



Correlation of dietary habits with systolic blood pressure in healthy children

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- ❑ **Blood pressure** could be affected by **nutritional habits** and intake of many nutrients. **Excessive energy** intake also plays important role in **hypertension**. Annu Rev Nutr. 2010;30:365-401.
- ❑ **Pediatric hypertension** is a risk factor for **adult hypertension and cardiovascular disease** which entails the necessity of early detection. Glob Pediatr Health. 2017;4:2333794X17712637.

Aim

To investigate how **nutrition habits** are correlated with **systolic blood pressure (SBP)** in children and adolescent population.

Results

- ❑ The percentage of children with **SBP% > 95** was: **29.4% in group A, 35.9% in group B and 34% in group C.**
- ❑ The **majority** of children **consume breakfast every morning (85.9%).**
- ❑ Children of **group C consume less fruits, vegetables, cereals, olive oil and milk products and more fast food** while they are **not used to consume their meals at the same time every day.**

Group A

- ❑ The logistic regression analysis showed that children who consume **meat more than 3 times per week have 123.6% greater relative probability for increased SBP%** (p= 0.038).

Group B

- ❑ Children who consume **cereals more than 3 times per week have 83.2% greater relative probability for increased SBP%** (p= 0.032).

Discussion-Conclusion

Diet plays a crucial role in blood pressure regulation. The adjustment of dietary structure may be helpful in both prevention and treatment of hypertension.

- ❑ Children who are **breast-fed** may have **lower blood pressure** since bottle feeding tends to be related to lower social class, a greater tendency to obesity, and a less healthy diet in later life. BMJ. 2003; 327(7425): 1189–1195.
- ❑ **WHO recommends a reduction in sodium intake** to control blood pressure in children aged 2–15 years. Sodium is found not only in table salt, but also naturally in a wide variety of products (dairy, meat, processed food etc). WHO, Reducing sodium intake to control blood pressure in children, 2017
- ❑ **The restriction of saturated fat** from infancy until 15 years of age has found to decrease childhood and adolescent blood pressure. Hypertension. 2009 Jun;53(6):918-24.

Methods

1395 children and adolescents from Greece were enrolled to participate the research. A specially designed **questionnaire regarding eating habits** -on a weekly basis- was used. **Blood pressure was measured twice for each child**. The **percentile for blood pressure** was calculated according to children's age and height. **Children were studied in 3 categories: Group A were children < 9 years old (36.77%), Group B were children ≥ 9 years old and ≤ 14 years old (36.06%) and Group C were children > 14 years old and < 17 years old (27.17%).**



Group C

- ❑ Children who consume **meat and fast food** more than 3 times per week have respectively **226.4% (p= 0.045) and 70.2% (p= 0.037) greater relative probability for increased SBP%.**
- ❑ On the contrary, children who consume **fish more than 3 times per week have 61.5% lower relative probability for increased SBP%** (p= 0.003).
- ❑ Children who consume **olive oil products more than 3 times per week have 71.1% lower relative probability for increased SBP%** (p= 0.043).
- ❑ Children who **breastfed** have a **44.8% lower chance of an increase in SBP%** (≥90%) versus others (p = 0.031).

