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- Document Title** : Estimation of the ratio of Omega-6 to Omega-3 fatty acids in blood serum of healthy Saudi women
تقدير نسبة الاحماض الدهنية اوميغا 6 الى اوميغا 3 في مصل دم النساء السعوديات الصحيحات
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- Abstract** : Omega (n)-6 and omega (n)-3 are long-chain polyunsaturated fatty acids (LCPUSF A) derived from the 18-carbon essential dietary precursors linoleic acid (LA) and alpha-linolenic acid (ALA), respectively. They carry out many biological roles that are necessary for normal physiological functions and good health. These two families of fatty acids are metabolically and functionally distinct and often have important opposing physiological functions. Their balance is important for homeostasis, normal development and may affect susceptibility to different diseases. The present study was carried out to investigate serum levels of LA, gamma linoleic (GLA), dihommo-gamma-linolenic (DHGLA), arachadonic (AA), ALA, eicosapentanoic (EP A) and Docosahexanoic (DHA) acids in 48 healthy Saudi women aged between 20-70 years and to define the ratio of n-6: n-3. Fatty acid concentrations were determined by using Gas Chromatography (GC). The subjects were divided into two groups, younger and older, with 40 years old being the dividing age. The concentration of fatty acids and the ratio of n-6:n-3 were analyzed among both groups in relation to age, body mass index (BMI) and lipid profiles. The results showed that the ratio of n-6 to n-3 for the younger group (2.84:1) is lower than that of the older group (3.82:1). By using Pearson r-test, these ratios failed to show any significant correlation with BMI and lipid profiles. Regarding the fatty acid concentrations> the analysis showed that most of n-6 fatty acids (LA, GLA and AA) and EP A were positively correlated with age. The data also showed no correlation between fatty acid concentrations and BMI in all subjects. Concerning lipid profiles> analysis of the data in the younger group showed that DHGLA correlate positively with triglyceride (TG)» cholesterol (CHOL) and low-density lipoprotein (LDL) and ALA with TG. In the older group> LA, AA, ALA and DHA showed a positive correlation with TG, CHOL and LDL and DHGLA with TG. Furthermore, LA and AA showed a negative correlation with high-density lipoprotein (HDL)