

Vergie Charlery's Self Care e-book #3

Good Nutrition



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Virgie
Charlery

Diet and Nutrition

One of the favourite topics of mainstream media is diet and nutrition. Not a day passes without an article about a new type of diet, supplement, or nutritional trend. Yet, there is also a lot of conflicting information about what we should or shouldn't consume. For instance, one day, we hear about the benefits of drinking a glass of red wine every night, chocolate's health effects, and why we should cook everything with butter. Soon after that, we are told that red wine is terrible for us, and so is chocolate, and we should stay away from butter at all costs.

Undoubtedly, it is challenging to keep up with shifting trends and changes in dietary recommendations. So, how do we sift through this noise and decide how to feed our bodies? Let's start with the basics.

As the old saying goes, you are what you eat. No matter how cliché this phrase sounds, it still holds a seed of wisdom. Our bodies need nutrients to repair and maintain their tissues and fuel all their functions. Thus, whatever you ingest will either be used as a building block in your cells and tissues or get utilized as a source of energy.



The better the quality of these nutrients, the better results you will achieve. Now, we'll take a closer look at nutrients to understand nutrition better.

Macronutrients and Micronutrients

We need to consume two types of nutrients for optimal health: macronutrients and micronutrients. This classification isn't about the size of the nutrients but the amount we need.

In other words, we need to eat a lot of macronutrients and just a tiny amount of micronutrients for our bodies to function well.

Here is why: our bodies use a lot of carbohydrates, proteins, and fats. We need these building blocks in large amounts every day and refer to them as **macronutrients** (Youdim, 2021). In contrast, we need only a tiny amount of vitamins and minerals. Therefore, we call these substances **micronutrients**. Let's find out more about each macronutrient and micronutrient we mentioned.



Carbohydrates

Carbohydrates, or “carbs,” are macronutrients made of sugar molecules. They are used primarily as sources of energy and, depending on size, they may be simple or complex. Moreover, depending on their processing, we further characterize carbs as refined or unrefined.

Simple carbohydrates,

such as fructose (fruit sugar) or sucrose (granulated sugar) are small and can be quickly digested and absorbed by our bodies (Youdim, 2021).

These are the sweet-tasting carbohydrates in our baked goods, candies, and soft drinks. Yet, they can sneak into many other foods, drinks, and condiments we consume. For instance, an industrial variety of fructose, known as high fructose corn syrup or HFCS, can be found in ketchup, salad dressings, canned soup, and even cold-cut deli meats and pickles.

Complex carbohydrates,

such as starches and fibers, are long (and sometimes branched) strings of sugar molecules. These carbs can be found in grains and grain products (e.g. pasta) and other plant-based food items, such as vegetables. Generally, the digestion of complex carbs is a slow process. Thus, consuming them increases blood sugar levels at a slower pace and to a lower peak level (Youdim, 2021) relative to simple carbs. Hence, most nutritionists suggest complex carbs be used as the primary source of fuel. Moreover, our bodies can't fully digest some

complex carbs (i.e., fibers) and this indigestible matter also can help regulate bowel movements.

When it comes to manufacturing practices, refined sugars are highly processed carbs, whereas unrefined sugars are minimally processed, if at all (Youdim, 2021). Generally, the more refined foods are, the more the processing procedures have stripped them of their complex compounds and micronutrients, which will be discussed later.

In short, most processed foods are devoid of beneficial nutrients and barely have any nutritional value. Hence, you may benefit from replacing processed carbs with wholesome complex carbs.



Proteins

Proteins are composed of molecules known as amino acids. Our bodies can use proteins as an energy source when no better alternative is available. However, the amino acids in proteins we consume are mainly used as building blocks of pretty much everything our bodies produce: muscles, structural components of all tissues and organs, enzymes, certain hormones, and components of skin, hair, and nails, among others.

In short, we need proteins to maintain our bodies' structural and functional integrity (Youdim, 2021).

Digestion of proteins is a long and complicated process. Due to this, proteins pass through our stomachs much slower than other macronutrients. Hence, eating protein-rich meals makes us feel satiated longer (Youdim, 2021).

Although many of us associate proteins with animal-based products such as meats, eggs, or dairy, there are numerous plant-based sources of high-quality proteins. For instance, beans, legumes (e.g., lentils, chickpeas, etc.), and most nuts are excellent protein sources.



Fats

Fats or lipids have an undeservedly bad reputation. These nutrients are composed of glycerol and fatty acid molecules and can be used as an energy source in our bodies (Youdim, 2021). Moreover, fatty acids and a rigid lipid known as cholesterol are the building blocks of cell membranes, which are the protective borders surrounding the components of our cells. A fatty layer called myelin insulates nerve cells in the nervous system and is essential for the integrity and fast speed of nerve signals (Saab & Nave, 2017). Fats are also necessary for long-term energy storage. Furthermore, some hormones, such as estrogen and testosterone, are cholesterol derivatives and can't be produced any other way (Holst et al., 2004).

There are different classifications of fats, such as unsaturated, saturated, hydrogenated, omega-3, omega-6, etc. Some types of fats are considered healthy, but others are not so much. Hence, the bad reputation of fats is primarily due to the known effects of the unhealthy kinds.

Let's discuss these different types of fats.





Unsaturated fats are plant-based fats that are typically liquid at room temperature. In contrast, saturated fats are usually solid. Some come from plants, whereas others are animal products. The terms unsaturated and saturated indicate whether all carbon atoms on fatty acid chains are connected to the maximum number of hydrogen atoms. If they are, the fatty acid chain is “saturated” with hydrogen and has a linear structure. If there are missing hydrogens, the carbon atoms form double bonds with each other, causing the chain to have kinks at the points

of “unsaturation.” These kinks are the reasons why unsaturated fats are liquid; these kinky chains lower the melting point of fatty acids. We’ll talk more about unsaturated fats later.

A highly processed type of saturated fat is hydrogenated (a.k.a. trans) fat. These fats are produced artificially by forcing unsaturated fats to break their double bonds so that they can bind hydrogen atoms. Our bodies can handle small amounts of saturated fats. Yet, if consumed more than unsaturated fats, they may also increase blood cholesterol levels.



Given that both saturated fatty acids and cholesterol are relatively solid, they may attach to the walls of blood vessels and create plaques, which can obstruct blood flow. In other words, it might be best to limit the amount of saturated fatty acids and cholesterol we consume. However, remember that some hormones are synthesized from cholesterol, and completely purging this fat from your diet may cause hormonal imbalances.

So, let's go back to the unsaturated fats, such as omega-3, omega-6, and omega-9. Omega is the last letter of the Greek alphabet and, in this case, represents the last carbon atom of the unsaturated fatty acid chain. The number after the dash indicates the location of the double bond relative to the omega carbon. For instance, in the case of an omega-3 fatty acid, the double bond is three carbons away from the omega carbon.

Our bodies can produce omega-9 fats, but not omega-3 or omega-6 fats. Most of the unsaturated fats we consume are omega-6 fats, typically used for energy production. In contrast, omega-3 fats are harder to get - they are found primarily in fatty fish and certain nuts - and are essential for brain and heart health (Innis, 2008; Wang et al., 2012). Therefore, nutrition experts recommend incorporating omega-3-rich foods into our diets or taking high-quality omega-3 supplements.

Vitamins and Minerals

Vitamins are a type of organic molecules our bodies can't synthesize. Yet, we can obtain these micronutrients by eating other organisms that produce them. There are numerous types of vitamins, each serving specific functions, from enabling the detection of light in our eyes to helping with enzymatic reactions in our cells. Some vitamins such as A, D, E, and K are fat-soluble, whereas vitamin C and all vitamin B forms are water-soluble. This means that our digestive system can absorb fat-soluble vitamins when ingested with fats. Moreover, our bodies can store

unused fat-soluble vitamins in our fat reserves. In contrast, water-soluble vitamins can be absorbed quickly without fats, but any excess can't be stored.

Minerals, such as potassium, calcium, and iron, are the other types of micronutrients our bodies need. These micronutrients are present in soil and water, which plants absorb. Just like vitamins, minerals also serve essential functions. For instance, sodium and potassium are necessary for the functioning of the nervous system, whereas calcium is vital for muscle and bone health.



Eating a balanced diet rich in plant-based foods should deliver all the macronutrients and micronutrients you need. However, you might want to consider a multivitamin supplement if you can't obtain all micronutrients through your diet.

Here is a list of vitamins and minerals to look for in these supplements.



Fat-Soluble Vitamins

Vitamin A
Vitamin D
Vitamin E
Vitamin K

Water-Soluble Vitamins

Vitamin B family:
Thiamine – Vitamin B1
Riboflavin – Vitamin B2
Niacin – Vitamin B3
Pantothenic Acid – Vitamin B5
Vitamin B6
Biotin – Vitamin B7
Folate (Folic Acid)
Vitamin B12
Vitamin C

Minerals

Calcium
Iodine
Iron
Magnesium
Phosphorus
Potassium
Zinc
Sodium
Selenium

Basics of a Healthy Diet

Now that we explored nutrients, we are ready to discuss how to incorporate them into our diets. Here are a few basic recommendations for creating a dietary plan or revising your food consumption habits.

1. Avoid fad diets:

The first rule of creating or revising a dietary plan is to avoid fad diets. These diets typically promise rapid weight loss and enforce caloric restrictions. Many of these diets encourage the consumption of copious amounts of a particular type of food, such as cabbage soup, protein bars, etc. Some even require you to subscribe to meal replacement plans, protein shakes, or other products.

Fad diets also tend to eliminate entire groups of nutrients, such as fats or carbohydrates. With decreased caloric intake, these extreme nutrient restrictions can result in rapid weight loss. However, eliminating an entire macronutrient group is never a good idea. It can cause severe nutrient deficiencies or hormonal imbalances and harm your body's metabolic processes.



2. Avoid highly processed foods:

Processed foods are defined as foods that have gone through manipulations to alter their natural state. Based on this definition, we all consume processed foods because even the cartons of milk and the bags of mixed salad greens we buy have been cleaned and packaged before reaching the store. This low level of processing is convenient and might even ensure quality and safety. Yet, we can't say the same thing for highly processed foods.

Highly processed foods are problematic because intensive manipulation of foods may strip some of their most valuable nutrients, such as fiber, vitamins, and minerals. Hence, these foods may provide fewer nutritional benefits than their unprocessed or lightly processed versions. Moreover, they may be loaded with potentially

harmful additives with no nutritional benefits, such as preservatives, flavours, and sweeteners. Not surprisingly, frequent consumption of highly processed foods has been linked to various health conditions, including high cholesterol, metabolic syndrome, and cardiovascular disease (Pagliai et al., 2021). Furthermore, a diet rich in highly processed foods may even reduce your lifespan (Rico-Campa et al., 2019).

So, how do we know if a food item is highly processed? The first thing you can do is to look at the ingredients label. Look for the words that indicate processing, such as enriched, bleached, hydrogenated, etc. Moreover, if the label lists substances that sound like they belong to a chemistry lab, you're likely holding a package of highly processed food.



How about hormones and pesticides in our foods? These manipulations aren't technically considered food processing, but high amounts of these chemicals may be bad for our health. You might want to wash fruits and vegetables well before consuming them to reduce pesticide residues. When it comes to animal products, you might want to refer to the packaging and whether the animals were treated with hormones and antibiotics.

Many of us equate organic food with healthy food because organic foods are grown without synthetic pesticides or antibiotics, but experts say they aren't nutritionally superior (Forman et al., 2012). Research suggests that regenerative farming practices, which restore soil health, and produce more nutritious foods, and soil health is a better indicator of nutrient composition than whether the crops were grown conventionally or organically (Montgomery et al., 2022). Hence, you might want to choose food from local farms that use regenerative farming practices for more nutritious foods, regardless of whether these crops are certified organic or not. Also, you might want to keep in mind that some organic foods are highly processed or might be too expensive. Therefore, you might want to opt for organic, wholesome options if you can afford them and avoid processed or refined organic foods stripped of all health benefits.



3. Prioritize plants:

According to the American Dietetic Association, well-planned plant-based or vegetarian diets are not only nutritionally sound but may also reduce the risk of diabetes, cardiovascular disease, and cancer (Craig & Mangels, 2009). The key is to include a variety of nutrient-dense plants in your diet, such as colorful vegetables, fruits, nuts, beans, and legumes. Given that plant-based diets may provide low levels of vitamin B12, you might want to consume foods rich in vitamin B12, such as nutritional yeast, seaweed, or B12-fortified cereals.

Another benefit of plant-rich diets is that many plants contain phytochemicals, such as carotenoids and flavonoids, especially those with distinct colors and flavors. Plants produce these substances as pigments or to defend themselves against diseases or predation. Phytochemicals are not necessary for our survival; therefore, they are not classified as nutrients. However, we may benefit from these biologically active substances due to their antioxidant, anti-inflammatory, and cancer-preventing properties (Dillard & German, 2000).



4. Be mindful about portion size:

It is easy to overeat if we have too much on our plates. This is especially true when eating at restaurants, where we have little control over portions. But there are a few things you can do about it.

If you are serving your own food, try to be mindful of how much you put on your plate. When we feel hungry, we might be inclined to take more than we need, and resisting this desire may be hard when your stomach is gurgling. Suppose you took more food than you needed, or the server placed an enormous plate in front of you. It is entirely okay to stop eating when you feel full. The good news is that you can store the leftovers (or ask the server to bring you a box) to have a quick meal later.



5. Mindful snacking:

Unlike our ancestors, many of us always have access to food. The good news is that we are less likely to starve. On the downside, we tend to eat larger amounts at higher frequencies. Sure, eating a snack may give us a quick energy boost between meals. Nonetheless, we also need to consider our snack's nutritional qualities.

For instance, you might be thinking about eating a fruit-flavoured snack bar for a quick energy boost. Consider replacing that with whole fruits, which can provide you with energy, micronutrients, and even phytochemicals. Try mixing diced fruits with Greek yogurt packed with proteins and calcium for a more filling snack.

Have you ever finished a tub of ice cream or an entire sleeve of cookies when you were upset about something? Many of us snack to soothe ourselves when stressed out, bored, or annoyed. Next time you reach for a snack, try to be mindful of why you desire that food. If you realize that you're attempting to soothe yourself, you might want to find something else to calm your nerves or keep you entertained.





Exercise: Food Journaling

Sometimes we are not aware of how much we eat or whether our diet is nutritionally balanced. In this exercise, you will have the opportunity to take a closer look at your dietary habits. Simply write down everything you eat and drink, including snacks, for at least one week.

Here are the three things you might want to note:

1. **The food item you ate/drank (what)**
2. **Portion size (how much)**
3. **Time of the day (when)**

After a week — or longer if you prefer — look at your entries. Do you see any trends regarding when you eat?

For instance, do you tend to eat earlier in the day or later? Also, note what types of food you eat. Do you eat enough fruits and vegetables? Does your diet consist of frozen pizza and boxed dinners or foods prepared from scratch? Are there any dietary changes over the week or on weekends?

Take home:

Food journaling can reveal what changes you should make, and you don't have to stop once you revise your diet. You can continue entering your meals and snacks in your food journal as long as you wish, especially if you want to ensure your diet remains balanced. You may also benefit from food journaling if you suspect you might be sensitive to certain food items or ingredients. In that case, you might also enter any reactions you have after consuming certain foods.

Gut Health

Most of us don't think much about our intestines. But beyond digesting and absorbing nutrients, the intestine is a vital organ for our general well-being, as it can regulate the immune system and our brain health (Hills et al., 2019).

Our intestines contain trillions of bacteria from hundreds of species, collectively known as the gut microbiome. The majority of the gut microbiome consists of beneficial bacteria that help us digest foods. And the more diverse your gut microbiome, the healthier your gut is. Why? First, a diverse set of species may have different ways to contribute to digestion, maximizing the nutritional benefits of the foods you eat. Furthermore, increased species diversity means it is more challenging for any

type of bacteria to outcompete others, which is especially important for keeping the not-so-good bacteria or parasitic microbes at bay (Hills et al., 2019).

Unhealthy guts have been associated with gastrointestinal conditions such as leaky gut, irritable bowel syndrome (IBS), and colorectal cancer (Hills et al., 2019). One of the most common of these is leaky gut, caused by the overpopulation of harmful bacteria that compromise the intestine's barrier layer, allowing toxins in the intestines to enter the bloodstream. This leak causes a widespread inflammatory response. But how can we stop our guts from getting leaky and keep our intestines healthy? Here are a few suggestions.



1. Eat a variety of whole foods.

Eating different types of high-quality foods nurtures many species of gut bacteria and keeps your gut microbiome diverse.

2. Avoid excess consumption

of food additives, sugar, and alcohol. Our bodies can handle these substances in small amounts, but too much of them can irritate your intestine's barrier layer.

3. Eat probiotics,

which are foods that contain live beneficial microorganisms that can restore the gut flora (Fooks & Gibson, 2002). Fermented foods are particularly rich in probiotics; thus, you might want to add yogurt, kimchi, kefir, pickles, miso, and kombucha to your diet. If you don't enjoy these foods, you might also consider taking probiotic supplements.



4. Try prebiotics,

which are complex carbohydrates that nourish your gut microbiome and help good bacteria flourish (Fooks & Gibson, 2002). You may find prebiotics such as pectin and inulin in supplement form.

5. Care for your gut

after antibiotics. We are prescribed antibiotics to fight bacterial infections. Unfortunately, antibiotics that we take during illness kill not only the bacteria that have made us sick but also the beneficial bacteria in our guts. Hence, you might want to take care of your gut during and after recovery by following the suggestions above.



Reduce Toxin Exposure

Harmful substances are all around us. They are so common that we don't even notice them or think about them. Some harmful chemicals reach our bodies because we actively expose ourselves to them. Others are in the products we use, and we unknowingly touch or ingest them. Yet, others are the pollutants that are in our environments. So how do we keep ourselves safe?

Let's discuss the harmful chemicals that we expose ourselves to knowingly. When we think about harmful chemicals, we often imagine chemicals in our cleaning products or air or water pollutants but not the chemicals we ingest in processed foods, such as hydrogenated oils and trans fats, and certain food additives. However, when ingested regularly, these chemicals may cause various health problems. Hence, one way to reduce our exposure to harmful substances is to eat wholesome foods.

Substances of abuse are products containing chemicals that can lead to addiction. In addition to recreational drugs, tobacco products and alcohol can also lead to addiction and are accepted as

major global risk factors for disability and premature deaths (Peacock et al., 2018). For instance, the link between smoking and lung cancer has been well-established. Even though we know that excess alcohol consumption is harmful, low levels of alcohol consumption have been touted as beneficial for decades. After careful consideration of the available data, the view about low levels of alcohol has started to change in recent years. Now, experts state that there is no safe amount of alcohol (Day & Rudd, 2019), and it might be best for your health to limit alcohol use as much as you can.



What about chemicals we touch, ingest, or inhale unknowingly? Our bodies come into contact with hundreds of items and products every day: our clothes, bedding, cosmetics, food and beverage containers, cookware, and furniture, among others. Unfortunately, some of the things we touch may contain harmful chemicals. Here are a few tips to keep you safe.

1. Reduce plastic use.

Plastics are derived from fossil fuel byproducts, and they may contain harmful chemicals such as bisphenol A (BPA) and other hormone disruptors. These chemicals in plastics can leak into our foods and beverages and harm our bodies (Muncke,

2021). Plastics also sneak into our lives as synthetic fabrics in our clothing and bedding. Moreover, most plastics aren't recycled and end up in landfills and oceans, adding to environmental pollution (Muncke, 2021). Here are a few suggestions to reduce plastic use in your everyday life.

- a. **Choose glass and metal containers** to store your food and beverages.
- b. **Read garment labels** to find out what materials were used. If possible, choose items made out of cotton, wool, cashmere, silk, or other natural fibers. Plastic-based fibers tend to deteriorate gradually, and every time you wash your garments, a certain amount of them is disposed of as microplastics. Later, these microplastics reach the oceans and are consumed by marine animals and us. In fact, according to a recent report by the World Wildlife Fund, humans might be ingesting, on average, a credit card equivalent amount of microplastics every week (De Wit & Bigaud, 2019).
- c. **Avoid buying bottled water.** Not only do bottled water and other beverages contribute to plastic pollution, but the plastic additives can also seep into your water or beverage. Instead, filter water at home and use bottles made out of safer materials (e.g., steel or glass) to store and carry.
- d. **Watch out for plastic in everyday items,** from dish sponges and furniture to children's toys. Whenever possible, choose things that are made from natural or safer materials.



2. Reduce exposure to potentially harmful chemicals.

A modern home contains hundreds of chemical concoctions. Most of them are in our household cleaners, but some chemicals are in our hygiene products or cosmetics. Here are a few tips to ensure your safety:

- a. **Take precautions when using cleaning products.** Some household cleaners contain harsh chemicals. Use cleaning gloves or other barriers to reduce or prevent skin exposure. If feasible, try to air out the room you're cleaning to avoid inhaling any harmful fumes.
- b. **Use safe cosmetics and personal hygiene products.** Conventional products typically contain preservatives, perfumes, dyes, or other chemicals, which may irritate your skin or cause other health problems. If you aren't sure whether a product you own (or consider buying) is safe, you can use online databases or apps such as the Environmental Working Group's "Skin Deep" database (EWG, 2022-b).



- c. **Eliminate pesticides and insecticides.** Chemicals poisonous to insects and other unwanted organisms in your household can harm your health, too. Using these chemicals should be the last resort after everything else has failed and with much precaution to limit exposing yourself and your loved ones.
- d. **Beware of dry cleaning.** You might be cleaning most of your garments and bedding in a washing machine. Yet, sometimes there are a few items that you can't wash. Dry cleaning removes stains and dirt by exposing the fabric to various harmful chemicals. Some of these chemicals come home with your garments and touch your skin the next time you wear the dry-cleaned item.

