Cardiovascular diseases (CVDs) are the number one cause of death worldwide and kill two and a half times more people than all cancers. CVD refers to illnesses of the heart and the blood vessels – veins, arteries and capillaries. We take a look.

Don't become a stat

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The latest statistics released by the World Health Organisation (for 2008), showed that 17.3m people died from CVD in that year – this represents 30% of all deaths globally. Of this, 7.3m were due to coronary heart disease and 6.2m were as a result of strokes. The WHO estimates that by 2030, heart disease and strokes will account for 23.3m global deaths. WHO also found that high blood pressure was responsible for 16.5% of all deaths.

Closer to home, a report released by the SA Medical Research Council in October 2012, revealed that between 1997 and 2004, 195 South Africans died each day from CVD. Twice as many men as women died from heart attacks during this period. Indians* accounted for the highest number of CVD deaths, followed by coloureds and lastly, whites and blacks who shared very similar statistics. However, whites died mainly from heart attacks while blacks died from strokes, heart muscle disease and high blood pressure.

According to the Heart and Stroke Foundation of SA, 8.6m women die every year from CVD worldwide, which translates to one-third of all deaths in women. In SA, one-quarter of all women experience some form of heart disease before the age of 60 and 34% of all life claims by women are due to CVD deaths. These statistics indicate that, currently, heart disease is the number-one cause of death in both women and men.

A vast body of scientific research has explored CVD. Among aspects researched are the reasons for heart attacks, high cholesterol, hypertension (high blood pressure), strokes, angina, arrhythmia (irregular heartbeat), atherosclerosis (hardening of the arteries) and venous blood clots, to mention but a few. It has generally been accepted that CVD, if it is not genetic, is the result of poor diet, obesity, stress, smoking, lack of sleep, physical inactivity and excessive alcohol intake.

Considering our modern lifestyles, the above reasons make perfect sense. We live our lives on the run, stressed out and coping to the best of our ability. We regularly indulge in fast foods; we may relax with a drink and a smoke and try our utmost to deal with the stress that assails us daily. Few of us have the opportunity to retreat to some form of sanctuary regularly to 'detox' our systems and emotions, so, faced with statistics such as those mentioned above and a deep desire not to become one of them, how do we move forward?

The first part of the journey is to understand how these conditions and our lifestyles affect our bodies and our health. It sometimes appears that every second person you meet is suffering from high cholesterol so that probably is a good starting point. Simply put, because cholesterol is not soluble in blood plasma, it needs a carrier to take it around the body. These carriers are known as low-density lipoproteins (LDL – aka 'bad cholesterol') and high-density lipoproteins (HDL – aka 'good cholesterol'). The function of HDL is to carry the excess cholesterol back to the liver so that the body can destroy it or convert it to bile, which in turn emulsifies fats. LDLs function is to take the cholesterol to where it is needed, but because it is a sticky substance, the cholesterol sometimes gets deposited in the arteries. The white blood cells then step in and in the process of 'eliminating' the LDL, they oxidise it. A loop is developed, until eventually, the oxidised LDL can enter the wall of the artery and create a progressive build-up, called plaque. With time the blood vessel effectively narrows and hardens. The result is a condition known as atherosclerosis that causes strokes and heart attacks. If the surface of the plaque erupts, it creates a blood clot, which induces heart attacks.

Natural heart health

There are a number of natural ways available to deal with these conditions and one, in particular, that needs a special mention. Up until recently scientists have thought it is the high monounsaturated fatty acids (MUFA) content found in olives that was the primary reason why folk in the Mediterranean area have such a low incidence of heart disease. It is only lately that they have discovered a minor component of olives, a polyphenol called hydroxytyrosol that has, in the past, been lost in the olive juice disposed of as wastewater in the production of olive oil. Studies have now shown that it plays a vital role in reducing or preventing the oxidation of LDL and raising the levels of HDL. Hydroxytyrosol has been identified as the most potent natural antioxidant with the highest level of free radical protection activity known to man. In addition, it is also acknowledged as having a superior

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Dr Ramon Estruch, professor of medicine, University of Barcelona

ability to reduce the markers of inflammation. In fact, in 2011, the European Food Safety Authority (EFSA) scientific panel sanctioned hydroxytyrosol and stated that, 'Olive oil polyphenols contribute to the protection of blood lipids from oxidative stress.'

What this means is that hydroxytyrosol protects both our heart and the cells that line our blood vessels at a genetic level from damage by excessively reactive oxygen molecules. They absorb free radicals and reduce the amount of fat accumulating in our arteries. They are also known for their ability to increase HDL (good cholesterol), reduce inflammation and prevent blood clots.

Earlier this year, the results of a study undertaken in Spain by Dr Ramon Estruch, a professor of medicine at the University of Barcelona, showed that people who ate a Mediterranean diet rich in olives showed a 30% less chance of suffering from heart disease. The results were so clear cut that the study was stopped after about five years as the scientists involved felt that it would be unethical to continue. It has received accolades from the American Heart Association.

Hydroxytyrosol is also able to reduce C-reactive protein and homocysteine, both of which are significant biochemical markers of inflammation and contribute to conditions such as venous thrombo-embolism, strokes, coronary heart disease and rheumatoid arthritis.

Anti-cancer effects

This polyphenol's benefits are not only restricted to CVD,

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it would seem. New research is highlighting its ability to contribute to the healing process of a number of other serious illnesses. Scientists from the University of Perugia in Italy concluded that hydroxytyrosol was potent in preventing DNA damage and, therefore, certain types of cancer. As an antioxidant, hydroxytyrosol has a direct, positive influence on the length and ageing of DNA telomeres by preventing DNA oxidation. Telomeres protect our genetic material and allow the cells to divide without losing genes. A long telomere is a sign of good health, strong immunity and longevity but with time, oxidation tends to shorten these DNA telomeres, which adversely affect DNA duplication.

It is common knowledge that antioxidants delay ageing and skin damage. As hydroxytyrosol is the most potent natural antioxidant known, so using it could play a vital role in anti-ageing and skin care. Its ability to lower LDL, improve insulin sensitivity and regulate blood sugar levels makes products like Phytolive a valuable supplement for diabetics. Other studies have shown how polyphenols can prevent the onset of rheumatoid arthritis and osteoporosis as it strengthens bones and increases calcium absorption.

Since hydroxytyrosol can also cross the blood-brain barrier, it can be beneficial for neurodegenerative diseases such as Alzheimer's and Parkinson's as well as aiding older people who are starting to suffer memory loss.

Recently, hydroxytyrosol has become accessible in SA for the first time in capsule form under the name Phytolive, part of the Master Health Products' Purenature range and is available from their online store at www.masterhealthproducts.co.za.

See ad opposite for more details.

***Publisher's note:** Odyssey does not endorse racial grouping or any form of race-based thinking. However, given SA's history these demographic categories of people have validity in differentiating lifestyle norms, especially eating habits and practices which influence lifestyle diseases such as CVD.