4	wholegrain flat bread
1/4	slice of tanour bread	1/2	cup cooked quinoa
1/2	medium tortilla wrap	1/2	cup cooked rice
1/2	medium pitta bread	1/2	cup cooked pasta
1/2	cup cooked bulgur	1/2	cup cooked oats
1	cup harees or jareesh (traditional dishes)	1/2	cup breakfast cereals (no added sugar)

Dairy, Dairy Products and Alternatives



Background

Dairy products and dairy alternatives are a rich source of calcium, protein, potassium and vitamin D.

Tips

- Choose low-fat or non-fat dairy products, and aim to include a source of dairy with your meals.
- Consume dairy products (e.g., yogurt) with fresh fruits or vegetables as a snack, or in a smoothie.
- If lactose intolerant, choose low lactose content dairy products (e.g., low fat labneh, low fat cheddar cheese, and traditional cheeses such as akawi cheese)

Benefits

- Dairy products are essential for building and maintaining strong bones and teeth.
- Dairy products provide a readily available and absorbable form of calcium.

Did you know?

- Low-fat dairy products contain the same amount of calcium as full-fat dairy products.
- Excessive consumption of salt or caffeine may increase calcium loss from your body.

Key recommendations

Consume 2 - 3 servings of dairy products or alternatives everyday.

Examples of one serving of dairy (Choose low in salt, and fat)

1 cup (200ml) milk

1 cup (200ml) laban

2 slices (28g) mozzarella

1/2 cup yogurt

2 tablespoons cream cheese

3 tablespoons cottage cheese

2 tablespoons labneh (30g)

30g feta cheese

Children and adolescents need 3 - 4 servings per day to meet their calcium requirement.

Examples of non-dairy foods high in calcium (1 serving dairy ~300mg calcium)

1 cup (calcium fortified) orange juice ~310 mg calcium.

1/2 cup sardines ~300 mg calcium.

25g sesame seeds ~240 g calcium

1 cup calcium fortified milk alternative such as soya milk or rice milk ~200-300mg calcium.

Special Groups

Pregnant and breastfeeding women need 3 – 4 servings of dairy per day to meet their requirements of calcium and vitamin D.

Vegetarians and vegans should aim to get their calcium from alternative sources.

Lactose intolerant individuals should consume lactose free milk or non-dairy alternatives high in calcium.

Meat, Poultry, Fish and Alternatives



Background

Proteins function as building blocks for bones, muscles, skin and blood. Meat, poultry and fish are excellent sources of protein as well as iron, zinc, vitamin B12 and essential fatty acids. Legumes are high in protein, soluble fiber and minerals such as iron and zinc which makes them a good plant-based protein alternative.

Benefits

- Nuts, seeds and oily fish (e.g., mullet, tuna, and salmon) are a good source of omega 3 and have been shown to protect against heart disease. Aim to consume oily fish twice a week.
- Soluble fiber in legumes help in lowering cholesterol levels, improving glycemic response and lowering the risk of heart diseases and colon cancer.

Tips

- Choose local varieties of fish, skinless poultry and lean meats.
- Limit the consumption of red meat to no more than twice a week and avoid eating processed meats (e.g. hot dogs, luncheon meat, and salami).
- Use healthy cooking options like boiling, grilling, air-frying and roasting instead of frying.
- Squeeze lemon on meat alternatives (e.g. legumes and dark leafy vegetables) to aid iron absorption, and avoid consuming tea within 2 hours of your mealtime.
- Enjoy eating traditional legume-based dishes such as fava beans, chickpeas and hummus.
- Add cooked lentils or beans to your salads or enjoy raw nuts as a snack to increase your protein intake.

Key Recommendations

Consume the recommended servings of meat and meat alternatives every day

3 servings for men
2 servings for women

Examples of one serving of meat and meat alternatives

90g	cooked lean meat, fish and poultry	2	tablespoons of nut butter
30g	unsalted nuts or seeds	2	tablespoons of hummus
1/4	cup of cooked fava beans, chickpeas	1/4	cup of cooked lentils, broad beans, red beans
2	small falafels	2	large egg whites

Special Groups

Vegans and vegetarians should regularly consume a variety of plant-based proteins such as legumes, beans, and nuts to meet their protein, zinc and iron needs.

Special consideration should be given to vitamin B12 as it is found only in animal products and may need to be consumed from enriched foods or supplements.



2 Make Natural and Minimally Processed Foods the Base of Your Daily Meals



What is processed food?

Processed food is any food that has been altered in some way during preparation. In general, the more “processed” (further from its natural state) a food is, the less healthy it is.

Whole or minimally processed foods:

Some food processing is minimal and can be beneficial such as freezing fresh vegetables and fruits and pasteurizing milk.

Ultra-processed foods:

Ultra-processed foods are defined as “industrial formulations with added five or more ingredients”, such as artificial flavors, added sugars, fats, and chemical preservatives.

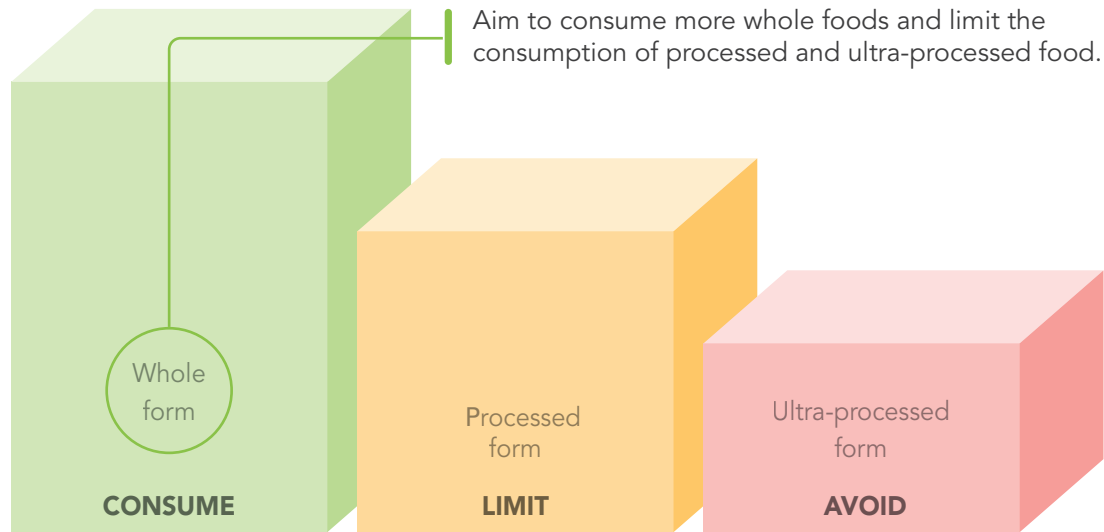
As a result, many of the nutrients and beneficial properties of the food are removed. Consumption of ultra-processed foods is associated with weight gain and type 2 diabetes.

Key Recommendations

- Make whole or minimally processed foods the basis of your diet. For example, choose fresh fruits and vegetables instead of canned products.
- Prepare most of your meals at home using whole foods.
- Get to know your food by reading food labels and ingredient lists.
- Limit the consumption of ultra-processed foods (e.g., instant noodles, breakfast cereals, energy bars) as much as possible.

Processed food classification

Examples



Oats	→	Sweetened oatmeal	→	Energy bars
Orange	→	Canned orange (added sugar)	→	Juice powders or juice drink
Corn on the cob	→	Canned sweetcorn (added salt)	→	Corn Puff snack
Fresh chicken	→	Chicken deli meat	→	Chicken nuggets

3 Drink an Adequate Amount of Water Every Day



Background

Water is essential for good health and is found to help regulate blood pressure, maintain body temperature, improve digestion, prevent constipation, and aid in weight management. Inadequate water intake may increase the risk of dehydration and impair normal bodily functions.

Filtered water is considered the best choice of fluids. Most fruits and vegetables contain a high water content. Fruit juices, coffee, tea, and carbonated soft drinks can also contribute to your total fluid intake, however these beverages may contain caffeine or empty calories from added sugar.

Tips

- Choose filtered water instead of sugar-sweetened beverages at home or when eating out.
- Always keep a water bottle with you to ensure you remain hydrated.
- Add a wedge of lemon or herbs to improve the taste of water.

Water content of fruits and vegetables



97%

Cucumber



96%

Iceberg Lettuce



95%

Tomatoes



92%

Watermelon



91%

Strawberries



87%

Pineapple

Key recommendations



Ensure you meet your recommended water intake.

~3.7 Liters per day for men.
~2.7 Liters per day for women.



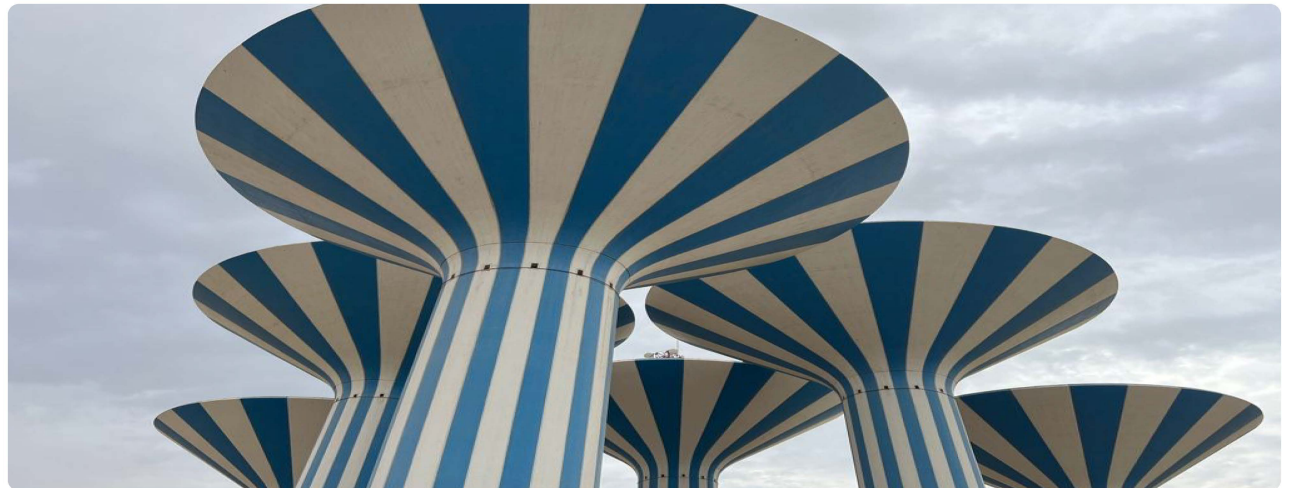
Did you know?

Kuwait adheres to the international standards for quality drinking water, and has scored 100% for drinking water quality standards.

Special Groups



- The elderly are more susceptible to dehydration due to decreased thirst sensation, use of some medications such as diuretics and lack of physical activity.
- Lactating women need an additional 3-4 cups of fluids above their usual needs to account for fluids loss in breast milk.
- Individuals that are physically active or spend time outdoors during hot arid climates should compensate the amount of fluids lost due to sweating.



4 Limit Your Intake of Fats, Added Sugar and Salt



Background

Dietary fats refer to fats and oils found naturally in animal and plant foods.



There are four major types of dietary fats:

1. **Saturated fats:** red meat, coconut oil, palm oil, ghee and butter.
2. **Trans fatty acid:** cookies, donuts, hamburgers and chicken nuggets.
3. **Monounsaturated fats:** olive oil and canola oil, pumpkin seeds, almonds and avocados.
4. **Polyunsaturated fats:** flaxseeds, sunflower oil, walnuts, salmon and maed (a traditional type of fish).



Benefits

- Fat is an essential nutrient that provides the body with energy and aids the absorption of fat-soluble vitamins.
- Substituting saturated and trans fats with monounsaturated and polyunsaturated fats may help reduce the risk of obesity, heart diseases, hypertension, type 2 diabetes, and some types of cancer.

Tips to reduce fat intake in your diet

Eating out

- Choose vegetables or salads with your meal rather than deep-fried options.
- Limit intake of food containing mayonnaise, full cream and full-fat cheese.
- Keep salad dressings and cream-based sauces on the side.
- Control your portion sizes and avoid choosing processed meats.

Food preparation and cooking

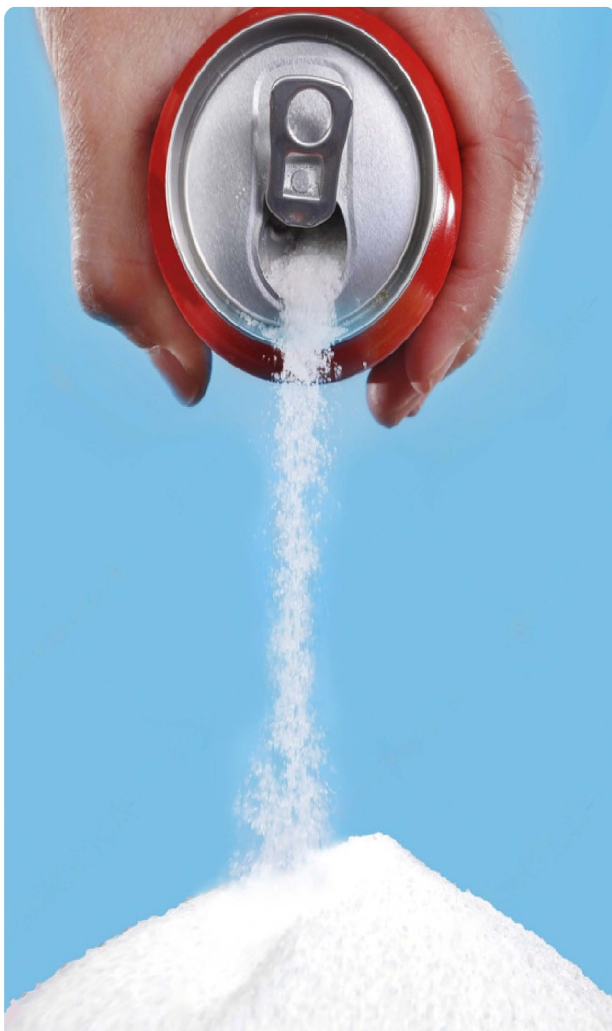
- Cook without adding oil. If necessary, use as little as possible.
- Bake, grill, sauté, steam, boil or air fry food instead of frying.
- Prepare home-made pizza's, pasta's and mixed dishes using low-fat dairy products and lean proteins.
- Discard fat drippings from cooked meat and remove poultry skin to reduce fat intake.
- Use unsaturated fats and oils while cooking to limit your intake of saturated fats.
- Use low-fat spreads and salad dressings to control your overall fat intake.

Shopping

- Choose low-fat dairy products (milk, yogurt, laban) instead of full-fat dairy products.
- Buy lean cuts of meat instead of processed and fatty meat cuts.
- Avoid purchasing foods with trans fats.



Limit Your Intake of Fat, Added Sugar and Salt



Background

There are at least 61 different names for sugar such as sucrose, dextrose, maltose and high fructose corn syrup. Added sugar is usually hidden in ultra-processed foods. Excessive sugar consumption may lead to overweight and obesity, and increase the risk of type 2 diabetes, heart diseases, some cancers and dental caries.

Sources of added sugar

- Fruit juices (nectar, concentrate)
- Energy drinks
- Carbonated drinks
- Sweetened teas and coffee
- Flavored yoghurt and milk
- Desserts and puddings
- Chocolate bars
- Breakfast cereals and granola
- Baked goods (pastries, breads, crackers).
- Salad dressings and sauces

Key Recommendations

“
Low in sugar:
5g or less of
total sugar
per 100g

High in sugar:
22.5g or more
of total sugar
per 100g

Reference: National Health Service (NHS).
”

- Limit the intake of added sugar as much as possible and consume no more than 6 teaspoons (25g) per day.
- Sugar sweetened beverages and sweetened coffee are significant sources of added sugar.

Tips to reduce added sugar intake in your diet

Eating out

- Choose fruit-based desserts when eating out (e.g., fruit salad, baked fruit, fruit sorbet).
- Limit intake of deep-fried desserts such as doughnuts and luqaimat (traditional dessert).
- Replace sugar sweetened beverages (e.g., soda and juice drinks) with water.
- Ask for a smaller portion of desserts and baked goods or try to share them.
- Ask for salad dressings or sauces on the side, and if possible inquire about the ingredients to reduce the amount of sugar added.
- Choose balanced meals that include a protein source, which may help control your urge to eat high sugar foods.
- Check the nutrition information on menus and choose the lower added sugar option.

Food preparation and cooking

- Add fresh and/or frozen fruit to your meals and/or snacks instead of added sugar sources.
- Use spices (e.g., ginger and cinnamon) or fresh herbs (e.g., mint) instead of sugar in your coffee and/or tea.
- Half the sugar in baking recipes, instead use a natural source of sugar (e.g., dates, apple sauce).
- Use almond, orange or vanilla extract to enhance the flavor of foods and beverages instead of added sugar sources.
- Swap canned soup and ready-made pasta sauces with homemade options to avoid additives and added sugar.

Shopping

- Always choose fresh or frozen fruits instead of canned fruits in syrup.
- Choose whole fresh fruit instead of juice drinks, juice flavored drinks made from concentrate.
- Read the food labels and choose food products and beverages with the lowest amount of added sugar. Be aware of other names for added sugar (e.g., high fructose corn syrup, maltose, invert sugar, molasses, caramel etc.,).
- Choose low or no added sugar breakfast cereals. Instead choose whole grain breakfast cereals (e.g., oatmeal sweetened with fresh fruits).
- Avoid purchasing foods high in added sugar (e.g., chocolate and candy).

Limit Your Intake of Fat, Added Sugar and Salt



Background

Higher intake of salt is associated with high blood pressure, which is a risk factor for heart diseases and stroke. Sodium is mostly consumed through salt; however, it can be found in many other foods.

Recommendations



Adults should consume less than 5 g of salt per day equivalent to 2,000 mg of sodium.

Salt intake under the age of 2 years should be limited.

Sources of salt

- Baking powder
- Salt (sea salt, himalayan salt, rock salt)
- Yeast extract
- Stock cubes and powders
- Monosodium glutamate (MSG)
- Sodium bicarbonate

Tips to reduce salt intake in your diet

Shopping

- Choose low or no added salt foods, such as instant soup and noodles, low salt cheese, unsalted butter, low salt condiments, and unsalted nuts.

Food preparation and cooking

- Rinse and drain canned food with water to remove excess salt.
- Use salt alternatives, and be aware of hidden salt.
- Taste the food before adding salt.
- Soak salty cheese (e.g., halloumi) in water to lower the salt content.
- Use iodized salt to avoid iodine loss.

Eating out

- Limit your intake of high salt condiments and sauces such as pickles, soy sauce, and ketchup.
- Ask for the salad dressings and sauces to be kept on the side.
- Reduce your intake of processed foods (e.g., pizza, hot dogs).
- Choose restaurants that offer healthier meal options and avoid asking for a saltshaker.

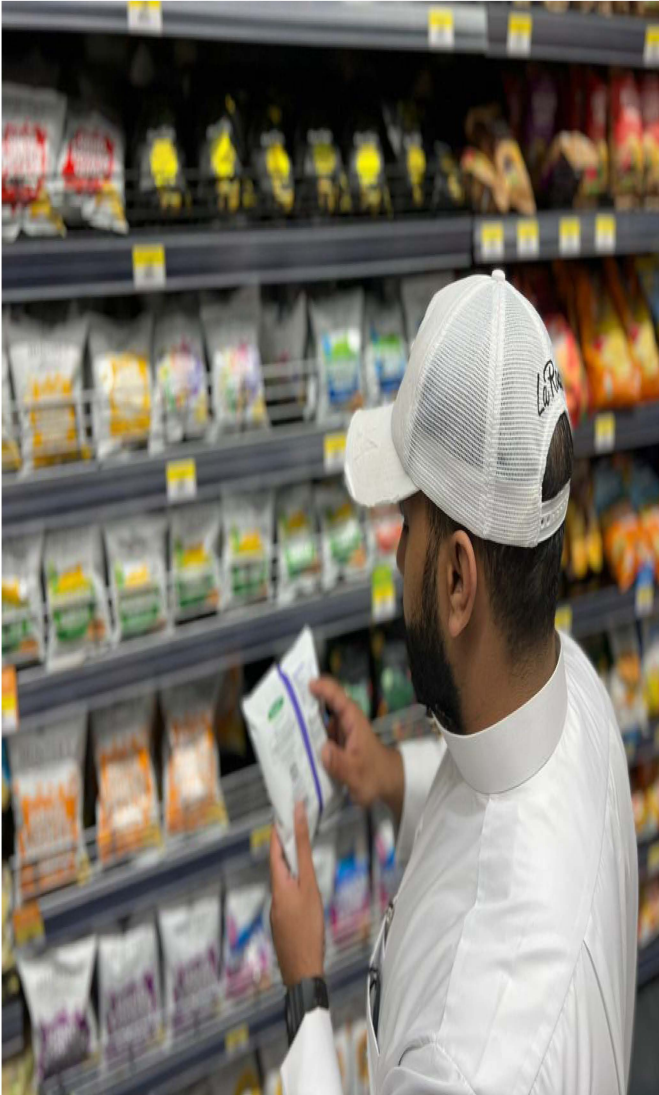


Salt alternatives

- Zaatar (traditional herb blend)
- Dried lemon powder
- Balsamic vinegar
- Paprika powder
- Cilantro leaves
- Lemon juice
- Cumin powder
- Garlic cloves



5 Know your food: Read the food labels to make healthier choices



Background

A food label is found on the packaging of any food product, and usually includes detailed nutritional information such as nutrition facts, ingredients lists, nutrition and/or health claims.

Nutrition facts

- The nutrition facts label provides detailed information about a food's nutrient content compared with the daily nutrition requirements of an average person (figure 1).
- Nutrition facts help you understand how much of a certain nutrient you may need to limit or consume in adequate quantities.

Figure 1: Nutritional fact labels include:

Serving size and number of servings

The nutrition fact is usually provided for one serving. Make sure to check the number of servings on the package.

Calories (KJ/Kcal)

Calories provide a measure of how much energy you get from consuming a serving of the food or drink.

Nutrients to limit and/or avoid

Saturated fat, trans fat, cholesterol and sodium.

Nutrients you need to focus on to meet your daily requirements

Fiber, calcium, iron and vitamin D

Granola bar			
Serving size: 1bar (42g) - 6 servings per container			
	per 100g	per 42g	%
Energy	1976 KJ 472 Kcal	830 KJ 198 Kcal	10 %
Total fat			
Saturated fat	20.6 g	8.6 g	12 %
Trans fat	3.2 g	1.3 g	7%
Carbohydrates	< 0.01 g	< 0.01 g	-
Sugar	59.6 g	25.0 g	10 %
Protein	26.1 g	11.0 g	12%
Salt	9.0 g	3.8 g	8 %
Sodium	0.91 g	0.38 g	6 %
Fiber	364 mg 6.1 g	152.9 mg 2.6 g	- -
Crunchy cereal bar with whole oats and almonds		High in fiber May lower cholesterol	
Ingredients: Whole oatmeal (65%), sugar, sunflower oil, almond pieces (5%), honey, salt, molasses, sunflower lecithin emulsion, lifting agent: sodium bicarbonate, natural flavor (almonds). Contains oats, almonds and peanuts can contain other nut and soy ingredients.			
Net weight: 6 x 42 g = 252 g			

Nutrition claim

Nutrition claim describes the amount of a nutrient in a food using terms such as “free, high, and low”.

Health claim

Health claims state the beneficial effects of a food product. Such claims may include ‘can help lower cholesterol

Ingredient list

Ingredients are listed in order of quantity, in a descending order; which means that the first ingredient listed weighs a greater proportion of the product, whereas the last ingredient listed weighs the least.

6 Practice Safe and Clean Food Handling Methods



Background

Food safety is an important part of healthy eating. Basic hygiene and safe food handling practices can prevent and reduce the risk of foodborne illnesses.

Four out of five individuals globally don't properly wash their hands. Research shows that basic hygiene such as hand washing can considerably reduce the risk of diarrheal disease.

Key recommendations

Purchase, transport and storage

- Do not purchase food items that are defective, unsealed or show signs of spoilage such as unusual odor or color.
- When grocery shopping purchase cold, frozen foods and foods that require chilling last to avoid reaching danger temperature zones.
- Clean food storage areas regularly to prevent pest infestation and store food appropriately in the refrigerator.

WHO Key tips for safer food



Wash your hands



Separate raw and cooked food



Cook food thoroughly



Keep food at safe temperatures



Use safe drinking water

Tips

Preparation, cooking and serving

- Avoid consuming raw (unpasteurized) milk and raw eggs. Always boil unpasteurized milk to kill pathogenic bacteria.
 - Do not handle food if you are suffering from a foodborne illness to avoid making others sick.
 - Frequently replace kitchen towels and sponges every two weeks.
 - Thaw frozen food properly in the refrigerator, microwave or by using cold water thawing techniques. Once thawed, food must be cooked immediately, then refreeze if needed.
 - Food items can be cooked from a frozen state but require 50% longer cooking time than fully thawed or fresh food items.
 - Refrigerated pre-cooked foods should be consumed within 1 - 2 days.
- Use color-coded-cutting boards to avoid cross-contamination.
 - Red for raw meat
 - Yellow for poultry
 - Green for vegetables / fruits
 - White for baked goods and dairy
 - Blue for raw fish
 - Store raw food (e.g., meat and poultry) separately from cooked or ready to eat foods in sealed containers at the bottom of the refrigerator to prevent raw drippings contaminating other food.

“

Temperature danger zone is between 5°C and 60°C, when it is easiest for harmful bacteria to grow in the food.

- Keep refrigerated food at 5°C or less
- Keep cooked hot food at 60°C or more

”



Store raw food at the bottom of the refrigerator.

7 Adopt a Healthy Lifestyle and protect your environment



Background

A healthy lifestyle can be achieved by implementing the Kuwait Food-Based Dietary Guidelines. The home environment plays an important role in shaping a healthy lifestyle.

- Focus on eating together as a family and involve your children in meal preparation and cooking.
- Model healthy eating behaviors and expose your children to a wide variety of foods.
- Avoid distractions during mealtimes and focus on being more mindful while eating.

Other lifestyle practices that need to be considered include breastfeeding, sleeping habits, tobacco use and protecting the environment.

Healthy Sleeping Habits

Lack of sleep may adversely affect your mood and mental health. Interrupted and lack of sleep may increase the risk of obesity, type 2 diabetes, heart diseases, and infections.

Key recommendations

To promote optimal health and growth, children should sleep between 8 to 13 hours each night including naps, depending on their age. Adults should aim to sleep between 7 to 9 hours each night.

Sleep tips

- Establish a bedtime routine and a relaxing environment.
- Keep a consistent sleep schedule (e.g., set a bedtime that is early enough for you).
- Avoid distractions an hour before bedtime (e.g., mobile phone, television).

Encourage and promote breastfeeding

Breastfeeding provides infants with optimal nutrition for growth and development, It also helps build a strong immune system and reduces the risk of obesity in childhood and adulthood. Breastfeeding may also lower the risk of ovarian and breast cancer among mothers and aid postpartum weight loss.

Key recommendations

Exclusively breastfeed your infant starting from birth until six months. Introduce solids (complementary food) at six months while continuing to breastfeed for up to two years.

Breastfeeding Tips

- Stay hydrated and consume a healthy and balanced diet to aid your milk supply.
- Seek help from lactation consultants and maternity nurses.
- Refrigerate or freeze expressed breastmilk to aid the continuation of breastfeeding if you are away.

Avoid tobacco use

Smoking any type of tobacco harms nearly every organ, and increases the risk of respiratory, cardiovascular, and reproductive diseases and some cancers. Non-smokers who inhale second and smoke are equally at risk of smoking-related diseases. Quitting and maintaining a smoke-free life can be challenging, but it is possible with determination.

Tips to quit smoking

- Set a date to quit and gradually reduce the frequency of tobacco smoking.
- Avoid smoking situations and discard any cigarettes and other tobacco products.
- Seek medical help from smoking cessation clinics in primary health care centers.

Protecting your environment

It is important to protect our environment by reducing food waste and recycling food packaging. The home environment also is a great opportunity to cultivate the love for our environment and teach future generations.

Tips to reduce food waste:

- Shop smartly and only purchase food that you actually need
- Plan your meals and only cook food that will be consumed, and safely store leftovers.
- Try different food preservation techniques (e.g., freezing and pickling of extra fruits and vegetables) to increase their shelf life.
- Locate your local food bank and donate extra food to those in need.

Tips to recycle and avoid single-use plastic:

- Dispose of extra food into a compost bin.
- Use reusable shopping bags, bottles, and cups, and avoid using single-use plastic (e.g., plastic bottles and bags).



8 Maintain a Healthy Body Weight



Background

Maintaining a healthy body weight is important for overall health. Being overweight or obese increases the risk of developing heart disease, type 2 diabetes, high blood pressure, respiratory diseases, sleep disturbances and some cancers. Similarly, being underweight can negatively affect health and increases the risk of nutritional deficiencies, fertility problems, and early mortality.

Key recommendations

Following the KFBDG can help you achieve and maintain a healthy body weight. Refer to each message to help you make healthier food choices, engage in physical activity, and adopt a healthy and balanced lifestyle.

Tips

- For healthy weight loss and/or weight maintenance, consult a Registered Dietitian.
- Aim to achieve steady weight loss, approximately half a kilogram per week.
- Stay motivated and be patient. Any weight loss is considered a good achievement.
- For weight gain aim to eat small and frequent balanced meals to increase your caloric intake.
- Weight management is important for growth and development among children and adolescents.
- Seek support from family members and friends to help you overcome weight loss challenges.

Energy balance

To maintain a healthy body weight, it is important that your energy intake is equal to your energy expenditure. An energy imbalance can lead to either weight gain or weight loss. A healthy weight can be maintained by regulating food and beverage intake and adjusting physical activity to match intake.

Weight Assessment

Body mass index (BMI) is a simple index of weight for height that is commonly used to classify body weight status. However, BMI may not be useful in some sub-groups: athletes, body builders, pregnant women and the elderly. Waist circumference is another important tool used to assess health related risk when the BMI is greater than 25 Kg/m².

BMI categories for adults

Category	BMI (kg/m ²)
Underweight	≤18.5
Normal weight	18.5 – 24.9
Overweight	25 – 29.9
Obese	≥30

BMI categories for adults according to the WHO

Waist circumference cut-offs

Waist circumference	
Men	<94 cm
Women	<80 cm

Waist circumference cut-offs according to the International Diabetes Federation

Special Groups

“

Excessive or insufficient weight gain during pregnancy may adversely impact maternal and/or fetal health. According to the Institute of Medicine, total weight gain during pregnancy should be achieved with reference to the pre-pregnancy BMI.

Aim for steady weight gain by increasing energy intake in the second and third trimester.



Recommendations for weight gain during pregnancy

Pre-pregnancy BMI (kg/m ²)*	Total Weight Gain Range (kg)
≤18.5	12.7 - 18.2
18.5 – 24.9	11.4 - 15.9
25 – 29.9	6.8 - 11.4
≥30	5 - 9.1

BMI classified according to the WHO criteria based on pre-pregnancy BMI in accordance with Institute of Medicine

”

9 Move More and Stay Active



Background

Any physical activity is beneficial for health, regardless of age, gender or race. Daily moderate physical activity may improve overall quality of life, prevent and manage type 2 diabetes, reduce the risk of heart disease, improve mental health, improve mobility and aid in weight management.

Global recommendations on physical activity

Children aged 5 - 17 years old	At least 60 minutes of moderate to vigorous-intensity physical activity each day.
Adult aged 18-64 years old	At least 150 minutes of moderate-intensity physical activity throughout the week or at least 75 minutes of vigorous-intensity physical activity throughout the week, or an equivalent combination of moderate- and vigorous-intensity activity.
Adult aged 65+ years old and above	Those with poor mobility should perform physical activity 3 or more times a week, to improve balance and prevent falls.

All types of physical activity will improve your health and wellbeing

Light-intensity

includes activities such as casual walking and household chores.

Moderate-intensity

includes activities such as brisk walking, yoga and aqua aerobics.

Vigorous-intensity

includes activities such as jogging, swimming and playing sports.

If you have any medical problems, you should check with a Physician before starting a new exercise program.

Tips

- Set yourself long-term realistic goals (e.g., over a 3 - 4 week period gradually increase the duration of walking starting from 15 minutes).
- Enjoy any type of exercise with your whole family and friends (e.g., take a 30-minute walk twice a week at the mall or park).
- Track your steps using a smartwatch or pedometer or set yourself a daily target (e.g., 10,000 steps per day).
- Park farther away from your destination or take the stairs to increase your daily steps.
- Gradually improve your stamina by including short periods of jogging during your walk.
- Try different exercise classes online, at home or in a gym.
- Being physically active at home can also be considered an exercise (e.g., cleaning, vacuuming and taking the stairs).
- Encourage physical activity from a young age. Remember active children become active adults.

Resistance and strengthening activities are designed to strengthen your muscles.



Aerobic physical activity focuses on the cardiovascular system



References

Andrade, J., & Andrade, J. (2016). *Methods for Teaching and Evaluating Food-Based Dietary Guidelines*.

American Heart Association (AHA) (2020). Dietary fats. <https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/fats/dietary-fats>

Australian National Health and Medical Research Council. (2013). *Australian Dietary Guidelines. Providing the scientific evidence for healthier Australian diets*. Canberra

Buttriss, J. L. (2016). *The Eatwell guide refreshed*. Public Health England

Centers for Disease Control and Prevention. (2021). Health effects of cigarette smoking. Retrieved June 11, 2020, from https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm

Cobiac, L. J., Scarborough, P., Kaur, A., & Rayner, M. (2016). The Eatwell guide: modelling the health implications of incorporating new sugar and fibre guidelines. *PLoS One*, 11(12), e0167859.

Dahl, W. J., & Stewart, M. L. (2015). Position of the Academy of Nutrition and Dietetics: health implications of dietary fiber. *Journal of the Academy of Nutrition and Dietetics*, 115(11), 1861-1870

Donnelly, J. E., Blair, S. N., Jakicic, J. M., Manore, M. M., Rankin, J. W., & Smith, B. K. (2009). Appropriate physical activity intervention strategies for weight loss and prevention of weight regain for adults. *Medicine & Science in Sports & Exercise*, 41(2), 459-471.

Department of Health. (2013). *Nutrient Analysis of Fruit and Vegetables*. <https://www.gov.uk/government/publications/nutrient-analysis-of-fruit-and-vegetables>.

Faculty of Agriculture and Food Science. (2013). *Department of Nutrition and Food Science. Lebanon Food-based Dietary Guidelines*. Lebanon.

Food and Agriculture Organization/World Health Organization (2004). *Food safety*. Retrieved July 2019, from International Food Safety Authorities Network (INFOSAN): https://www.who.int/foodsafety/areas_work/

Food and Drug Administration (FDA). (2011). Guidance, compliance and regulatory information. Guidance for industry: A food labeling guide. Definitions of nutrient content claims <https://www.fda.gov/files/food/published/Food-Labeling-Guide-%28PDF%29.pdf>

Fontannaz-Aujoulat, F., Frost, M., & Schlundt, J. (2019). WHO Five Keys to Safer Food communication campaign - Evidence-based simple messages with a global impact. *Food Control*, 101, 53-57. doi: 10.1016/j.foodcont.2019.02.016

Government of Canada. (2019). Food safety. Retrieved from <https://www.canada.ca/en/health-canada/topics/food-safety.html>.

Handy Guide to serving sizes - unlock food. (2018.). Retrieved from <https://www.unlockfood.ca/EatRightOntario/media/PDFs-new-website/Portions%20Toolkit/Handy-Servings-Guide-EN-v04-July-2018.pdf>

Houalla, N., Al-Jawaldeh, A. E., Bagchi, K., Hachem, F., El Ati, J., Omidvar, N., ... & World Health Organization. (2012). Promoting a healthy diet for the WHO Eastern Mediterranean Region: user-friendly guide.

Institute of Medicine (US). (2005). Panel on Dietary Reference Intakes for Electrolytes, & Water. DRI, dietary reference intakes for water, potassium, sodium, chloride, and sulfate. National Academy Press.

Institute of Medicine (IOM). (2010). Advising the nation / Improving health. Dietary Reference Intakes for Calcium and Vitamin D. Report Brief. Available at: <http://www.iom.edu/Reports/2010/Dietary-Reference-Intakes-for-Calcium-and-Vitamin-D.aspx>

Institute of Medicine (IOM). (2009). Weight Gain during Pregnancy: Reexamining the Guidelines. Retrieved from <http://www.iom.edu/Reports/2009/Weight-Gain-During-Pregnancy-Reexamining-the-Guidelines.aspx>

Monteiro, C. A., Cannon, G., Lawrence, M., Costa Louzada, M. D., & Pereira Machado, P. (2019). Ultra-processed foods, diet quality, and health using the NOVA classification system. Rome: FAO, 48.

Musaiger, A. O., Takruri, H. R., Hassan, A. S., & Abu-Tarboush, H. (2012). Food-based dietary guidelines for the Arab Gulf countries. *Journal of nutrition and metabolism*, 2012

National Health Services. (2020). Sugar: The Facts. National Health Services. Retrieved from <https://www.nhs.uk/live-well/eat-well/foodtypes/how-does-sugar-in-our-diet-affect-our-health/>

Painter, J., Rah, J. H., & Yeon-Kyung, L. (2002). Comparison of international food guide pictorial representations. *Journal of the Academy of Nutrition and Dietetics*, 102(4), 483.

Popkin, B. M., D'Anci, K. E., & Rosenberg, I. H. (2010). Water, hydration, and health. *Nutrition reviews*, 68(8), 439–458.

Redmond, E. C., & Griffith, C. J. (2003). Consumer food handling in the home: a review of food safety studies. *Journal of food protection*, 66(1), 130-161.

Rippe, J. M. (2021). Identification, evaluation, and treatment of overweight and obesity. *Obesity Prevention and Treatment*, 29–41. <https://doi.org/10.1201/9781003099116-5>

Ross, R., Neeland, I. J., Yamashita, S., Shai, I., Seidell, J., Magni, P., ... & Després, J. P. (2020). Waist circumference as a vital sign in clinical practice: a Consensus Statement from the IAS and ICCR Working Group on Visceral Obesity. *Nature Reviews Endocrinology*, 16(3), 177-189

Supreme Council of Health. (2015). Qatar dietary guidelines. State of Qatar.

North American Association for the Study of Obesity, National Heart, Lung, Blood Institute, & NHLBI Obesity Education Initiative. (2000). *The practical guide: identification, evaluation, and treatment of overweight and obesity in adults*. National Institutes of Health, National Heart, Lung, and Blood Institute, NHLBI Obesity Education Initiative, North American Association for the Study of Obesity.

United States Department of Agriculture (USDA) (2011). Choose MyPlate. <http://www.choosemyplate.gov/>

Wingrove, K., Lawrence, M. A., Russell, C., & McNaughton, S. A. (2021). Evidence Use in the Development of the Australian Dietary Guidelines: A Qualitative Study. *Nutrients*, 13(11), 3748. Retrieved from <https://doi.org/10.3390/nu13113748>.

World Cancer Research Fund. Wholegrains, vegetables and fruit and the risk of cancer. (2020.). Retrieved from <https://www.wcrf.org/wpcontent/uploads/2020/12/Wholegrains-veg-and-fruit.pdf>

World Health Organization. (2020). Tobacco. World Health Organization. Retrieved from: <http://www.who.int/news-room/fact-sheets/detail/tobacco>.

World Health Organization. (2020). Breastfeeding. World Health Organization. Retrieved from <http://www.who.int/topics/breastfeeding/en/>.

World Health Organization. (2020.). Salt reduction. World Health Organization. Retrieved from <https://www.who.int/news-room/factsheets/detail/salt-reduction>

World Health Organization. (2016). Five keys to safer food manual. In: Department of Food Safety Zoonoses and Foodborne Diseases.

World Health Organization. (2012). Guideline: Sodium intake for adults and children. Geneva.

World Health Organization. (2003). Diet, nutrition, and the prevention of chronic diseases: report of a joint WHO/FAO expert consultation (Vol. 916). World Health Organization.