



Institute of Biological Medicine and Natural Concepts

## **Support the longevity: Therapeutic Manipulation of Ageing**

### **Who wants to live forever?**

Prolonging youth and slowing down ageing - tasks that seemed unrealistic until recently are now more and more successfully solved thanks to the development of science, research on ageing processes and mechanisms that affect the appearance of age-related changes.

Already at the age of 30-35, the first signs of ageing appear, which are an external reflection of changes in our body. Signs of ageing occur when the rate of destruction begins to exceed the body's ability to heal itself. Ageing cannot be cancelled, but thanks to modern advances in science, it is quite possible to "postpone" it - modern methods of anti-age medicine allow you to feel and look 10-20 years younger than your age.

Currently, the concept of "anti-ageing" is often misinterpreted, calling it aesthetic techniques aimed at mechanical elimination of external signs of ageing (plastic surgery, cosmetology, cosmeceuticals, etc.) In contrast to aesthetic medicine, where mainly external manifestations of the problem are eliminated (wrinkles, grey hair, etc.), in anti-ageing medicine, the emphasis is on solving internal problems of the body, normalizing and restoring the activity of individual organs and their systems.

### **Cancer – the leading cause of death in this century**

If the 20th century was the century of cardiovascular diseases, then the 21st century will be the century in which we will be most seriously threatened by cancer. There are more and more free radicals attacking us from the environment and breaking through the immune defences. In the body of a newborn today, there are more than two hundred different chemical compounds that should not be there at all, and no one knows when and how this extra "burden" for the body will manifest itself.

Unsurprisingly, the beginning of the century in anti-ageing was a boom in antioxidant nutraceuticals that boost immune defences and restore cells. More than 800 natural preparations - food supplements - have appeared in anti-ageing medicine. Doctors of anti-ageing clinics said that even the most environmentally friendly food must be fortified with food additives - not only vitamins and trace elements, but also stronger antioxidants that were previously unknown. For example, curcumin - a bioflavonoid that protects cells from ageing (1), quercetin protects heart cells (2), etc. Scientists claim that resveratrol, a polyphenol obtained from red wine, is not without reason called the "elixir of youth." One tablet containing 200 milligrams of resveratrol per day (this amount of this substance is found in 50 litres of red wine) improves metabolism and stimulates the body in the same way as if a person worked out fitness for two hours and ate exclusively organic products. As a result, the risk of diseases associated with ageing (diabetes, cancer, cardiovascular disease, Alzheimer's disease, etc.) is significantly reduced (3).

### **Healthier heart for longer life**

For a long healthy life, we need a strong heart and vessels. Several studies have shown that increasing the consumption of polyphenols - powerful antioxidants in our diet with food or supplements helps reduce the risk of cardiovascular disease. A. Tresserra-Rimbau and colleagues from the University of Barcelona (Spain) analyzed data from 7,172 men and women aged 55 to 80 who participated in the PREDIMED study (PREvencion con Dieta MEDiterranea). Participants self-assessed their diet daily for 4.3 years. The researchers found that participants with the highest average intake of flavanols had a 60% lower risk of developing cardiovascular disease. In addition, the risk of patients who had the highest amount of lignans in their diet was 48% lower. The study authors

say: "The increase in the use of polyphenols, especially lignans, flavonols, and hydroxybenzoic acids, has been associated with a reduced risk of cardiovascular disease and longevity" (4).

### **Improving longevity – start from the gut**

An antiaging program should begin with an assessment of the functioning of the gastrointestinal tract (5). It has long been known that if the function of the digestive system is impaired, the assimilation of useful nutrients and vitamins from food consumed with food becomes much more difficult.

In diseases of the pancreas, fat-soluble vitamins A, D, and E are not absorbed, first of all. If the secretion of gastric juice is reduced, vitamins of group B, in particular B12, are not retained in the body. Especially the elderly should pay attention to this: with age, the secretion of gastric juice decreases by 12% for natural reasons.

And what kind of prolongation of youth can we talk about if our body cannot assimilate the necessary nutrients from food? So, first of all, we need to improve the state of our microbiome to ensure the absorption of nutrients.

### **Vitamins and polyphenols for healthy living**

Adding different polyphenols and vitamins, such as Vitamins C, E, and B12, folic acid, and  $\beta$ -carotene in your daily diet triggers a response in the body that builds a certain resistance to stress and cell protection. This is due to the antioxidant and anti-inflammatory properties of the polyphenolic compounds and the long list of different vitamins' benefits for our health. Thus, since plants use polyphenols to protect and maintain their health, you can eat these same compounds for your health benefits in food or with proper supplements. Here are a few of the potential health benefits of polyphenols and vitamins.

#### **1. Help regulate blood sugar**

Polyphenols such as quercetin and resveratrol can affect blood sugar in different ways, including interfering with the absorption of glucose (sugar) in the intestines or its absorption elsewhere in the body (6). Lack of "good" insulin plays a major role in diabetes, and resveratrol can help reduce insulin production and delay the onset of insulin resistance. Research on resveratrol also shows its ability to inhibit diabetic changes in the kidneys (a condition known as diabetic nephropathy).

#### **2. Maintaining heart health**

A diet rich in polyphenols can help protect your heart. Polyphenols help protect cholesterol molecules from free radical damage. By interfering with this damage, polyphenols can prevent atherosclerosis (a condition in which plaque builds up in the arteries) (5). Polyphenols can also improve cardiovascular health by reducing inflammation and acting against platelets (cells that can clump together to form a blood clot).

#### **3. Antioxidant and anti-inflammatory properties**

Research has shown that polyphenols, resveratrol, and vitamins C, E, and  $\alpha$ -lipoic acid may have anti-carcinogenic effects due to their antioxidant properties and can also help fight inflammation (7).

#### **4. Boosting Brain Health**

Due to their ability to penetrate the blood-brain barrier, which controls the entry of substances into the brain, polyphenols can have a protective effect on the brain (8). Research has

shown that polyphenols may play an important role in delaying the onset of Alzheimer's and Parkinson's disease. And Vitamin B is crucial for brain health and prevents stress and depression (9).

This way, providing a wide variety of essential vitamins and polyphenols in your diet - with foods or supplements, or a combination of both - is a great way to improve your overall health, reduce your risk of certain diseases and prolong your life.

### **NEOVITAL® – the best choice for a long and healthy life**

NEOVITAL® - the new innovative concept of the essential vitamins and polyphenols for biological anti-ageing and more vitality for your cells and organs. In this unique product, we combined powerful polyphenols from natural plants and fruits with selected vitamins and vital substances to regulate health problems.

Numerous studies confirmed the remarkable properties of polyphenols, in particular their anti-inflammatory and antioxidant properties. In NEOVITAL®, the combined strength of beta-glucan, alpha-lipoic acid (ALA), quercetin, beta-carotene, curcumin, resveratrol, Triphala Churna, Aronia, and moringa with the active forms of vitamins B12 and folic acid and vitamins A, C, and E with the highest bioavailability, beyond what is known so far (10, 11, 12, 13, 14, 15)!

There are always two major challenges in the production of natural ingredients used for nutritional supplements (especially herbals and polyphenols):

- how to get 100% active ingredient extract from plant sources?
- how to ensure maximum absorption of them in the body?

A German leading pharmaceutical development company Glatt has developed the probably most innovative new galenic solution according to a unique manufacturing process, called Emulex™. This innovative product is solving the technical and biological challenges of maximum extraction and high bioavailability. A liquid blend with stable matrix, best stability, and efficacy.

Due to Emulex™ - innovative technology for higher utilization of active ingredients – in NEOVITAL® we got almost up to 99% extract of all substances and polyphenols from natural sources (instead of 3-15% what is common in the market) and the highest bioavailability of all compounds (for example, for most of the polyphenols, the natural availability is only 2-6% and can be increased to about ~10% so far).

*EFSA approved claims for NEOVITAL®:*

- Cell protection and rejuvenation
- Regeneration of the mucosa
- Antioxidant
- Immune system
- Neuro-regeneration.

### **NEOVITAL® benefits your health and longevity.**

- NEOVITAL® is suitable for all chronic diseases that developed from inflammation due to damages of the gastrointestinal mucosa (cardiovascular disease, diabetes, metabolic syndrome, cancer, multiple sclerosis, Parkinson's disease, Alzheimer's dementia, autism, ADHD, celiac disease, rheumatoid arthritis, etc.)
- NEOVITAL® improves: athletic performance and endurance, energy metabolism, heart health, brain and mental health/memory, eye, liver, and lung health, maintain fertility
- The only natural and effective solution to a Leaky gut
- Ideal for fighting autoimmune and neurological diseases

- Breaking the circle of chronic inflammation
- First natural treatment solution for gut-associated diseases
- Supports cellular detoxification.

### **Prevention is the best treatment!**

Methods of laboratory and functional diagnostics are already have reached the level where we can talk about the ability to accurately predict the health status of each person in old age. Of course, prediction is not a medical term, but it is “predictions” that patients often expect from a doctor. They want to know which diseases threaten them the most. An antiaging medicine doctor is quite capable of making such a prognosis (16). However, the task of anti-ageing medicine is not only to anticipate future problems but also to show the patient the way that will make it possible to avoid diseases or their complications. And in this case, prediction of the possible health problem gives us a chance to prevent it. With NEOVITAL® prevention becomes easily accessible.

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