

A cell biologist and virologist shares his thoughts on human cellular nutrition.

By BRIGITTE ROZARIO

THE human body is made up of trillions of cells. It is the cells that make up the tissue, bone and organs within our bodies.

It only makes sense then that if we take care of our cells and feed them well, then they should remain healthy.

That is the opinion of cell biologist and virologist Dr Myron Wentz, founder and chairman of Usana Health Sciences.

Dr Wentz, an expert in human cellular nutrition, was recently in Malaysia to visit Usana's local subsidiary.

"Viruses cannot grow by themselves in a culture medium like bacteria and fungi can; they have to infect a living cell that has all the machinery to build the viral particles. Viruses cannot reproduce without that metabolic machinery of the cells.

"For more than 20 years, I have been a cell biologist and virologist, growing cells to support viruses for developing diagnostic assays so that we could diagnose quickly and accurately in the laboratory whether a person had cytomegalovirus infection, respiratory syncytial virus ... That was the purpose of doing cell culture.

"In doing cell culture, I learnt what made cells healthy and what allowed them to become sick and defective. I came to the conclusion that the single most important factor was how I fed those cells. 'Nutrients' supplied to cells was the most important factor in their health because we all start out from a single cell and our body is composed entirely of cells.

"We're products that the cells make, nothing else. And so if we think about the health of the whole body, we need to think in terms of the health of the cell because if we allow certain cells of a particular organ or type to become unhealthy or diseased, then the body will be unhealthy and diseased. It just seems common sense to me, but it took years to fully appreciate this," says Dr Wentz.

Need for nutrients

According to him, the body needs certain nutrients to build things like hormones, neurotransmitters and enzymes. If the body does not get those nutrients, then those structures will not be built properly and consequently will not function as they were intended to function.

When that happens, the cells will degenerate and that is the basis for degenerative disease - it occurs when we have cells that are not functioning properly.

"The most important element in allowing cells to function properly is that they receive all the nutrients that they need to build all their structures and to do all the things that they need to do. That is what we call cellular nutrition," says Dr Wentz.

According to Dr Wentz's book *Invisible Miracles*, the factors that help a person improve their health are:

Diet - Eat a diet rich in plant-based foods and not in acid-forming animal-based foods.

Supplements - Take high-quality nutritional supplements to guarantee your intake of essential nutrients.

Exercise - Regular exercise promotes cardiovascular fitness, maintains flexibility, promotes circulation of the lymphatic system which flushes out the toxins from the body, and slows age-related loss of muscle mass and tone.

Lifestyle - Avoid unhealthy habits like

smoking. Drink in moderation.

Environment - Minimise exposure to environmental toxins. Whenever possible eat organic food.

Reduce stress - Whenever possible, eliminate the causes of stress in your life.

Dr Wentz emphasises the importance of nutrition and supplements. "If we eat foods that are not good for us such as 'improper' fats or carbohydrates, and the proper ones are not there, the cell will do everything

possible to substitute. And that's how we get bad fats like oxidised and trans-fats into our cell membranes when we should have the essential fats in the membrane. The cell will substitute minerals when it becomes deficient in the minerals that are supposed to be there. It will substitute other minerals," he says.

Dr Wentz believes that today we need to think of nutrition in playing a role in virtually all diseases and certainly all degenerative diseases.

The role of oxygen

He says that the greatest damage that's done to our cells is oxidative damage. "We need oxygen to live. Oxygen is important in virtually everything that goes on in the cell. All the activity in the cell really has as its basis on oxidation and reduction reactions in which molecules are being built, molecules are being broken down, transformed into others and it's all by the chemical process of oxidation reduction.

"In that process, the molecule loses an electron. An oxygen molecule that has lost an electron becomes a very dangerous element that we call a free radical because that molecule will do everything possible to fill its outer orbit with that missing electron.

"It will even steal an electron from a neighbouring molecule to make itself whole. In the process, it damages that molecule and then there will be a chain reaction of damaged structures which we call oxidative damage.

"There are scientists in the world, and I am one of them and perhaps a pioneer, who believe that oxidative damage is the primary damage that occurs to cells in everyday life. But that damage is repaired by the body and we have wonderful repair enzyme systems to quench those free radicals and to repair the damage that they do.

"Some of the most important (repair enzyme systems) are glutathione peroxidase, but for each molecule of glutathione peroxidase enzyme to function, it has to have an atom of selenium. And if that selenium is not there, that whole enzyme system will not function. It will not quench free radicals. What I mean by quenching is that it supplies an electron and neutralises the free radical," says Dr Wentz.

Selenium is an antioxidant. Dr Wentz believes the most important role for nutritional supplementation is to supply antioxidants.

He says that if someone doesn't ever take antioxidants, they are going to have free radical damage which is going to create cells that don't function, and organs and tissues that will not function properly. That person will experience some form of degenerative disease depending upon which cells in the body are most susceptible - that are being targeted by those free radicals.

What you eat

What is Dr Wentz's idea of a good diet? "I believe in the 80-20 rule, with 80% consisting

Feeding our cells



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of plant food and 20% animal food. Plant food, when it is metabolised, forms for the most part alkaline waste products, which is really what the body's systems are designed to deal with.

"Animal tissue products produce acid waste products which are more difficult to eliminate and more importantly, the toxic substances that we expose ourselves to generally create in their detoxification acid waste products.

"Another reason (to eat more plant food) is

that fibre is found in plant food. Antioxidants are found more in plant food and very little in animal food. So animal food should be a condiment, something you eat, but not as the main staple.

"My philosophy is a good diet is important every day, but it's not adequate. You need to supplement that diet every day," says Dr Wentz.

He concedes that even if you eat right, take all the supplements, rest well, don't smoke and avoid toxic elements, you can still fall sick because of the role genetics plays.

"However, if you don't 'nutrient' your body properly, that is the surest way to invite disease," he adds.

He's been practising what he preaches for the past 14 years and Dr Wentz says, "I think I look pretty good for ... 83!"

He's joking, of course. Dr Wentz is actually only 66.

Any parting advice for Malaysians?

"Health is a product of healthy living and by that I mean 'nutrient-ing' your body the best you can and protecting it from toxic substances, drinking only purified water, eating the healthiest foods possible and avoiding things that damage the body like smoking and drinking excess alcohol.

"We should be conscious of the toxic substances around us and practise avoidance. If we know something is not natural, we should do everything possible to keep it out of the body," says Dr Wentz.



Microscopic they might be, but cells are the very foundation of all tissues and organs.