17th Global Dieticians & Nutritionists Annual Meeting
October 02-03, 2017 Kuala Lumpur, Malaysia

A Mediterranean diet enriched with ω3-polyunsaturated fatty acids in the management of paediatric asthma. A Randomised Controlled Trial: Baseline results





M.M. Papamichael[1] PhD; Ch. Katsardis[3] MD PhD; D. Tsoukalas[4] MD; B.Erbas[2] PhD; C. Itsiopoulos[1] PhD

[1] La Trobe University, Department of Rehabilitation, Nutrition & Sport, Melbourne, Australia.
[2] La Trobe University, Department of Public Health, Melbourne, Australia
[3] National & Kapodistrian University of Athens, Athens, Greece
[4] European Institute of Nutritional Medicine, Rome, Italy

Background

The change in dietary patterns has contributed to the rise in obesity and asthma in children [1],[2]. Both chronic diseases are associated with co-morbidities, considerable disability, poor quality of life and increase in medical costs [3].
Research studies have demonstrated that, an elevated BMI is related to an increase in asthma risk and development of future exacerbations, less asthma control and an increase need for medication use [4],[5],[6].

Aim

The purpose of this Randomized Controlled Trial is to investigate the effect of a Mediterranean diet enriched with fatty fish on asthma in Greek children. This is the first announcement of baseline results.

Materials & Methods

***Study Design*:** Parallel Randomized Controlled Trial

- **Participants:** 72 children (54.2% ♂, 45.8% ♀)
- **Ages:** 5-12 y.o with doctor-diagnosed 'mild-asthma'
- Randomized into 2 groups:

a) Intervention group (n=36): Consumption of two fatty fish meals/week (≥150gr cooked per meal) as part of Greek Mediterranean Dietary pattern over a period of 6 m.o
b) Control group (n=36) : Consumption of usual diet.

***Assessment Tools*:**

- **Pulmonary function**: Spirometry (FEV1), eNO
- **Asthma Control**: Asthma Control Questionnaire [7]
- **Quality of life**: Paediatric Asthma Quality of Life Questionnaire [8]
- **Dietary habits**: FFQ [9]
- **Adherence to Mediterranean diet** : KIDMED test [10]

Statistical Analysis

SPSS IBM (Version 20) was used for all statistical compilations. Continuous variables were checked for normality using numerical and graphical methods. Differences between intervention groups were assessed using t-test for variables found to be normally distributed and Mann-Whitney for non-normal variables. P-value was considered to be statistically significant at the 5% level.

Results

Statistical analysis of baseline data reveals that 64% of children are 'normal' height and 36% are 'tall'. Regarding bodyweight, 1% of children are 'severely underweight', 3% 'slightly underweight', 57% 'normal' weight, 28% 'overweight' and 11% 'obese' according to Hellenic paediatric growth charts.

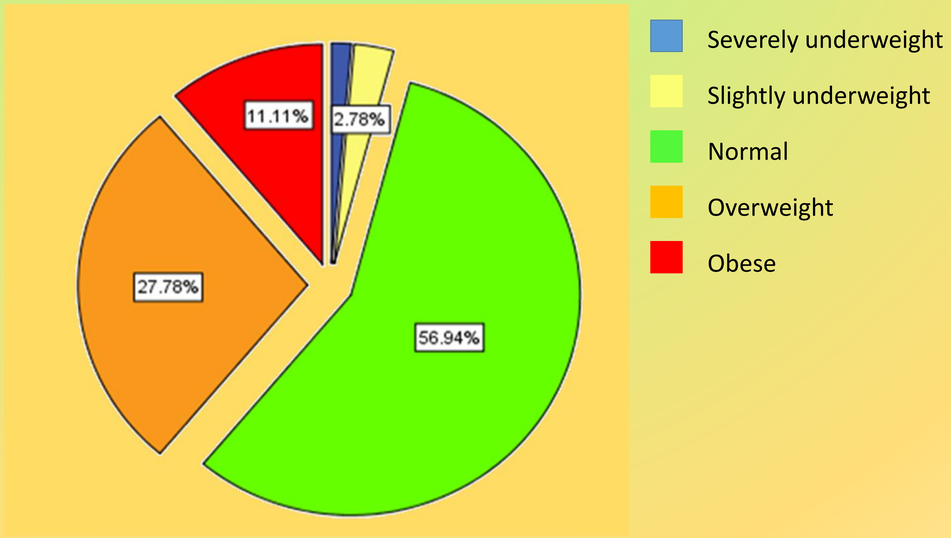


Fig 1. Children's weight distribution

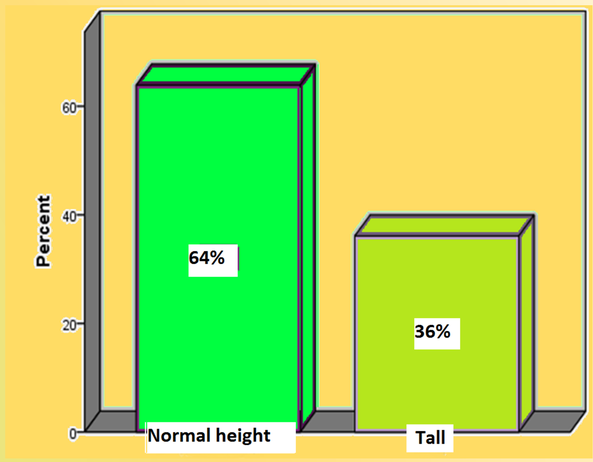


Fig 2. Children's height distribution

Conclusion

This finding is significant since BMI seems to play a major role on asthma outcome in children. The effect of weight reduction in overweight asthmatic children might be of great value for current treatment guidelines and in alleviation of asthma symptoms.

RCT No. : ACTRN12616000492459p

References

[1] Arvaniti et al, 2011. *Pediatr Allergy Immunol*; 22: 283–289.
[2] Calder. P, 2015. *Biochimica et Biophysica Acta*;1851:469–484.
[3] GINA*, 2017.* http://ginasthma.org/2017
[4] Papoutsakis et al, 2013. *J Acad Nutr Diet*.;113:77-105.
[5] Lang.J, 2012. *Pediatric Allergy, Immunology & Pulmonology*; 25(2):1-12.DOI: 10.1089/ped.2011.0137
[6]Chen et al, 2017.*Am J Respir Crit Care Med*.DOI: 10.1164 /rccm.201608-1691OC.
[7] Juniper et al, 2010. *Eur Respir J;* 36: 1410–1416.
[8] Juniper, et al, 1996. *Quality of Life Research;* 5, 35-46.
[9] Antonogeorgios et al, 2013. *Perioperative Nursing-Quarterly scientific, online official journal of GORNA, 2*, 40-54
[10] Serra-Majem, 2004. *Public Health Nutrition:* 7(7), 931–935

Contact details: M. Papamichael
sassipap@hotmail.com