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Fats in child nutrition

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A healthy nutrition is key in all life patterns. It promotes health and well-being. Furthermore, its effects go beyond current time and they are important for future health.

In our society, there is an important concern about chronic diseases which are closely related to what we eat, as obesity, cardiovascular diseases and some types of cancer. However, human nutrition is featured by being varied and, hence, it is difficult to know which of the food we have have an impact in health since we do not usually eat isolated food but combined and in different ways.

With the purpose of helping families to make healthy decision when going shopping and when having meals, we will separately analyse fats in child diet because there are many aspects which are relevant in long-term health. In coming articles, we will focus on sugars, dairy products and other kind of food.

What are fats? What are they for?

They are Chemicals substances which are present in much food and, also, in human body. Its most known function is being an energy stock (a gram of fats provides with 9 Kcal). Without them, it is not possible to assimilate some vitamins as A, D, E and K. Also, they have many other important functions which are not widely known.

What do fats do in human boy?

- **Hold and protect inner organs**, as kidneys. If there is no fat, they would “fall down” to the lower part of our abdomen.
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They act as a pantry, **an energy stock** which is used when there is no food. While pregnancy, fats are stored to make milk and feed the baby after its birth.

- They are **precursors of some substances** as steroid hormones, prostaglandins, some blood vitamins and components which contribute to clotting.
- **They are part of every cell membranes** of our body, including those of our brain.

When we think about body fat, most of people just know two types: that which is stored under our skin in a certain amount and which worries those who are overweight and the one measured in blood analysis: cholesterol.

Nowadays, there are many **obese** people from every age because our body is better prepared to “save” if there is a lack of food than for living in a society with plenty of food.

Cholesterol is a natural fat which can be found in animal tissues, as the human being. From a very long time, it is known that excessive cholesterol causes cardiovascular diseases. Fat molecules pile up in the blood vessels' walls and, little by little, they obstruct them until serious pains take place: angina, heart or brain attack...

An interesting fact is that breast milk contains a lot of cholesterol and, nevertheless, is very healthy. As it has been aforementioned, cholesterol is essential in brain development. Most part of the cholesterol that we have in our blood has been made by our own body. Just a third part of it comes from food. .

In order to be carried in blood, cholesterol needs to be surrounded by particles which are called lipoproteins. There are several kinds, and the most known ones are:

LDL, low density lipoproteins, that carry liver cholesterol to the whole body and on their way, they adhere to the arteries forming atheroma sheets, this means, producing arteriosclerosis. That is the reason why the cholesterol part linked to LDL is called “bad” cholesterol.

HDL, high density molecules, which pick up blood cholesterol and take it again to the heart. For doing this “cleaning” task, we say that cholesterol linked to HDL is “good”.

Also, there are **triglycerides**, which carry fats to cells. They are good but if there is a high quantity of them.

Food fats.

Much food contains fat. Some of them are of animal origin (meat, milk and its derived products, sausages, fish, eggs...) and others are vegetal: fruits as olives, avocado, coconut or seeds as sunflower, corn or peanut.

Visible and hidden fats.

Fats and oils can be clearly seen in food as, for instance, cooking and salad oil, butter, cream and visible meat fat. Sometimes, they are mixed with other food components and are not evident. 70% of the fats we eat are hidden and, hence, we need to check food labels.

Are all fats the same?

From a chemical point of view, fats are classified according to their structure since this will be influential in their health consequences. We refer to **saturated fats**, which are those which are influential in the blood cholesterol increase and **unsaturated**. Within this second Group, some are poli-unsaturated, most are good for health, as oleic acid contained in olive oil and other mono-unsaturated which, at the same time, can be "cis" or "trans". There are few "trans" fats in nature (only in fatty veal meat and cow and sheep milk); most of them are artificial and are used in the elaboration of industrial food.

“Trans” fats also called "hydrogenated", despite being mono-unsaturated, are not beneficial for health because they have a rigid structure and, thus, also contribute to arteries and blood vessels' rigidity, since they are part of cell membranes.

Unsaturated fats and their advantages.

Some types of fats are very healthy. We should not abuse them because they contain a lot of calories but they are necessary and good for our health. This is the case of most vegetal oils (olive and rape), some nuts as almonds and peanuts, avocados and fish fats. Having this kind of food can contribute to increasing HDL cholesterol (the good one).

Among poli-unsaturated fats, there are two trendy “families”: Omega-6 fatty acids and omega-3. The first ones are derived from linseed acid and the second ones from alpha-linseed one.

Hydrogenated fats or “trans” fats: What they are and where they can be found.

Monounsaturated fats are usually liquid. However, food industry prefers using semisolid fats since the final product can be better handled and conserved. That is why fats are hydrogenated and their chemical shape changes and they become more rigid. This has meant the success of edible products but it is a health risk

Food with a high quantity of hydrogenated food are pre-cooked and prepared. These are industrial, packed food. For instance, packed snacks, chips prepared to be fried, pastries, biscuits, sweets, chocolate-flavoured food and much more.

Where is cholesterol?

We have already mentioned that the human body makes cholesterol. Only a third part of it comes from diet. Food whose origin is animal contains a lot of cholesterol: meat, fats, sausages and also cow milk, cream and other derived products. You can sometimes see it, as in pork fat or fat meat and sometimes it cannot be seen but it is there. Much prepared food contains hidden fat of animal origin as, for instance, ice creams.

Are all vegetal fats equally good?

No. It is important to know that olive oil is among the best ones. Other edible vegetal oils are also good for health (peanut, corn, rape). But coconut and palm oil increase cholesterol and, hence, must be avoided. The problem is that many chocolates and sweets are made with them and sometimes this does not appear in labels.

Recommendations for consumption of food with fat

Type of fat	Can be found in	Recommendation
<p>Saturated</p>	<p>Meat from all kind of animals: pork, veal, birds, lamb, hunting...</p> <p>Remains and viscera.</p> <p>Sausages, minced meat, ...</p> <p>Lard, bacon.</p> <p>Milk and derived products: butter, cheese, cream, yoghurt, desserts,...</p> <p>Eggs (yolk).</p> <p>Hard margarines and fats for bakeries, coconut and palm oil.</p>	<p>Have little red meat (Only occasionally).</p> <p>Have a measured amount of "White" meat (2-3 times a week).</p> <p>Peel birds off before cooking.</p> <p>Have skimmed dairy products.</p> <p>You can have 3-5 eggs a week.</p> <p>Limit the consumption of pastries, sweets, cakes and sausages.</p>
<p>Poli-unsaturated</p>	<p>Omega-3 poli-unsaturated fats: fish: salmon, mackerel, herring, trout...</p> <p>Nuts, rapeseed, soy seeds, linseed and their oils.</p> <p>Omega-6 poli-unsaturated fats: sunflower seeds, wheatgerm, sesame, nuts, corn and their oils. Some margarines (check labels).</p>	<p>Have white or blue fish 3-5 times a week.</p> <p>Use vegetal oil (olive preferably) to cook, dress or sauces.</p> <p>A portion of nuts from time to time.</p>
<p>Mono-unsaturated cis</p>	<p>Olive and rape oil.</p> <p>Avocado.</p> <p>Nuts (pistachios, almonds, hazelnuts, macadamia nuts, pecan nuts, peanut and their oils).</p>	

Mono-unsaturated trans	Chocolate breakfast cereals. Biscuits, pastries, sweets. Snacks (fried, packed...) Prepared dishes. Sauces. Pop corn for microwave.	Avoid consuming this food. Read the products' labels: Be careful if it says "hydrogenated vegetal oils".
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(*) Be very careful with nuts for children younger than 4 since they can easily choked.

Remember:

- It is necessary that a diet contains a small amount of fat in order to assimilate liposoluble vitamins and provide energy. A moderate consumption of fats keeps a good level of HDL cholesterol.
- Until a child is 2-3 years old, you do not need to worry about the amount of fat they eat but we must try fats to be healthy.
- Fats provide a lot of calories, hence, if we have a lot of fats, weight can be gained.
- Blood **cholesterol increases** if you have meat (it contains animal proteins and fats) and other fats as milk cream or hydrogenated or "trans" fats.
- Blood **cholesterol diminishes** if you have starch (rice, bread, potatoes, pasta), fruit and vegetables; it also diminishes if regular physical exercise is done.
- Cardiovascular risk associated to cholesterol increase can be modified if there is a modification of habits.
- Industrial food, which usually contains "trans" fats, must be limited.
- It is important to check labels so as to know the kind of fats that the food we buy contains. If they are "hydrogenated fats" or "trans fats", it is advisable to choose another product. The expression "unsaturated fats", "partially hydrogenated fats" do not clarify the kind and, hence, in this uncertain situation, it is better not to use them.
- To fry, it is advised to use oils which are rich in monosaturated substances, as olive or peanut oil. Furthermore, it is recommended that it is not too heated because hot makes it less natural. It should

be frequently changed.