

## **Senior citizens and the chronically sick are often not sufficiently supplied with biofactors!**

**Senior citizens, chronically sick individuals such as cardiovascular patients and diabetics, as well as patients who take medications regularly – these are the risk groups for a biofactor deficiency, which in some cases can have serious consequences for the health of those affected. Biofactors include, in particular, vitamins and minerals – substances which the body requires for its own functions and which display health-promoting or disease-preventing biological activities. If the body lacks these biofactors, this may result not only in minor complaints such as a lack of concentration, exhaustion, sleep disorders or frequent colds. Chronic diseases such as heart failure, diabetes mellitus, osteoporosis or nerve damage can also be associated with a biofactor deficiency.**

### **Biofactor deficiency widespread in old age**

Many senior citizens have an unbalanced diet or consume fewer calories, even though the need for vital biofactors does not decrease with age. The reduced perception of thirst and taste, chewing and swallowing disorders, chronic diseases and numerous drug interactions promote a biofactor deficiency in elderly people and result in numerous health complaints and illnesses. During the course of the ageing process, the efficiency of the gastro-intestinal tract also decreases, with the result that vitamins and minerals from the food are less easily absorbed by the body. According to scientific studies, the intake of most vitamins and minerals among senior citizens is below the recommendations of the German Nutrition Society. The intake of vitamin C, vitamin D, vitamin E and folic acid, as well as the minerals calcium and magnesium, is much lower than it should be. An inadequate supply of vitamin B<sub>12</sub> has also been documented by many studies.

### **Biofactor deficiency in old age can result in numerous diseases**

The lack of vitamins and minerals can induce both psychological disorders and physical illnesses in the elderly. According to current studies, cardiac arrhythmias and other cardiovascular diseases, nerve damage, anaemia, osteoporosis and depression, as well as diseases such as Alzheimer's or Parkinson's disease are associated with an undersupply of biofactors in particular. According to the experts of the Society for Biofactors (GfB), if a biofactor deficiency is suspected, this should be investigated by means of a blood test and compensated for as quickly as possible with appropriate preparations, as irreversible damage can occur after a prolonged period of deficiency.

### **Hypertension and cardiovascular diseases: consider magnesium deficiency**

The biofactor magnesium plays an important role for the heart, vascular function and metabolism. A magnesium deficiency is often diagnosed in diseases of the cardiovascular system, such as high blood pressure, cardiac insufficiency and cardiac arrhythmias, as well as arteriosclerosis, lipid metabolism disorders and diabetes mellitus. In particular, the effects of magnesium deficiency on hypertension have attracted increasing interest over the past few years. "Numerous new studies have shown that magnesium substitution has a positive influence on high blood pressure," explains Prof. Dr. med. Klaus Kisters, Deputy Chairman of the GfB. "In patients with cardiac insufficiency, treatment with magnesium orotate tablets improves the quality of life and increases their life expectancy," according to Prof. Kisters. Furthermore, the number of newly occurring cardiac arrhythmias is significantly reduced by magnesium and potassium. "Biofactor deficiency states in cardiovascular diseases should therefore be avoided without fail in order to prevent further consequential damage and a reduction in the quality of life of patients," warns the medical expert Kisters.

### **Diabetes mellitus – increased risk of biofactor deficiency**

Patients with diabetes mellitus are also particularly at risk. They have an increased requirement for various vitamins and minerals due to their illness and the medications they need to take – for example, the diabetes medication metformin. This can result in the inadequate intake of the biofactors vitamin B<sub>1</sub>, vitamin B<sub>12</sub>, magnesium, zinc and chromium. However, therapies which are used to treat diabetes patients can also have a negative effect on the biofactor status in the body and thereby cause a biofactor deficiency. Therapy with metformin can reduce the absorption of vitamins B<sub>1</sub> and B<sub>12</sub>, while therapy with diuretics leads to increased renal excretion, especially of vitamin B<sub>1</sub> and magnesium. A deficiency of these biofactors can promote concomitant and secondary diseases of diabetes, such as neuropathies and cardiovascular diseases, and make it difficult to control blood sugar levels. It is therefore particularly important for diabetics to have their biofactor status checked and have any deficiency compensated for with appropriate preparations.

### **Vitamin B deficiency affects the nerves**

The biofactor vitamin B<sub>1</sub> (thiamine) is considered a nerve vitamin. The reason: brain and nerve cells require energy from carbohydrates in order to function smoothly; energy is mainly produced by breaking down simple carbohydrates such as sugar. And the body needs thiamine for this process. A sufficient supply of thiamine is therefore indispensable for the healthy functioning of the nerves. "The peripheral nervous system reacts to vitamin B<sub>1</sub> deficiency with the development of nerve damage in the form of polyneuropathy with sensory disturbances, above all in the feet, such as tingling, burning and numbness, as well as nerve pain. This is particularly important for patients with diabetes, who have an increased risk of vitamin B<sub>1</sub> deficiency and the development of nerve damage. They should therefore compensate for

any deficiency with pharmaceutical preparations, preferably with the fat-soluble vitamin B<sub>1</sub> precursor benfotiamine. This is much easier for the body to absorb, which means that a sufficient amount of the nerve vitamin also reaches its destination, i.e. the nerve tissue.

The biofactor vitamin B<sub>12</sub> also plays an important role in the nervous system. "An undetected vitamin B<sub>12</sub> deficiency can result in serious diseases of the nervous system. Examples of complaints include sensitivity disorders in the hands and feet, a constriction or cuff feeling in the lower legs and feet, unsteady walking with a tendency to fall, as well as concentration problems and depressed moods," warns Prof. Reiners, neurologist and member of the scientific advisory board of the Society for Biofactors (GfB).

### **Summary of the Society for Biofactors**

In risk groups such as senior citizens and chronically ill people such as diabetics and cardiovascular patients in particular, special attention should be paid to the biofactor supply, with deficiency states being compensated for in a targeted manner in order to prevent diseases and positively influence their development.

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