

P031 Iron state and oxidative stress in a mediterranean population

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The beneficial effects of the Mediterranean diet have been associated with antioxidant nutrients. This diet provides adequate amounts of all nutrients, including iron. 46% of Mediterranean population are carriers of at least one of the three mutations that can increase iron absorption. Redox reactions involving iron play a key role in the formation of free radicals that damage cells. Objective: to investigate the influence of iron levels on the antioxidant status and oxidative damage. We examined the intake of dietary factors (3-day dietary register) in 815 individuals. We measured serum iron, ferritin and transferrin, thiobarbituric acid reactive substances (TBARS) and plasma oxygen radical absorbance capacity (ORAC). To estimate the effects of iron changes in oxidative stress, a multivariate linear regression model was created, with adjustments for dietetic factors and toxic habits. Results showed that an increase in serum ferritin is associated with an increase in ORAC in men ($p=0,008$) and in women ($p=0.021$). An increase in transferrin saturation is associated with an increase in plasma TBARS in women ($p=0,006$). Nevertheless, to identify the effect of iron intake on oxidative stress, more precise testing is required.