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Nutritional supplementation for silvers

Healthy nutrition to enjoy the late period of life

Both, the average life expectancy and age of the population continue to rise across the globe, especially in the developed countries[1]. In 2012, more than 577 million people worldwide were older than 65, intent on living out their days in good health and vitality. A survey from a UK market research institute revealed that there is a statistical gap of seven years between total life expectancy and a healthy life expectancy. This means, in the last seven years of your life, you may – from a statistical perspective – be forced to live with health issues. In Asia, this gap is even 10 years[2].

According to another British study, the target group in Europe for senior-specific foodstuffs and nutritional supplements is indeed expanding. Some manufacturers of dairy products, for example, have reacted to this demand by offering an increasing larger number of calcium-enriched products, specifically targeting older consumers[3].

In the 1980s, many older people abandoned their dreams of staying young forever. However, aging nowadays is no longer necessarily associated with a fateful loss of physical and mental fitness. Aging has now become more accepted as a natural process that must be coped with in the best possible way.

There are in fact several ways to maintain optimal health and well-being during the aging process. Nevertheless, when both body and mind are aging, they require increasingly more intensive care and maintenance. Apart from regular age-appropriate physical and mental exercise, adequate social activity, a robust social environment, a healthy and complete diet, in addition to adequate supplementation are all essential requirements for leading a fulfilling life well beyond the age of 50.

Healthy bones

Bone density decreases as age increases, especially in women. During late menopause, women – irrespective of their regional origin – experience a significant loss in bone substance. The consequence of this loss is likely to be osteoporosis[4].

This decrease in bone density is primarily caused by hormones. In healthy bones, Calcium – the main component of bone tissue – is absorbed into the blood plasma and deposited within the hard tissue as Calcium hydroxylapatite. A dense, break-resistant bone is formed by the dynamic, hormone-controlled balance that is created when bone tissue is formed by special cells called osteoblasts, whereas bone substance is broken down by antagonists called osteoclasts. Due to hormonal changes starting at about age 50, the break-down rate increases, while at the same time the Calcium absorption of bones significantly decreases. Subsequently, bones start to become more porous and brittle.

This is why women from about age 50 onwards should have their bone density regularly checked by a physician. Men begin this process a bit later, yet between the age of 65 and 70 both genders are losing an equal amount of bone substance[5].

An adequate, age-appropriate and regular intake of Calcium can maintain the Calcium balance of aging bones[6]. In most cases, the recommended daily intake of Calcium for ages 50+ is about 1000–1200 mg[7].The food and dietary supplement industry offers a number of options, all helping to meet the growing demand for calcium-rich products.

Apart from nutritional supplements, for example in the form of tablets, effervescent tablets, ampoules, sachets or powdered drinks, fortified foods are a very convenient method of providing Calcium to consumers. When developing calcium-fortified products for seniors, milk products in particular offer promising potential[8].

Another food additive reinforcing strong bones is vitamin D. For adults up to an age of 70 years, the recommended daily intake is 600 IU – and is 800 IU for those older than 70[5]. Frequently, Calcium and vitamin D are used as a combined dietary supplement.

Bone health is also influenced by Magnesium. While a physiological intake of Magnesium supports bone formation, either a lack of or a chronic overdose of Magnesium can interfere bone mineralization[9].

A well balanced daily intake of Magnesium is therefore of major significance for ensuring healthy bones. Apart from using special nutritional supplements with Magnesium Citrate or Magnesium Bisglycinate, this can also be achieved, for example, with mineral waters containing Magnesium or magnesium-fortified fruit juices.

Immune system

When people age, they become increasingly more susceptible to infections. In combination with malnutrition, the impact for seniors on their resistance to infections is particularly negative[10].

The immune system is most notably stimulated by two minerals: Selenium[11] and Zinc[12]. Both minerals can be administered by using dietary supplements in the form of different salts, for example, Zinc Citrate or Zinc Bisglycinate.

Influence on Illnesses

Cancer

According to UK statistics, the risk of men developing prostate cancer takes a dramatic leap starting at about age 50[13]. The same applies to the risk of breast cancer in women[14].

Relevant studies suggest that an intake of Selenium can effectively decrease the risk of developing the respective type of cancer equally for both genders[15,16].

Selenium is a well-known component in nutritional supplements, and most often applied in the form of Sodium Selenite.

Age-related depression

Age-related depression and anxieties play a significant role in the mental health of older people. Data on the prevalence of depressive symptoms associated with old age vary considerably, ranging from 2 % to approx. 27 %, depending on the region, the studied age group and quoted sources[17]. Generally available methods of treatment include psychotherapy or an intake of antidepressants[18].

An Australian study revealed that a single dose of a plant-based multivitamin, mineral and herbal (MVMH) supplement is able to improve the perceived mental stress or mood of an affected person for hours[19]. Especially Zinc is associated with a healthy mental state, either alone as an administered mineral[20] or in combination with commercial antidepressants[21].

Moreover, a Polish study suggested that not only Zinc, but also Magnesium has antidepressant properties. Similar to Zinc, Magnesium significantly decreases the symptoms of an affective disorder, either as a mono-constituent substance or in combination with conventional antidepressants[22].

Therefore, an adequate supply of Zinc, e. g. as Zinc Gluconate and Magnesium are an important part of ensuring a psychologically healthy and balanced lifestyle in old age.

Age-related macular degeneration (AMD)

The macula is the light-sensitive layer of tissue lining the interior of the back of the eye. Light is focused onto the macula where millions of cells change the light into nerve signals which can be interpreted by the brain. Over time, irreversible, age-related degeneration of the macula result in an ever advancing loss in vision.

An appropriate intake of Zinc, antioxidants and omega-3 fatty acids can prevent or at least delay the development of AMD, according to the Rotterdam Study[23].

There are several studies discussing the simultaneous occurrence of AMD and depression. Even though AMD and age-related depression are not mutually dependent, reduced vision and the related loss in quality of life frequently lead to depressive disorders[24].

Diabetes mellitus

Diabetes is a major health risk for the global population. Magnesium has an important function for efficient glucose metabolism. There is a clear link between Magnesium deficiency and insulin resistance. Insulin resistance is characterized by a reduced secretion of insulin from the pancreas and a decreased sensitivity of the target tissue[25]. That is why the connection between the development of diabetes and supply of magnesium has been the subject of several studies. A meta-analysis of 13 studies revealed further evidence that a higher Magnesium intake is associated with a decreased risk of developing diabetes[26].

The supplementation with Magnesium can not only improve glucose metabolism, but also insulin sensitivity. An essential requirement for a permanent supplementation is the intake of well-tolerated and highly bioavailable Magnesium Salts, such as Magnesium Bisglycinate or Magnesium Citrate.

Conclusion

Calcium and Magnesium

In order to maintain physical and mental health beyond the age of 50, elderly consumers should focus specifically on their Calcium and Magnesium intake. In combination with vitamin D, moderate exposure to sunlight and adequate physical exercise, these Minerals can help to ensure healthy bone density and bone mineralization. Furthermore Magnesium is also essential for supporting glucose metabolism.

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Zinc

An extraordinary large number of studies have demonstrated the special importance and multilateral significance of an adequate supply of Zinc in people beyond the age of 50. Maintaining good vision, psychological health and a well-functioning immune system are directly dependent on a sufficient intake of Zinc.

Selenium

Due to the anti-cancerous effect of Selenium, seniors should begin early with an appropriate supplementation of selenium.

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