Eating the right food

IN recent decades, antioxidants have gained popularity, moving beyond supplements to become an essential part of maintaining health. The demand for antioxidants has surged, and the market is expected to continue growing significantly. This rising interest is linked to a broader focus on preventive healthcare, as people begin to recognise the important role of natural bioactive compounds in promoting well-being.

According to the Management and Science University (MSU) Faculty of Health and Life Sciences senior lecturer Dr Tan Bee Ling, "Research suggests that antioxidants help reduce oxidative stress and support the immune system, which plays a key role in preventing age-related illnesses. By boosting immune function, antioxidants can help protect older individuals from chronic diseases, making them an important component of a healthy diet.

Natural antioxidants such as carotenoids, phenolic compounds and vitamins are abundantly found in fruits and vegetables. Although present at relatively low levels within cells, these compounds play a vital role in neutralising free radicals, helping to protect the body against age-related diseases. They are known to inhibit the oxidation of metabolic by-products, prevent lipid peroxidation and reduce oxidative stress."

Extensive research has shown that oxidative stress and age-associated diseases can be modulated through the intake of antioxidant-rich natural products. These natural products contain a unique blend of bioactive compounds that help protect the body from oxidative damage. As such, adopting healthier dietary habits that emphasise antioxidant-rich foods may prevent the onset and progression of chronic diseases. This highlights the potential of dietary modification as a preventive strategy for promoting long-term health and reducing disease progression.

Fruits and vegetables are rich sources of dietary fibre, essential vitamins and minerals. Numerous studies have shown that a high intake of fruits and vegetables is linked to a lower risk and mortality rate of chronic diseases, including cancer, type two diabetes and cardiovascular disease. This protective effect is largely attributed to antioxidant vitamins such as vitamin C, vitamin E and β-carotene.

Beyond vitamins, other bioactive compounds such as flavonoids also protect against oxidative stress. These naturally occurring compounds exhibit a wide range of biological activities, including antimicrobial, antioxidant, anti-inflammatory and antitumor effects. Among them, anthocyanins are one of the most abundant flavonoids in fruits and vegetables, which are also responsible for their vibrant colours and are considered one of the most common natural pigments in the plant kingdom.

Whole grains are a valuable source of dietary fibre, along with essential vitamins, minerals and phytochemicals. Beyond their nutritional content, whole grains contain a variety of bioactive compounds that offer significant health benefits. One notable component is arabinoxylans, a key type of dietary fibre. In addition, polyphenols found in grains exhibit strong anti-inflammatory and antioxidant properties, largely due to their unique chemical structures.

How do antioxidants support a healthier life?

Carotenoids

Carotenoids are natural compounds found in many fruits and vegetables that help protect our cells from damage, especially in the eyes. They are known for supporting good vision and may reduce the risk of eye diseases. Some carotenoids, such as beta-carotene, alpha-carotene and beta-cryptoxanthin, can be converted by the body into vitamin A, which is important for healthy eyesight. Zeaxanthin and lutein, in particular, are two key carotenoids that play a major role in protecting the eyes from age-related conditions like macular degeneration and cataracts.

Age-related macular degeneration is a leading cause of blindness in older adults, especially those over 65. These carotenoids are found in high amounts in the central part of the retina, where they help filter harmful light and reduce damage caused by oxidative stress. Lutein may help prevent age-related macular degeneration, mainly because of its powerful antioxidant properties.

Ascorbic Acid

Ascorbic acid, commonly known as vitamin C, is an essential nutrient that supports many vital functions in the body. It can be obtained from a variety of plant-based foods, especially vegetables like broccoli and tomatoes, as well as citrus fruits such as oranges and lemons.

Vitamin C is a powerful antioxidant that helps protect the body from damage caused by harmful molecules known as free radicals. When vitamin C donates a hydrogen atom, it forms a stable compound called the ascorbyl-free radical, helping to reduce oxidative stress in the body. As a water-soluble antioxidant, vitamin C plays an important role in reducing oxidative stress and neutralising reactive oxygen species, which can harm cells. Research also suggests that vitamin C may help reduce oxidative damage and lower the risk of age-related diseases.

Dr Tan Bee Ling.

Keep your liver healthy before it speaks up

MOST of us rarely think about our liver until something goes wrong. Often called the body's silent engine, the liver plays a central role in keeping us healthy, from processing nutrients and regulating hormones to filtering toxins from the blood. But when it is under strain, it rarely shows symptoms until the damage is advanced.

"Liver disease is often silent in its early stages. Many people don't realise they are at risk until they develop complications," says KPJ Damansara Specialist Hospital consultant gastroenterologist Dr Mohd Shamsul Amri Ismail.

He explains that Non-Alcoholic Fatty Liver Disease (NAFLD), also known as Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD), is increasingly common and often misunderstood. "You don't have to be overweight to develop fatty liver. I have seen patients who look lean but are struggling with insulin resistance or cholesterol issues," he says.

Factors such as poor diet, high sugar intake, stress and sedentary lifestyles are contributing to the rise in liver-related conditions. "We live in a culture where sugary drinks are the norm and meals revolve around indulgence, social media influence and visual appeal. People underestimate the effect of these habits on their liver," he adds.

Despite the popularity of superfoods and detox supplements, Dr Mohd Shamsul cautions that there's no quick fix. "There's no magic cure. A healthy liver depends on balanced nutrition, regular exercise and mindful consumption. Moderation is key."

Meanwhile, liver cancer continues to be one of the leading causes of cancer-related deaths in Malaysia. KPJ Damansara Specialist Hospital consultant clinical oncologist Assoc Prof Dr Aminudin Rahman Mohd Mydin points out that liver disease can progress slowly and quietly, but when symptoms finally appear, the disease may already be advanced.

"Many assume only heavy drinkers or those with hepatitis get liver cancer, but that's no longer the case," he explains. "With conditions like NAFLD becoming more common, liver cancer can develop even in people who don't realise they are at risk.

The liver is incredibly resilient, but once the damage reaches a certain point, treatment becomes more complex. That is why screening is so important, especially if you have risk factors."

Unlike kidney disease, liver failure does not have a backup option like dialysis. "When the liver fails, transplant is the only cure," says Dr Aminudin. "The good news is that the liver can regenerate. Living donors can give a portion of their liver and still live a normal life. But prevention and early detection will always be the best path forward."

KPJ Damansara offers liver health screening packages, including FibroScan, a painless, non-invasive ultrasound-based tool that measures liver stiffness and fat content.

"You don't need to wait for symptoms," says Dr Mohd Shamsul. "If you are unsure about your liver health or belong to a risk group, getting checked can give you peace of mind and, in some cases, save your life."

> "When the liver fails, transplant is the only cure."
>
> Dr Aminudin Rahman Mohd Mydin

This proactive approach reflects KPJ's broader commitment under the KPJ Health System, which integrates clinical care, education and research across its hospital network. The focus is not just on treating illness, but also on prevention, early intervention and empowering patients to take charge of their health.

Is your liver at risk?

KPJ Damansara Specialist Hospital offers personalised liver screening packages for individuals with higher risk profiles. This includes those with a family history of liver disease, individuals living with diabetes, obesity or high cholesterol, as well as those with a known history of hepatitis B or C, fatty liver or alcohol-related liver conditions.

■ For more information, call 03-7718 1000 or visit *https://www.kpjhealth.com.my/damansara.*

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Surprising facts about bones

MOST people understand that the primary function of our bones is to hold our body together and prevents it from collapsing. It works in tandem with our muscles to enable body movement through what is known as the musculoskeletal system.

However, our bones perform some surprising yet important roles outside of their main purpose.

Producing blood cells

There is a soft, spongy tissue that fills the centre of most bones known as the bone marrow, which hosts the stem cell. The stem cells are found within the cavities of the bone and originate from two distinguished types of bone marrow: red bone marrow and yellow bone marrow.

Storing and releasing fat

As for the stem cells located in the yellow bone marrow, they store and preserve fat for future use. In life-threatening situations involving rapid blood loss, stem cells found in yellow bone marrow can aid in the production of blood cells similar to those in red bone marrow.

Storing important minerals

When the blood contains an excess amount of certain minerals, our bones can act as a reservoir by storing them within the bone tissue. These minerals are essential for the body's proper functioning and include potassium, calcium, phosphorus and vitamin D.

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