

Omega-3: A natural source of health

With heart, joint and brain health problems on the rise throughout Europe's ageing population, understanding the relationship between diet and health is more important than ever before. Even if this relationship is well understood, however, our busy modern lifestyles can make it difficult, for us to maintain a healthy diet.

One important element in a healthy diet is long-chain Omega-3 polyunsaturated fats. Oily fish – such as mackerel, herring and salmon – are particularly rich in these substances and have long been recognised as having an important role to play in maintaining health. Health agencies across Europe therefore recommend the regular intake of Omega-3.

People in Germany, Austria and Switzerland, however, traditionally consume less seafood than their European neighbours. The mortality rate in these countries attributable to cardiovascular disease (CVD) is higher than the UK, France, Spain and Norway. There are strong indications that low consumption of Omega-3 in these countries may be a contributory factor.

Compare this with Japan, where the population consumes almost 150lbs of seafood per person each year and the country has a CVD-related death rate of two people in every 100,000. Or with Greenland, where the incidence of heart disease among Eskimos (the Inuit) used to be virtually non-existent and is currently still low. The Inuit eat a diet which includes seal, whale and fish and provides the world's highest intake of Omega-3 polyunsaturated fatty acids from natural sources.

Essential polyunsaturated fatty acids fall into two groups, Omega-3 and Omega-6, neither of which can be made in the body. They must therefore be extracted from what we eat. While Omega-6 is found in vegetables and Omega-3 in vegetable products (such as rapeseed, soybean and nut oils), the distinctive qualities of long-chain Omega-3 polyunsaturated fatty acids are mainly found in oily fish. They contain the especially important EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid).

The benefits of a diet rich in oily fish were first identified by the Danish scientists Bang and Dyerberg in 1973. Despite the proven benefits of this low-cost, low-risk intervention, however, consumption of oily fish remains low in many nations of Europe.

Providing and encouraging a convenient alternative source of Omega-3 is therefore an important focus for DSM Nutritional Products. In the German-speaking countries of Europe, traditional dietary habits show a strong leaning towards foods high in saturated fats, especially meat. The resulting high levels of heart disease are a serious cause for concern, with the German Federal Office of Statistics reporting that in 2004 nearly every second person in Germany (152,468 men and 216,004 women) died from cardiovascular disease.

There is a real need to improve awareness of the health benefits of long-chain Omega-3 polyunsaturated fatty acids. Polyunsaturated fatty acids, or PUFAs, provide energy, control inflammation and combat immune disorders. Regular consumption has been shown to lower CVD-related mortality by 30 per cent, and there is strong evidence that PUFAs are instrumental in reducing the risk of cardiovascular disease.

There is also epidemiological evidence that Omega-3 can be effective in preventing the development of rheumatoid arthritis and Crohn's disease, as well as reducing the risk of breast and colon cancer.

Psychiatric symptoms are often associated with low Omega-3 blood levels. DHA is especially important to cerebral and visual functions. Vision would not be possible without the presence of DHA, and both the brain and retina rely on a continuous DHA supply if they are to function well. Depression may also result from a low Omega-3 level, with several studies addressing not only mild depression but also more serious conditions, and EPA shown to be significantly active in improving the condition of schizophrenics.

The role of Omega-3 in brain development has also been demonstrated. Breast-fed children have been shown to benefit from the long-chain Omega-3 polyunsaturated fatty acids contained in mothers' milk, while DHA has been shown to be effective in reducing aggression in young adults.

There are, of course, a variety of ways of obtaining Omega-3. While eating more oily fish is plainly the first solution, personal tastes and lifestyles, as well as local eating cultures, may make it difficult to achieve the regular intake necessary to maintain sufficient levels of these important substances. Dietary supplements in capsule form present an easy way to maintain the levels of long-chain Omega-3 polyunsaturated fatty acids that should form part of a fully balanced diet.

DSM is the world's leading manufacturer of long-chain Omega-3 polyunsaturated fatty acids. DSM applies industry-appropriate Good Manufacturing Practice to its production operations worldwide. This means that every part of the manufacturing process – from sourcing through production, quality assurance and storage to delivery – is managed so as to ensure the highest levels of product quality, traceability and reliability.

For more information about the health benefits of long-chain Omega-3 polyunsaturated fatty acids, please visit <http://www.fatsoflife.com>.