



Allergologia et immunopathologia

Sociedad Española de Inmunología Clínica,
Alergología y Asma Pediátrica

www.elsevier.es/ai



EDITORIAL

What are the real effects of the Mediterranean diet on recurrent colds and their complications?



In the last decade non-intervention studies have shown a protective effect of Mediterranean diet consumption on asthma and allergic diseases in schoolchildren,^{1,2} preschoolers,³ and also, but with a less clear effect, among offspring from mothers that consume that diet during pregnancy.^{4–6} Moreover, two recent systematic reviews with meta-analysis^{7,8} confirmed the protective effect of the Mediterranean diet on asthma during school-age, even though the effect was driven mainly by studies carried out in Mediterranean areas.⁷ However, the effect of the Mediterranean diet on the most frequent respiratory condition, i.e. common colds and their complications, has never been published before.

In the current issue of *Allergologia et Immunopathologia*, Calatalud-Saez et al.⁹ in a prospective before-after comparison study on 128 Spanish children (aged 1–5 years) showed, for the first time, that the adoption of a traditional Mediterranean diet significantly decreased the number of inflammatory complications episodes of common cold i.e. acute otitis media and rhinosinusitis (primary outcome) from 4.64 ± 0.7 to 0.7 ± 0.9 after one year intervention in the whole group, however the effect was mainly in the 2–3 and 3–4 age groups. Also, the Mediterranean diet for one year significantly decreased the secondary outcomes i.e. the number of emergency department visits, prescription of antibiotics, symptomatic treatment and level of affectation, in the 2–3 and 3–4 age groups. But no effect on primary or secondary outcomes was seen in the extreme age ranges (1–2 and 4–5 years), except for emergency department visits in the 4–5 age group. Moreover, a significantly reduction in body fat among children 2–3 years of age was found after one year of intervention.

The authors, as part of their nutritional programme “Learning to eat from Mediterranean” enrolled their population (half of them between 12 and 33 months of age) and were followed by the same physicians monthly for the first four months and then bi-monthly until the end of the year. Although the authors reached the sample size for the primary outcome, had a low attrition (only 8 out of 128

children initially included abandoned the study), demonstrated the capability to change diet pattern in the vast majority, and presents impressive results on the primary and secondary outcomes, the study design does present some issues that need to be aware of before their results could be generalised. The enrolment period was done in a very long period (from May 2009 to February 2015), with no pre-established definition of “particular propensity to recurrent colds and frequent inflammatory complications”, presenting only data of the outcomes at four months and at the end of the year of intervention (but not in between those timings), no single confounder variables (i.e. environmental tobacco exposure, siblings, day-care attendance, socioeconomic status, etc.) were taken into account in the statistical analysis, and more importantly the study lacked placebo group comparison. All of those issues limited the internal and external validation of their results. These points need to be considered when performing well-designed placebo randomised studies on this very common worldwide respiratory illness, i.e. colds and their inflammatory conditions, where the Mediterranean diet due to the anti-inflammatory properties^{10,11} could help to improve, together with other multiple benefits that this diet offers.

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