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The prophylactic potential of fatty fish consumption on airway inflammation in childhood asthma

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According to the World Health Organization, 235 million people worldwide suffer from asthma. It is the most common chronic disease among children responsible for hospitalization, emergency visits, 10 million missed school days per year, impacts the productivity of working parents and inflicts a societal economic burden due to increased medical costs. Although genetic, environmental and epigenetic factors have been identified, an effective therapeutic intervention is yet to be identified. We conducted a single-centred parallel randomized controlled trial of six months duration to examine the prophylactic potential of dietary omega 3 fatty acid intake in pediatric asthma. Seventy-two children (54.2% boys; 45.8% girls), 5-12 years old with physician-diagnosed 'mild asthma' were selected from a paediatric clinic in Athens, Greece and randomized to two groups. The intervention group consumed two fatty fish meals per week (≥ 150 g fillet fatty fish/meal) and the control group, their usual diet. Pulmonary function was assessed using spirometry, bronchial inflammation with exhaled Nitric Oxide analysis (eNO), asthma control and quality of life by questionnaires. Multiple linear regression model showed a statistically significant change in eNO in the intervention group (95%CI: -27.39, -0.91; beta = -14.15; p=0.037) adjusting for confounders of age, sex, regular physical activity and BMI. Fatty fish intake twice weekly reduced bronchial inflammation by 14 ppb. No differences were observed for spirometry, asthma control or quality of life scores. This study suggests that two meals of fatty fish per week (≥ 150 g/ meal), a rich source of $\Omega 3$ fatty acids, might be an effective therapeutic intervention targeting inflammation in pediatric asthma.

Biography

Maria Papamichael is a Registered Dietician/Sports Nutritionist who has dedicated her life in educating people the importance of good nutrition and exercise in the prevention and management of disease as well as in improving health and well-being. Being an asthma sufferer since childhood, has motivated her to undertake a PhD research project at La Trobe University (Australia) to investigate the prophylactic potential of a Mediterranean diet enriched with fatty fish in the management of asthma in children.

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