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T7:PO.011

Surveillance of Overweight including Obesity in Children Under 5: Opportunities and Challenges for the European Region

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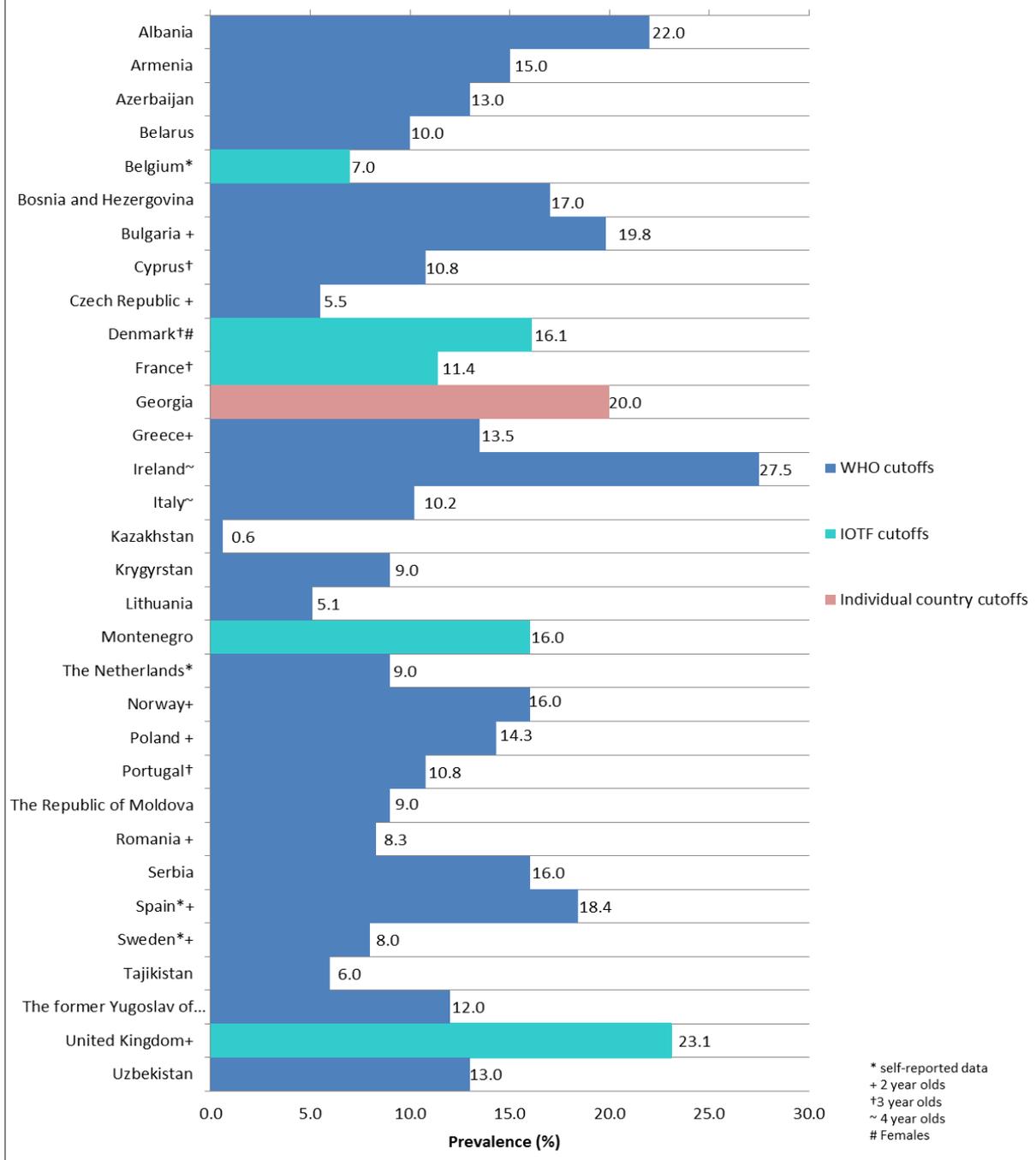
Introduction: Current estimates report over 40 million children under 5 were overweight or obese globally (deOnis et al., 2010). Childhood overweight has become an increasingly important contributor to adult obesity, diabetes, and noncommunicable diseases (O'Malley et al., 2010) and at the opening of the 2014 World Health Assembly Dr. Chan announced a new initiative on childhood obesity (WHO press release. 'Director-general announces new initiative, 2014). The European Region needs to be more aware of the current state of the nutritional status of children under 5 in order to begin to make headway in this emerging area.

Methods: A review of publicly available data collected from 2000 on which reported prevalence of nutritional status in children under 5 in any WHO European Region Member States was done. The authors compiled estimates to form a cohesive perspective on the state of young childhood nutritional status in the Region.

Results: 28 of the 53 Member States had data available on the nutritional status of children under 5, particularly over-nutrition. This data differed in age ranges evaluated, cutoffs used (IOTF, WHO or country-specific), national representation and the method evaluated (self-report versus direct measurement). The prevalence of overweight (including obesity) in children under five ranges from 1% to 27.5% in Member States.

Conclusion: While it is generally recognized that nutritional surveillance data are crucial for the development of targeted action and the monitoring progress and success in counteracting obesity, regular assessments of the magnitude of overweight and obesity, particularly in children are not common in the 53 WHO European Member States (Wijnhoven et al., 2013). Evidence suggests that early intervention before five years of age is necessary if the trajectory to overweight in children is to be arrested (Black et al., 2013) and action needs to be taken to have consistent surveillance on this specific population.

Prevalence of Overweight (including obesity) in Children under 5 in the European Region



T7:PO.002

BMI and psychological well-being in primary school children

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Introduction: Few studies have explored psychological wellbeing and association of body mass index (BMI) in children as young as 6–9 years old. The purpose of this study was to describe the association of psychological well-being (dieting behaviours and body image perception) and BMI in primary school children from Year 2 (age 6–7 years) and Year 4 (age 8–9 years). **Methods:** Baseline measurements are of 301 pupils (52% boys) from 8 primary schools in Northern England participating in the Phunky Foods feasibility study. Psychological well-being was measured using the Body Shape Perception Scale and the Measure of Dieting Behaviours (modified version of the Dutch Eating Behaviour Questionnaire). Fixed effects models were used to explore the association between BMI and psychological well-being, adjusting for gender and year group. **Results:** Children categorised as overweight (85th to 95th percentile) or obese (\geq 95th percentile) using WHO BMI Growth Charts had higher body shape dissatisfaction scores than normal weight children ($p < 0.0001$) and girls had higher scores than boys ($p = 0.03$). Higher dietary restraint scores were observed in obese compared to normal weight children ($p < 0.0001$) and in Year 2 compared to Year 4 pupils ($p = 0.002$). **Conclusion:** The results suggested that body shape dissatisfaction may begin in children, as young as 6–7 years old, and there is an association with increased BMI. Obesity prevention programmes need to ensure that psychological-wellbeing is not compromised and further research should be conducted on how interventions can help improve psychological well-being in this age group.

T8:OS1.5

What is the effect of wine intake in type 2 diabetes and does the wine color matter? A 2-year randomized controlled trial

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Background: Recommendations for moderate alcohol consumption remains controversial, particularly in type-2-Diabetes (T2D). Long-term randomized-controlled-trials (RCT) are lacking.

Objective: To assess risk/cardiometabolic effects of initiating moderate alcohol in T2D, and if wine-type matters.

Methods: In a 2-year RCT, 224 well-controlled alcohol-abstaining adult diabetics patients were randomized to mineral-water, white-wine and red-wine (150ml/dinner/2-year). Wines and mineral-water were provided. All groups followed a non-calorie restricted Mediterranean diet.

Results: Retention was 94% after one year and 87% after two. Red-wine was superior in modestly increasing HDL-c, and apoA1 with an overall decrease of cholesterol/HDL-c, triglycerides/HDL-c, and apoB100/apoA1 ratios ($p < 0.05$ for all; vs. mineral-water). Both wine groups modestly improved glucose metabolism. Slow-ethanol-metabolizers [wild-type alcohol-dehydrogenase homozygotes; ADH1B*1] had favorable wine effects on glycemic control parameters as compared to fast-ethanol-metabolizers [ADH1B*2(Arg48His; rs1229984) carriers]. Wine did not alter medication usage, blood pressure, or liver function biomarkers. Overall, decreased metabolic syndrome components were mainly attributed to red-wine ($p = 0.039$ vs. mineral-water).

Conclusions: This first long-term large scale alcohol trial suggests that initiating moderate wine intake, especially red-wine, among well-controlled T2D, and as part of healthy diet, is

apparently safe and decreases cardiometabolic risk. While the genetic interaction supports specific causal roles for ethanol, the red-wine's superiority suggests further synergy with non-alcoholic constituents.

T6:PO.013

Obesity in childhood is associated with a much lower degree of education

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Introduction: Obesity in childhood may predispose to poor psychosocial health. Here we have investigated if the completion of secondary school (9 school years) and upper secondary school (+3y) is lower in children who have been treated for obesity than in matched controls. **Methods:** 1061 Individuals from the Swedish childhood obesity treatment registry, BORIS (www.e-boris.se) were selected. Inclusion criteria: ≥ 20 years of age at follow-up. Exclusion criteria: Mental retardation. BMI SDS, median(IQR), was 3.36(1.11), age at last visit was 17.1(2.7). Mean(SD) time from last visit to follow-up was 6.3(3.0) years. 7780 individuals, matched for gender, age and living area, were randomly selected as controls. They were linked to the national education registry. Level of education at follow-up was divided into; 1 = not graduated from secondary school, 2 = graduated from secondary school, but not started upper secondary school, 3 = started but not graduated from upper secondary school, 4 = graduated from upper secondary school.

Results: The proportion of school completers was much lower among obese cases compared with matched controls (Table 1). No differences in ethnicity between cases and controls were observed ($p = 0.09$). Being non-Swedish, was associated with a lower degree of graduating from upper secondary school among the controls ($p < 0.001$), but not among the cases ($p = 0.09$). Being a women increased the chance of graduating upper secondary school among both cases ($p = 0.006$) and controls ($p < 0.0001$).

Conclusion: Obesity in childhood is associated with a severely lower educational level. The differences between the groups do not seem to depend upon gender, ethnicity or socioeconomic status based on living area.

Table 1. Completion of educational level.

Educational Level (see Methods)	Control n (%)	Case n (%)	p
1	26 (0.3)	14 (0.9)	0.06
2	926 (11.9)	390 (24.4)	<0.0001
3	931 (12.0)	300 (18.7)	<0.0001
4	5897 (75.8)	897 (56.0)	<0.0001
Total	7780	1601	

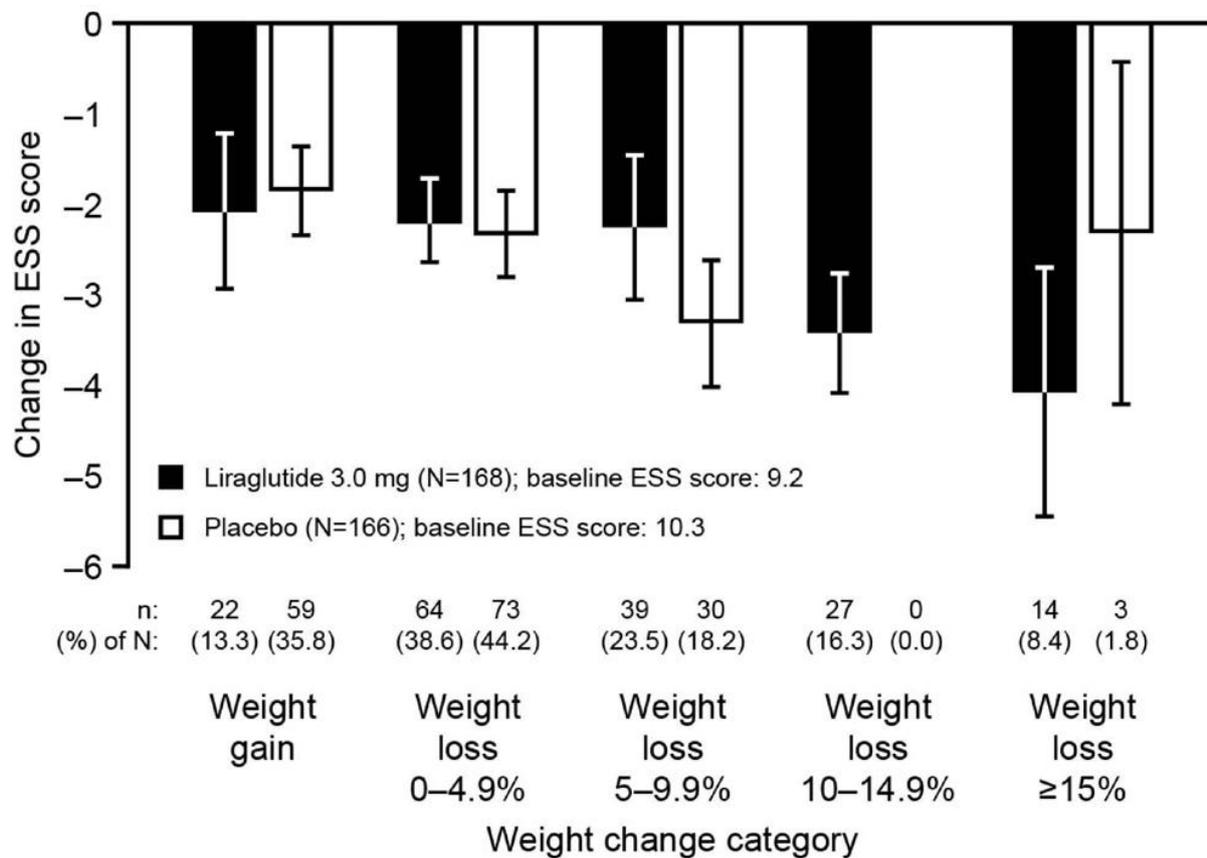
T8:OS1.3

Improvements in sleep apnoea endpoints and quality of life are related to the degree of weight loss: Results from the randomized, double-blind scale sleep apnoea trial

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This is a post hoc analysis of the relationship between weight loss (WL) and endpoints related to sleep apnoea and quality of life (QoL) in the SCALE Sleep Apnoea trial. Clinicaltrials.gov NCT01557166. Obese adults (72% male, mean age 49 y, apnoea-hypopnoea index [AHI] 49.2 events/h, body weight [BW] 117.6 kg) with moderate or severe obstructive sleep apnoea (OSA) and unable/unwilling to use continuous positive airway pressure therapy were treated with liraglutide 3.0 mg (n=180) or placebo (n=179), both as adjunct to diet & exercise counselling, for 32 weeks. A pre-specified ANCOVA model included treatment, country and gender as fixed effects and baseline age and BMI parameter values as covariates. Post hoc analyses also included % weight change as a covariate and examined its interactions with other effects. Liraglutide 3.0 mg reduced AHI (-12.2 vs -6.1 events/h, p = 0.015) and BW (-5.7 vs -1.6%, p < 0.0001) vs placebo after 32 weeks. AHI reduction was significantly associated with WL, irrespective of treatment. The reduction in AHI per %WL depended on baseline AHI, with reductions of 0.7, 1.4 and 2.8 events/h for baseline AHI cohorts <30, 30-59 and ≥60 events/h, respectively (all groups, p < 0.0001). Greater WL was also significantly associated with greater improvement in QoL endpoint measures, including the Epworth Sleepiness Scale (Fig), oxygen saturation and sleep architecture (change in total sleep time) (p < 0.01 for all). In conclusion, greater WL and improvement of AHI were more likely with liraglutide 3.0 mg than placebo. Greater improvements in sleep apnoea endpoints and QoL were significantly associated with greater WL, irrespective of treatment. The safety profile for liraglutide 3.0 mg was generally consistent with that seen with liraglutide in type 2 diabetes.



Baseline scores are presented as means and changes from baseline are mean \pm standard error from the full analysis set, LOCF. Weight change category represents the change in body weight (%) from baseline after 32 weeks of treatment.

ESS, Epworth Sleepiness Scale; LOCF, last observation carried forward; N, total number of participants; n, number of participants in each weight loss category.

Fig. 1. Change in Epworth Sleepiness Scale score by weight change category

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