

Essential fatty acids are important for the growth and development of children

Growing children need a healthy and balanced diet

A healthy, balanced and varied diet is important to get all nutrients needed for growth and development and to ensure health now and in the future. Children need a combination of carbohydrates, proteins and fats for their daily energy. International dietary guidelines, such as those of WHO/FAO and PAHO, recommend for adults and children above the age of 2 that in a balanced diet 15% of daily calories should come from protein, 30% from fat and the remainder should come from carbohydrates^{1,2}.

Importance of dietary fat in growth and development

It is well understood that fat plays an important role in the growth and development of children. Dietary fats provide essential fatty acids and fat-soluble vitamins. They are also a dense source of energy that is needed to meet the high energy demands of growing cells and tissues³. The WHO emphasizes the importance of adequate amounts of dietary fat and especially essential fatty acids in the diet of children for growth and development⁴. Children below 2 years of age need even 40% of the total energy intake from fat. After the age of 2 it is recommended to slowly reduce intake of total fat to levels which are recommended for adults as well; 30% of the total energy.

Different types of fat

Not just any fat is important for healthy growth and development. Experts differentiate between four types of fatty acids: saturated, monounsaturated, polyunsaturated, and trans fatty acids (SAFA, MUFA, PUFA and TFA, respectively) (Figure 1).

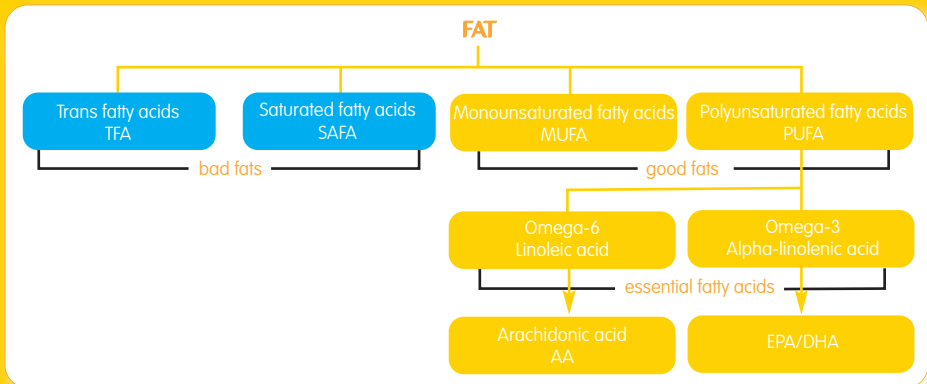


Figure 1. Different types of fatty acids

PUFA and MUFA have a beneficial impact on health, while SAFA and TFA can have a negative impact on health. PUFA consist of two families: omega-3 and omega-6. Both are important for growth and development, and future health.

SAFA and TFA can have a negative health impact when consumed in excess. They increase the level of LDL cholesterol in the blood which increases the risk for cardiovascular disease later in life.

Essential fatty acids

The omega-6 fatty acid linoleic acid (LA) and omega-3 fatty acid alpha-linolenic acid (ALA) are called 'essential' fatty acids (EFA). They cannot be produced in the body and must therefore be obtained via the diet. LA can be converted into arachidonic acid (AA), whereas ALA can be converted into EPA and DHA (see figure 1). In the diet around 90% of the available PUFA is EFA.

Role of essential fatty acids in growth and development

EFA are needed for growth and development, because they are building blocks of new tissues: they are integral components of cell membrane phospholipids, and play important structural and functional roles in the cell. EFA make the cell membrane more flexible and make it easier for nutrients to enter the cell and for waste products to be transported out of the cell⁵. EFA also play a role in the nervous system and the formation of hormones, prostaglandins and other eicosanoids, compounds that have hormone-like effects⁶⁻¹⁰. Another important function of EFAs is their positive impact on cardiovascular health. Risk factors for cardiovascular disease are building up over decades, starting early in life^{11,12}. Laying the foundation for future health by ensuring an adequate EFA intake is also an important aspect of growth and development of children.

Recommendations on essential fat intake for children

Up to the age of two years there is a higher need of essential fatty acids because of the needs for new structural lipid synthesis associated with growth of children⁴. After the age of two years fat intake should be aimed at the prevention of chronic diseases. SAFA intake should not exceed 10% total energy and TFA should be minimised. PUFA should contribute ~6–10% of energy and the remaining fat energy should come from MUFA. Table 1 below shows the dietary requirements for adults and children older than 2 years^{1,2}.

DIETARY COMPONENT	AMOUNT
Total dietary fat intake	30% of energy, depending on activity level
SAFA	≤ 10% of energy
TFA	< 1% of energy
MUFA	No restriction within limits of total fat
PUFA	6-10% of energy
(n-6) PUFA	5-8% of energy
(n-3) PUFA	1-2% of energy

Table 1. Summary of dietary requirements

Soft and liquid margarines are an important source of essential fatty acids

LA is the most abundantly available EFA in the diet. Richest sources are vegetable oils, such as sunflower oil, soybean oil, corn oil, nuts and seeds. Despite that, in most countries where LA intake data are available, children have on average an intake below WHO recommendations (unpublished analysis of previously published data from different countries).

The intake data of ALA in children show that the gap between actual intake and intake recommended by WHO is even bigger than the intake gap of LA (unpublished analysis of previously published data from different countries). One reason could be that foods rich in ALA, such as linseed oil, rapeseed oil and walnuts, are not widely available in the diet. And many processed food products that do contain EFA are mostly rich in LA and not ALA.

Modern soft and liquid margarines, such as Blue Band* margarines, are a good source of EFA. In addition they are virtually trans fat free (VTF) and lower in SAFA than fats from animal origin. Because these margarines can be used daily for spreading and cooking, they are a convenient way, as well as an affordable way, to increase the intake of essential fatty acids and decrease the intake of unhealthy fatty acids in the diet.



* BlueBand is an example of a brand name that is synonymous to other brands names, like Rama, Country Crook, Danonka, Donna, Milda, Mirasol, Planta, Planta Fin, Asira, Primavera, Sana, Tulipari, Multivita, Vitam



Conclusion

- Growing children need a healthy and balanced diet
- Fat plays an important role in growth and development of children; 30% of energy should come from fat but the quality of fat is important
- Essential fatty acids are especially important because they have various vital roles in the body
- They need to be obtained via the diet as the body cannot make them
- Dietary sources of essential fatty acids are not always widely available. Soft and liquid margarines are a convenient and affordable way to help increase the intake of essential fatty acids daily

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