

- HOW TO ASSESS NUTRITION IN CHILDREN
& *PROVIDE PRACTICAL RECOMMENDATIONS FOR THE FAMILY*

MARIA HASSAPIDOU,

**PROFESSOR OF NUTRITION AND DIETETICS,
DEPARTMENT OF NUTRITION AND DIETETICS, ALEXANDER TECHNOLOGICAL EDUCATION INSTITUTE (ATEITH)
THESSALONIKI, GREECE**

HEALTHY NUTRITION IN CHILDREN

- **Healthy nutrition prevents the risk of malnutrition, obesity and related metabolic diseases in childhood and adulthood, improves quality of life during childhood and is necessary for optimal growth (physical, mental, emotional) and development of healthy eating habits that will last for a lifetime.**



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- “Let food be thy medicine and medicine be thy food.”

Hippocrates



**World Health
Organization**
REGIONAL OFFICE FOR
Europe

**REGIONAL COMMITTEE FOR EUROPE
64TH SESSION**

Copenhagen, Denmark, 15–18 September 2014



European Food and Nutrition Action Plan 2015–2020

EUROPEAN FOOD AND NUTRITION ACTION PLAN

~~2015-2020~~

- Of the six WHO regions, the European Region is the most severely affected by NCDs, which are the leading cause of disability and death; Overweight and obesity are also highly prevalent among children and adolescents, particularly in southern European countries. The children of less educated parents are most affected and the problem continues to have the greatest impact among the most deprived groups of society.

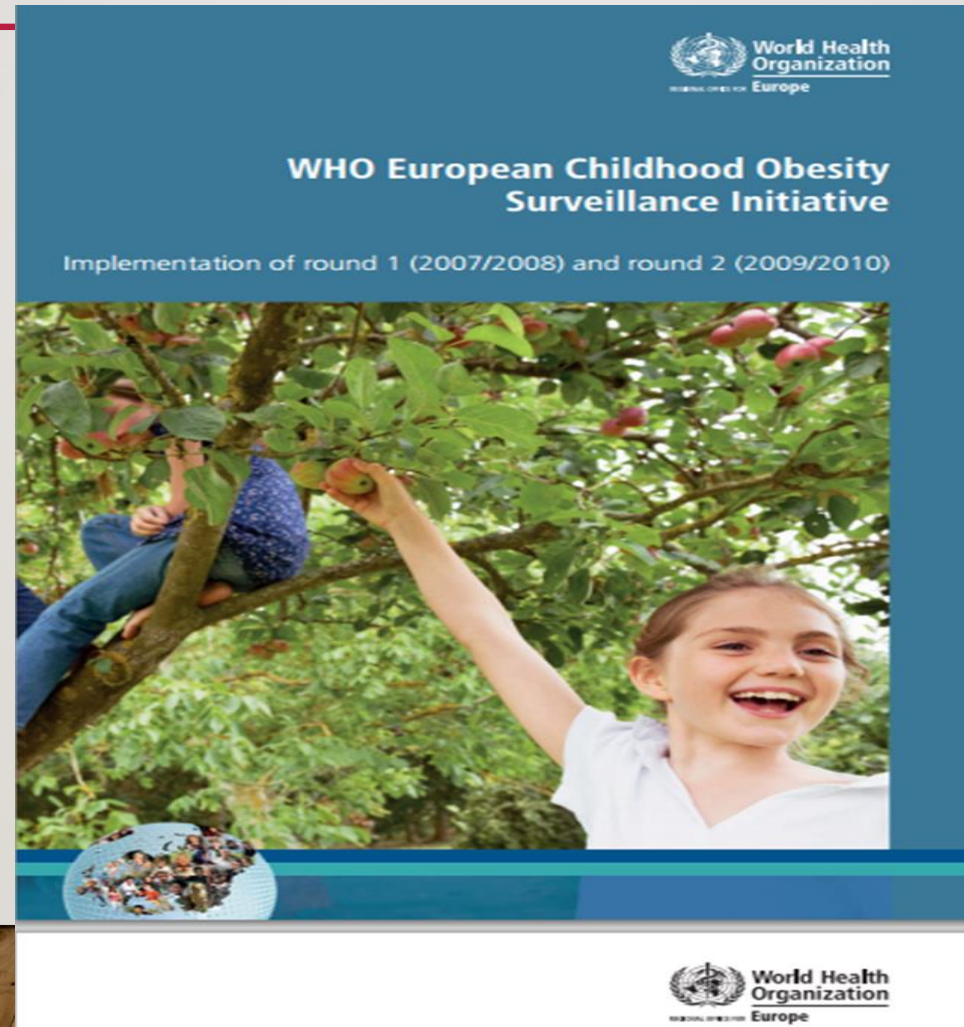
Childhood obesity is a chronic disease demanding specific health care

A Position Statement from the Childhood Obesity Task Force of the European Association for the Study of Obesity (EASO)

Nathalie J. Farpour-Lambert; Jennifer L. Baker; Maria Hassapidou; Jens Christian Holm; Paulina Nowicka; Grace O'Malley; Ram Weiss
Obes Facts. 2015 Oct; 8(5): 342–349



CHILDHOOD OBESITY IN EUROPE

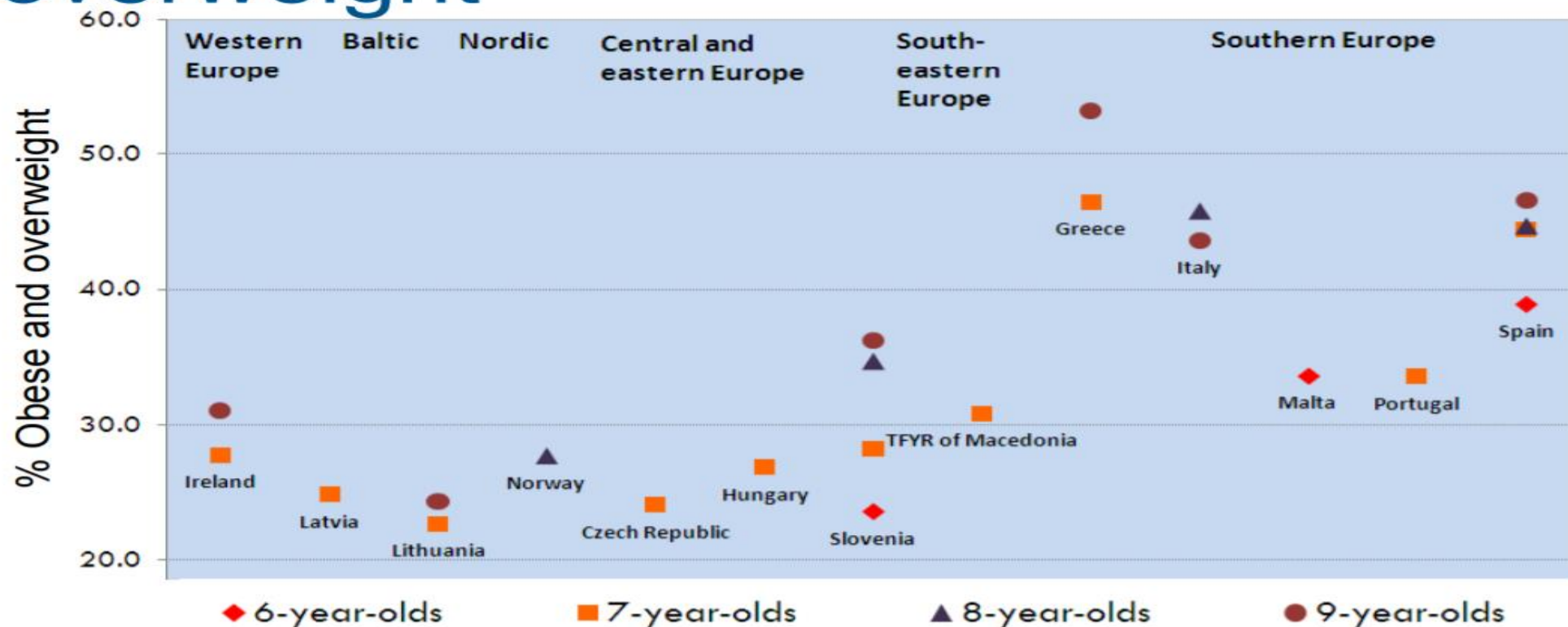


- The WHO Regional Office for Europe has established a **European childhood obesity surveillance system (COSI)** in most countries in the Region.
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- The system aims to routinely measure trends in overweight and obesity in primary school children (6-9 years), in order to understand the progress of the epidemic in this population group and to permit intercountry comparisons within the European Region.



A north-south gradient of overweight



Source: COSI Round 2 2009/2010

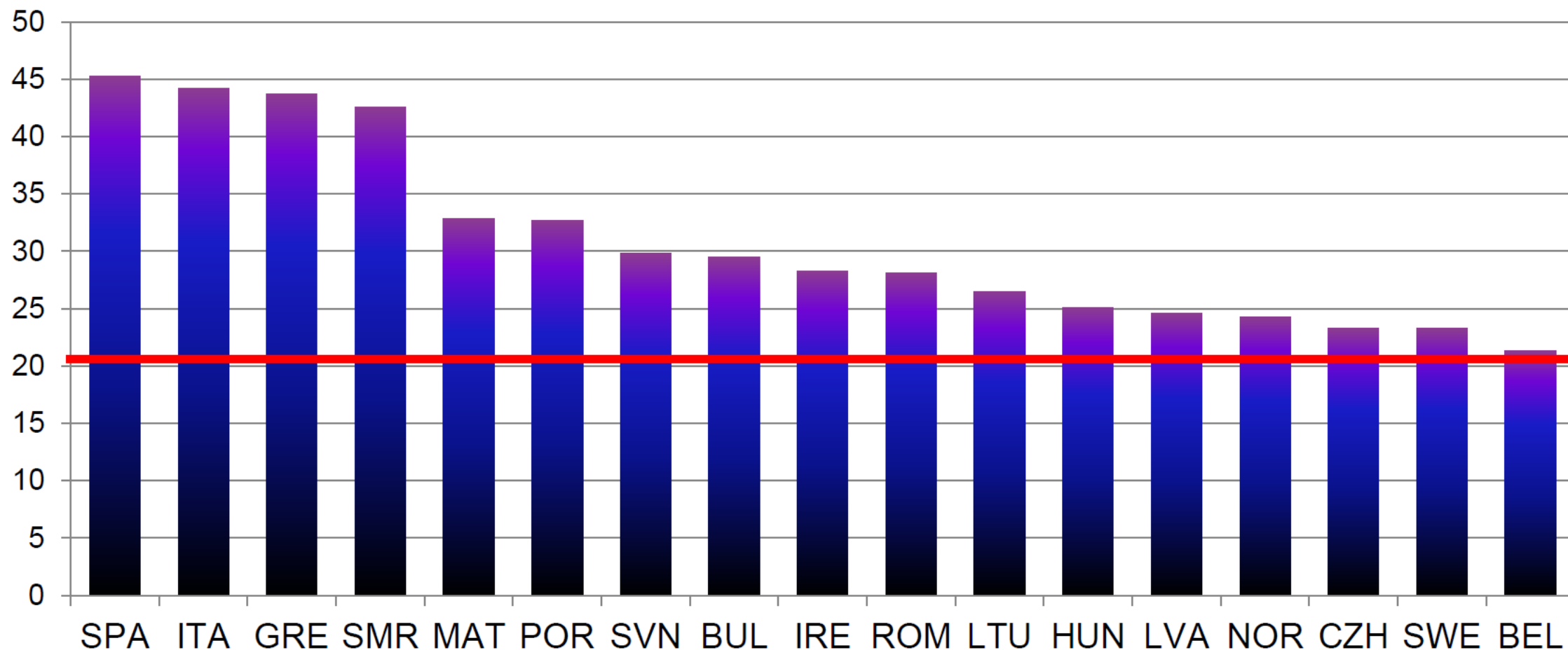
[BMC Public Health](#). 2014 Aug 7;14:806. doi: 10.1186/1471-2458-14-806.

WHO European Childhood Obesity Surveillance Initiative: body mass index and level of overweight among 6-9-year-old children from school year 2007/2008 to school year 2009/2010.

[Wijnhoven TM¹](#), [van Raaij JM](#), [Spinelli A](#), [Starc G](#), [Hassapidou M](#), [Spiroski I](#), [Rutter H](#), [Martos É](#), [Rito AI](#), [Hovengen R](#), [Pérez-Farinós N](#), [Petrauskiene A](#), [Eldin N](#), [Braeckeveldt L](#), [Pudule I](#), [Kunešová M](#), [Breda J](#).

WHO Childhood Obesity Surveillance Initiative

Overweight (including obesity) in boys - 2016



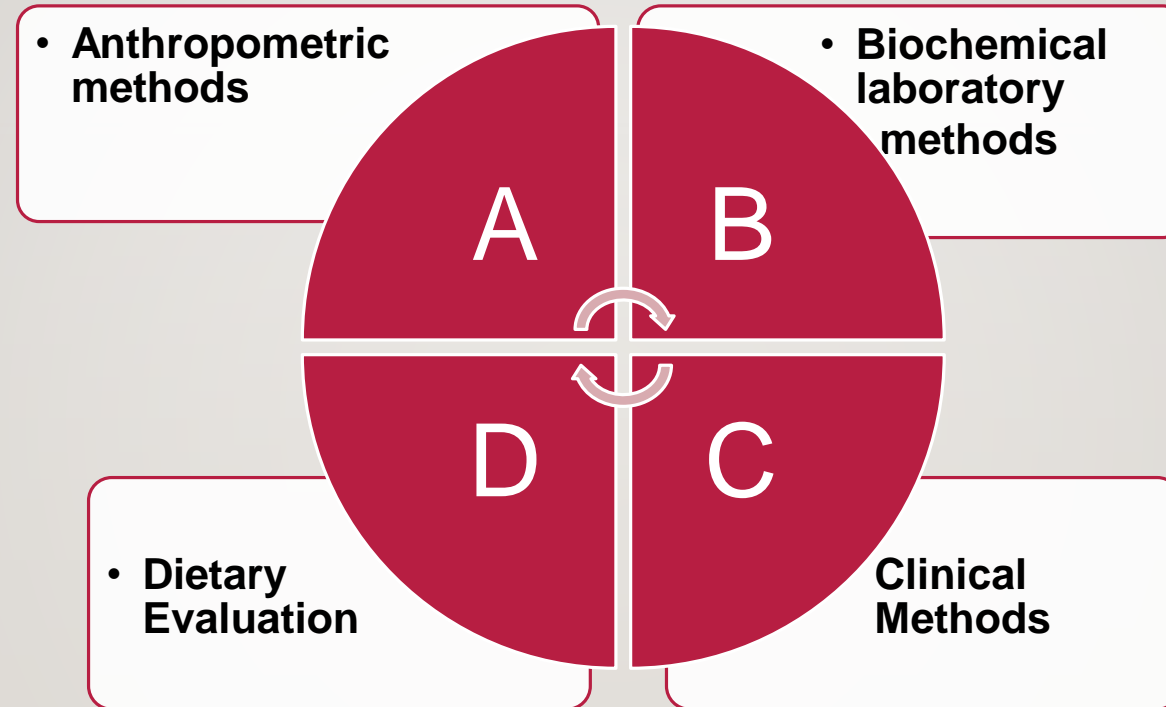
DECREASE IN PREVALENCE OF OVERWEIGHT AND OBESITY(GREECE)

	2013	2016
• Boys 7 years		
Overweight(%)	37	33,2
Obese (%)	14,9	12
• Girls 7 years		
Overweight(%)	38,5	33
Obese (%)	13,7	10,9

Unpublished results from Greek COSI

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- Assessment of dietary intake in children

ABCD OF NUTRITIONAL ASSESSMENT



DIETARY ASSESSMENT

- A comprehensive dietary assessment includes :
 - 24 hours dietary recall
 - Food frequency questionnaire
 - Dietary history since early life
 - Food diaries-records(3-7 DAYS)

24 HOURS DIETARY RECALL

- A trained interviewer asks the child or parent to recall all foods & drinks consumed in the previous 24 hours.
- It is quick, easy, & cheap but it depends on a good short memory and may not be truly representative of the child's usual intake.

FOOD FREQUENCY QUESTIONNAIRE

- In this method the subject is given a list of food items to indicate his or her intake (frequency & quantity) per day, per week & per month.
- inexpensive, more representative & easy to use.

DIETARY HISTORY

- It is an accurate method for assessing the nutritional status.
- ▶ The information should be collected by a trained interviewer.
- ◆ Details about usual intake, types, amount, frequency & timing needs to be obtained.
- 👉 Cross-checking to verify data is important.

FOOD DIARY

- Food intake (types & amounts) should be recorded by the subject at the time of consumption.
- The length of the collection period range between 1-7 days.
- Reliable but difficult to maintain.

INTERPRETATION OF DIETARY DATA

- The amount of energy & specific nutrients in each food consumed can then be calculated using food composition tables & the daily intakes can be compared with the recommended daily intake.

DIETARY ASSESMENT OF HEALTH PROFESSIONAL

- If a health professional cannot follow a comprehensive dietary assessment because it is usually difficult to perform and is time-consuming in a primary care setting then a number of simple questions are usually asked by practitioners. They are however adequate for an initial overview of nutritional habits.

Evaluation of the Overweight/Obese Child – Practical Tips for the Primary Health Care Provider: Recommendations from the Childhood Obesity Task Force of the European Association for the Study of Obesity

Jennifer L. Baker^a Nathalie J. Farpour-Lambert^b Paulina Nowicka^c
Angelo Pietrobelli^d Ram Weiss^e

^a Institute of Preventive Medicine, Centre for Health and Society, Copenhagen, Denmark

^b Obesity Care Program, Pediatric Cardiology Unit, Department of Child and Adolescent, University Hospital of Geneva, Switzerland

^c Childhood Obesity Unit, University Hospital, Malmö, Sweden

^d Pediatric Unit, Verona University Medical School, Italy

^e Department of Human Metabolism and Nutrition, Hebrew University School of Medicine, Jerusalem, Israel

• **Specific Points for dietary assessment of children**

- 1. Identify timing and locations of meals – ask about snacking patterns in between meals, during the evening and night.

Ask about where the meals are eaten, such as in the kitchen/dining room, living room, or bedroom, and if they are eaten in front of the television or computer.

- 2. Quantify sweetened beverage consumption – including all soft drinks, fruit juices, as well as chocolate milk.
- 3. Assess positive components of the diet, such as fruit and vegetables, fish, and grains.
- 4. Assess portion sizes – although the quality of food is critical, quantity can sometimes be an issue as well. Compare portion sizes with parents and other family members.
- 5. Ask what the child eats during school time.
- 6. Ask what the adolescent eats when is out of home.



Dietary assessment in children and adolescents: issues and recommendations,

Carmen Perez Rodrigo
et al ,Nutr.Hosp.2015,3,76-
83

Table I Issues to consider in the assessment of dietary intakes of children and adolescents	
Cognitive Ability	Lower literacy skills
	Limited attention span
	Limited concept of time
	Limited memory – subconscious memory lapses across all or selected dietary items such as snacks
	Limited knowledge of food, food preparation, measurement
	Lack of familiarity with components of mixed dishes and added ingredients
	Portion size estimation
	Frequency of consumption estimation
Surrogate reporting	Parents
	Caregivers
	Combination
Social desirability	Under reporting – Over reporting
	Weight status of the child
	Weight status of the parents
Dietary Habits	Variable food habits - more structured in childhood than in adolescence
	More in-home eating (childhood)
	More out-of-home eating (adolescence)
	Parental influence important in childhood
	Peer influence important in adolescence
Other considerations	Body image concerns and dieting behaviours
	Lack of co-operation and motivation (adolescence)
	A conscious/subconscious need for social approval



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Καλωσήρθες

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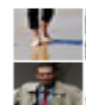
✓ Ερωτηματολόγιο Μεσογειακής Διατροφής (28/01/15)

✓ Επεξεργασμένα Τρόφιμα (28/01/15)

➤ Καθιστική Ζωή (28/01/15)

➤ Ερωτηματολόγιο Μεσογειακής Διατροφής (30/01/15)

➤ Photo αγαπημένου φαγητού (07/02/15)



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KIDMED

Ερωτηματολόγιο για την αξιολόγηση της ποιότητας της διαίτας σύμφωνα με τις αρχές της Μεσογειακής διατροφής

Παρακαλώ συμπληρώστε τα παρακάτω στοιχεία:

1. Καταναλώνεις ένα φρούτο ή χυμό φρούτων κάθε ημέρα;

☐ Ναι ☐ Όχι

2. Καταναλώνεις ένα δεύτερο φρούτο κάθε ημέρα;

☐ Ναι ☐ Όχι

3. Καταναλώνεις λαχανικά μία φορά την ημέρα;

☐ Ναι ☐ Όχι

4. Καταναλώνεις λαχανικά περισσότερο από μία φορά την ημέρα;

☐ Ναι ☐ Όχι

5. Καταναλώνεις ψάρι τακτικά (τουλάχιστον 2-3 φορές / εβδομάδα);

☐ Ναι ☐ Όχι

RECOMMENDATIONS FOR THE FAMILY



EU ACTION PLAN ON CHILDHOOD OBESITY-2014

- The **High Level Group on Nutrition and Physical Activity** and the **EU Platform for Action on Diet, Physical Activity and Health** are the primary instruments set up for the implementation of the Strategy .
- The overarching goal of the **Action Plan on Childhood Obesity** is to contribute to halting the rise in overweight and obesity in children and young people (0-18 years) by 2020.

KEY AREAS OF ACTION

- **Support a healthy start in life;**
- **Promote healthier environments, especially in schools;**
- **Make the healthy option the easier option;**
- **Restrict marketing and advertising to children;**
- **Inform and empower families;**
- **Encourage children to be more physically active;**
- **Monitor and evaluate;**
- **Increase research.**

INFORM AND EMPOWER FAMILIES

- A family approach is likely to be essential, considering the need for **promoting family meals** (around a schedule and table) and generally for **paying closer attention to the children's diet and for planning regular active leisure activities**.
- Family-based programmes should be promoted and encouraged.

EU Action plan, 2014

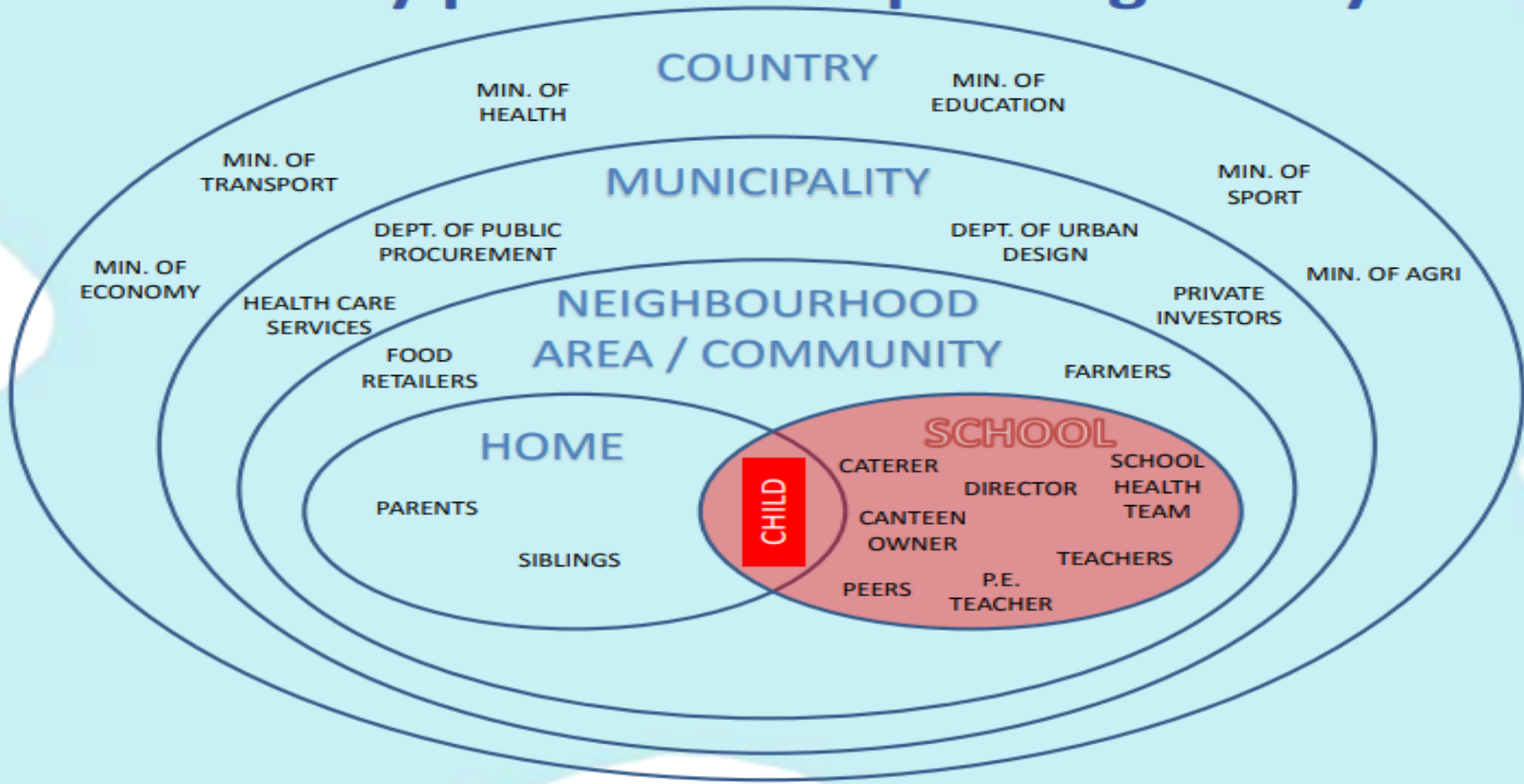




JANPA in BRIEF

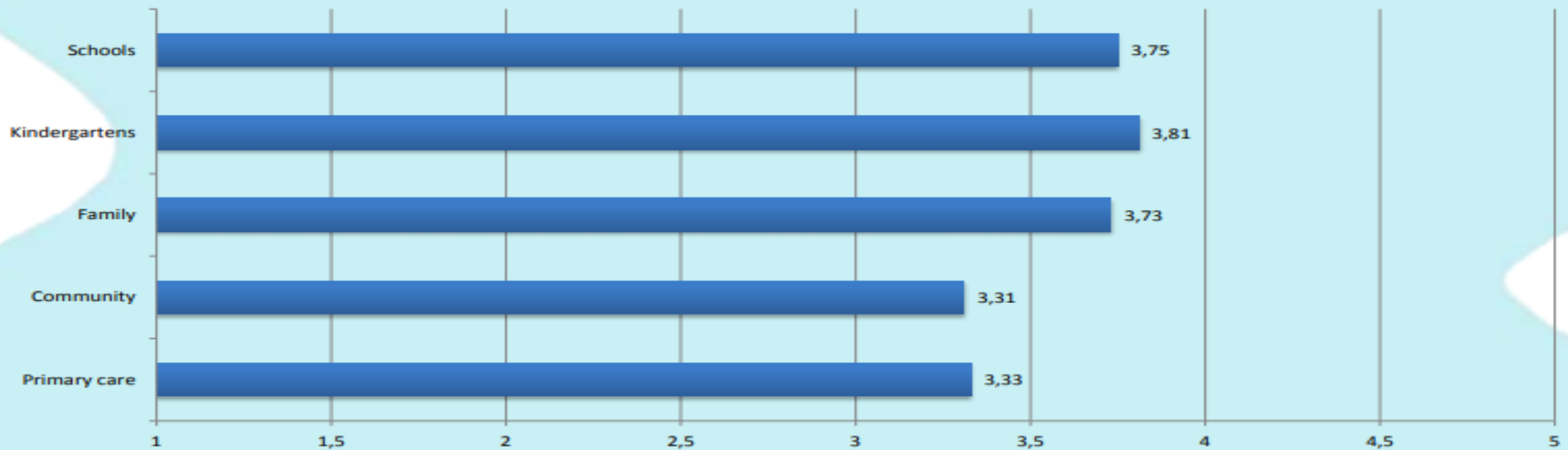
***European Joint Action
to contribute to halting the rise
of overweight and obesity in children***

Multi-actor and multi-sector system with several entry points for improving lifestyle



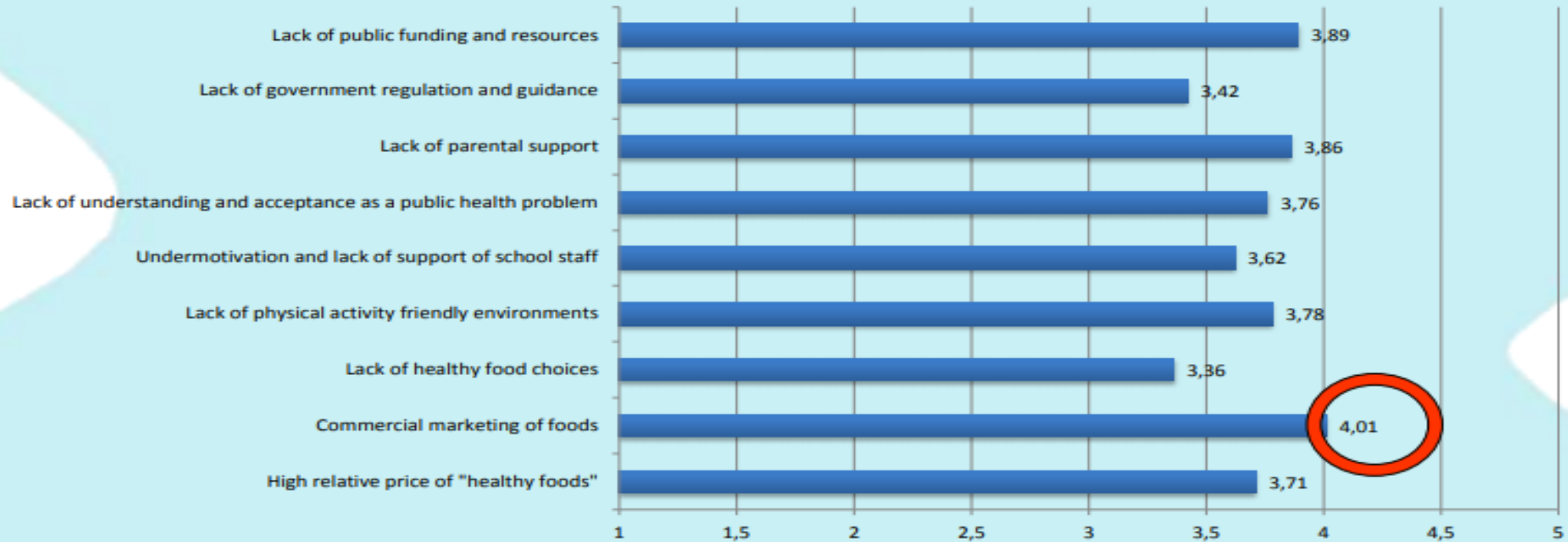
Web-based survey result: **Settings** being relevant for childhood obesity prevention

In my country ____ is/are a promising setting for effective childhood obesity prevention
(1= strongly disagree, 5= strongly agree)



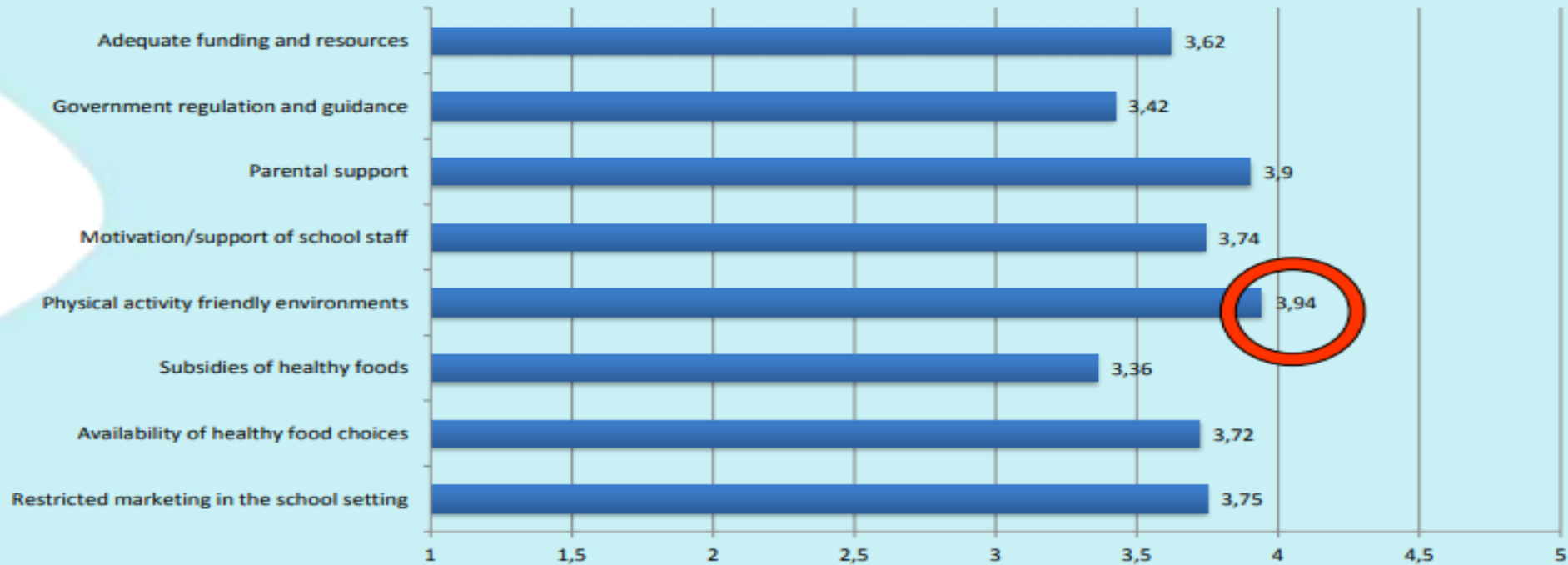
Web-based survey result: Perceived barriers for **childhood obesity prevention**

The ____ is a barrier for childhood obesity prevention in my country
(1=strongly disagree, 5=strongly agree)



Web-based survey result: Perceived facilitators for childhood obesity prevention

The ____ is a facilitator for childhood obesity prevention in my country
(1=strongly disagree, 5=strongly agree)





SYSTEMATIC REVIEW

Open Access

School based interventions versus family based interventions in the treatment of childhood obesity- a systematic review

Saravana Kumar Kothandan

Results: The review identified 1231 articles of which 13 met the criteria. Out of the thirteen studies, eight were family-based interventions ($n = 8$) and five were school-based interventions ($n = 5$) with total participants ($n = 2067$). The participants were aged between 6 and 17 with the study duration ranging between one month and three years. Family-based interventions demonstrated effectiveness for children under the age of twelve and school-based intervention was most effective for those aged between 12 and 17 with differences for both long-term and short-term results.

Conclusions: The evidence shows that family- and school-based interventions have a considerable effect on treating childhood obesity. However, the effectiveness of the interventional frameworks depends on factors such as age, short- or long-term outcome, and methodological quality of the trials. Further research studies are required to determine the effectiveness of family- and school-based interventions using primary outcomes such as weight, BMI, percentage overweight and waist circumference in addition to the aforementioned factors.

Clinic and Home-Based Behavioral Intervention for Obesity in Preschoolers: A Randomized Trial

Lori J. Stark, PhD¹, Stephanie Spear Filigno, PhD¹, Christopher Bolling, MD², Megan B. Ratcliff, PhD, MPH³, Jessica C. Kichler, PhD¹, Shannon M. Robson, PhD, MPH, RD⁴, Stacey L. Simon, PhD⁵, Mary Beth McCullough, PhD⁶, Lisa M. Clifford, PhD⁷, Cathleen Odar Stough, PhD⁸, Cynthia Zion, BS¹, and Richard F. Ittenbach, PhD⁹

Objective To test the hypotheses that an innovative skills-based behavioral family clinic and home-based intervention (LAUNCH) would reduce body mass index z score (BMIz) compared with motivational interviewing and to standard care in preschool-aged children with obesity.

Study design Randomized controlled trial with children between the ages of 2 and 5 years above the 95th percentile for body mass index for age and sex recruited from 27 pediatrician offices across 10 recruitment cycles between March 12, 2012 and June 8, 2015. Children were randomized to LAUNCH (an 18-session clinic and home-based behavioral intervention), motivational interviewing (delivered at the same frequency as LAUNCH), or standard care (no formal intervention). Weight and height were measured by assessors blinded to participant assignment. The primary outcome, BMIz at month 6 after adjusting for baseline BMIz, was tested separately comparing LAUNCH with motivational interviewing and LAUNCH with standard care using regression-based analysis of covariance models.

Results A total of 151 of the 167 children randomized met intent-to-treat criteria and 92% completed the study. Children were 76% White and 57% female, with an average age of 55 months and BMI percentile of 98.57, with no demographic differences between the groups. LAUNCH participants demonstrated a significantly greater decrease in BMIz (mean = -0.32, SD = ±0.33) compared with motivational interviewing (mean = -0.05, SD = ±0.27), $P < .001$, $\omega^2 = 0.74$ and compared with standard care (mean = -0.13, SD = ±0.31), $P < .004$, $\omega^2 = 0.75$.

Conclusions In preschool-age children, an intensive 6-month behavioral skills-based intervention is necessary to reduce obesity. (*J Pediatr* 2018;192:115-21).

Trial Registration [Clinicaltrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT01546727) NCT01546727.

Parent-only interventions for childhood overweight or obesity in children aged 5 to 11 years (Review)

Loveman E, Al-Khudairy L, Johnson RE, Robertson W, Colquitt JL, Mead EL, Ells LJ, Metzendorf MI, Rees K



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Cochrane Database of Systematic Reviews

Authors' conclusions

Parent-only interventions may be an effective treatment option for overweight or obese children aged 5 to 11 years when compared with waiting list controls. Parent-only interventions had similar effects compared with parent-child interventions and compared with those with minimal contact controls. However, the evidence is at present limited; some of the trials had a high risk of bias with loss to follow-up being a particular issue and there was a lack of evidence for several important outcomes. The systematic review has identified 10 ongoing trials that have a parent-only arm, which will contribute to future updates. These trials will improve the robustness of the analyses by type of comparator, and may permit subgroup analysis by intervention component and the setting. Trial reports should provide adequate details about the interventions to be replicated by others. There is a need to conduct and report cost-effectiveness analyses in future trials in order to establish whether parent-only interventions are more cost-effective than parent-child interventions.

Citation: Loveman E, Al-Khudairy L, Johnson RE, Robertson W, Colquitt JL, Mead EL, Ells LJ, Metzendorf MI, Rees K. Parent-only interventions for childhood overweight or obesity in children aged 5 to 11 years. *Cochrane Database of Systematic Reviews* 2015, Issue 12. Art. No.: CD012008. DOI: 10.1002/14651858.CD012008.

Intervention for childhood obesity based on parents only or parents and child compared with follow-up alone

2018

pediatricobesity

M. Yackobovitch-Gavan^{1,2}, D. Wolf Linhard^{1,2}, N. Nagelberg¹, I. Poraz³, S. Shalitin^{1,2}, M. Phillip^{1,2} and J. Meyerovitch^{1,2,4}

Objectives: The study aims to assess the effects of family-based interventions targeted to parents only or to parents-and-child for the prevention and treatment of childhood obesity.

Method: An open-label randomized study was conducted in 247 children (166 girls, 5–11 years) with body mass index (BMI) in the 85–98th percentile. Participants were allocated to three groups: parents-only ($n = 89$), parents-and-child ($n = 84$) and follow-up alone ($n = 74$). The intervention consisted of 12 once-weekly meetings with a dietician and psychologist. All children were followed for 2 years. Changes in anthropometric, clinical and lifestyle outcomes were assessed.

Results: The 3-month intervention was completed by 58 (65.2%) in the parents-only, 61 (72.6%) in the parents-child and 49 (66.2%) in the control group ($P = .554$). BMI-standard deviation score (SDS) decreased from baseline to 3 months in both intervention groups (parents-only: from 1.74 ± 0.31 to 1.66 ± 0.36 , $P < .001$; parents-child, 1.83 ± 0.33 to 1.76 ± 0.36 , $P = .012$), with no significant change in the controls (1.73 ± 0.32 to 1.70 ± 0.31 , $P = .301$). The 2-year follow-up was completed by 45 in each of the intervention groups (50.5% and 53.5%, respectively) and 37 controls (50%) ($P = .896$). Compared with baseline, only the parents-child group showed a significant decrease in BMI-SDS (1.56 ± 0.46 , $P = .006$). The rate of children who met the criteria for metabolic syndrome tended to drop from 6.0% at baseline (14/232) to 1.5% at 3 months (12/137) ($P = .109$), with no significant between-group differences in the rate of metabolic syndrome at baseline or at completion of the intervention.

Conclusions: An intervention programme that focuses on both parents and children was found to have positive short-term and long-term effects on BMI-SDS.

DIETARY PATTERNS OF EUROPEAN CHILDREN AND THEIR PARENTS IN ASSOCIATION WITH FAMILY FOOD ENVIRONMENT: RESULTS FROM THE I.FAMILY STUDY

- The aim of this study was to determine whether an association exists between children's and parental dietary patterns (DP), and whether the number of shared meals or soft drink availability during meals strengthens this association. In 2013/2014 the I.Family study cross-sectionally assessed the dietary intakes of families from eight European countries using 24-h dietary recalls. Usual energy and food intakes from six- to 16-year-old children and their parents were estimated based on the NCI Method. A total of 1662 child–mother and 789 child–father dyads were included; DP were derived using cluster analysis. We investigated the association between children's and parental DP and whether the number of shared meals or soft drink availability moderated this association using mixed effects logistic regression models. Three DP comparable in children and parents were obtained: Sweet & Fat, Refined Cereals, and Animal Products. Children were more likely to be allocated to the Sweet & Fat DP when their fathers were allocated to the Sweet & Fat DP and when they shared at least one meal per day (OR 3.18; 95% CI 1.84; 5.47). Being allocated to the Sweet & Fat DP increased when the mother or the father was allocated to the Sweet & Fat DP and when soft drinks were available (OR 2.78; 95% CI 1.80; 4.28 or OR 4.26; 95% CI 2.16; 8.41, respectively). Availability of soft drinks and negative parental role modeling are important predictors of children's dietary patterns.
- [Antje Hebestreit](#) et al. [Nutrients](#). 2017 Feb; 9(2): 126.

- PRACTICAL RECOMMENDATIONS FOR
THE FAMILY OF THE OBESE CHILD

- EASO COTF

CAUSES OF WEIGHT PROBLEMS IN CHILDREN MAY INCLUDE

- Busy families cooking at home less and eating out more.
- Easy access to cheap, high-calorie fast food and junk food.
- Bigger food portions, both in restaurants and at home.
- Kids consuming huge amounts of sugar in sweetened drinks and hidden in an array of foods.

LEADING BY EXAMPLE

If your children see you eating your vegetables, being active, and limiting your TV time, there's a good chance that they will do the same.

- **What you eat:** Tell your child about the healthy food you are eating, while you are eating it. You might say, "I'm eating broccoli with olive oil. Want a bite?"
- **When you cook:** Cook healthily in front of your children. Better yet, give them an age-appropriate job in the kitchen. Tell them about what you are making and why it's good for your body.



MAKE HEALTHIER FOOD CHOICES

- **Focus on overall diet rather than specific foods.** Kids should be eating more whole, minimally processed food—food that is as close to its natural form as possible—and less packaged and processed food.
- **Look for hidden sugar.** Reducing the amount of candy and desserts you and your child eat is only part of the battle. Sugar is also hidden in foods as diverse as bread, canned soups, pasta sauce, instant mashed potatoes, frozen dinners, low-fat meals, fast food, and ketchup. The body gets all it needs from sugar naturally occurring in food—so anything added amounts to nothing but a lot of empty calories. Check labels and opt for low sugar products and use fresh or frozen ingredients instead of canned goods.



MAKE HEALTHIER FOOD CHOICES

- **Get kids involved** in shopping for groceries and preparing meals. You can teach them about different foods and how to read food labels.
- **Make healthy snacks available.** Keep plenty of fruit, vegetables, and healthy beverages (water, milk, pure fruit juice) on hand so kids avoid unhealthy snacks like soda, chips, and cookies.
- **Limit portion sizes.** Don't insist your child cleans the plate, and never use food as a reward or bribe.

DON'T GO NO FAT, GO GOOD FAT

Not all fats contribute to weight gain. So instead of trying to cut out fat from your child's diet, focus on replacing unhealthy fats with healthy fats.

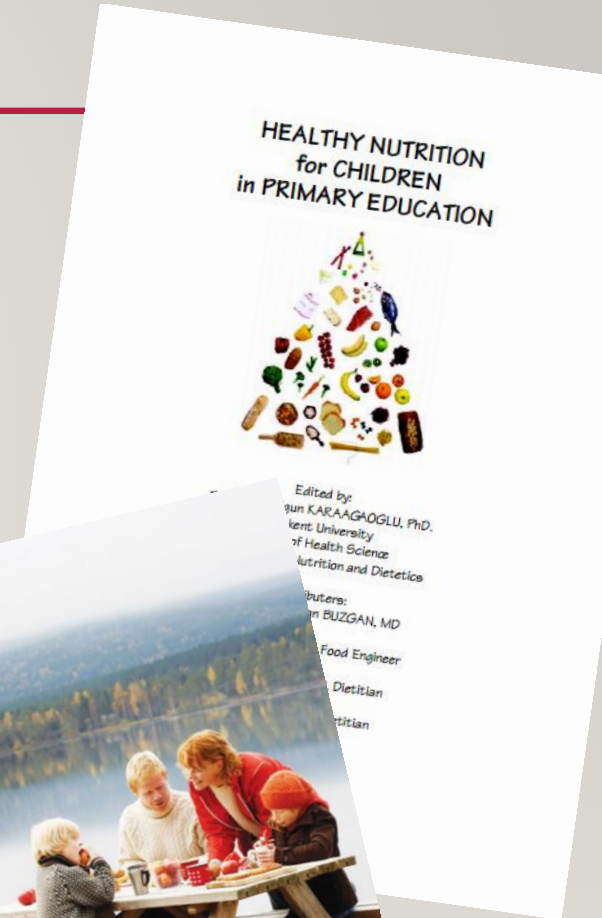
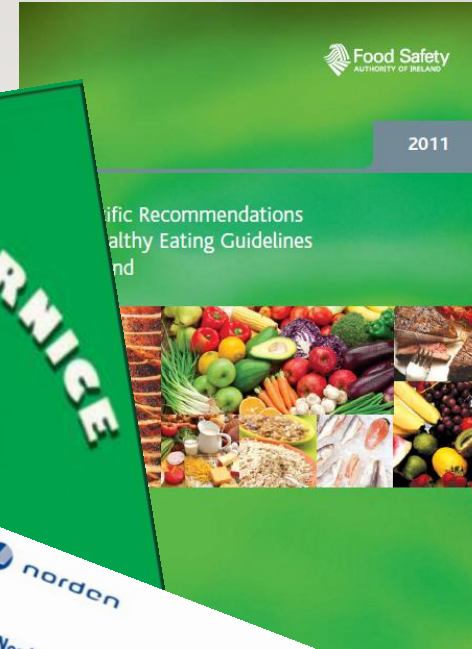
Avoid trans fat

Add more healthy fats

Choose saturated fats wisely



EXAMPLES OF DIETARY RECOMMENDATIONS FOR CHILDREN IN EUROPE





Thank you ...

