

a single session and provides an opportunity for peer support. Strategies, such as the provision of transport, can help to address health inequalities by engaging families who may otherwise have been unable to attend. However, this is challenging when supporting families over a vast area, and therefore, other opportunities to reach families in a group setting, such as online events, should also be considered.

GC3.004

Food Habits among Children and Adolescents with Obesity and Parental Nutritional Knowledge Prior to Receiving Paediatric Obesity Treatment

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Introduction: Clinical guidelines for paediatric obesity management recommend family-oriented treatments that support nutrition and play to assist behaviour change and enhance quality of life (1). Despite this, many parents struggle with food portion sizes and low cooking confidence (2, 3). The aims of this study were to:

- I. Examine the nutritional quality of children's reported food and fluid intakes and parent nutritional knowledge before receiving obesity treatment
- II. Determine if there was a relationship between parental knowledge and children's dietary habits.

Methods: Parents of children/adolescents aged 5-16years with a BMI $\geq$ 98th centile referred to the EASO-COMS paediatric obesity service at CHI Temple Street were recruited from January-December 2017. Parents completed a 28-item food frequency questionnaire. Outcomes included frequency of consumption of meals, snacks, food groups (fruit and vegetables (FV), wholegrains, protein foods, dairy), takeaways, convenience foods, confectionary, and beverages. Parental knowledge of FV portions and reported adherence to Irish food-based dietary guidelines (FBDGs) were assessed. The relationship between parental cooking confidence and child dietary behaviours was also examined. Data were analysed using IBM SPSS version 27.0. A non-parametric test Kendall tau-b was used to determine if there was an association between FV consumption and parental knowledge score. Mann Whitney U Tests were used to explore differences in dairy intake between age groups (5-8years vs. 9-16years), in addition to cooking confidence and daily consumption of FV and dairy products and weekly consumption of takeaways and ready-made meals.

Results: Questionnaires were completed by n=45 parents. The mean child-age was 11 years (SD 3.15) and there were no significant differences in BMI SDS (p=0.241) between younger (n=11) and older children (n=33). 73% reported daily consumption of FV with a median serving of 1.57. Most (79.5%) parents were aware of daily FV recommendations, yet 80% did not correctly identify common FV portion examples, and only 4.5% of children consumed the recommended 5-7 portions of FV daily. Almost half the sample (n=21; 47%) consumed $\leq$ 1 serving of dairy (milk, cheese or yogurt) daily, with over 50% of 5-8 year olds and no 9-16year olds meeting the recommended intake of 3 daily servings from 5-8years and 5 daily servings from 9-18years. Fewer parents of 9-16year old children were aware of recommended dairy intakes than those with 5-8year olds (6% versus 27.7% of parents, respectively).

Cooking confidence was reported by parents as 'moderate' by 30%; high by 66% and one person reported 'low' cooking confidence. Reported takeaway and convenience meal consumption was significantly higher in 'low-moderate' group (Mean=30) than the 'high' confidence group (Mean=19) (p=0.007).

Conclusions: This study identified areas for targeting nutritional interventions including: guidance on meeting FBDGs and increasing FV and

dairy intakes. Parental nutritional knowledge and cooking confidence and their impact on the dietary behaviours of children with obesity requires further exploration with a focus on nutrition/food literacy.

GC3.005

Physical activity and overnutrition amongst primary school children aged 8 - 11 years in Thika West Sub-County, Kenya

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Background: Overnutrition in childhood is a growing public health challenge in the 21st century as a risk factor for adult overnutrition and non-communicable diseases. If the status quo remains unchanged, it is estimated that by 2035, 51% of the world's population >5 years of age will be living with overweight or obesity. We sought to determine the prevalence of overnutrition among school-going children aged 8 - 11 years.

Methods: We employed a cross-sectional study design. We recruited 281 children aged 8 - 11 from five schools in Thika West Sub-County. Physical activity level was evaluated using the physical activity questionnaire for older children (PAQ-C). Weight and height measurements for the children were assessed. The WHO growth standards of body mass index (BMI) for age z-scores were used as the reference indicator for nutrition status. Data was analyzed using univariate, bivariate and multivariate methods to determine associations between various variables with the main outcome.

Results: The prevalence of overweight and obesity was 10.3% and 0.7% respectively. Conversely, 22.4% of the children were underweight. About 13.5% of the children did not participate in PE classes. More than half (65.5%) of the children walked to school. The mean physical activity score for the children was 2.85. Nearly half (45.2%) of the children were not meeting the recommended $\geq$ 60 minutes of daily MVPA. Overnutrition was significantly higher among children in private schools compared to those in public schools (aOR 2.641; 95% CI = 1.013-6.887, p = 0.0047). There was a significantly higher prevalence of overnutrition amongst children who didn't walk to school compared to those who did. However, the difference was not statistically significant (aOR 2.017; 95% CI = 0.875-4.650, p = 0.1). Participation in PE classes and level of physical activity were not associated with BMI.

Conclusion: We found the coexistence of both undernutrition and overnutrition. Nearly half of the children were not meeting the physical activity recommendations. It is paramount that the existing school nutrition programs take up an integrated approach aimed at prevention, early detection, and effective management of both forms of malnutrition to achieve the SDG 2.2 targets.

GC3.006

Weight stigma prevalence, sociodemographic determinants, and associations with disordered eating in a representative sample of Spanish adolescents

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Introduction: Weight stigma, particularly weight bias internalization (WBI), has negative consequences for both physiological and psychological health. In pediatric populations, WBI has been significantly

associated with disordered eating. However, research on weight stigma in adolescence, particularly from general populations, is scarce in the Mediterranean area. The main aim of this study is to describe the prevalence of experienced and internalized weight stigma among a representative sample of Spanish adolescents and determine its associations with sociodemographic variables, weight status, and disordered eating.

Methods: A cross-sectional study with a random multistage sampling was conducted among a sample of 1017 adolescents. Weight stigma experiences (WSE), their frequency and sources, WBI using the Spanish version of the Modified Weight Bias Internalization Scale (WBISM), and zBMI and weight status based on measured weight and height, were assessed. Additionally, three subscales of the Spanish version of the Eating Disorder Inventory-3 (EDI-3) (Drive for Thinness, Body Dissatisfaction, Bulimia), with which the overall score of the Eating Disorder Risk Index (EDRC) was estimated, the Spanish abbreviated version of the Body Shape Questionnaire (BSQ), and the presence and severity of binge eating based on DSM-V criteria were assessed. Adjusted odds ratios (AOR) between sociodemographic variables, weight status, experiencing weight stigma, and reporting high WBISM scores were estimated using multiple logistic regression models. Adjusted linear regression analyses explored the impact of WBISM scores on EDI-3 subscales, EDRC, and BSQ. Adjusted multinomial logistic regression assessed the link between WBISM scores and binge eating categories.

Results: The prevalence of WSE was 43.26% in the sample (75.8 in adolescents with obesity) and that of high levels of WBI was 19.47% (46.8 in adolescents with obesity). Other kids and school were the most prevalent sources of weight stigma. Girls had a significantly higher risk of experiencing weight stigma (AOR=2.6) or having high levels of WBI (AOR=6.3). Regarding weight status, a “J-shaped” pattern was observed in both WSE and high levels of WBI, with a higher risk in the lower weight statuses and, particularly, in the higher ones (AOR of WSE=7.5 and AOR of WBI=9.1 in those with obesity compared to normal weight). WBI was associated with a significant increase in all the scores of the EDI-3 subscales, EDRC, and BSQ, as well as a higher risk of moderate and severe binge eating, both in girls and boys, and regardless weight status.

Conclusion: This study provides for the first-time specific data on the prevalence and effects of weight stigma on disordered eating among Spanish adolescents. Considering the high prevalence of both experienced and internalized weight stigma among adolescents in Spain, especially in adolescents with obesity and girls, and its clear association with disordered eating, there is a need to implement preventive strategies. These strategies should comprehensively address weight bias and its internalization across the entire weight spectrum, while tackling all sources of stigma.

GC3.008

The prevalence of obesity among a huge sample of 5-20 years old Jordanian children and adolescents based on CDC criteria

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Background: The rise of obesity among children and adolescents remains a primary challenge for healthcare providers globally and in the Middle East. The aim of the present study is to determine the prevalence of obesity among 5-20 years old Jordanians based on CDC criteria.

Method: A total of 5722 Jordanians (37% males; 63% females) aged 2-20 years data were retrieved from Jordanian Ministry of Health electronic database (Hakeem), weight for age, and body mass index for age were analyzed comparatively for Jordanian children and adolescents against the international growth standards. The Z-score for each record was computed based on CDC equations. As per CDC classifications BMI for age percentiles, values ≥ 85 th and < 95 th is classified as overweight, value at ≥ 95 th is classified as obesity.

Results: The average age of the evaluated sample was 12.33 ± 4.39 years (10.79 ± 3.39 and for males and 13.23 ± 4.66 for females). The mean weight and for males and females were 33.16 ± 14.17 Kg and 133.54 ± 17.17 cm for males 43.86 ± 18.82 Kg and 142.19 ± 18.35 for females, while for BMI the

mean was for boys and girls 17.81 ± 3.88 and 20.52 ± 5.03 respectively. The results indicated that based on CDC criteria 8.9% of males were classified as children/adolescents with overweight and 9.7% were classified as children/adolescents with obesity, while in females 17.8% were classified as children/adolescents with overweight and 10.2% were classified as children/adolescents with obesity.

Conclusion: The results presented in this study indicated the high prevalence of overweight/obesity among Jordanian adolescents and children which must be tagged healthcare planners and providers

GC3.008

Weight trajectory patterns during three years of childhood obesity treatment: A Swedish prospective cohort study

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Introduction: Most studies on obesity treatment assessed population average of weight change. Yet, treatment effect is not uniform among children undergoing obesity treatment. We applied data-driven approach to explore weight trajectory patterns of real-life childhood obesity treatment in Sweden.

Methods: This was a 3-year cohort study of children starting obesity treatment at age 9-13 y and enrolled in the Swedish Childhood Obesity Treatment Register (BORIS) (1997-2019). The treatment consists of behavioural modification. BMI standard deviation score (SDS) at month 0, 6, 12, 18, 24, 30, and 36 were measured. Included were those with BMI SDS on ≥ 3 data points. Group-based trajectory modelling was used. Number of trajectories was determined by statistical criteria (1) and clinical plausibility.

Results: Of 2024 children (58% boys; mean age: 11.4 y), the proportion of class 1, 2, and 3 obesity was 66%, 27%, and 7%, respectively. Among children with class 1 or 2 obesity ($n=1884$), three trajectories were identified:

(i) ‘Increasing BMI SDS’

This group, comprising 36% of children with class 1 or 2 obesity, had continuous BMI increase of $+0.04$ SDS/year on average.

(ii) ‘Stable BMI SDS’

This group, comprising 48% of children with class 1 or 2 obesity, remained in the same obesity class at year 3. A minor BMI change occurred in year 1 (mean reduction -0.06 SDS), year 2 (-0.02 SDS), and year 3 ($+0.01$ SDS).

(iii) ‘Decreasing BMI SDS’

This group, comprising 16% of children with class 1 or 2 obesity, achieved obesity remission. The greatest BMI reduction occurred in year 1 (-0.30 SDS), followed by year 2 (-0.18 SDS) and year 3 (-0.06 SDS). Compared to the other groups, those in ‘decreasing BMI SDS’ were more likely to be boys ($p=0.003$) and had class 1 obesity at treatment initiation ($p=0.021$). Among children with class 3 obesity ($n=140$), two distinct trajectories were observed. First, the ‘stable BMI SDS’ group (39% of children with class 3 obesity) with a minuscule BMI change of $+0.005$ SDS/year. Second, the ‘decreasing BMI SDS’ group (61% of children with class 3 obesity) decreased obesity class to class 2 at the end of follow-up. In the latter group, the greatest BMI reduction occurred in year 1 (-0.21 SDS), followed by year 2 (-0.13 SDS), and year 3 (-0.04 SDS). None of the groups achieved obesity remission at year 3.

Conclusion: Long-term care is necessary to attain obesity remission among school-aged children with obesity. Standard behavioural modification may be insufficient for most children as a trajectory of obesity remission after 3-years follow-up was observed in $<20\%$ of children with class 1 or 2 obesity and none of class 3 obesity group. Data-driven trajectory model can be used to explore distinct patterns of response to childhood obesity treatment.

Reference

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