

Lifestyle approach against obesity in menopause: role of the new short questionnaire to assess adherence to the Mediterranean Diet and nutritional sustainability MedQ-Sus

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INTRODUCTION: The changing hormonal milieu in post-menopausal women (PMW) predisposes them to increase cardiovascular (CV) risk, due to a constellation of risk factors, such as visceral obesity, atherogenic dyslipidaemia and arterial hypertension. Our ongoing study aims to evaluate the impact of dietary changes in CV risk in PMW by means of a new Mediterranean Diet (MD) adherence questionnaire "MedQ-Sus" (1) which excludes alcohol consumption and introduces a sustainability score.

METHODS: For 1 year, 65 PMW with BMI 24-39 Kg/m² and at least another CV risk factor were followed-up (FU) each 3 months. Anthropometric parameters and blood pressure were taken. Questionnaires on medical history, lifestyles, food frequency (FFQ) and adherence to MD such as MEDAS and MedQ-Sus were administered. Balanced low-calorie dietary plan with quantitative advice were released. Repeated measures ANOVA at 1 year were performed

RESULTS: We observed at 1 year a significant increase ($p < 0.01$) in MD adherence by means of MedQ-Sus ($\Delta = 1.08$; 95%CI 0.35-1.80) due to the significant increase ($p < 0.05$) in the consumption of cereals and derivatives (> 195 g/day from 33.9% to 52.3%) and fresh fruit (> 300 g/day from 24.6 to 26.2%) and reduction in consumption of dairy products (< 180 g/day from 10.8% to 18.4%). No change was observed with MEDAS questionnaire due to the significant reduction in the consumption of wine (≥ 7 glasses/week from 21.5% to 10.8%) and sautéed (≥ 2 times/week from 40% to 29.2%). One-year sustainability score assessed with MedQ-Sus was significantly increased (from 4 to 4.9 points; $p < 0.05$). If we considered tertiles of MedQ-Sus score at baseline (Fig. 1), the MD adherence significantly increased at 1 year in the first and second tertiles while stable in the third. Those changes were mainly due to a decreased consumption of animal proteins ($\Delta = -5.3\%$) and an increased consumption of plant protein ($\Delta = +5.3\%$), reduction in fats consumption of animal origin ($\Delta = -8.4$ g/day) and in particular of saturated fatty acids ($\Delta = -5.0\%$). We observed at 1 year significant reductions ($p < 0.01$) in weight ($\Delta = -4.3$ Kg), BMI ($\Delta = -1.6$ Kg/m²), waist ($\Delta = -4.1$ cm) and hips ($\Delta = -3.0$ cm) circumferences, subscapular ($\Delta = -5.2$ mm), suprailiac ($\Delta = -2.9$ mm) and triceps ($\Delta = -4.5$ mm) skinfolds, adipose area of the arm (AFA) ($\Delta = -6.4$ cm²) and fat mass ($\Delta = -4.2$ kg) without variation of the lean mass ($\Delta = -0.2$ kg, $p = 0.48$). All those reductions were followed by change in the obesity prevalence (-21.1%), in the fat mass distribution with 10% reduction in abdominal and truncular obesity, and in systolic ($\Delta = -7.4$ mmHg) and diastolic ($\Delta = -3.6$ mmHg) BP (Fig 2).

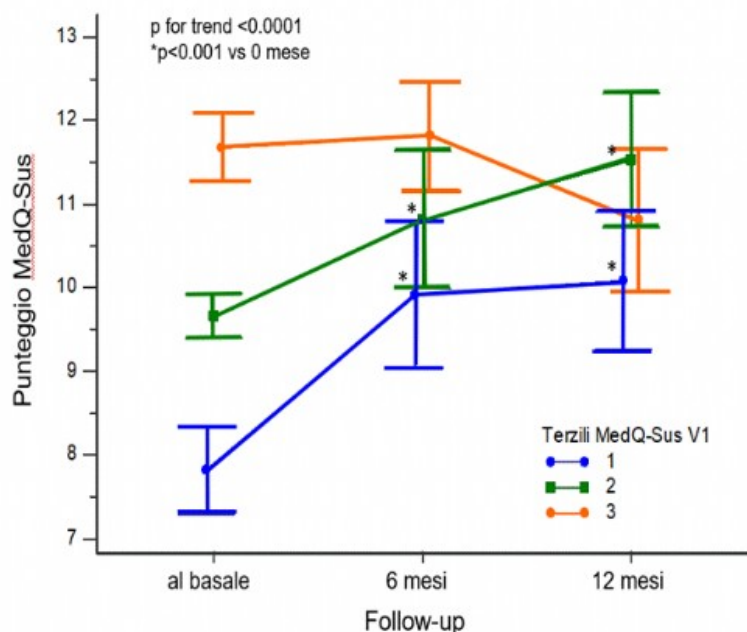
CONCLUSIONS: The study underlines the medium-term utility of a 1 year balanced low-calorie diet in PMW with elevated CV risk factors. Furthermore, the new MedQ-Sus questionnaire is effective in evaluating and monitoring adherence to MD and the sustainability of DM, allowing a better counseling in menopausal women.

1) Ruggeri S et al. New Validated Short Questionnaire for the Evaluation of the Adherence of Mediterranean Diet and Nutritional Sustainability in All Adult Population Groups. *Nutrients* 2022, 14, 5177.

Keywords: Menopause, Mediterranean diet, sustainability, adherence, lifestyle intervention, obesity

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Figure 1

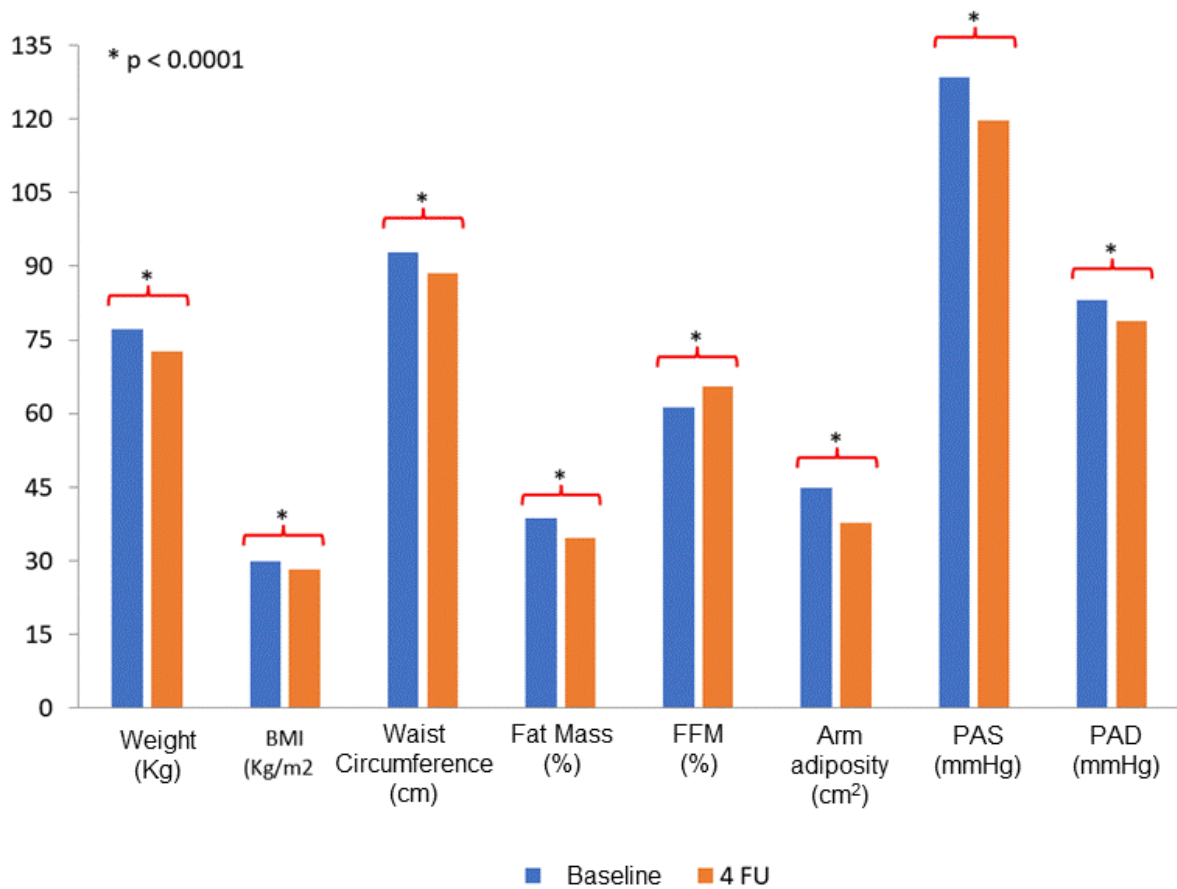


One year and 6 month change in MD adherence score according to tertiles of adherence based on MedQ-Sus questionnaire at baseline. Participants in the first tertile are in blue (n=22), those in the second tertile are in green (n=21) and those in the third tertile are in orange (n=22).

Figure 2



One-year variations in anthropometric and instrumental parameters



One-year variations in anthropometric and instrumental parameters

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