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## THE EFFECT OF FATS IN HEALTH CARE

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### Abstract

*Health condition can be defined as a balance between two components: proper nutrition and appropriate physical activity.*

*A correct diet determines the lifestyle and besides providing the daily energy requirement, it can also be prophylactic for some diseases.*

*Fatty acids are found in two forms: saturated and unsaturated. Saturated fatty acids do not contain double bonds and excessive consumption is harmful because it degrades health. The unsaturated ones may be monounsaturated, single bond or polyunsaturated with multiple carbon double bonds.*

*The excess of unhealthy fats can lead to increased cholesterol with a direct result in the formation of atheromatic plaques that underlie cardiovascular disease. There are two types of cholesterol: LDL - the one that forms atheroma and HDL - the one that carries cholesterol from the arteries to be removed from the body.*

*It is known that small and dense LDL particles are so harmful that over 50% of men and 20% of women, even before menopause, may have coronary artery disease by narrowing the arteries, making the disease progress two times faster than in people where there is not a large amount of LDL.*

**Keywords:** *fats, cholesterol, nutrition, health*

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### Introduction

Health condition can be defined as a balance between two components: proper nutrition and appropriate physical activity.

A correct diet determines the lifestyle and besides providing the daily energy requirement, it can also be prophylactic for some diseases.

After Matthews, M. (2015, p. 12), fat is a natural oily or greasy substance found in animal bodies, especially when deposited as a layer under the skin or around certain organs. Saturated fat is a form of fat found in animal fat products such as cream, cheese, butter, lard and fatty meats as well as in certain vegetable products such as coconut oil, cottonseed oil, palm kernel oil, and chocolate. Unsaturated fat is a form of fat found in foods like avocado, nuts, and vegetable oils, such as canola and olive oils. Trans fats are unsaturated fats that are uncommon in nature and created artificially. This type of fat is found in processed foods like cereals, baked goods, fast food, ice cream, and frozen dinners.

Erasmus, U.(1993, p. 16), pointed out that if we get the right kinds of fats in the right amounts and balances, and prepare them using the right methods, they

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build our health and keep us healthy. The wrong kinds of fats, the wrong amounts or balances, or even the right kinds of fats wrongly prepared cause degenerative diseases that we call diseases of fatty degeneration. Other nutrients can also cause fatty degeneration, and so can lack of certain essential nutrients. We can reverse diseases of fatty degeneration by making appropriate changes in fat choices, preparation, and consumption, and by supporting these important changes with attention to other nutrients in our food supply.

Parry B.(2017, p. 20) said that once you realise that your eating behaviors are often driven by emotional influences, you can begin to develop awareness of how you're feeling whenever the urge to eat inappropriately emerges. Sometimes it's an event. Sometimes it's simply a set of circumstances. As you become aware of what triggers your eating responses, you discover one of the great keys to changing your old patterns of behavior. Awareness is an immensely powerful habit to cultivate on the road to a fitter, slimmer, healthier you. We need to reinforce our great new habit of awareness by keeping notes of whatever it is that triggers those urges to overeat or to tuck into the worst possible food choices. Keeping notes reinforce your awareness, encourages your brain to spot the precise events that cause the problem and builds the first foundation for taking control of your life and of your future, healthier behavior.

### **Topics addressed**

In terms of caloric requirements, the lipids generate more energy compared to proteins and carbohydrates.

Fats or lipids are organic substances in the group of fatty acid esters and alcohols, which by their oxidation produce the warmth of the body thus representing the body's most efficient way to store energy.

Fats are found in the body in several forms:

- triglycerides;
- fatty acids;
- phospholipids;
- steroids.

Triglycerides are the most concentrated source of body energy and are composed of three fatty acid molecules and a glycerol molecule.

Fatty acids are found in two forms: saturated and unsaturated. Saturated fatty acids do not contain double bonds and excessive consumption is harmful because it degrades health. The unsaturated ones may be monounsaturated, single bond or polyunsaturated with multiple carbon double bonds.

Phospholipids enter the cellular structure of the nervous tissue or the liver and spleen.

Steroids are represented by cholesterol.

For the role of chemical messengers between cells there is another form of lipid called prostaglandin.



After Damian, S. (2006, p.168), the role of lipids in the body is:

- A primary source of energy that generates up to 70% of the total resting energy, also representing an efficient fuel to support physical activity, especially during resistance training;
- Essential component of cell membranes and nerves (myelin sheaths);
- Vital organs are supported and protected by fatty deposits;
- All steroid hormones are produced from cholesterol;
- Fat-soluble vitamins are stored and transported through the body via lipids;
- Body heat is also preserved due to the existence of the subcutaneous fat layer.

The lack of daily physical activity, a normal result of industrialization and technology, leads to sedentarism.

Sedentarism associated with abundant and hypercaloric nutrition is the first step towards most contemporary diseases.

Because fats excess can be harmful to health, the diets used to reduce the fatty tissue layer have completely eliminated fat from alimentation, which is a completely erroneous choice.

The type of fat consumed is crucial for the health of nervous system. Recent research demonstrates that saturated in excess have a detrimental effect on memory, learning ability and they alter the cognitive behaviour. Learning disabilities in young people, memory loss in adults, or degenerative diseases of the nervous system (Alzheimer's and Parkinson's disease) are the result of the cumulative effect of saturated fats on the brain. Saturated fats also determine insulin resistance, causing type-2 diabetes and disrupting the use of glucose by the brain.

Mencinicopschi, G. (2010, p. 99) said that the risk of over-consumption of saturated animal fats (fatty meat, whole milk, butter, fat cheese), roasted foods, and excess of vegetable oils rich in omega-6 fatty acids (sunflower, maize, safflower) and trans fatty acids (margarines, hydrogenated and partially hydrogenated fats), especially since childhood, will later have devastating effects, speeding up cardiovascular disease (CVD), early degradation of mental faculties (a form of pre-senility), chronic disease and accelerated aging.

However, the human brain is made up to 60% of lipids. It means that fats shall be included in the diet.

After Mencinicopschi, G. (2010, p. 91), any diet from which fats are completely excluded is dangerous to health.

Healthy fats for the brain may be from fatty fish in cold oceanic areas, vegetable fats (green vegetables, nuts, flax seed) and fats from vegetable oils (olive, hemp, rape, peanuts, palm tree oil, etc.).

Fat influences can also be detrimental to the heart and the vascular system. Thus omega-6 fatty acids excess can lead to arteriosclerosis, myocardial infarction or arrhythmias, while omega-3 fatty acid consumption reduces the rate of severe



arrhythmias by as much as 30%.

Vegetable fats found in soy, cabbage, cauliflower, and broccoli also lower cholesterol and triglyceride levels.

The immune system is influenced by dietary fat in two cases. Slimming programs that eliminate fat on the one hand and on the other hand the total amount of fat consumed.

Dragan, I. (2000, p. 8) said that there is now enough scientific evidence to confirm that an excess of fat in the blood and/or the body is an important risk factor for causing myocardial infarction, apoplexy (stroke- AVC) or obstruction of peripheral arteries especially at the level of the legs, creating that intermittent claudication crisis, a painful, vibrant sensation in the calves that makes the person concerned unable to walk due to pain.

The excess of unhealthy fats can lead to increased cholesterol with a direct result in the formation of atheromatic plaques that underlie cardiovascular disease. There are two types of cholesterol: LDL - the one that forms atheroma and HDL - the one that carries cholesterol from the arteries to be removed from the body.

It is known that small and dense LDL particles are so harmful that over 50% of men and 20% of women, even before menopause, may have coronary artery disease by narrowing the arteries, making the disease progress two times faster than in people where there is not a large amount of LDL.

The main role of cholesterol is that it helps to transport the absorbed fats. Because cholesterol and fat are insoluble in water, to perform transport both fats and cholesterol are packed into a protein coating. If there is too much fat in the ingested food, the transport system does not work, and the consequence is that fats and especially cholesterol agglomerate into the circulatory system as atheroma on the blood vessels.

The circulation of fats in the blood is done in association with proteins (lipoproteins). They also contain besides cholesterol, apolipoproteins, triglycerides, phospholipids as well as different amounts of other fats.

Radulescu, E. (2010, p. 303) said that depending on the density they are:

- chylomicrons, particles synthesized in the intestinal wall after fat absorption, containing 98-99.5% lipids, which are covered by a layer of proteins representing 0.5-2%;
- very low density lipoproteins (VLDL, from very low density lipoprotein);
- intermediate density lipoproteins (IDL, from intermediate density lipoprotein);
- low density lipoproteins (LDL, from low density lipoprotein);
- high density lipoproteins (HDL, from high density lipoprotein).



### Conclusions

- The excess of lipids in the body is harmful (high cholesterol, triglycerides in the blood, excess adipose tissue etc);
  - Dietary fats can be harmful in two ways: by the large amount ingested at one meal or cumulatively by ingesting fats for a long time;
  - The total lack of fat in the diet is harmful;
  - Smart food should avoid excess fat and only use healthy fats;
  - The daily use of low amounts of healthy fats is essential for health (25-30%);
  - If it is not possible to provide a rational diet based only on healthy fats, it is imperative to do a proper physical activity. This does not exclude physical activity even if alimentation is rational;
  - The body must be submitted to a healthy diet and adequate physical effort from a young age.

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