New approaches on the importance of fatty acids in poultry meat on human health

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Poultry meat is greatly consumed throughout the world, including Latin America. Poultry meat shows very interesting nutritional qualities for human health. Its fatty acid composition is considered favorable for fighting against cardiovascular diseases. Also it can be modified through the diet by including healthy fatty acids, such as EPA and DHA.

Key words: *fatty acids, poultry meat*

Introduction

In the last decades poultry meat has taken large relevance as part of the diet in the majority of the countries. Unlike beef, sheep and pig meats, poultry meat has been very well adapted to industrial schemes, allowing numerous countries relaying on a protein source of high quality for their consumers. In many countries and in Latin America, in particular, the price of poultry meat is generally lower than that of the rest of meats. On considering the high volume of poultry meat consumption in Latin America, I intend to introduce with this paper the interest that poultry meat has as healthy food for the consumer. Following it will be shown the types of fatty acids found in poultry meat, as well as their importance as nutrients of interest for consumers. In a second part, emphasis will be made on how could be used poultry meat as a vehicle of other nutrients of significance for human health (Zduńczyk and Jankowski 2013). This approach will point to the idea of preparing functional foods from the use of the poultry meat produced.

Development

Importance of fatty acids for human health. The fatty acids are molecules of great significance from the metabolic point of view, since they participate specifically in diverse biochemical reactions. Fatty acids are included in the lipid family representing a group of complex and varied nutrients. Figure 1 shows a lipid classification.

The relationship between saturated, monounsaturated and polyunsaturated fatty acids allows the classification

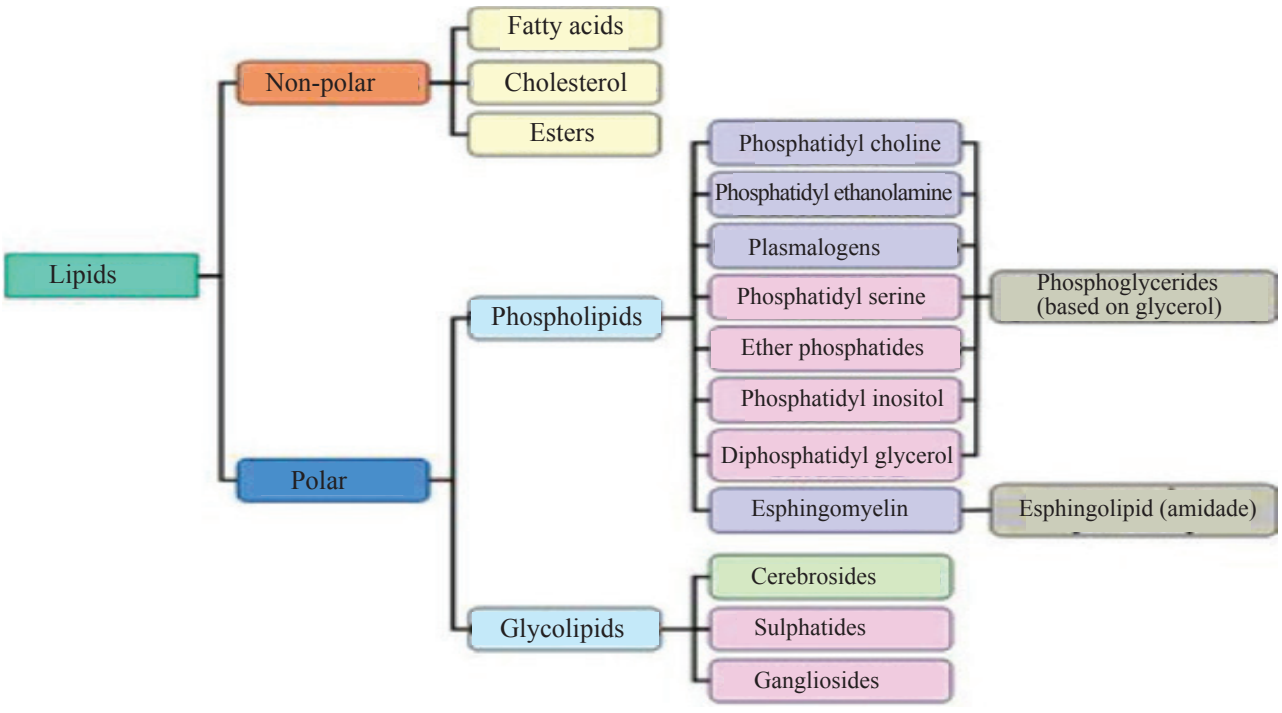
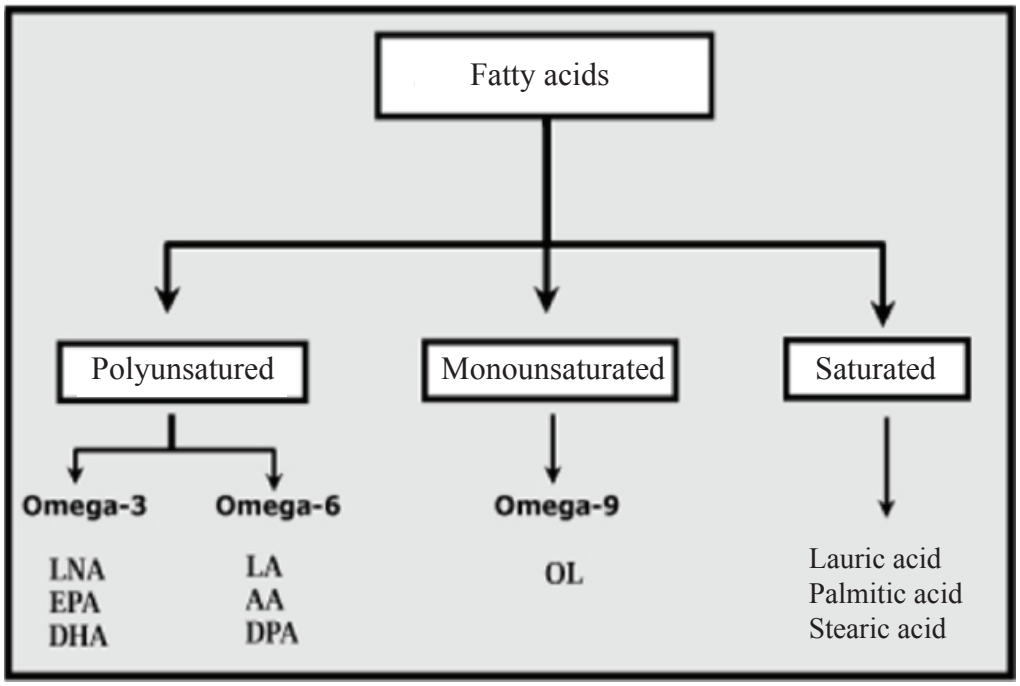


Figure 1. Classification of the lipids

of foods regarding their effects on human health. In figure 2 are presented the main fatty acids with greater influence on human health. Scientific evidences let assuring that a healthy diet for humans consists of a relationship between the different fatty acids. Saturated fatty acids must be consumed in a limited way, the monounsaturated fatty acids must be present in an important part and the polyunsaturated fatty acids in moderate amounts, as to represent, 10 % approximately of the total fatty acids ingested.

polyunsaturated fatty acids. In many countries of the world, the use of poultry meat is increasingly important by reason of its availability and home preparation simplicity. The cutting industry has also made easier the utilization of poultry meat, particularly for the people of poor means in all countries of the world.

Poultry meat as vehicle of healthy nutrients. Generally, poultry meat contains important levels of LN, since animals are fed with LN-rich diets (Shin *et al*. 2011). Poultry diets in many countries of the world



LNA: linolenic acid, LA: linoleic acid, AA: arachidonic acid, OL: oleic acid, DPA: C22: 5n-6

Figure 2. Main fatty acids with greater influence on human health according to Valenzuela and Nieto (2001)

Two fatty acids in particular are considered essential for humans and then must be obtained through the feeding. These two fatty acids, the linoleic (LN) and the alpha-linolenic (ALN), are present in the foods, as plant oils and fishes and their oils. The absence of these two fatty acids in the normal diet provokes metabolic upsets, since the organism cannot synthesize other important fatty acids for the metabolism, as the EPA and the DHA. These two fatty acids have been presented as very important for human health, for example for children to develop an adequate vision and in adults for protecting them from cardiovascular diseases. There are clear evidences of the cardio-protector function of these two fatty acids in human consuming them.

Poultry meat as food. Poultry meat is a food of great nutritional value due to the quality of its protein and by its fatty acid composition. It presents a relationship between the different fatty acids which is considered as very favorable from the point of view of human health (Walker *et al*. 2013). Particularly, the relationship between saturated and unsaturated fatty acids is important corresponding both to monounsaturated and are integrated by a maize and soybean association in variable proportions, depending on the price of these ingredients. In many countries there is a permanent search for alternative ingredients to maize and soybean, with the purpose of making cheaper the costs of the ration supplied to the chickens in the growing and finishing stages (Komprda *et al*. 2013). Regarding ALN, its levels in poultry meat is variable, depending on the ingredients of the feed supplied to the animals. There are scientific proves that demonstrate that when chickens are fed with a feed ALN-rich, this latter is transferred substantially to the meat (Zduńczyk and Jankowski 2013).

Conclusions

Poultry meat is of great interest for favoring a healthy nutrition to the humans consuming it. Also it can be naturally modified from the point of view of the fatty acid composition by incorporating fatty acids and other nutrients that favor health maintenance and improvement. Poultry meat could be the one most adapted to the production of functional meat, at least

from the standpoint of EPA and DHA fatty acids.

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