The Relationship Between Physical Activity, Diet, Fatty Acid Composition and Obesity, in Tunisian Population

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The fatty acids composition of circulating blood lipids is predicted to be altered by many factors (ageing, dietary intake, lifestyle...). additionally to the present ageing consequences on their lipid status, bigger subjects represent a population in danger of nutritional imbalance. the most aim of this study was to research the associations between dietary habits and therefore the refore the plasma fatty acids patterns during a healthy Tunisian population with a stress on the gender and ageing differences for the 6-desaturase activity and the EFA proportions. Nutritional habits and plasma fatty acids compositions are analysised in 200 healthy volunteers (104 women and 96 men) aged between 40 and 82years old. The findings revealed that the 6-desaturase activity was reduced in elderly subjects (by 24% and 10% in women and men respectively). Moreover, DHA (C22:6n-3) and AA (C20:4n-6) were found to extend respectively in high fish and meat consumers. Plasma fatty acids composition might be sensitive to dietary habits consistent with food items and will then help for the establishment of optimal nutritional proportions. Abdominal obesity may be a key contributor of metabolic disease. Recent trials suggest that dietary fat quality affects abdominal fat content, where hexadecanoic acid and linolic acid influence abdominal obesity differently, while effects of n-3 polyunsaturated fatty acids are less studied. Also, carboxylic acid desaturation could also be altered in abdominal obesity. We aimed to research cross-sectional associations of serum fatty acids and desaturases with abdominal obesity prevalence during a population-based cohort study. Sex-specific and linear associations were mainly observed for n3-polyunsaturated fatty acids, while associations of the opposite exposures were generally non-linear and similar across sexes. Similar models were employed to research relations between desaturase activities (estimated by carboxylic acid ratios) and abdominal obesity. MetS is extremely common within the Great Tunis population, involving quite the third of subjects. Plasma fatty acids pattern in MetS is characterized by increased SAFA and MUFA and reduced PUFA. SAFA, MUFA and D9D tend to extend but PUFA and D5D tend to decrease with the amount of MetS traits. To study things of obesity within the Tunisian population by identifying the factors of contributing to obesity and exploring its impact on both genders. this is often a descriptive retrospective study. We studied 401 randomly selected Tunisian subjects. Participants were characterized as obese if their BMI was ≥ 30 kg/m2. a complete of 401 patients aged 30-62 years were included during this study with a mean age of 48.94 ± 9.57 years. About 60.8% of patients are men and 39.2% are women. 100 fifty three of patients were overweight and 61.8% were obese. Regarding diet, the bulk of men consumed high amounts of fried potato, biscuits and sweets, Fruits and vegetables, sandwiches and Soft drinks and processed juices. Most of patients were physically inactive (63.9% of male and 59.2% of female practiced light physical activity). the bulk of patients was farmers, employers and retires (36.4%, 30.2 and 18% respectively). 2 hundred and sixteen of patients had highschool level (53.3% of men and 54.8% of women). the main complication was dyslipidemia (58.1%), digestive diseases (11%) and immune disorders (9.5%). Regarding treatments, most participants didn't use treatment (43.1%: 27.9% males and 15.2% females).

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Bariatricsurgery was more prevalent in male patients than females (8% vs. 7%). Plasma from female participants had significantly higher content of linolic acid , γ-linolenic, Dihomo-γ-linolenic, docosatetraenoic, eicosapentaenoic, clupanodonic, docosahexaenoic acids than males.

Conclusion: Obesity rates across Tunisia are alarming. The present study serves to highlight the need for better-quality surveillance data and effective public health interventions to curb rising obesity rates.

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