DOES A MEDITERRANEAN DIETARY PATTERN ENRICHED WITH FATTY FISH IMPROVE RESPIRATORY FUNCTION AND REDUCE ASTHMA SYMPTOMS IN CHILDREN? A RANDOMIZED CONTROLLED TRIAL REPORT OF BASELINE RESULTS

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Background

Emerging evidence from observational studies indicates that diet and lifestyle play a role in the aetiology and management of chronic diseases such as obesity and asthma in children, with a potential for protective effect of a Mediterranean diet [1],[2],[3]. Previous studies have reported an association between overweight, development and severity of asthma in children [4],[5].

Purpose

This is the first Randomized Controlled Trial (RCT) to investigate whether fatty fish consumption as part of a Mediterranean dietary pattern improves pulmonary function and reduces asthma symptoms in children.

Methodology

- **Study design**: RCT
- **Duration**: 6 months
- **Participants**: 72 Greek children (54% ♂, 46% ♀) with doctor-diagnosed 'mild asthma'
- **Age**: 5-12 years (Mean age: 8±2 y.o)
- **Recruitment**: November 2016, paediatric asthma clinic in Athens, Greece

Randomized equally into two groups:

1. Intervention group (n= 36): instructed to consume 2 fatty fish meals per week (at least 150g cooked fish/meal) as part of the Greek Mediterranean diet

2. Control group (n=36): their usual diet.

- **Assessment tools:**
  - Anthropometry: Weight, height, BMI
  - Pulmonary function: Spirometry (FEV1), eNO
  - Asthma Control: Asthma Control Questionaire [6]
  - Quality of life: Paediatric Asthma Quality of Life Questionnaire [7]
  - Dietary habits: Food Frequency Questionnaire [8]
  - Adherence to Mediterranean diet: KIDMED score [9]
- Assessment time-points: baseline & 6 months

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Findings

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

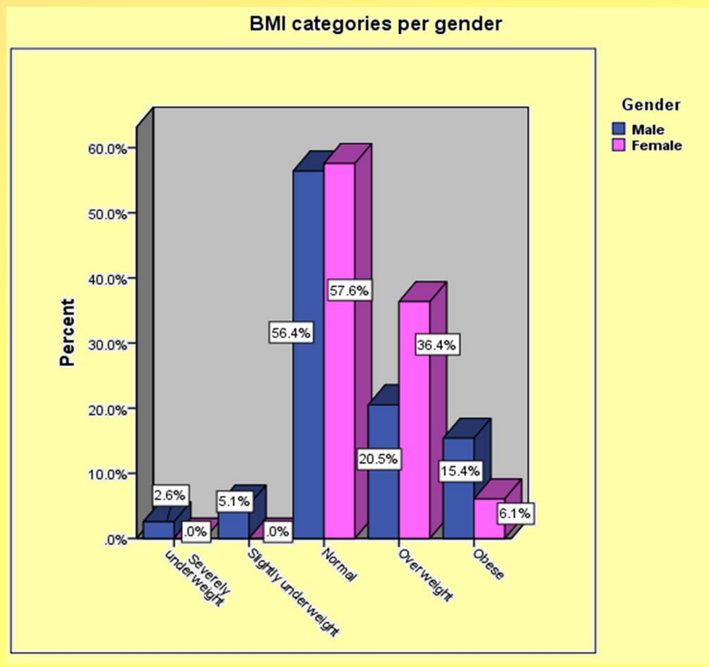


Fig 1. Figure 1 illustrates Children's weight distribution per gender. This diagram shows that girls are more overweight than boys (36.4% v 20.5%) and boys are more obese than girls (15.4% v 6.1%) respectively.

Conclusion

This observation is important since BMI seems to be a major risk factor in paediatric asthma. Future public health strategies should focus on promoting a healthy diet similar to the Mediterranean diet, daily physical activity and maintenance of a healthy weight in the management of childhood asthma.

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