

COSI- WHO European Childhood Obesity Surveillance Initiative

2008-2016

Ana Rito

Principal Investigator

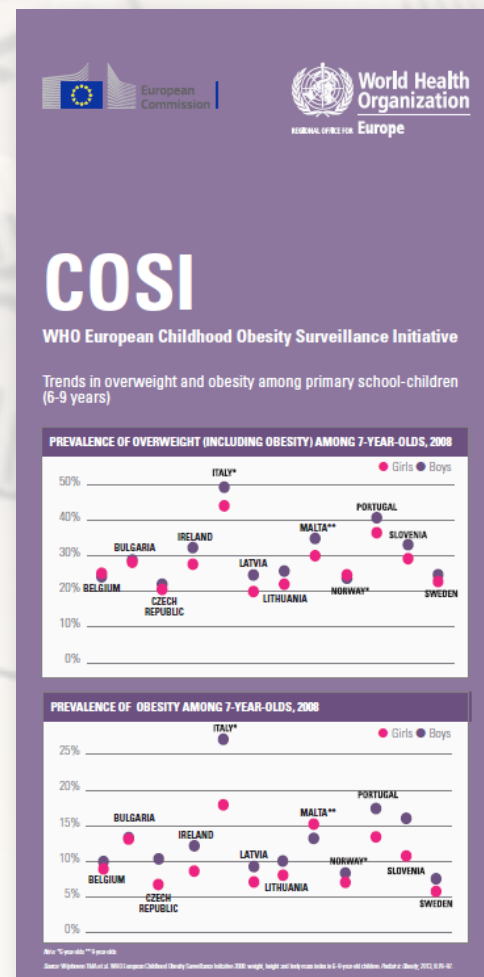
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National Institute of Health Dr. Ricardo Jorge

Establishing the Childhood Obesity Surveillance initiative – COSI/ WHO Europe

2005

- Only 13 (25%) of 53 WHO member states had nationally representative and validated data on obesity in children aged 6-10 years.
- Several limitations in comparing data between countries:
 - different sample sizes, different methodological approaches; different response rates across age groups, different definitions of overweight and obesity
- Lack of trend data
- Huge variation within and between member states in data collection and analysis

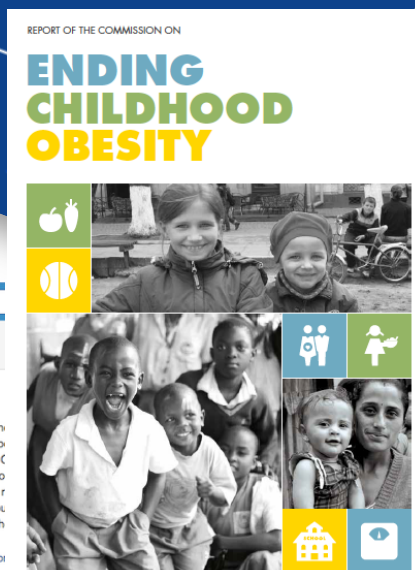




WHO European Ministerial Conference on Counteracting Obesity
Diet and physical activity for health
 Istanbul, Turkey, 15-17 November 2006



*COSI- Childhood Obesity Surveillance Initiative- was set up as a response to the **WHO European Ministerial Conference on Counteracting Obesity.** (Istanbul, Turkey, 15-17 November 2006).*





WHO European Ministerial Conference on Counteracting Obesity

Diet and physical activity for health

Istanbul, Turkey, 15-17 November 2006



2.1. The obesity epidemic is reversible

2.2 - Curbing the epidemic and reversing the trend is the ultimate goal of action in the Region

- Visible progress in children in the next 4-5 years;
- Contribute to the reversion of the epidemic growth until 2015



WHO Europe COSI - Aims and objectives

- ❖ To implement a harmonized nutritional surveillance system across the WHO European Region - collection, analysis, interpretation and dissemination of descriptive information for monitoring excess body weight
- ❖ To measure trends in overweight and obesity in primary school children - to fill the current gap in available cross national comparable data on primary-school children aged 6-9 year-olds & to have a correct understanding of the progress of the epidemic
- ❖ To stimulate and monitor the policy response to the emerging obesity epidemic

2007 - Portugal

2007/2008 (13)

Belgium
(Flemish
Region)
Bulgaria
Cyprus
Czech Republic
Ireland
Italy
Latvia
Lithuania
Malta
Norway
Portugal
Slovenia
Sweden



8th Meeting 2015
Dubrovnik

7th Meeting 2014
Athens



9th Meeting 2016
St Petersburg



WHO Europe COSI – 2008/2016

2007/2008

Belgium (Flemish Region)
Bulgaria
Cyprus
Czech Republic
Ireland
Italy
Latvia
Lithuania
Malta
Norway
Portugal
Slovenia
Sweden.

13

School year
2007/2008

2009/2010

Greece
Hungary
Spain
FYR Macedonia

17

School year
2009/2010

2012/2013

Albania
Republic of Moldova
Romania
Turkey
San Marino
-(Hungary/Sweden/Cyprus)

School year
2012/2013

19

School year
2015/2016

36

4th ROUND: Denmark, Austria, Estonia, Tajikistan , Montenegro
Poland, Croatia, Kazakhstan, San Marino, Russian Federation, Serbia Hungary, Sweden,
Cyprus , Slovakia, Turkmenistan, Ukraine

Process COSI Rounds

- School year 2007/2008
- School year 2009/2010
- School year 2012/2013
- School year 2015/2016

International Meetings
Surveillance Initiatives
(discussion of protocol)

1-2 semester
prior to scholar
year

National Meetings
Surveillance Initiatives
(planning procedures)

October
December

Training
Planning procedures with
Schools

Jan - April

Data Collection
4-10 weeks

May-June -
Dec

Data processing
and analysis

Jan- Dec

Data reporting
Prevalence -Trends

follow year
(Jan-dec)

Year 2

Year 3

Year 1



COSI PORTUGAL

COORDINATING MEETINGS

Guides, Manuals and Protocols

Several Coordinating
Meetings with RCC

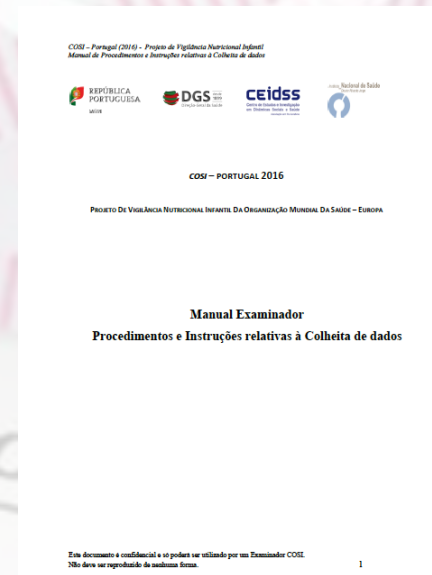
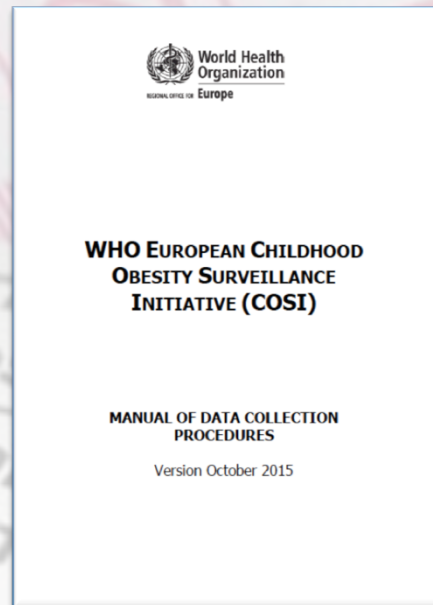
COSI Protocol discussion

Regional Coordinators (RC)
Manual

Chronogram with specific
tasks

ETHICAL CONSIDERATIONS

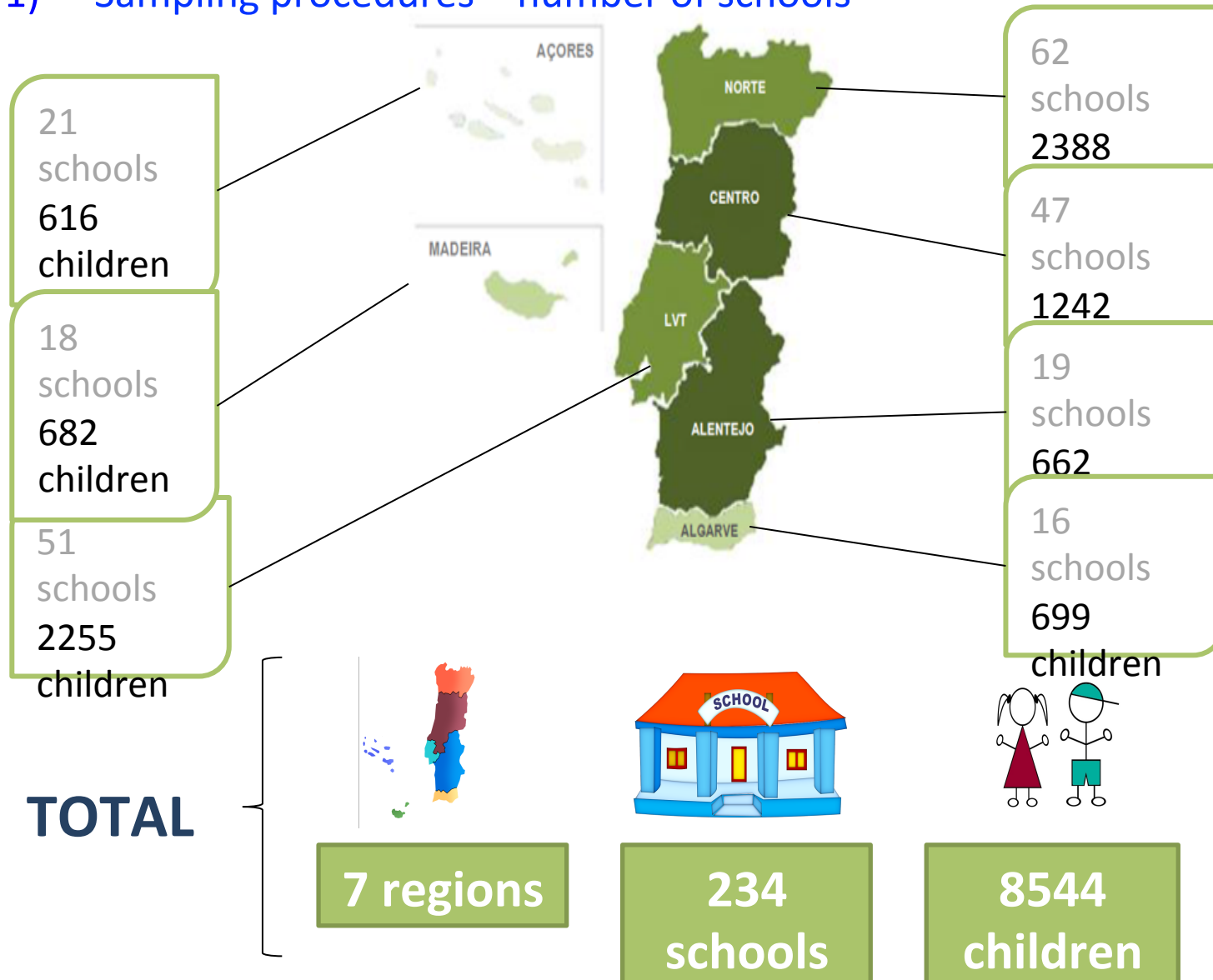
MANUAL DATA COLLECTION PROCEDURES



National/Regional Coordinator Tasks

COSI Portugal 2016 – **NEW** Sample
(ITALY support)

1) Sampling procedures – number of schools



Collection Procedures - Standardized



WHO EUROPEAN CHILDHOOD OBESITY SURVEILLANCE INITIATIVE (COSI)

MANUAL OF DATA COLLECTION PROCEDURES

Version October 2012

Measurement instruments	Same instruments across a country in accordance with the requirements
Calibration	Calibrated anthropometric instruments
Training-standardization	All examiners trained and standardized



→ www.insa.pt

_Ana Rito _João Breda _Isabel do Carmo (Coordenadores)

_Guia de Avaliação do Estado Nutricional Infantil e Juvenil

COSI FORMS

School (Sc): School environment – minutes/week of Physical Activity (PA). Sc projects initiatives. Sc Playgrounds. Sc Safety. Food and Beverages available in Sc premises. (Vending machines, cafeterias, canteens). Advertising/marketing HENP



CHILD: Anthropometric measurements

FAMILY: Socio economic characteristics of the families inc child's lifestyle characteristics (food consumption and PA)

WHO European Childhood Obesity Surveillance Initiative 2008: weight, height and body mass index in 6–9-year-old children

T. M. A. Wijnhoven¹, J. M. A. van Raaij^{2,3}, A. Spinelli⁴, A. I. Rito⁵, R. Hovengen⁶, M. Kunesova⁷, G. Starc⁸, H. Rutter^{9*}, A. Sjöberg^{10,11}, A. Petrauskiene¹², U. O'Dwyer¹³, S. Petrova¹⁴, V. Farrugia Sant'Angelo¹⁵, M. Wauters¹⁶, A. Yngve^{17†}, I.-M. Rubana^{†‡} and J. Breda¹

¹Noncommunicable Diseases and Health Promotion, World Health Organization Regional Office for Europe, Copenhagen Ø, Denmark; ²Centre for Nutrition and Health, National Institute for Public Health and the Environment, Bilthoven, the Netherlands; ³Division of Human Nutrition, Wageningen University, Wageningen, the Netherlands; ⁴National Centre for Epidemiology, Surveillance and Health Promotion, National Institute of Health, Rome, Italy; ⁵Food and Nutrition Department, National Institute of Health Dr. Ricardo Jorge IP, Lisbon, Portugal; ⁶Department of Health Statistics, National Institute of Public Health, Oslo, Norway; ⁷Obesity Unit, Institute of Endocrinology, Prague, Czech Republic; ⁸Faculty of Sport, University of Ljubljana, Ljubljana, Slovenia; ⁹National Obesity Observatory, Oxford, UK; ¹⁰Department of Public Health and Community Medicine, Public Health Epidemiology Unit, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden; ¹¹Department of Food and Nutrition, and Sport Science, University of Gothenburg, Gothenburg, Sweden; ¹²Academy of Medicine, Faculty of Public Health, Lithuanian University of Health Sciences, Kaunas, Lithuania; ¹³Department of Health and Children, Dublin, Ireland; ¹⁴Department of Food and Nutrition, National Institute for Public Health, Brussels, Belgium; ¹⁵Public Health Department, Florida, Malta; ¹⁶Flemish Agency for Food Safety and Food Quality, Melle, Belgium; ¹⁷Department of Health, Riga, Latvia

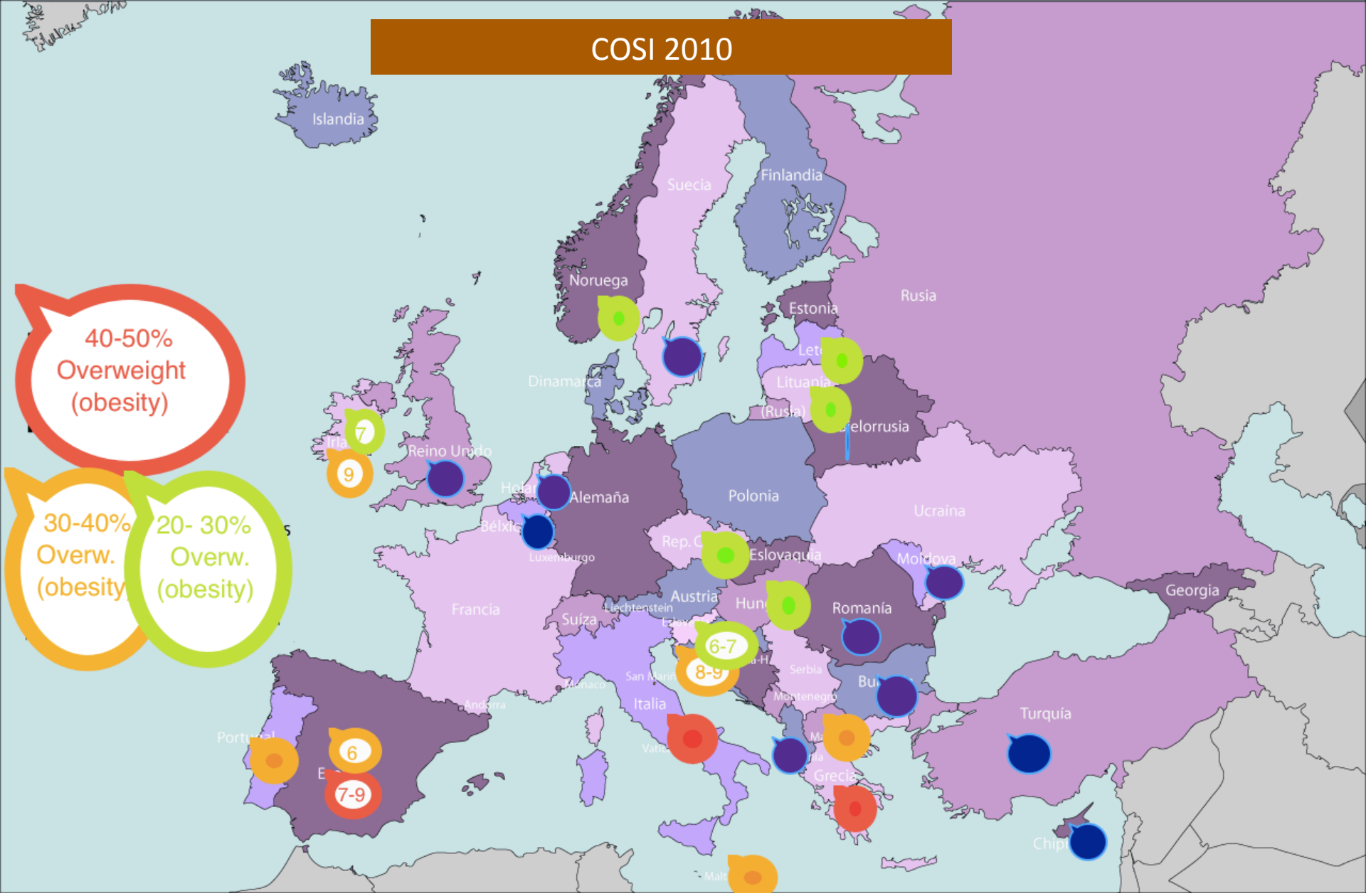
COSI 2008

The prevalence of **overweight (including obesity)** ranged from **19% to 49 % among boys** and **18% to 43% among girls**

The prevalence of **obesity** ranged from **6% to 27% among boys** and from **5% to 17% among girls** (based on the 2007 WHO growth reference)

Multi-country comparisons suggested the presence of a north-south gradient with the highest level of overweight found in southern European countries.

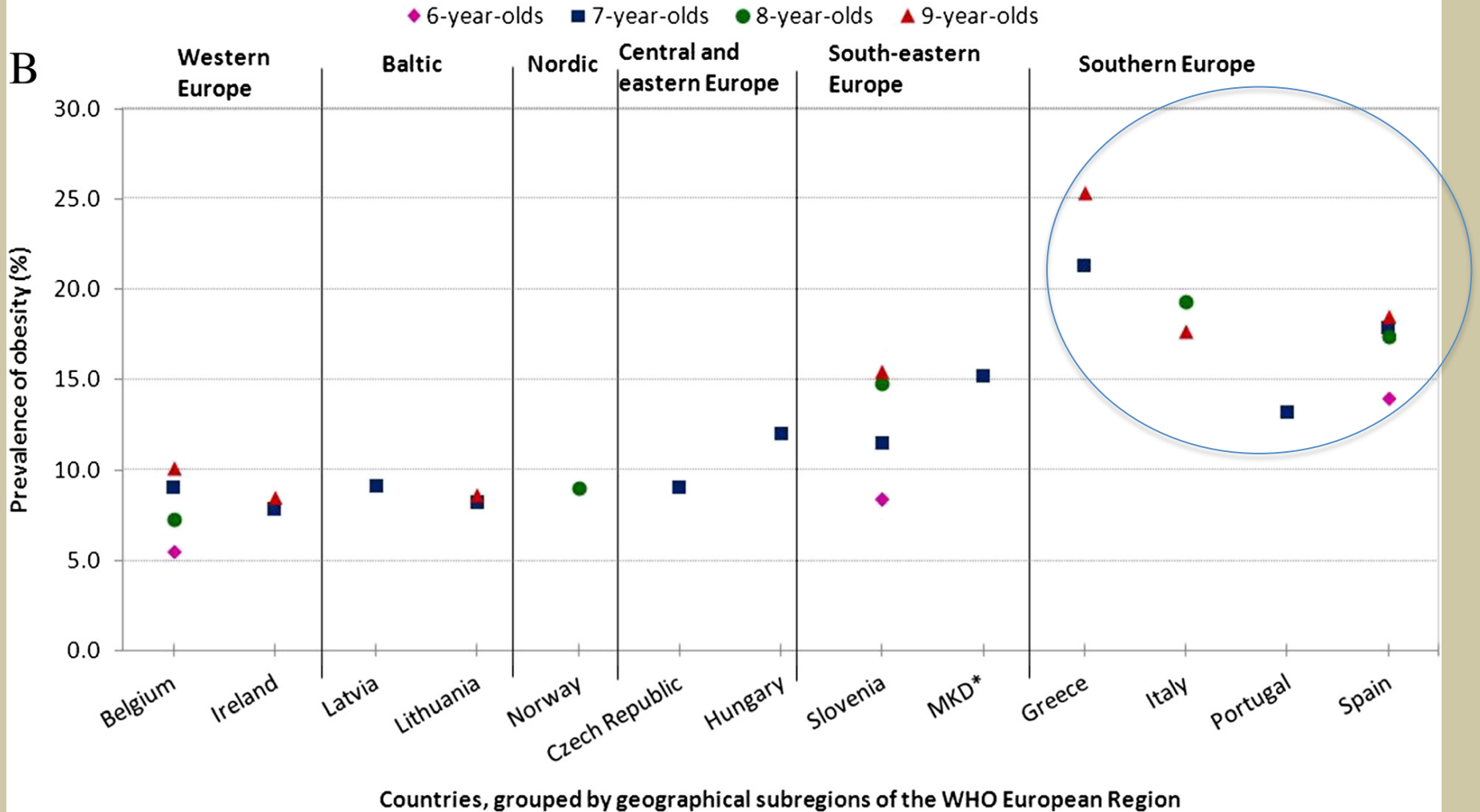
COSI 2010



Prevalence of overweight - COSI Round 2009/2010, based on WHO definitions

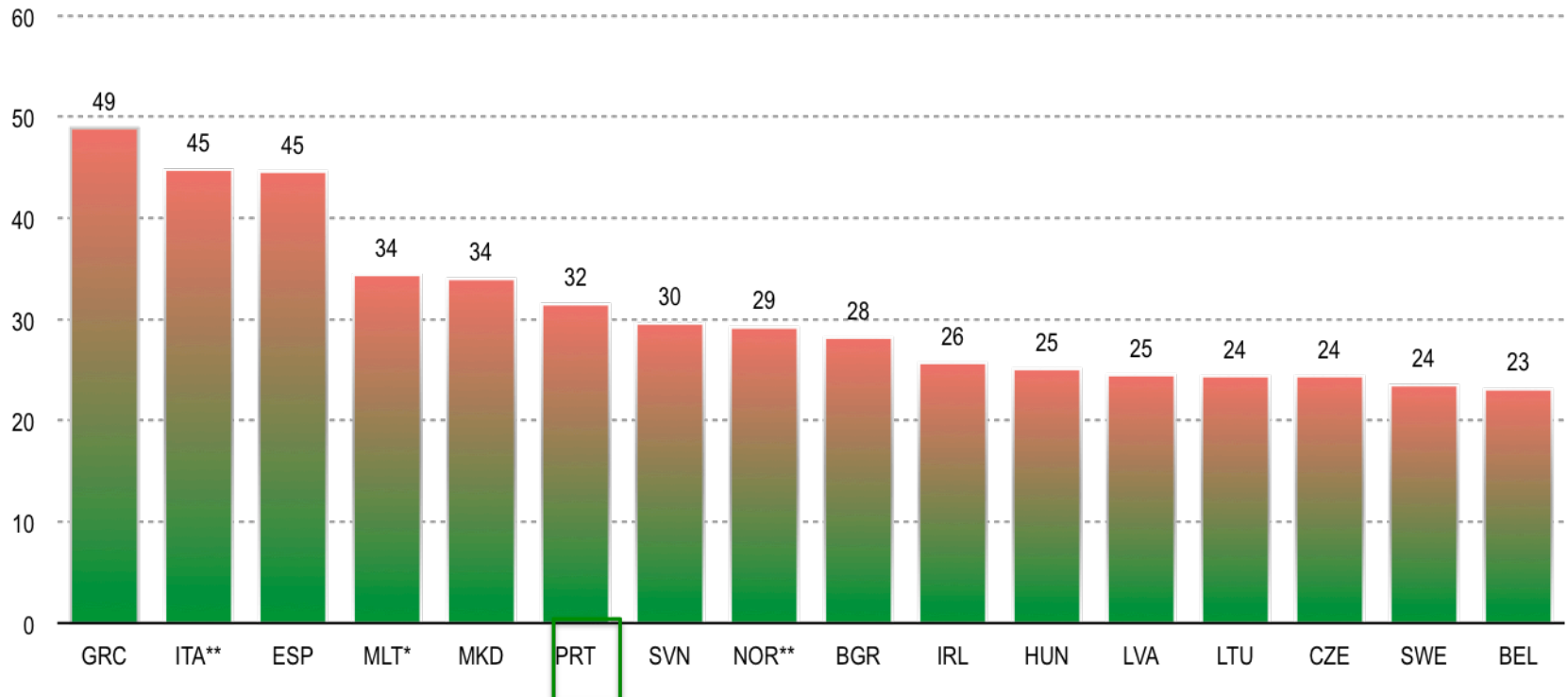
COSI 2010

B



Wijnhoven et al., BMC Public Health, 14, 806, 2014

Prevalence of Overweight (including obesity) in Boys -7 year *COSI/WHO Europe 2010*



RESEARCH ARTICLE

Open Access

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

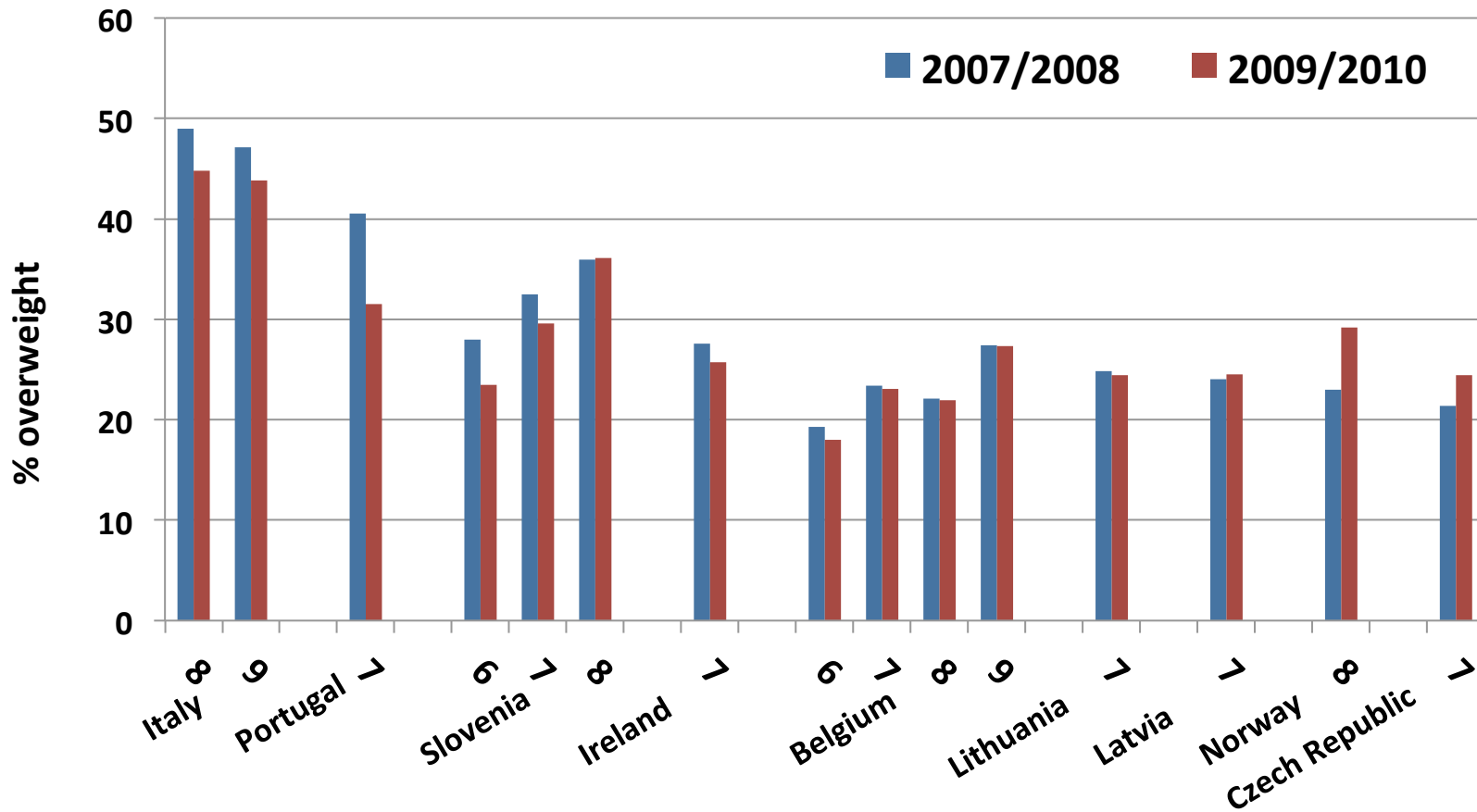
Trudy MA Wijnhoven^{1*}, Joop MA van Raaij^{2,3}, Angela Spinelli⁴, Gregor Starc⁵, Maria Hassapidou⁶, Igor Spiroski⁷, Harry Rutter⁸, Éva Martos⁹, Ana I Rito¹⁰, Ragnhild Hovengen¹¹, Napoleón Pérez-Farínós¹², Ausra Petrauskiene¹³, Nazih Eldin^{14,15}, Lien Braeckevelt¹⁶, Iveta Pudule¹⁷, Marie Kunešová¹⁸ and João Breda¹

COSI 2008 & COSI 2010

Countries with higher prevalence of overweight in round 1 (e.g. **Italy and Portugal**) **showed a decrease in prevalence from round 1 to round 2** (but still had among the highest estimates in round 2),

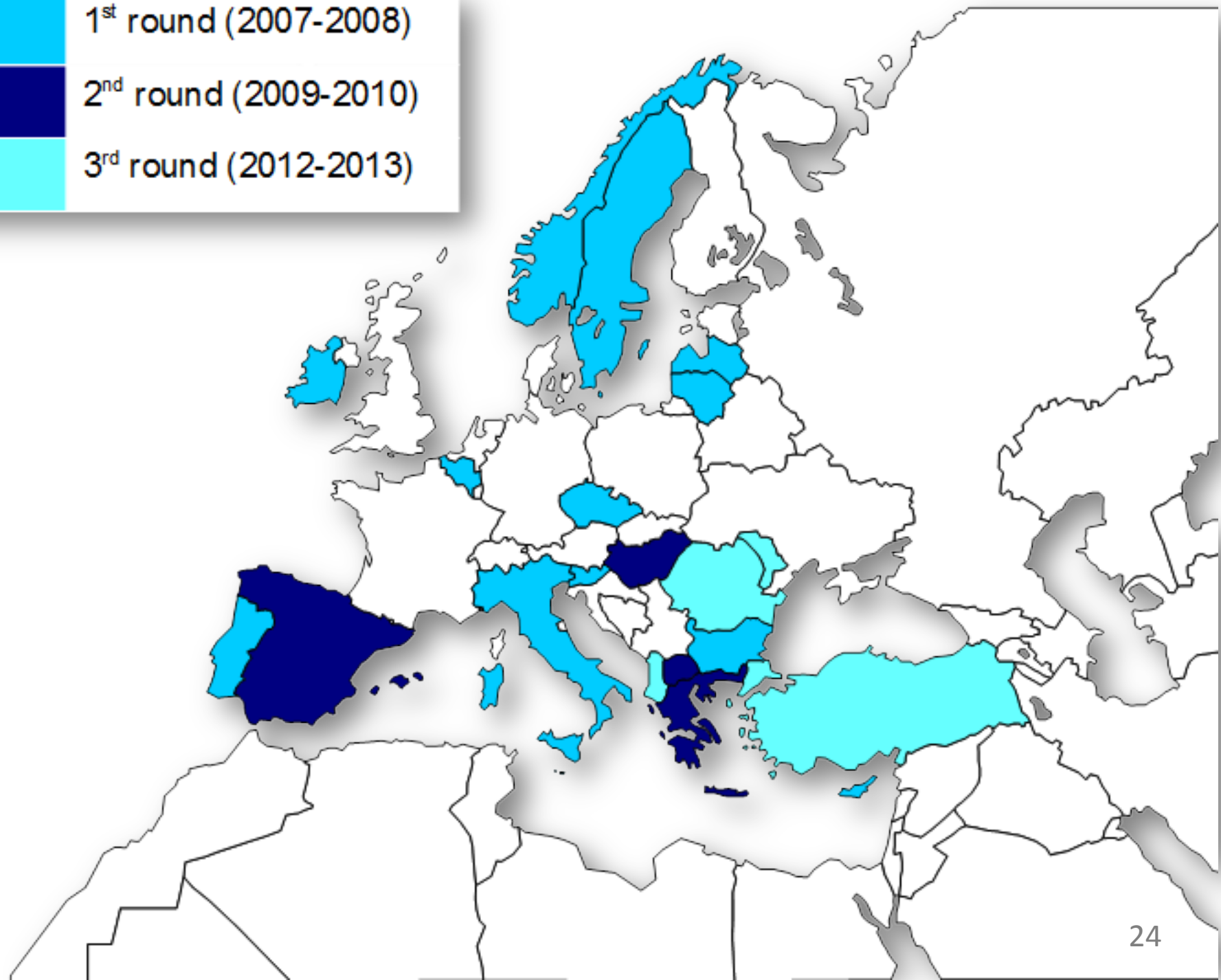
Countries with lower prevalence in round 1 (e.g. **Latvia and Norway**) **showed an increase in prevalence** (but still had a lower estimate than the countries that showed the highest decrease from round 1 to round 2).

Prevalence of overweight among boys in COSI round 1 and 2



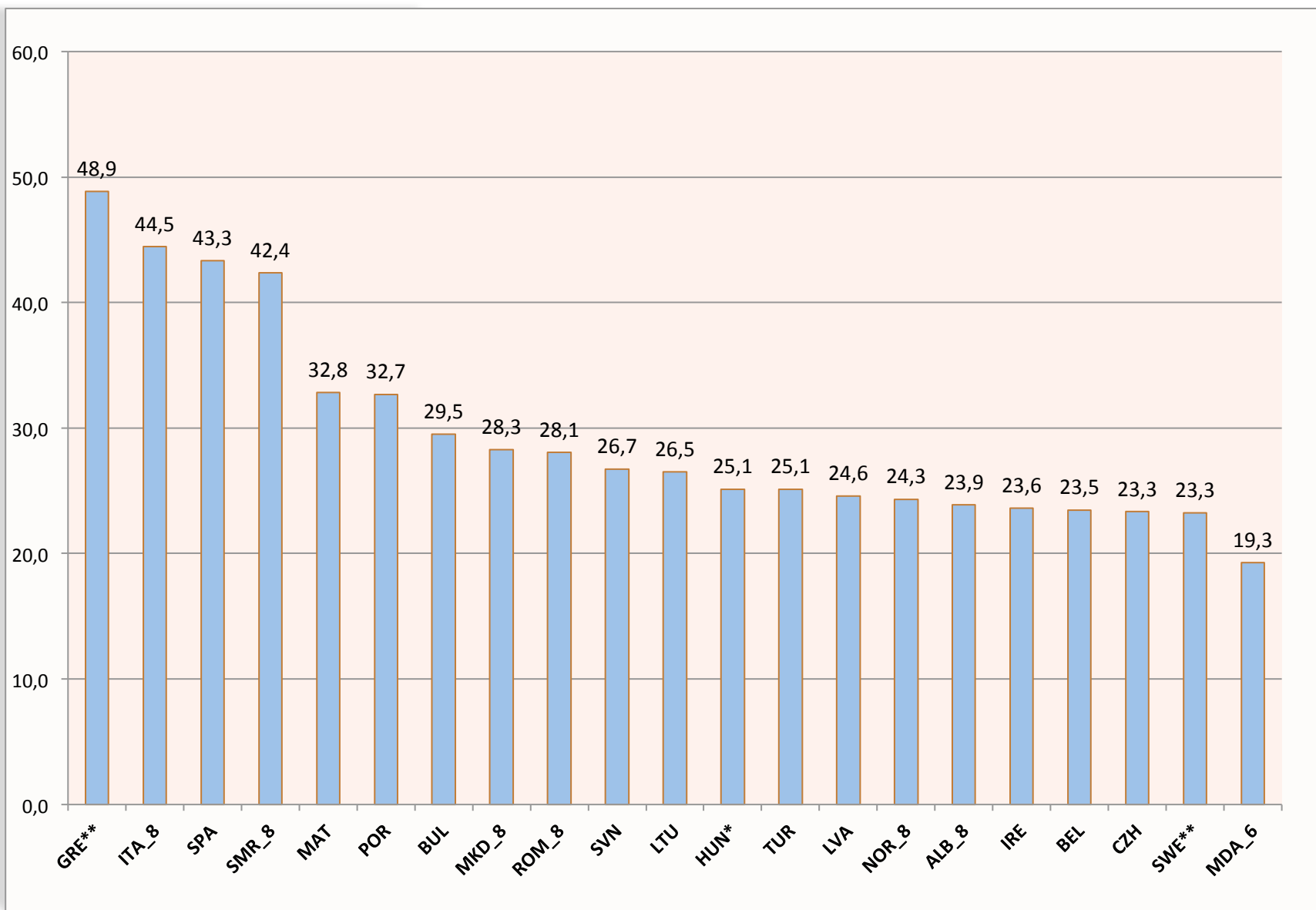
Absolute change in prevalence of overweight (including obesity) and obesity in boys and girls aged 6–9 years from COSI Round 1 (2007/2008) to COSI Round 2 (2009/2010), by age and country

Age group and country [‡]	Overweight (including obesity) (%) [#]		Obesity (%) [#]	
	Boys	Girls	Boys	Girls
6-year-olds				
BEL	- 1.3 ^{ooo}	- 0.2	- 0.2	+ 0.1
SVN	- 4.6 ^{oo}	- 1.9	- 1.6	- 1.6
7-year-olds				
BEL	- 0.4	- 0.1	+ 0.4	+ 0.5
CZE	+ 2.9	+ 3.5	+ 1.0	+ 1.5
IRL	- 1.9	- 1.0	- 0.1	- 2.9
LVA	+ 0.4	+ 3.2 ^o	+ 2.1 ^o	+ 2.9 ^{ooo}
LTU	- 0.4	0	+ 0.1	- 0.1
PRT	- 9.0 ^{oooo}	+ 0.7	- 2.5	- 0.4
SVN	- 3.0 ^o	- 3.2 ^o	- 2.1 ^o	- 0.4
8-year-olds				
BEL	- 0.2	- 0.3	- 0.1	+ 0.4
ITA	- 4.2 ^{oooo}	- 2.2 ^o	- 3.9 ^{oooo}	- 1.3
NOR	+ 6.2 ^{ooo}	+ 3.1	+ 4.2 ^{ooo}	+ 0.2
SVN	+ 0.2	+ 0.3	+ 1.3	+ 1.0
9-year-olds				
BEL	- 0.1	- 0.6	+ 0.4	+ 0.1



COSI/WHO Europe 2013

Prevalence of overweight (including obesity) in BOYS - 7 YEARS²

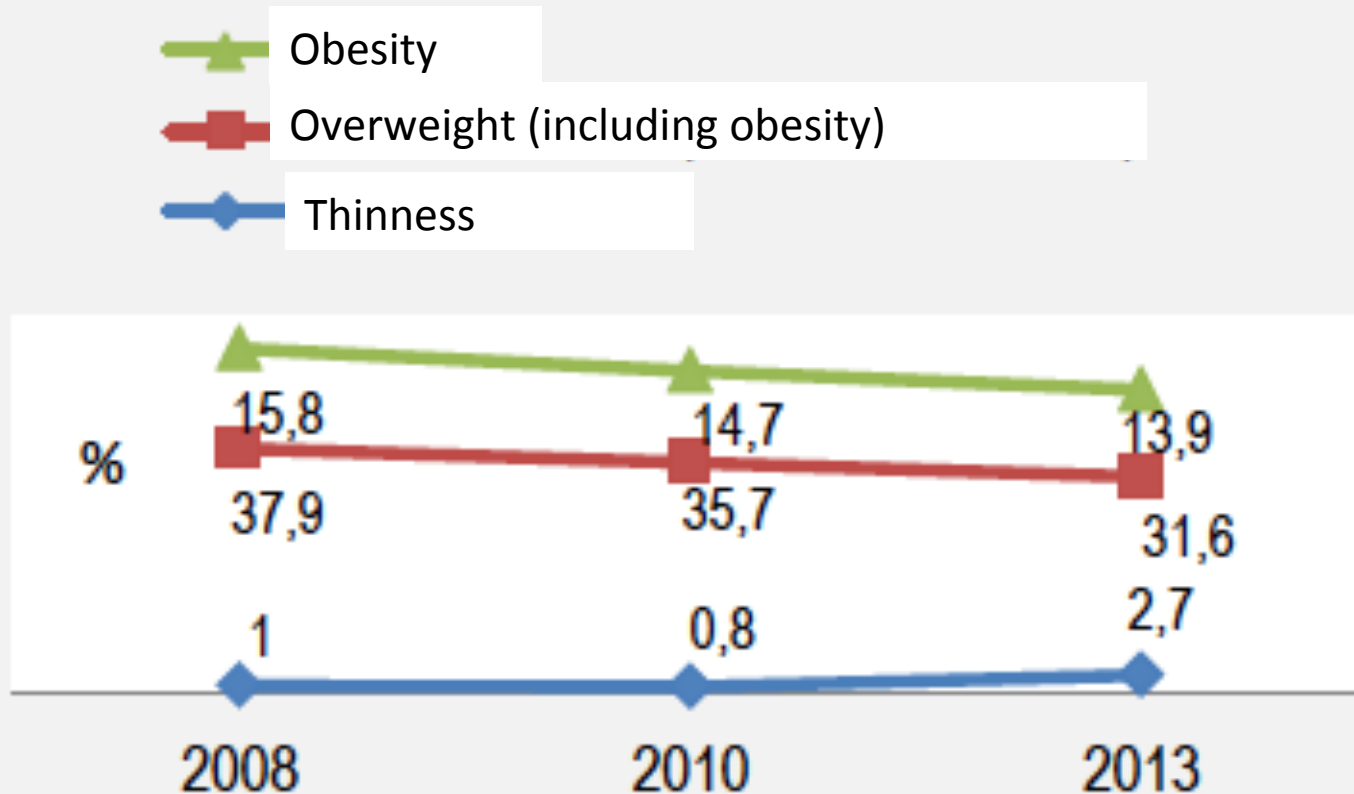


² Unpublished data. WHO/COSI Europe



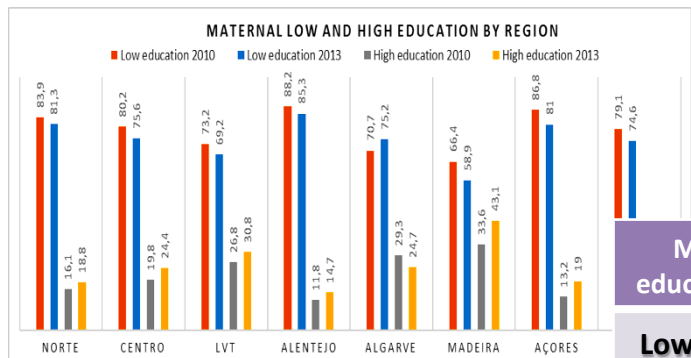
COSI PORTUGAL 1st, 2nd and 3rd ROUND

NUTRITIONAL STATUS DEFINED BY DIFFERENT CRITERIA



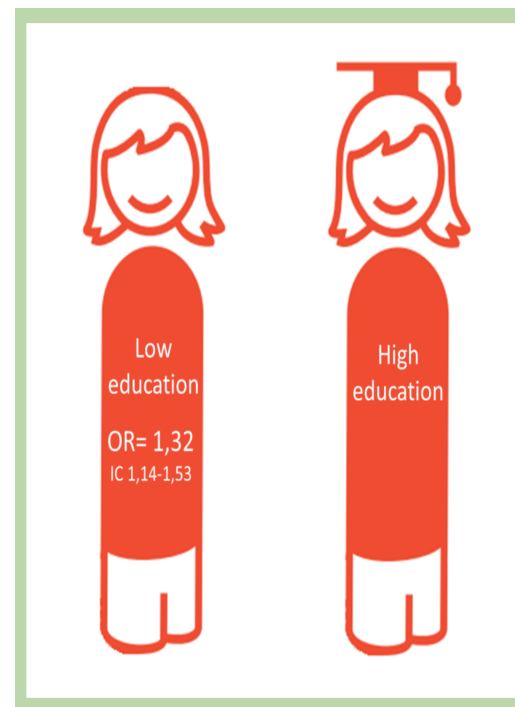
PORTUGUES CHILDREN'S NUTRITIONAL STATUS

Is maternal education associated with childhood overweight risk? Trends between 2010 and 2013



Main results

Mother's education level	%	
	2010	2013
Low education	79,1	74,6
Primary or below	10,8	5,5
Middle school	28,1	22,1
High school	40,2	47,1
High education	20,9	24,4
University	19,1	22,4
Post-graduate	1,8	3,0



More than 70% of the mothers in the two COSI– Portugal rounds had low education.

Maternal's low education showed a positive association with childhood overweight (including obesity) (OR=1,32; IC: 1,14-1,153)

Trends in breakfast patterns in Portuguese children. 2010-2013

Main results



Qualitative and complete
(bread/cereal + dairy product +
fruit)



2010: **1,3%**
2013: **1,6%**



Presence of fruit



2010: **6,0%**
2013: **8,0%**



**Presence of ready to eat
cereals**



2010: **75,4%**
2013: **80,8%**

DO NOT MEET !!!

WHO Regional Office for Europe
NUTRIENT PROFILE MODEL

COSI Portugal 2016 – Supporting material for entering data

GUIDE



Guia Prático Open Clinica
(Exemplo para a introdução de dados do Formulário Escola)

1. Abrir um navegador de internet (Google Chrome, Firefox, Internet Explorer, etc)
2. Digitar link: <http://whocosi.org/cosi>
3. Inserir o *Username* e a *Password* disponibilizados e clicar em **Login**




4. Na parte superior da página, à direita do logótipo da WHO, clique na opção **Change Study/ Site**.



Study Subject ID	Child data	Actions
CH10-TST1500013101		Apply Filter Clear Filter
CH10-TST1500013102		

YouTube VIDEO



Demonstração para utilização da Plataforma Open Clinica

Questionário Escola

0:02 / 9:08



<https://www.youtube.com/watch?v=0sizr65rt2M>



Prevalence of obesity among Portuguese children (6–8 years old) using three definition criteria: COSI Portugal, 2008

A. Rito¹, T. M. A. Wijnhoven², H. Rutter³, M. A. Caryvalho⁴, E. Paixão¹, C. Ramos⁴, D. Claudio⁵, R. Espanca⁶, T. Sarcho⁷, Z. Carqueira⁸, R. Carvalho⁹, C. Faria¹⁰, E. Feliciano¹¹ and J. Breda²

¹National Institute of Health Dr Ricardo Jorge, Lisbon, Portugal; ²Division of Noncommunicable Diseases and Health Promotion, World Health Organization Regional Office for Europe, Copenhagen, Denmark; ³National Obesity Observatory, Oxford, England; ⁴University Atlântica, Oeiras, Portugal; ⁵Regional Health Directorate of North, Porto, Portugal; ⁶Regional Health Directorate of Alentejo, Évora, Portugal; ⁷Regional Health Directorate of Algarve, Faro, Portugal; ⁸Regional Health Directorate of Centre, Coimbra, Portugal; ⁹Regional Health Directorate of Azores, Ponta Delgada, Portugal; ¹⁰Regional Health Directorate of Madeira, Funchal, Portugal; ¹¹Regional Health Directorate of Lisbon and Tagus Valley, Lisbon, Portugal

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What is already known about this subject?

- Obesity is an epidemic level and presents a serious global public health challenge.
- Portugal is one of the European countries with the highest prevalence of childhood obesity.
- Childhood Obesity Surveillance Initiative (COSI) is a robust monitoring system covering similar age groups, using standardized methods that allows comparability with other WHO European Region Member States.

What this study adds?

- In Portugal, one in every three of 6- to 8-year-old children are overweight.
- Compared with other COSI national surveys, a similar trend was observed in other southern European countries, particularly Italy.
- The reference method used to define overweight and obesity is important as it provides different estimates.

Summary

Introduction: Previous studies place Portugal among the five countries with the highest prevalence of



Ana Isabel Rito
Ana Rita Cruz
Pedro Graça



WHO European Childhood Obesity Surveillance Initiative 2008: weight, height and body mass index in 6–9-year-old children

T. M. A. Wijnhoven¹, J. M. A. van Raaij^{2,3}, A. Spinelli⁴, A. I. Rito⁵, R. Hovengen⁶, M. Kunesova⁷, G. Starc⁸, H. Rutter⁹, A. Sjöberg^{10,11}, A. Petrauskienė¹², U. O'Dwyer¹³, S. Petrova¹⁴, V. Farrugia Sant'Angelo¹⁵, M. Wauters¹⁶, A. Yngve¹⁷, I.-M. Rubana¹⁸ and J. Breda¹

¹Noncommunicable Diseases and Health Promotion, World Health Organization Regional Office for Europe, Copenhagen Ø, Denmark; ²Centre for Nutrition and Health, National Institute for Public Health and the Environment, Bilthoven, the Netherlands; ³Division of Human Nutrition, Wageningen University, Wageningen, the Netherlands; ⁴National Centre for Epidemiology, Surveillance and Health Promotion, National Institute of Health, Rome, Italy; ⁵Food and Nutrition Department, National Institute of Health Dr. Ricardo Jorge IP, Lisbon, Portugal; ⁶Department of Health Statistics, National Institute of Public Health, Oslo, Norway; ⁷Obesity Unit, Institute of Endocrinology, Prague, Czech Republic; ⁸Faculty of Sport, University of Ljubljana, Ljubljana, Slovenia; ⁹National Obesity Observatory, Oxford, UK; ¹⁰Department of Public Health and Community Medicine, Public Health Epidemiology Unit, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden; ¹¹Department of Food and Nutrition, and Sport Science, University of Gothenburg, Gothenburg, Sweden; ¹²Academy of Medicine, Faculty of Public Health, Lithuanian University of Health Sciences, Kaunas, Lithuania; ¹³Department of Health and Children, Dublin, Ireland; ¹⁴Department of Food and Nutrition, National Centre of Public Health and Analysis, Sofia, Bulgaria; ¹⁵Primary Health Care Department, Floriana, Malta; ¹⁶Flemish Agency for Care and Health, Flemish Ministry of Welfare, Public Health and Family, Brussels, Belgium; ¹⁷Department of Biosciences and Nutrition, Karolinska Institute, Huddinge, Sweden; ¹⁸Public Health Agency, Riga, Latvia

ORIGINAL RESEARCH



Guia de Avaliação do Estado Nutricional Infantil e Juvenil

Publicação conjunta DGS-INSA no âmbito do Conselho Científico da Plataforma contra a Obesidade da Direção-Geral da Saúde.



International Conference on Childhood Obesity
5th to 8th July 2017
Website will be available soon

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