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Papers published Internationally by Damanhour University Staff Members of Different Departments

(8)

Attia, Y. A., et al. (2017). "Fatty acid and cholesterol profiles, hypocholesterolemic, atherogenic, and thrombogenic indices of broiler meat in the retail market." Lipids Health Dis 16(1): 40.

BACKGROUND: Broiler meat is an essential source of food due to its favourable effects on human health derived from its protein, fats, minerals, vitamins and its bioactive components. **METHODS:** A total of 90 carcasses were collected from the retail market in Jeddah city, Saudi Arabia during April, May and June 2014 to determine the effects of meat type (frozen vs. fresh) and sources within fresh types (A, B, C) vs. frozen types (D, E and F) on their fatty acid profiles, cholesterol, their hypocholesterolemic, atherogenic and thrombogenic indices, and on their antioxidants' status. **RESULTS:** The sources of meat had a significant effect on the hypocholesterolemic and atherogenic indices, with the D source of fresh meat having the best indices. Total saturated fatty acids (SFA), unsaturated fatty acids (UFA), the UFA/SAF ratio, and the monounsaturated (MUFA), Omega-6 and Omega-7 fatty acids were significantly affected by the source of meat. The results revealed that the D source of fresh meat showed favourable fatty acid profiles with significant health benefits for human. Correlation analyses showed a significant negative relationship between the SFA and hypocholesterolemic indices, and significant positive relationships with the atherogenic index, the thrombotgenic index and the total antioxidant capacity. In addition, the relationship between UFA and the hypocholesterolemic index was strongly significantly positive, but was highly

negative between the atherogenic and thrombotic indices. The correlations between omega-6 and total cholesterol and the atherogenic index was moderately negative, but was moderately positive with the hypocholesterolemic index.

CONCLUSION: Fatty acids profiles and the hypocholesterolemic and atherogenic indices of broiler meat in the retail market in Jeddah city, Saudi Arabia during April-May-June showed significant differences, with the potential for favourable fatty acids to be boosted. Such variability indicates the needs for a feeding strategy to enhance the favourable fatty acids that may positively impact the health of the consumer, lowering the risk of hypercholesterolemia, atherosclerosis, and thrombogenesis although further studies are needed.