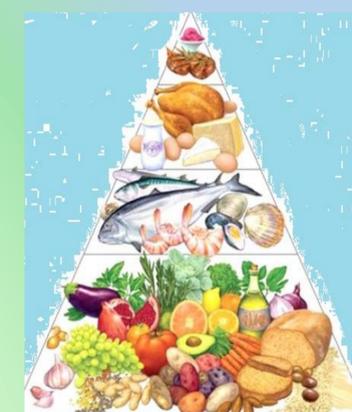


# Does Mediterranean dietary pattern enriched with fatty fish improve respiratory function in asthmatic children? A Randomized Controlled Trial



M. M. Papamichael<sup>1</sup> PhD; Ch. Katsardis<sup>3</sup> PhD; B.Erbas<sup>2</sup> PhD; C. Itsiopoulos<sup>1</sup> PhD

<sup>1</sup>La Trobe University, Department of Rehabilitation, Nutrition & Sport, Melbourne, Australia.

<sup>2</sup> La Trobe University, Department of Public Health, Australia

<sup>3</sup> National & Kapodistrian University of Athens, Athens, Greece

## Background

Globally, asthma has rapidly become the most frequent allergic disease in children. It causes significant burden and is the most common reason for hospitalisation, absence from school and work for sufferers and their parents/carers, respectively [6], [7]. There is no cure for asthma, it can only be controlled by medication. Emerging evidence from observational studies indicate that diet and lifestyle play a role in the aetiology and management, with potential for a protective effect of a Mediterranean diet [1], [2]. In particular, fatty fish consumption has been associated with improved pulmonary function and reduced asthma symptoms in children [3], [4], [5]. However, randomized controlled trials are lacking.

## Aim



To investigate whether fatty fish consumption as part of a Greek Mediterranean dietary pattern improves pulmonary function and reduces asthma symptoms in children.

**Clinical Trial Registration: [ACTRN12616000492459p](https://www.anzctr.org.au/Trial/Registration/Trial.jsp?ACTRN12616000492459p)**

## Materials & Methods

**Study Design:** Parallel Randomized Controlled Trial

**Groups:**

- a) Intervention group: Consumption of two fatty fish meals ( $\geq 150$ g cooked) per week as part of Greek Mediterranean Dietary pattern
- b) Control group: Consumption of usual diet.

**Enrolment date:** November 2016

**Outcome measurements:** baseline, 6 months

**Target population:** Children aged 5-12 years old suffering from mild asthma

**Sample size:**  $N=72$

**Recruitment:** Paediatric Asthma Clinic, Greece

**Assessment Tools:**

- ❖ **Pulmonary function:** Spirometry ( FEV<sub>1</sub>), Exhaled Nitric Oxide Analysis (eNO).
- ❖ **Asthma symptoms:** Child Asthma Control Questionnaire (ACQ)
- ❖ **Quality of life:** Paediatric Asthma Quality of Life (PAQLQ) Questionnaire
- ❖ **Dietary habits:** Food Frequency Questionnaire (FFQ)
- ❖ **Adherence to Mediterranean Diet:** KIDMED Index
- ❖ **Biomarkers:** Plasma fatty acid composition, antioxidant levels, Vitamin D, Metabolic profile (Krebs cycle metabolites)

## Application

This study is important in establishing the effect of a Mediterranean diet enriched with fatty fish in the management of asthma in children. **Findings will inform the development of dietary guidelines for asthma management in children.**

## References

- [1] Arvaniti *et al*, 2011. *Pediatric Allergy Immunol*, 22(3), 283-289
- [2] Garcia-Marcos *et al*, 2013. *Pediatr Allergy Immunol* 2013:00
- [3] Hodge *et al*, 1996. *Medical journal Australia*, 164(3), 137-140.
- [4] Kremmyda *et al*, 2009. *Clin Rev Allerg Immunol* DOI: 10.1007 /s12016-009-8186.
- [5] Magnusson *et al*, 2013. *Am J Clin Nutr* 2013;97:1324–30.
- [6] WHO, 2013. <http://www.who.int/mediacentre/factsheets/fs307/en/>
- [7] GINA, 2017. <http://ginasthma.org/2017>

**Contact details:** M. Papamichael  
saspap@hotmail.com

