The Role of Chicken Meat Fatty Acids and Lipid Indices in Healthy Human Nutrition: Scientific Literature Review

Uloga masnih kiselina i lipidnih indeksa pilećega mesa u zdravoj ljudskoj prehrani: pregled znanstvene literature

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THE ROLE OF CHICKEN MEAT FATTY ACIDS AND LIPID INDICES IN HEALTHY HUMAN NUTRITION: SCIENTIFIC LITERATURE REVIEW

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Scientific review
Pregledni znanstveni članak

SUMMARY

Chicken meat is a significant source of nutrients. It contains bioactive components that affect metabolic processes in the human body and have a positive effect on health. The modern diet pays attention to the content and properties of fatty acids. Polyunsaturated fatty acids (PUFA), i.e., PUFA n-6 and PUFA n-3, are important in human nutrition. This paper elaborates on the importance of chicken meat in human nutrition by putting emphasis on the intake of lipid components. It also explains PUFA n-6 and PUFA n-3 metabolism and highlights supplementation of animal diet as a way to enrich meat with PUFA n-3. Some authors recommend the health lipid indices to be used in the assessment of chicken meat quality with respect to the degree of fat saturation. Qualitative indices (PUFA/SFA, PUFA n-6/PUFA n-3, LA/ALA, and EPA+DHA), nutritional indices (AI, TI, hHI), and metabolic indices (EI, THI, ∆ 9 desaturase and ∆-5+∆-6 desaturase) are used in such assessment. When calculating the indices, certain saturated, monounsaturated, and polyunsaturated fatty acids are considered.

Keywords: chicken meat, fatty acids, qualitative indices, nutritional indices, metabolic indices

INTRODUCTION

As a source of nutrients, chicken meat is a valuable foodstuff in the human diet. Numerous studies have proved that chicken meat has significant health benefits, as it reduces the risks of cardiovascular and neurodegenerative diseases (Simopoulos, 2016; Donma & Donma, 2017; Connolly & Campbell, 2023). Calder (2015) emphasized the influence of individual fatty acids and their combinations on metabolic processes in the human body, unlike the groups of fatty acids to which they belong. Lipid indices are useful when assessing the quality of lipids to point out their benefits to human health (Dal Bosco et al., 2022). The authors stated that the fatty acid profile and relationships between fatty acids were important in the construction of lipid indices. This paper reviews contemporary knowledge about the metabolism of polyunsaturated (PUFA) n-6 and n-3 fatty acids, as they influence the fatty acid profile in meat. Some authors suggest the use of health lipid indices in the assessment of lipid profiles in chicken meat. For this reason, this paper presents an overview of researches that deal with the enrichment of chicken meat with PUFA n-3 and the influence of dietary supplements of chicken feed on the fatty acid profile in meat. The values of qualitative, nutritional, and metabolic indices, i.e., the benefits of lipids in meat for human health, depend on the fatty acid profile. Based on all of the above, the aim of the paper is to show the application of qualitative, nutritional, and metabolic lipid indices in the assessment of the health value of chicken meat.

Importance of Chicken Meat in the Human Diet

Chicken meat is a good source of protein, lipids, and minerals. It also contains bioactive components, such as vitamins, antioxidants, essential amino acids, and micronutrients, which are important for metabolic processes that contribute to consumers' health status (Cartoni Mancinelli et al., 2022). As it is easily digested and suitable for cooking in many ways. Chicken meat is an important part of a balanced and healthy diet, and nutritionists recommend it for frequent consumption. A healthy and balanced diet is based on quality foods with balanced energy value (Turkalj, 2024). Breast and drumsticks with thighs are the best parts of chicken. Table 1 presents the chemical composition of the meat of male and female chickens fattened for 6 weeks.

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Table 1. Chemical composition of chicken meat (%)

Tablica 1. Kemijski sastav pilećega mesa (%)

Meat composition / *sastav mesa*	**Type of meat** / *vrsta mesa*	**Chicken male** / *muški pilići*	**Chicken female** / *ženski pilići*
Water / *voda*	Breast / *prsa*	73.74	70.44
	Drumstick and thigh / *batak i zabatak*	73.21	70.17
Protein / *bjelančevine*	Breast / *prsa*	21.49	21.67
	Drumstick and thigh / *batak i zabatak*	18.34	18.15
Fat / *mast*	Breast / *prsa*	0.88	0.71
	Drumstick and thigh / *batak i zabatak*	6.73	6.67
Ash / pepeo	Breast / *prsa*	1.79	1.35
	Drumstick and thigh / *batak i zabatak*	1.15	0.91

Source: (Lesiow, 2005)

The above data indicate that there are no greater differences in the shares of basic chemical components of fat and protein in male and female chicken meat. However, a significant difference is noticed in the fat content between types of meat, as drumsticks with thighs contain more fat than breasts. The share of water in breasts and thighs with drumsticks of female chickens is lower than in male chickens. According to Bobetić (2024), from 2012 to 2023, consumption of poultry meat per capita in Croatia increased from 20.59 kg to 29.50 kg. The consumption of poultry meat has also been increasing globally, so producers pay attention to the nutritional quality of meat and to consumers' demands (Henchion et al., 2014; De Smet & Vossen, 2016). Recently, scientists have been investigating the possibilities of modelling specific physiological functions in poultry through feeding regimes. Such research confirms that it is possible to optimize certain physiological functions in animals through feed to get quality food good for human health, i.e., food that can reduce disease risk (Jiménez-Colmenero, 2007). The label of functional food was first introduced in Japan in the 1980s. It refers to processed food that, in addition to being nutritious, contains ingredients good for certain human body functions. The period between 1990 and 2000 marks more intensive development of the so-called functional food concept, and today there are plenty of functional food products on the market (Decker & Park, 2010; G. Kralik et al., 2010). Chicken meat enriched with n-3 PUFA is considered a functional product (Jiménez-Colmenero, 2007; Betti et al., 2009; Konieczka et al., 2017). There are numerous studies on the content of fatty acids in chicken meat (Konieczka et al., 2017; Z. Long et al., 2020; Kralik et al., 2025;). Research has shown that high levels of n-3 polyunsaturated fatty acids (PUFA), such as α-linolenic (ALA, C18:3 n-3), eicosapentaenoic (EPA, C20:5 n-3), and docosahexaenoic (DHA, C22:6 n-3) acids, as well as the optimal ratio of polyunsaturated and saturated fatty acids (PUFA/SFA) and the ratio of PUFA n-6 / PUFA n-3, are beneficial for human health (Simopoulos, 2008) If considering all of the above, the efforts of scientists to produce chicken meat enriched with PUFA n-3 are justified (Konieczka et al., 2017; Long et al., 2020). In adults, lipid consumption should not exceed 30% of daily calorie intake (World Health Organization, 2015). This amount is enough for basic body functions and reduces the risk of excessive calorie intake. According to WHO recommendations, saturated fat can amount to 10% of total calories. To maintain metabolic balance, the ratio of PUFA n-6/PUFA n-3 is recommended to be up to 4:1 (Poggioli et al., 2023) However, in a modern diet, this ratio often exceeds 15:1, which increases the risk of chronic diseases in humans (Lukic et al., 2021).

Table 2. Recommended intake of lipid components in the human diet

Tablica 2. Preporuka unosa komponenata lipida u ljudskoj prehrani

Component / *komponenta*	**Recommendation** / *preporuka*	**Activity** / *djelovanje*	**Reference** / *referenca*
Total lipids / *ukupni lipidi*	25-35% of daily intake / *25 – 35 % dnevnoga unosa*	Meets all the needs of the body / *zadovoljava sve potrebe u organizmu*	World Health Organization, 2015; U.S. Department of Agriculture & U.S. Department of Health and Human Services, 2020
Saturated fatty acids / *zasićene masne kiseline*	Up to 10% of daily intake / *Do 10 % dnevnoga unosa*	Reduces cardiovascular risk, lowers LDL cholesterol / *smanjuje kardiovaskularni rizik, snižava LDL kolesterol*	Sacks et al. (2017); Visseren et al. (2021)
Trans fatty acids / *trans masne kiseline*	Up to 1% of daily intake / *Do 1 % dnevnoga unosa*	Strong association with LDL cholesterol and cardiovascular disease risk/ *jaka povezanost s LDL kolesterolom i rizikom od kardiovaskularnih bolesti*	World Health Organization (2015)
Polyunsaturated fatty acids / *polinezasićene masne kiseline*	6-11% of total energy / 6 – *11 % ukupne energije*	Necessary in metabolic and inflammatory balance, supports cognitive health */nužno za metaboličku i upalnu ravnotežu, podržava kognitivno zdravlje*	World Health Organization (2015); Schwingshackl et al. (20212021)
∑PUFA n-6 / ∑PUFA n-3	Up to 4:1 to maintain metabolic balance / *do 4:1 za održavanje metaboličkoga balansa*	A ratio of more than 10:1 is associated with increased inflammation and metabolic diseases / *omjer više od 10:1 povezan je s povećanom pojavom upale i metaboličkim bolestima*	Simopoulos (2008and Poggioli et al.

Metabolism of Polyunsaturated Fatty Acids

Fatty acids consist of a hydrocarbon chain containing a methyl group (CH-) at one end and a carboxyl group at the other end (-COOH). Fatty acids take part in the processes of cellular lipid esterification, in beta oxidation for the formation of ATP and energy production, and also serve as precursors in enzymatic reactions. Polyunsaturated fatty acids are mainly produced in the liver, less often in other tissues (Balić et al., 2020) Simopoulos (2008); Poggioli et al. (2023). Classification of PUFA is based on the number of double bonds and the location of the first double bond in the carbon chain (Karolyi, 2007). Essential fatty acids are divided into groups of PUFA n-3 and PUFA n-6 (Fig. 1). Essential fatty acids for humans are linoleic (LA) and ALA. In the human body, LA is metabolized to arachidonic acid (AA), and ALA is metabolized to EPA and DHA. The metabolism of PUFA n-6 and PUFA n-3 takes place through alternating desaturation and elongation reactions, where each time a new double bond is introduced into the carbon chain with the help of enzymes and two new C atoms are added (Karolyi, 2007). Figure 1 presents the metabolic pathway of PUFA n-6 and PUFA n-3.

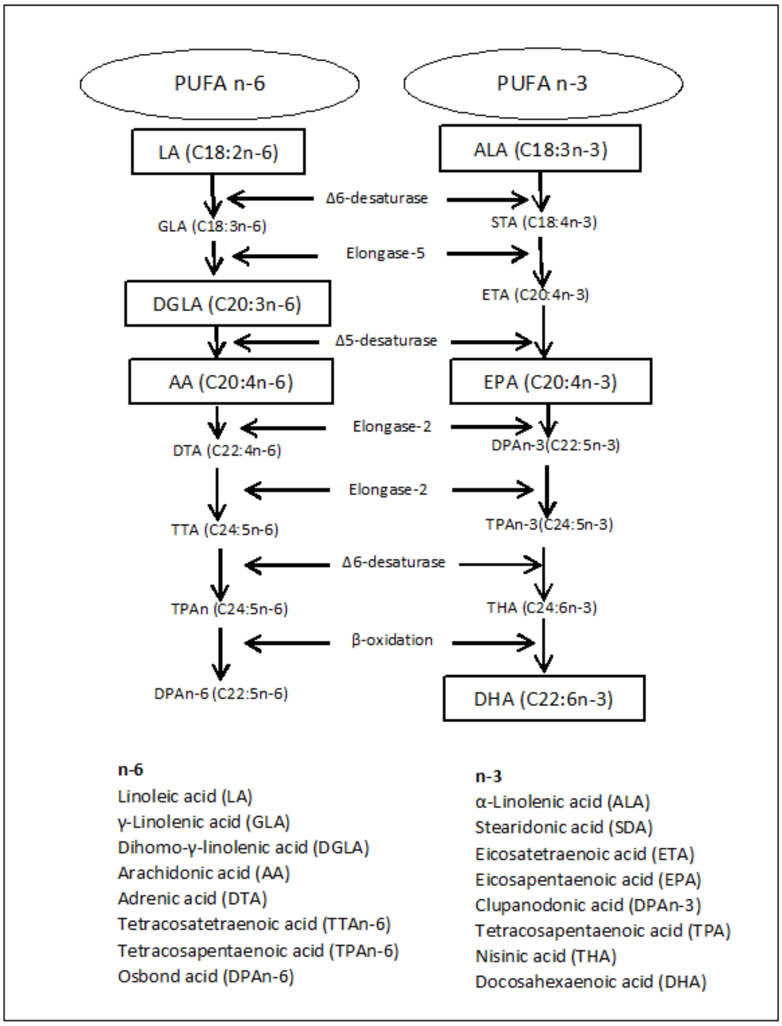

Figure 1. Metabolic pathway of PUFA n-6 and PUFA n-3.
Slika 1. Metabolički put PUFA n-6 i PUFA n-3 masnih kiselina.

In addition to the above groups of PUFA, there are hormone-like substances called eicosanoids also produced. Eicosanoids that derive from PUFA n-6 have a pro-inflammatory effect, while those derived from PUFA n-3 have an anti-inflammatory effect. In this way, PUFA support maintenance of homeostatic and inflammatory processes in the body (Zárate et al., 2017; Balić et al., 2020). Dietary products enriched with PUFA n-3 are required to achieve a balanced ratio of these fatty acids in human nutrition. If the ratio of PUFA n-6/ PUFA n-3 is higher than recommended (4:1), the efficiency of ALA conversion to EPA and DHA is decreased because of the competition of Δ6-desaturase (Simopoulos, 2016). Lipids play an important role in assessing the nutritional quality and sensory properties of meat, and they significantly influence human health (Prates, 2025). They are classified into three basic groups: triglycerides, phospholipids, and cholesterol. Triglycerides make up 90-95% of adipose tissue and serve primarily as an energy reserve (Bekenev et al., 2021). Phospholipids make up 1-5% of total lipids and are rich in polyunsaturated fatty acids. They are essential for cell function, especially mitochondria (Valentini et al., 2020). Lipids' nutritional and health value depend on the fatty acid profile (Dinh et al., 2021). Cholesterol, contained in lipids in the amount of only 0.3-0.5%, is important for the proper function of cell membranes and also serves as a precursor in the synthesis of steroid hormones, bile acids, and vitamin D (Toral et al., 2018). Referring to SFA, the most represented are palmitic (C16:0) and stearic (C14:0) fatty acids. Oleic fatty acid (C18:1) represents MUFA, which has a favorable influence on heart health (Valentini et al., 2020). In animal feeding, diet composition, i.e., the fatty acid profile contained in animal feed, influences the fatty acid profile in the produced meat.

Influence of Animal Diet on the Increased PUFA n-3 Content in Chicken Meat

Enriching chicken meat with PUFA n-3 relies on the ability of chickens to convert ALA into PUFA n-3 and to deposit those acids in their meat (Cartoni Mancinelli et al., 2022). Chicken meat is important in the human diet for several reasons. The production of chicken meat is short (it takes 40 days of fattening), and the meat is suitable for consumption by all ethnic groups and age populations. Furthermore, poultry efficiently converts valuable feed components into its meat, making the meat popular among consumers, which contributes to the consumption rate of poultry meat being higher than that of other types of meat. Research proved that the content of long-chain PUFA n-3 could be increased in chicken meat by using different strategies, such as feeding, genotype selection, and production management methods. Enrichment of chicken meat with PUFA n-3 can be achieved by adding larger amounts of ALA to the feeding mixtures, facilitating ALA to convert to PUFA n-3 and get deposited in chicken tissues. Another method of enriching meat with PUFA n-3 refers to dietary supplementation of animal feed with specific amounts of PUFA n-3, such as fish oil, micro- and macro-algae, but in limited quantities because of their possible influence on the organoleptic properties of produced meat (Schreiner et al., 2005; Chekani-Azar et al., 2008). It is important to pay attention to the balance of the PUFA n-6/PUFA n-3 ratio because of possible enzyme competition during the synthesis of EPA and DHA in relation to the synthesis of AA (Cartoni Mancinelli et al., 2022). When enriching meat with PUFA n-3, it is necessary to add antioxidants into feeding mixtures (selenium, vitamins E and C) to prevent oxidative processes. Macro-and micro-algae as a source of PUFA n-3 can be added to chicken diets (Bonos et al., 2016; Alfaia et al., 2021). Supplementation of spirulina algae in the feeding of chickens can significantly influence the increase of EPA and DHA in chicken meat (El-Bahr et al., 2020). Such research result was also confirmed by Costa et al. (2022), yet those authors stated that higher portions of microalgae supplemented to feeding mixtures might cause reduced growth of chickens. As the main source of ALA, it is recommended to supplement linseed oil to chicken feeding mixtures for 16 to 21 days before slaughtering of chickens. With the enzymes of elongase and desaturase in the liver, chickens convert ALA into long-chain PUFA n-3 (López-Ferrer et al., 2001). The fatty acid profile in chicken meat can be modified by feeding chickens a diet rich in n-3 PUFA, since poultry readily absorb fatty acids from feed (Konieczka et al., 2017; Long et al., 2020; Kralik et al., 2025). If compared to meat from conventional production, dietary supplementation of chicken feed with certain plant and animal oils can produce chicken meat richer in PUFA n-3 and with a more favorable PUFA n-6/PUFA n-3 ratio. The advantages of supplementing oils to chicken feed are reflected in the improved absorption of lipoproteins and fat-soluble vitamins in animal organisms, as well as in the improved energy usage. Linseed and fish oil are valuable sources of n-3 PUFA (ALA, EPA, and DHA), while soybean, sunflower, palm, and rapeseed oils are valuable sources of n-6 PUFA. In poultry production, plant oils are more often used in chicken feeding than fats. Chicken diets are usually supplemented with soybean, rapeseed, and sunflower oils, while pork fat, poultry fat, beef tallow, and fish oil can be used as sources of animal fats (Kerr et al., 2015; Gao et al., 2021). Kralik et al. (2025) studied the possibility of increasing the n-3 PUFA in chicken meat. They conducted the research on 60 Ross 308 hybrid chickens divided into 3 feeding treatments. Chickens were fed designed diets during the last 3 weeks of fattening. The diets contained 5% of specific oil, as follows: Group 1 – soybean oil (SO), Group 2 – rapeseed oil (RO), and Group 3 – linseed oil (LO). The greatest increase of n-3 PUFA in chicken breast and thighs was measured for the LO Group (13.58% and 13.51%, respectively), followed by the RO Group (5.48% and 5.49%, respectively), and the least content of n-3 PUFA was obtained for the SO Group (3.60% and 3.65%, respectively). When compared to the control group that was fed a diet supplemented with soybean oil, Mirshekar et al. (2015) reported that supplementation of 5% linseed oil to chicken feed for the experimental group during the last three weeks of fattening resulted in an increase of total n-3 PUFA in breasts from 1.89 g/kg to 3.28 g/kg.

Qualitative, Nutritional, and Metabolic Lipid Indices

Values of lipid indices in chicken meat are affected by various factors, such as feeding, growth rate, age of chickens at slaughter, and other factors related to production management (Poureslami et al., 2010). The index of PUFA/SFA is often used when determining lipids in meat and eggs, as PUFA reduces, and SFA increases the cholesterol content in blood serum. When assessing the above indices for several samples, higher values are more favorable than lower values. Burghardt et al. (2010) determined the upper limit value of PUFA/SFA index to be 0.45, because higher values can have a hypercholesterolemic effect. The PUFA n-6/ PUFA n-3 index refers to the ratio of fatty acid groups in meat, where the balanced ratio shall be 4:1 (Simopoulos, 2010). The efficiency of LA and ALA conversion into their homologues AA and EPA and DHA, respectively, is calculated by the LA /ALA index, whose value of 1-2:1 is determined as favorable by Blasbalg et al. (2011) and Simopoulos (2016). The index of EPA+DHA indicates the content of the two most important polyunsaturated fatty acids, and their sum is in negative relation to the LA/ALA index. The atherogenic index (AI) shows relations between saturated (atherogenic) and unsaturated (antiatherogenic) fatty acids. Antiatherogenic fatty acids reduce cholesterol and inhibit plaque aggregation, thus preventing the occurrence of coronary disease (Qaid et al., 2023). The thrombogenic index (TI) shows the ratio between prothrombogenic (SFA) and antithrombogenic (MUFA, PUFA n-6, and PUFA n-3) fatty acids. AI and TI show protective effects against coronary diseases (Dal Bosco et al., 2022). Hypocholesterol/hypercholesterol index (h/H) indicates the cholesterol metabolism, where higher values are more favorable when comparing several samples. For the calculation of HPI, the ratio of monounsaturated and polyunsaturated n-6 and n-3 fatty acids is put in relation to saturated fatty acids (lauric, myristic and palmitic acids). HPI and AI values are negatively correlated with each other (when AI is low, HPI is high, and vice versa). Metabolic indices show the efficiency of essential fatty acids conversion into long-chain fatty acids by assessing the activity of individual enzymes. Desaturases introduce a double bond into the carbon chain, and elongation adds two new C atoms. Lee et al. (2019) reported that the index of ∆9-desaturase was an indirect indicator of LA and ALA conversion efficiency into long-chain fatty acids. Elongase (EI) and thioesterase (THI) indices present conversion of myristic fatty acid into palmitic fatty acid and further into stearic fatty acid (Kumar et al., 2019). Kinetic activity index (KHI) refers to the process of beta-oxidation of n-3 PUFA in myocytes. For EI, THI and KHI, higher values are more favorable because these indices show efficiency of metabolic processes. Table 3 overviews formulas for the calculation of qualitative, nutritional, and metabolic indices.

Popova et al. (2016) established more favorable values of AI, TI, HHI, and P/S indices in chicken meat of older chickens (18 weeks) when compared to meat of younger chickens at slaughter (9 weeks). Qaid et al. (2023) described the influence of chicken diet composition on lipid indices in breast meat. Those authors supplemented standard feed with 1-5 g/kg *Rumex nervosus* leaves (RNL treatment). They reported that RNL treatment of 5g/kg reduced the indices of PUFA n-6/ PUFA n-3 and LA/ALA, and increased the indices of ∆5+6 desaturase, as well as KI, which confirmed better health lipid quality in treatment with the highest amount of supplemented RNL. Kumar et al. (2019) studied the duration of feeding chickens with linseed flour over 1-5 weeks and their influence on the profile of fatty acids and desaturase indices. They determined that feeding linseed flour over 3 weeks increased the activity of ∆9 desaturase and ∆ 5+∆6 desaturases, and improved the fatty acid profile in its nutritional aspect. Kralik et al. (2025) researched the influence of dietary supplementation of chicken feed with plant oils (soybean oil - SO, rapeseed oil - RO, and linseed oil - LO) on the fatty acid profile and lipid index in chicken meat, and determined that the feeding treatment affected most of the studied indices in meat. They confirmed that dietary supplementation of chicken feed with linseed oil had the most favorable effects on most of the studied health indicators, thus emphasizing the most favorable ratio of PUFA n- 6/PUFA n-3 in breast and thighs of LO treatment compared to RO and SO treatments ($P < 0.001$). The highest ratio of PUFA/SFA was calculated in thighs of the LO treatment (1.90), and the lowest ratio in the breasts of the SO treatment (1.14). Lower values of AI and TI compared for several samples are more favorable, and exactly such values were obtained by the aforementioned authors for the LO treatment. Mirshekar et al. (2015) fed chickens over the last three weeks of fattening with diet containing 5% linseed oil and in comparison, with the control, they stated that in thighs the PUFA n-6/ PUFA n-3 ratio lowered from 4.50 to 3.56 ($P < 0.001$), and the ratio of PUFA/SFA increased from 1.09 to 1.83.

Table 3. Summary of the studied lipid indices

Tablica 3. Sažetak proučavanih lipidnih indeksa

Qualitative lipid indices / *kvalitativni lipidni indeksi*	**Formula** / *formula*
∑PUFA / ∑SFA (Simopoulos, 2008)	∑PUFA / ∑SFA
∑PUFA n-6 / ∑PUFA n-3 (Timmis et al., 2022)	∑PUFA n-6 / ∑PUFA n-3
LA / ALA (Ryman et al., 2017)	LA / ALA
EPA+DHA (Ochi & Tsuchiya, 2018)	EPA+DHA
Nutritional lipid indices / *nutritivni lipidni indeksi*	
AI - Atherogenic index / *aterogeni indeks* (Ulbricht & Southgate, 1991)	AI = (C12:0 + 4 * C14:0 + C16:0 + C18:0) / (∑ MUFA+∑ n-6 PUFA+∑n-3 PUFA)
TI - Thrombogenic index / *trombogeni indeks* (Ulbricht & Southgate, 1991)	TI = (C14:0 + C16:0 + C18:0) / [(0,5 * ∑ MUFA) + (0.5 * ∑ n-6 PUFA) + (3 * ∑n-3 PUFA) + (∑n-3 PUFA / ∑n-6 PUFA)]
hHI - Hypo/hypercholesterolemic index / *hipo/hiperkolesterolni indeks* (Dal Bosco et al., 2022)	hHI= (C18:1n-9 + ∑n-6 PUFA+∑n-3 PUFA) / (C14:0 + C16:0)
Metabolic Lipid Indices / *nutritivni lipidni indeksi*	
EI - Elongase index / *indeks elongaze* (Dal Bosco et al., 2022)	EI= (C18:0 / C16:0) *100
THI - Thioesterase index / *indeks tiosteraze* (Dal Bosco et al., 2022)	THI= (C16:0 / C14:0) *100
∆9-desaturase / *∆9-desaturaza* (Zhang et al., 2007)	∆9-desaturase = (C16:1 + C18:1n9) / (C16:0 + C18:0 + C16:1 + C18:1n9)
∆5 + ∆6-desaturase / *∆-5+∆-6 desaturaza* (Vessby et al., 2002)	∆5 + ∆6-desaturase= (C20:2n-6 + C20:4n-6 + C20:5n-3 + C22:5n-3 + C22:6n-3) / (C18:2n-6 + C18:3n-3 + C20:2n-6 + C20:4n-6 + C20:5n-3 + C22:5n-3 + C22:6n-3)

CONCLUSION

Due to its favorable nutritional composition, chicken meat is important in a balanced human diet. Considering modern nutritional recommendations, the content of polyunsaturated fatty acids n-3 PUFA in chicken meat is particularly important, and the ratio of ∑n-6 PUFA /∑n-3 PUFA shall be as narrow as possible. Scientific studies have confirmed that individual fatty acids or groups of fatty acids take part in different metabolic functions in the human body. Based on their specific roles, there are lipid health indices (qualitative, nutritional, and metabolic) developed within scientific research. Different lipid indices facilitate a more detailed assessment of the nutritional and health value of chicken meat, which is of particular importance in the development of functional food products. Further research and improvement of poultry breeding and feeding treatments can contribute to the production of meat with an increased portion of useful fatty acids, the consumption of which is expected to have positive effects on consumers' health.

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ULOGA MASNIH KISELINA I LIPIDNIH INDEKSA PILEĆEGA MESA U ZDRAVOJ LJUDSKOJ PREHRANI: PREGLED ZNANSTVENE LITERATURE

SAŽETAK

Pileće meso značajan je izvor hranjivih tvari. Sadrži i bioaktivne komponente koje utječu na metaboličke procese u organizmu i doprinose održavanju ljudskoga zdravlja. Suvremena prehrana vodi računa o sadržaju i svojstvima masnih kiselina. Posebnu ulogu u prehrani imaju polinezasićene masne kiseline (PUFA), i to PUFA n-6 i PUFA n-3. U radu se prikazuje značenje pilećega mesa u ljudskoj prehrani, uz preporuku unosa komponenata lipida. Prikazan je također i metabolizam PUFA n-6 i PUFA n-3, uz prikaz hranidbe kao bitnoga čimbenika u obogaćivanju mesa PUFA-om n-3. Pojedini autori predlažu uporabu zdravstvenih lipidnih indeksa pri valorizaciji pilećega mesa s obzirom na stupanj zasićenosti odnosno nezasićenosti masti. U tu namjenu koriste se kvalitativni indeksi (PUFA/SFA, PUFA n-6/PUFA n-3, LA/ALA i EPA+DHA), nutritivni indeksi (AI, TI, hHI) i metabolički indeksi (EI, THI, ∆ 9 desaturaza i ∆-5+∆-6 desaturaza). Pri izračunu indeksa uzimaju se u obzir određene zasićene, mononezasićene i polinezasićene masne kiseline.

Ključne riječi: pileće meso, masne kiseline, kvalitativni indeksi, nutritivni indeksi, metabolički indeksi

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