Abstract
Introduction: The rapid increase on life-expectancy represents a major challenge and economic burden for modern societies. Several studies have focused on the effects of polyunsaturated fatty acids (PUFA) upon the immune system; however less attention has been paid to the effects of monounsaturated fatty acids (MUFA). In this work we investigated the relationship of habitual consumption of different types of fatty acids with different immune parameters in the elderly. Subjects and methods: 40 institutionalized elderly (76-95 y) and 35 home-living middle-age subjects (57-65 y) were recruited. Dietary intakes of macronutrients, fiber and fatty acids, as well as immune parameters such as serum cytokines levels (IL-10, TNF-, IL-8, IL-17, TGF- and IL-12), phagocytic activity and cytotoxic NK activity, were determined. Results: Elderly subjects had a lower intake of total lipids. MUFA intake was significantly lower in the elderly group than in middle-age adults whilst the contrary was true for PUFA. MUFA intake in the elderly was found to be positively associated with IL-12 ( = 0.879) and TNF- ( = 0.789) serum concentrations, whilst PUFA intake was inversely related to levels of IL-12 ( = -0.534). These associations were not observed in the middle-age group. Conclusion: MUFA intake may contribute to the pro-inflammatory status present in the elderly. It may be advisable to develop future nutrient recommendations specific for elderly taking into account immune parameters.

Keywords