1. Al Khalifah, Reem, Thabane, Lehana, Tarnopolsky, Mark A. and Morrison, Katherine M. *The prognosis for glycemic status among children and youth with obesity 2 years after entering a weight management program*. PEDIATR DIABETES. 2018 19 5 874-881. Background: To address gaps in knowledge of the longitudinal trajectory of dysglycemia in children with obesity, this study aimed to: (1) describe the changes in glycemic status over 2 years; (2) establish a predictive model for development of prediabetes among children with euglycemia; and (3) evaluate the influence of change in body mass index (BMI) z-score on glycemic status. Methods: Children aged 5 to 17 years entered this prospective, longitudinal study at the time of entry to a weight management program. Measures included a 75-g oral glucose tolerance test (OGTT), fasting blood glucose, hemoglobin A1c (HbA1c), lipid profile, liver enzymes and anthropometric measures at baseline, 1 and 2 years. Cox proportional hazard was used to build a predictive model for prediabetes. Results: The cohort included 270 children, mean age: 11.6 ± 2.7 years and BMI z-score: 3.1. The baseline prevalence of prediabetes, based upon elevated 2-hour glucose in OGTT or HbA1c, was 100/270 (37.0%). Among children with prediabetes at baseline, 53 (53.0%) continued to have prediabetes over the following 2 years, 15 (15.0%) were euglycemic at 1 year and had prediabetes at 2 years, 20 (20.0%) became euglycemic and remained so. Change in BMI z-score predicted dysglycemic status at 2 years. Among those euglycemic at baseline, the incidence of prediabetes, based upon elevated 2-hour glucose in OGTT or HbA1c, was 100/270 (37.0%). Among children with prediabetes at baseline, 53 (53.0%) continued to have prediabetes over the following 2 years, 15 (15.0%) were euglycemic at 1 year and had prediabetes at 2 years, 20 (20.0%) became euglycemic and remained so. Change in BMI z-score predicted dysglycemic status at 2 years. Among those euglycemic at baseline, the incidence of prediabetes was 14 (8.2%) after 1 year, 20 (12.8%) at 2 years. Predictors of incident prediabetes were baseline BMI z-score; hazard ratio (HR): 1.72, 95th confidence interval (CI: 1.08, 2.74) and baseline HbA1c HR: 1.26, 95th CI (1.02-1.56) when controlling for age, family history of diabetes and sex. Conclusion: Prediabetes presents significant morbidity in children with obesity. Family-based lifestyle interventions might delay prediabetes progression.

There is a general belief that having breakfast is an important healthy lifestyle factor; however, there is scarce evidence on the influence of breakfast quality and energy density on cardiometabolic risk in children, as well as on the role of physical activity in this association. The aims of this paper were (i) to examine the associations of breakfast quality and energy density from both solids and beverages with cardiometabolic risk factors, and (ii) to explore whether physical activity levels may attenuate these relationships in children with overweight/obesity from two projects carried out in the north and south of Spain. Breakfast consumption, breakfast quality index (BQI) score, BEDs/BEDb (24 h-recalls and the KIDMED questionnaire), and physical activity (PA; accelerometry) were assessed, in 203 children aged 8–12 years who were overweight or obese. We measured body composition (Dual X-ray Absorptiometry), uric acid, blood pressure, lipid profile, gamma-glutamyl-transferase (GGT), glucose, and insulin, and calculated the HOMA and metabolic syndrome z-score. The BQI score was inversely associated with serum uric acid independently of a set of relevant confounders ($\beta = -0.172, p = 0.028$), but the relationship was attenuated after further controlling for total PA ($p < 0.03$). In conclusion, higher breakfast quality and lower breakfast energy density should be promoted in overweight/obesity children to improve their cardiometabolic health.

3. Barkin, Shari L., Heerman, William J., Sommer, Evan C., et al. Effect of a Behavioral Intervention for Underserved Preschool-Age Children on Change in Body Mass Index: A Randomized Clinical Trial. JAMA. 2018 320 5 450-460. Importance: Prevention of obesity during childhood is critical for children in underserved populations, for whom obesity prevalence and risk of chronic disease are highest. Objective: To test the effect of a multicomponent behavioral intervention on child body mass index (BMI, calculated as weight in kilograms divided by height in meters squared) growth trajectories over 36 months among preschool-age children at risk for obesity. Design, Setting, and Participants: A randomized clinical trial assigned 610 parent-child pairs from underserved communities in Nashville, Tennessee, to a 36-month intervention targeting health behaviors or a school-readiness control. Eligible children were between ages 3 and 5 years and at risk for obesity but not yet obese. Enrollment occurred from August 2012 to May 2014; 36-month follow-up occurred from October 2015 to June 2017. Interventions: The intervention ($n = 304$ pairs) was a 36-month family-based, community-centered program, consisting of 12 weekly skills-building sessions, followed by monthly coaching telephone calls for 9 months, and a 24-month sustainability phase providing cues to action. The control ($n = 306$ pairs) consisted of 6 school-readiness sessions delivered over the 36-month study, conducted by the Nashville Public Library. Main Outcomes and Measures: The primary outcome was child BMI trajectory over 36 months. Seven prespecified secondary outcomes included parent-reported child dietary intake and community center use. The Benjamini-Hochberg procedure corrected for multiple comparisons. Results: Participants were
predominantly Latino (91.4%). At baseline, the mean (SD) child age was 4.3 (0.9) years; 51.9% were female. Household income was below $25,000 for 56.7% of families. Retention was 90.2%. At 36 months, the mean (SD) child BMI was 17.8 (2.2) in the intervention group and 17.8 (2.1) in the control group. No significant difference existed in the primary outcome of BMI trajectory over 36 months (P = .39). The intervention group children had a lower mean caloric intake (1227 kcal/d) compared with control group children (1323 kcal/d) (adjusted difference, -99.4 kcal 95% CI, -160.7 to -38.0]; corrected P = .003). Intervention group parents used community centers with their children more than control group parents (56.8% in intervention; 44.4% in control) (risk ratio, 1.29 95% CI, 1.08 to 1.53]; corrected P = .006).

Conclusions and Relevance: A 36-month multicomponent behavioral intervention did not change BMI trajectory among underserved preschool-age children in Nashville, Tennessee, compared with a control program. Whether there would be effectiveness for other types of behavioral interventions or implementation in other cities would require further research. Trial Registration: ClinicalTrials.gov Identifier: NCT01316653

4. Bharath, Leena P., Choi, William W., Cho, Jae-min, et al. Combined resistance and aerobic exercise training reduces insulin resistance and central adiposity in adolescent girls who are obese: randomized clinical trial. Eur. J. Appl. Physiol. 2018 118 8 1653-1660. Introduction: Exercise training is recommended for improving health and protecting against the development of metabolic and cardiovascular pathologies. Combined resistance and aerobic exercise training (CRAE) has been shown to provide unique benefits in older adults with cardiovascular diseases. Purpose: We sought to determine the beneficial effects of CRAE in adolescent girls who are obese and hyperinsulinemic. Methods: Forty adolescent girls who are obese (age 14.7 ± 1 years; BMI 30 ± 2) were randomly assigned to a "no exercise" (CON n = 20) or combined exercise group (EX n = 20). The EX group performed resistance and aerobic exercise for 12 weeks, 5 times per week. Exercise intensity was increased gradually, from 40 to 70% of heart rate reserve (HRR), every 4 weeks. The brachial-ankle pulse wave velocity (BaPWV), blood pressure (BP), heart rate (HR), blood leptin, adiponectin levels, and body composition were measured before and after the 12-week intervention. Results: We observed that CRAE effectively reduced the body fat percentage, body weight, and waist circumference in the EX group (p < 0.05). After 12 weeks of training, subjects in the CRAE group maintained appropriate leptin and adiponectin levels and showed positive improvements of blood insulin, glucose, and insulin resistance parameters relative to baseline and to the CON group (p < 0.05). Conclusion: CRAE is a useful therapeutic method to alleviate metabolic risk factors in adolescent girls who are obese and hyperinsulinemic.

Background: Physical activity (PA) is important in combating childhood obesity. Parents, and thus parental PA, could influence PA in young children. We examined whether the time spent at different intensities of PA and the type of parental PA are associated with the PA of children aged 4-7 years, and whether the associations between child-parent pairs were sex-specific.

Methods: All the participants were recruited from the Groningen Expert Center for Kids with Obesity (GECKO) birth cohort (babies born between 1 April 2006 and 1 April 2007 in Drenthe province, the Netherlands) and were aged 4-7 years during measurement. PA in children was measured using the ActiGraph GT3X (worn at least 3 days, ≥10 h per day). PA in parents was assessed using the validated SQUASH questionnaire.

Results: Of the N = 1146 children with valid ActiGraph data and 838 mothers and 814 fathers with valid questionnaire data, 623 child-parent pairs with complete data were analysed. More leisure time PA in mothers was associated with more time spent in moderate-to-vigorous PA (MVPA) in children (Spearman $r = 0.079$, $P < .05$). Maternal PA was significantly related to PA in girls, but not boys. More time spent in maternal vigorous PA, in sports activity, and leisure time PA, were all related to higher MVPA in girls (Spearman $r = 0.159$, $r = 0.133$ and $r = 0.127$ respectively, $P < .05$). In fathers, PA levels were predominantly related to PA in sons. High MVPA in fathers was also related to high MVPA in sons ($r = 0.132$, $P < 0.5$). Spending more time in light PA was related to more sedentary time and less time in MVPA in sons.

Conclusions: Higher PA in mothers, for instance in leisure activities, is related to higher PA in daughters, and more active fathers are related to more active sons. To support PA in young children, interventions could focus on the PA of the parent of the same sex as the child. Special attention may be needed for families where the parents have sedentary jobs, as children from these families seem to adopt more sedentary behaviour.

6. Caldwell, A. R., Terhorst, L., Skidmore, E. R. and Bendixen, R. M. Is frequency of family meals associated with fruit and vegetable intake among preschoolers? A logistic regression analysis. J.Hum.Nutr.Diet. 2018 31 4 505-512. Abstract: Background: The present study aimed to examine the associations between frequency of family meals and low fruit and vegetable intake in preschool children. Promoting healthy nutrition early in life is recommended for combating childhood obesity. Frequency of family meals is associated with fruit and vegetable intake in school-age children and adolescents; the relationship in young children is less clear. Methods: We completed a secondary analysis using data from the Early Childhood Longitudinal Study-Birth Cohort. Participants included children, born in the year 2001, to mothers who were >15 years old (n = 8 950). Data were extracted from structured parent interviews during the year prior to kindergarten. We used hierarchical logistic regression to describe the relationships between frequency of family meals and low fruit and vegetable intake. Results: Frequency of family meals was associated with low fruit and vegetable intake. The odds of low fruit and vegetable intake were greater for preschoolers who shared less than three evening meals per week.
family meals per week (odds ratio = 1.5, β = 0.376, P < 0.001) than preschoolers who shared the evening meal with family every night. Conclusions: Fruit and vegetable intake is related to frequency of family meals in preschool-age children. Educating parents about the potential benefits of frequent shared meals may lead to a higher fruit and vegetable consumption among preschoolers. Future studies should address other factors that likely contribute to eating patterns during the preschool years.

7. Cvetković, N., Stojanović, E., Stojiljković, N., Nikolić, D., Scanlan, A. T. and Milanović, Z. Exercise training in overweight and obese children: Recreational football and high-intensity interval training provide similar benefits to physical fitness. Scand.J.Med.Sci.Sports. 2018 28 18-32. This study compared the effects of recreational football and high-intensity interval training (HIIT) on body composition, muscular fitness, and cardiorespiratory fitness in overweight and obese children. Forty-two overweight/obese males aged 11-13 years body mass index (BMI) >20.5 kg/m2 were randomly assigned to a recreational football training group (n = 14; 157.9 ± 5.8 cm; 63.7 ± 12.6 kg), HIIT group (n = 14; 163.8 ± 9.4 cm; 71.5 ± 10.5 kg), or nontraining control group (n = 14; 162.7 ± 9.3 cm; 67.4 ± 16.1 kg). Physical fitness components were measured at baseline and after 12 weeks of training at the same time of the day and under similar conditions, including body composition, muscular fitness (lower-body power, change-of-direction speed, and flexibility), and cardiovascular fitness (Yo-Yo Intermittent Endurance test distance, resting heart rate, and blood pressure). Lean body mass (4.3%, ES = 0.40; 95% CI: −0.48, 1.29; P = .382) and muscle mass 4.4% (ES = 0.40; 95% CI: −0.48, 1.29; P = .378) very likely increased in the recreational football group, while possible improvements were observed in the HIIT group (lean body mass: 2.5%, ES = 0.22; 95% CI: −0.62, 1.06; P = .607, muscle mass: 2.8%, ES = 0.23; 95% CI: −0.61, 1.07; P = .594). Only trivial increases were observed in the control group for lean body mass (0.5%, ES = 0.05; 95% CI: −0.70, 0.79; P = .906) and muscle mass (1.1%, ES = 0.09; 95% CI: −0.65, 0.83; P = .814). Significant differences were found between the recreational football and control groups in post-training body mass (P = .034) and body mass index (P = .017). Body fat very likely decreased in the recreational football group (−7.7%, ES = −0.41; 95% CI: −1.29, 0.48; P = .376) and possibly decreased in the HIIT group (−5.2%, ES = −0.22; 95% CI: −1.05, 0.62; P = .607), with a trivial reduction in the control group (−1.1%, ES = −0.04; 95% CI: −0.78, 0.70; P = .914). Very likely increases in lower-body power were evident in the recreational football (17.0%, ES = 0.76; 95% CI: −0.15, 1.66; P = .107) and control groups (16.1%, ES = 0.55; 95% CI: −0.20, 1.31; P = .156), while small improvements were observed in the HIIT group (6.0%, ES = 0.24; 95% CI: −0.60, 1.08; P = .580, possible). Likely to most likely improvements in Yo-Yo Intermittent Endurance test performance and change-of-direction speed were noted in the recreational football group (Yo-Yo: 79.8%, ES = 1.09; 95% CI: 0.16, 2.03; P = .025, change-of-direction speed: −10.6%, ES = −1.05; 95% CI: −1.98, −0.12; P = .031) and the HIIT group
Diastolic blood pressure likely decreased in the recreational football (−8.6%, ES = −0.74; 95% CI: −1.64, 0.17; P = .116) and HIIT groups (−9.8%, ES = −0.57; 95% CI: −1.40, 0.30; P = .195), with a possible increase in the control group (1.2%, ES = 0.21; 95% CI: −0.53, 0.96; P = .068). Recreational football and HIIT elicited improvements in all muscular and cardiorespiratory fitness measures. In contrast, the control group, which performed only physical education classes, increased body mass, BMI, and fat mass. Therefore, additional activities such as recreational football or HIIT might counter the prevalence of overweight and obesity in children.

8. Domoff, Sarah E. and Niec, Larissa N. Parent-child interaction therapy as a prevention model for childhood obesity: A novel application for high-risk families. CHILD YOUTH SERV REV. 2018 91 77-84. Childhood obesity is a formidable public health issue in the United States. Although childhood obesity risk is complex and influenced by multiple systems and individual domains, there is increasing appreciation for the impact of the family environment generally, and parent-child interactions specifically, on children’s levels of risk. Longitudinal research has identified parenting style and quality of parent-child interactions as important targets for reducing child obesity risk. Although, obesity prevention programs have attempted to change general parenting practices to prevent obesity (Haines et al., 2016; Harvey-Berino & Rourke, 2003; Østbye et al., 2012), no prevention efforts, to date, have attempted to change the parent-child relationship to reduce young children’s obesity risk. In this paper, we describe the rationale for and development of an innovative prevention program: Parent-Child Interaction Therapy-Health (PCIT-Health). First, we review the risk factors for the onset of obesity during childhood and assess current approaches to preventing child obesity, including limitations. Next, we articulate the theoretical links and empirical evidence that make PCIT a logical model to reduce the risk for childhood obesity. Finally, we describe the adaptation of the standard PCIT model into the PCIT-Health model and conclude with next steps for evaluating the adaptation.

9. Eck, Kaitlyn M., Delaney, Colleen L., Leary, Miriam P., et al. “My Tummy Tells Me” Cognitions, Barriers and Supports of Parents and School-Age Children for Appropriate Portion Sizes. NUTRIENTS. 2018 10 8 N.PAG-N.PAG. Larger portion sizes have increased in tandem with the rise in obesity. Elucidation of the cognitions of children and parents related to portion size is needed to inform the development of effective obesity prevention programs. This study examined cognitions of parents (n = 36) and their school-age children (6 to 11 years; n = 35) related to portion sizes via focus group discussions. Parents and children believed controlling portion sizes promoted health and weight control. Some parents felt controlling portions was unnecessary, particularly if kids were a healthy weight because kids can self-regulate intake. Barriers to serving appropriate portions identified by parents focused largely on kids getting enough, rather than too much, to eat. Parents also identified
lack of knowledge of age-appropriate portions as a barrier. Facilitators of portion control cited by parents included purchasing pre-portioned products and using small containers to serve food. Children relied on cues from parents (e.g., amount of food parent served them) and internal hunger/satiety cues to regulate intake but found it difficult to avoid overeating highly palatable foods, at restaurants, and when others were overeating. Results suggest obesity prevention interventions should aim to improve portion sizes cognitions, barrier management, and use of facilitators, in families with school-age children.

10. Eneli, Ihuoma U., Howell, Candace, Rose, Megan E., et al. *The Primary Care Obesity Network: Translating Expert Committee Guidelines on Childhood Obesity Into Practice*. CLIN PEDIATR. 2018 57 9 1069-1079. Childhood obesity remains a serious public health threat. There is an urgent need for innovative, effective, and sustainable interventions for childhood obesity that are multisector, integrated, and pragmatic. Using the 2007 Expert Committee on the Assessment, Prevention, and Treatment of Child and Adolescent Overweight and Obesity as a guide, a tertiary care obesity program at a children’s hospital established the Primary Care Obesity Network (PCON). This article describes the structure, implementation, resources, and outcome measures of the PCON, a network of primary care practices and a tertiary care obesity center established to prevent and treat childhood obesity in Central Ohio. This program offers an opportunity to assess how and whether the expert committee guidelines can be translated into practice. As Accountable Care Organizations strive to provide services through the lens of improving population health, the PCON can serve as an example for addressing childhood obesity.

11. Grimminger-Seidensticker, Elke, Möhwald, Aiko, Korte, Johanna and Trojan, Jö. *Body dissatisfaction in normal weight children - sports activities and motives for engaging in sports*. EUR J SPORT SCI. 2018 18 7 1013-1021. Body dissatisfaction is a phenomenon that may already occur in childhood and is linked to a variety of psychosocial risks. As the role of physical activity in the context of body dissatisfaction is still ambivalent, a cross-sectional study with 602 normal weight children (50.2% girls; Mage = 9.23 years; SD = 0.79) was conducted. The children filled in the MoMo-Questionnaire, including items about their physical activities and motives for being physically active, as well as Bender’s Body Esteem and Muscularity Concern Scale with the three subscales “body satisfaction”, “weight and shape concerns”, and “muscularity concerns”. Independent t-tests revealed that girls were less worried about muscularity than boys (Mgirls = 1.94, SDgirls = 1.11 vs. Mboys = 3.12, SDboys = 1.43; t(560) = 11.33, p < .001, Cohen’s d = 0.92), whereas girls showed greater weight and shape concerns than boys (Mgirls = 2.24, SDgirls = 0.97 vs. Mboys = 2.05, SDboys = 0.92; t(549) = 2.32, p = .02, d = 0.20). In boys, physical activity is associated with less muscularity, weight, and shape concerns. Body satisfaction increases with health and fitness motives. In girls, the role of physical activity is ambivalent: girls who engage in sports do not differ in body dissatisfaction from non-active girls. In sportive girls, weight and shape concerns increased with more health and fitness motives. Finally, the study provides first insights into body dissatisfaction and the different role of physical activity in boys and girls in childhood. Order.
12. Järvholm, Kajsa, Olbers, Torsten, Peltonen, Markku, et al. Binge eating and other eating-related problems in adolescents undergoing gastric bypass: results from a Swedish nationwide study (AMOS). Appetite. 2018 127 349-355. Bariatric surgery is established as a treatment option for adolescents with severe obesity. Little is known about binge eating (BE) and other eating-related problems in adolescents undergoing bariatric surgery. BE, emotional eating, uncontrolled eating, and cognitive restraint were assessed at baseline, and one and two years after gastric bypass using questionnaires in 82 adolescents (mean age 16.9 years, 67% girls). BE was assessed with the Binge Eating Scale (BES) and other eating-related problems with the Three Factor Eating Questionnaire. Change in eating-related problems over time, along with the relationship between eating behaviors and other aspects of mental health and weight outcome, were analyzed. At baseline, 37% of the adolescents reported BE (defined as a BES score >17). Two years after gastric bypass, adolescents reported less problems related to BE, emotional eating, and uncontrolled eating. Improvements were moderate to large. Adolescents reporting BE at baseline also reported more general mental health and psychosocial weight-related problems before and/or two years after surgery, compared to adolescents with no BE. After surgery adolescents with BE before surgery reported more suicidal ideation than those with no BE at baseline. None of the eating-related problems assessed at baseline was associated with weight outcome after surgery. More binge eating, emotional eating, and uncontrolled eating two years after surgery were associated with less weight loss. In conclusion, eating-related problems were substantially reduced in adolescents after undergoing gastric bypass. However, pre-operative BE seem to be associated with general mental health problems before and two years after surgery, including suicidal ideation. Pre-operative eating-related problems did not affect weight outcome, and our results support existing guidance that BE should not be considered an exclusion criterion for bariatric surgery in adolescents.

13. Kâ,K., Rousseau,M.,‐ Tran,S. D., Henderson,M. and Nicolau,B. Association between metabolic syndrome and gingival inflammation in obese children. INT J DENT HYG. 2018 16 3 397-403. Abstract: Background and objective: Our previous work showed a positive association between metabolic syndrome (MetS) and gingival crevicular fluid (GCF) tumour necrosis factor-alpha (TNF-α) in a sample of obese and non-obese children. However, whether this association persists among obese children is unknown. We aim to investigate the extent to which MetS is associated with GCF TNF-α level among obese children. Methodology: We performed a cross-sectional analysis using data from visit 1 of the QUebec Adipose and Lifestyle InvesTigation in YOuth cohort. A total of 219 obese children aged 8-10 years, for whom data were available for both MetS and TNF-α, were included in our analysis. The independent variable, MetS, was defined according to the International Diabetes Federation recommendations. GCF samples were collected from the gingival sulcus using a paper strip, and the concentration of TNF-α was determined by enzyme-linked immunosorbent assay. Analyses included descriptive statistics and sex-specific linear regression analyses adjusting for potential confounders. Results: In this sample comprising only obese children, 24 (10.9%) had MetS. Among obese boys, those with MetS had 44.9% higher GCF TNF-α (95% confidence interval: 16.5%-73.3%) compared to those without MetS. No such association was detected in obese girls. Conclusion: MetS was positively associated with GCF TNF-α concentration in obese boys. These results suggest that obese boys with MetS may have a worse gingival health profile compared to their obese counterpart without MetS.
14. Miller, Alison L., Gearhardt, Ashley N., Retzloff, Lauren, Sturza, Julie, Kaciroti, Niko and Lumeng, Julie C. Early Childhood Stress and Child Age Predict Longitudinal Increases in Obesogenic Eating Among Low-Income Children. ACAD PEDIATR. 2018 18 6 685-691. OBJECTIVE: To identify whether psychosocial stress exposure during early childhood predicts subsequent increased eating in the absence of hunger (EAH), emotional overeating, food responsiveness, and enjoyment of food. METHODS: This was an observational longitudinal study. Among 207 low-income children (54.6% non-Hispanic white, 46.9% girls), early childhood stress exposure was measured by parent report and a stress exposure index calculated, with higher scores indicating more stress exposure. Eating behaviors were measured in early (mean, 4.3; standard deviation, 0.5 years) and middle (mean, 7.9; standard deviation, 0.7 years) childhood. Observed EAH was assessed by measuring kilocalories of palatable food the child consumed after a meal. Parents reported on child eating behaviors on the Child Eating Behavior Questionnaire. Child weight and height were measured and body mass index z score (BMIz) calculated. Multivariable linear regression, adjusting for child sex, race/ethnicity, and BMIz, was used to examine the association of stress exposure with rate of change per year in each child eating behavior. RESULTS: Early childhood stress exposure predicted yearly increases in EAH (β = 0.14; 95% confidence interval, 0.002, 0.27) and Emotional Overeating (β = 0.14; 95% confidence interval, 0.008, 0.27). Stress exposure was not associated with Food Responsiveness (trend for decreased Enjoyment of Food; β = -0.13; 95% confidence interval, 0.002, -0.26). All child obesogenic eating behaviors increased with age (P < .05). CONCLUSIONS: Early stress exposure predicted increases in child eating behaviors known to associate with overweight/obesity. Psychosocial stress may confer overweight/obesity risk through eating behavior pathways. Targeting eating behaviors may be an important prevention strategy for children exposed to stress.

15. Muñoz-Hernandez, Victoria, Arenaza, Lidé, Gracia-Marco, Luis, et al. Influence of Physical Activity on Bone Mineral Content and Density in Overweight and Obese Children with Low Adherence to the Mediterranean Dietary Pattern. NUTRIENTS. 2018 10 8 N.PAG-N.PAG. The objective of the present cross-sectional study was to examine the associations of physical activity and the adherence to the Mediterranean dietary pattern (MDP) with bone mineral content (BMC) and density (BMD) in children with overweight and obesity. A total of 177 (n = 80 girls) children with overweight and obesity aged 8 to 12 years old participated in the study. Both BMC and BMD were assessed by Dual-Energy X-ray absorptiometry. Dietary patterns were assessed by the KIDMED questionnaire and two 24-hour recalls. Physical activity was assessed by accelerometers for 7 consecutive days (24 hours/day). Low adherence to the MDP was observed in 82.4% of participants. Higher physical activity levels (of at least moderate intensity) and lower sedentary time were significantly associated with BMC and BMD in children with overweight and obesity (all p < 0.05). No associations were observed between physical activity and BMC and BMD in children with high adherence to the MDP. In conclusion, engaging in moderate to vigorous physical activity and reducing the time spent in sedentary behavior might be particularly beneficial for improving bone health in overweight or obese children with poor adherence to the Mediterranean dietary pattern.

16. Paul, Ian M., Savage, Jennifer S., Anzman-Frasca, Stephanie, et al. Effect of a Responsive Parenting Educational Intervention on Childhood Weight Outcomes at 3 Years. All eUpdates are produced by Knowledge Services, NHS Lanarkshire
Rapid growth and elevated weight status in early childhood increase risk for later obesity, but interventions that improve growth trajectories are lacking. Objective: To examine effects of a responsive parenting intervention designed to promote developmentally appropriate, prompt, and contingent responses to a child's needs on weight outcomes at 3 years. Design, Setting, and Participants: A single-center randomized clinical trial comparing a responsive parenting intervention designed to prevent childhood obesity vs a home safety intervention (control) among 279 primiparous mother-child dyads (responsive parenting group, 140; control group, 139) who enrolled and completed the first home visit from January 2012 through March 2014 with follow-up to age 3 years (completed by April 2017). Interventions: Research nurses conducted 4 home visits during infancy and annual research center visits. The responsive parenting curriculum focused on feeding, sleep, interactive play, and emotion regulation. The control curriculum focused on safety. Main Outcomes and Measures: The primary outcome was body mass index (BMI) z score at 3 years (z score of 0 represents the population mean; 1 and -1 represent 1 SD above and below the mean, respectively). BMI percentile at 3 years was designated previously as the primary outcome. Secondary outcomes included the prevalence of overweight (BMI ≥85th percentile and <95th percentile) and obesity (BMI ≥95th percentile) at 3 years. Results: Among 291 mother-child dyads randomized, 279 received the first home visit and were included in the primary analysis. 232 mother-child dyads (83.2%) completed the 3-year trial. Mean age of the mothers was 28.7 years; 86% were white and 86% were privately insured. At age 3 years, children in the responsive parenting group had a lower mean BMI z score (-0.13 in the responsive parenting group vs 0.15 in the control group; absolute difference, -0.28 95% CI, -0.53 to -0.01; P = .04). Mean BMI percentiles did not differ significantly (47th in the responsive parenting group vs 54th in the control group; reduction in mean BMI percentiles of 6.9 percentile points 95% CI, -14.5 to 0.6); P = .07). Of 116 children in the responsive parenting group, 13 (11.2%) were overweight vs 23 (19.8%) of 116 children in the control group (absolute difference, -8.6% 95% CI, -17.9% to 0.0%; odds ratio OR, 0.51 95% CI, 0.25 to 1.06]; P = .07); 3 children (2.6%) in the responsive parenting group were obese vs 9 children (7.8%) in the control group (absolute difference, -5.2% 95% CI, -10.8% to 0.0%; OR, 0.32 95% CI, 0.08 to 1.20]; P = .09). Conclusions and Relevance: Among primiparous mother-child dyads, a responsive parenting intervention initiated in early infancy compared with a control intervention resulted in a modest reduction in BMI z scores at age 3 years, but no significant difference in BMI percentile. Further research is needed to determine the long-term effect of the intervention and assess its efficacy in other settings. Trial Registration: ClinicalTrials.gov Identifier: NCT01167270.

17. Pratt, Keeley J. and Skelton, Joseph A. Family Functioning and Childhood Obesity Treatment: A Family Systems Theory-Informed Approach. ACAD PEDIATR. 2018 18 6 620-627. Childhood obesity recommendations advise providers to use family-based care for the treatment of youth and adolescent obesity. Family-based care, defined as the inclusion of a caregiver and a youth, is commonly conducted through behavioral interventions that target the dietary and physical activity behaviors of the attending parent-youth dyads. However, focusing on behaviors isolated to the parent and youth neglects the rest of the family members, and the larger rules, routines, communication, and dynamics in the family. Family-based interventions grounded in family systems theory (FST) target family dynamics...
to influence weight-related behaviors through higher-level changes in the family. The utility of using FST in childhood obesity treatment has not been extensively conceptualized or applied. Few outcome studies have reported on variables representative of FST, and even fewer FST interventions have been conducted. Because of the lack of detail on the application of FST to childhood obesity treatment, providers are left with little clarity on how to use FST in clinical encounters. We provide the background and evidence for use of FST, detail how families organize around weight-related behaviors that contribute to obesity, and on the basis of their organization, what type of treatment might be beneficial, FST-informed or family-based behavioral interventions. Finally, a suggested family-based clinical algorithm is provided detailing the use of FST through assessment, intervention, and follow-up that can be refined over time by providers and researchers committed to viewing obesity in the context of the family and family dynamics. Order.

18. Sandvik, Pernilla, Ek, Anna, Somaraki, Maria, Hammar, Ulf, Eli, Karin and Nowicka, Paulina. Picky eating in Swedish preschoolers of different weight status: application of two new screening cut-offs. INT J BEHAV NUTR PHYS ACT. 2018 15 1 N.PAG-N.PAG. Background: Characteristics of picky eaters of different weight status have not been sufficiently investigated. We used two newly developed screening cut-offs for picky eating in the Food Fussiness (FF) subscale of the Child Eating Behavior Questionnaire (CEBQ) to investigate the prevalence and characteristics of picky eaters in preschool-aged children with thinness, normal weight, overweight or obesity. Methods: Data for 1272 preschoolers (mean age 4.9 years) were analyzed. The parent-reported FF subscale ranges from 1 to 5, and two screening cut-offs were applied to classify children as picky eaters (3.0 and 3.33). Structural Equation Modeling was used to study associations with other factors in the CEBQ, the Child Feeding Questionnaire (CFQ) and the Lifestyle Behavior Checklist (LBC). Scores were compared separately for each weight status group. Results: Nearly half of the children were classified as moderate or severe picky eaters (cut-off 3.0) and 30% as severe (cut-off 3.33). For both cut-offs, prevalence was significantly lower in the obesity group. Still, one-third of children with obesity met the cut-off of 3.0 and 17% met the cut-off of 3.33. While picky eaters displayed similar patterns across weight status groups, some differences emerged. Food responsiveness was lower for picky eaters, but the difference was significant only among children with obesity. Slowness in eating was not as pronounced among picky eaters in the obesity group. In the overweight and obesity groups, parents of picky eaters did not report as high pressure to eat, as compared to the thinness or normal weight groups; in the obesity group, parents of picky eaters also perceived their children's weight as lower. In all weight status groups, parents of picky eaters were more likely to report their children had too much screen time, complained about physical activity, and expressed negative affect toward food. Conclusions: Picky eating was less common but still prevalent among children with obesity. Future studies should investigate the potential influence of picky eating on childhood overweight and obesity. Moreover, as children with picky eating display higher emotional sensitivity, further research is needed to understand how to create positive eating environments particularly for children with picky eating and obesity.

PEDIATR EXERC SCI. 2018 30 3 426-432. Purposes: To examine the association between sedentary time (ST) and light physical activity (LPA), moderate- to vigorous-intensity physical activity (MVPA), and body mass index (BMI), and to track these behaviors over a 3-year follow-up in young schoolchildren. Methods: The final sample was 64 children (female: n = 36 or 56.3%), enrolled in schools in Porto, Portugal. Height and mass of children were measured by standard methods, and BMI was then calculated. ST, LPA, and MVPA were measured by accelerometer. Changes (Δ) and relative changes (Δ%) between 2009/2010 and 2012/2013 of ST, LPA, MVPA, and BMI were computed. Multiple linear regression analyses were fit to predict Δ%ST (outcome variable), by ΔLPA, ΔMVPA, and ΔBMI (exposure variables). Results: ST increased and LPA decreased significantly for whole sample (both Ps < .05). No statistically significant difference was found for MVPA over time. There were no differences for ΔST, ΔLPA, ΔMVPA, and ΔBMI between boys and girls. The ΔLPA and ΔMVPA were negatively associated with ΔST, whereas ΔBMI was positively associated. Tracking coefficients varied from moderate to strong. Conclusions: Time spent in ST increases due to displacement of time in LPA. This reinforces public health measures and suggests the need for interventions focusing on offsetting the decline ST and increasing MVPA during childhood. Order.

20. Schaap, Rosanne, Bessem, Kathelijine, Otten, René, Kremers, Stef and van Nassau, Femke. Measuring implementation fidelity of school-based obesity prevention programmes: a systematic review. INT J BEHAV NUTR PHYS ACT. 2018 15 1 N.PAG-N.PAG. Background: Until now, there is no clear overview of how fidelity is assessed in school-based obesity prevention programmes. In order to move the field of obesity prevention programmes forward, the current review aimed to 1) identify which fidelity components have been measured in school-based obesity prevention programmes; 2) identify how fidelity components have been measured; and 3) score the quality of these methods. Methods: Studies published between January 2001–October 2017 were selected from searches in PubMed, EMBASE, PsycINFO, CINAHL, Cochrane Library and ERIC. We included studies examining the fidelity of obesity prevention programmes (nutrition and/or physical activity and/or sitting) at school (children aged 4–18 year) measuring at least one component of implementation fidelity. A data extraction was performed to identify which and how fidelity components were measured. Thereafter, a quality assessment was performed to score the quality of these methods. We scored each fidelity component on 7 quality criteria. Each fidelity component was rated high (> 75% positive), moderate (50–75%) or low (< 50%). Results: Of the 26,294 retrieved articles, 73 articles reporting on 63 different studies were included in this review. In 17 studies a process evaluation was based on a theoretical framework. In total, 120 fidelity components were measured across studies: dose was measured most often (N = 50), followed by responsiveness (N = 36), adherence (N = 26) and quality of delivery (N = 8). There was substantial variability in how fidelity components were defined as well as how they were measured. Most common methods were observations, logbooks and questionnaires targeting teachers. The quality assessment scores ranged from 0 to 86%; most fidelity components scored low quality (n = 77). Conclusions: There is no consensus on the operationalisation of concepts and methods used for assessing fidelity in school-based obesity prevention programmes and the quality of methods used is weak. As a result, we call for more consensus on the concepts and clear reporting on the methods employed for measurements of fidelity to increase the quality of fidelity measurements. Moreover, researchers should focus on the relation between fidelity
and programme outcomes and determine to what extent adaptations to programmes have been made, whilst still being effective. http://dx.doi.org/10.1186/s12966-018-0709-x

21. Sen, Merve, Uzuner, Arzu, Akman, Mehmet, Bahadir, Aliye Tugba, Borekci, Nazire Oncul and Viggiano, Emanuela. Examination of a board game approach to children's involvement in family-based weight management vs. traditional family-based behavioral counseling in primary care. Eur.J.Pediatr. 2018 177 8 1231-1238. The most effective intervention model for childhood obesity is known as family-based behavioral group treatments. There are also studies that investigate the effects of educational games for children to gain healthy eating and physical exercise habits. The aim of this study was to compare the efficacy of a family-based group treatment with an educational game (Kaledo) intervention in childhood obesity. Kaledo is a board game that was designed to improve nutritional knowledge and healthy lifestyle habits. It is played with nutrition and activity cards that players can select from, and a total score is calculated in the end of the game according to energy intake and expenditure. Obese children between 9 and 12 ages were involved in this study. Participants randomly divided into behavioral and game intervention groups. Clinical evaluation was performed in the first and second counseling in both groups. Marmara University Family Medicine Department Obese Children and Adolescents Interview Form, Physical Activity Evaluation Form, and Three-day Food Record Form were used for this purpose. Strengths and Difficulties Questionnaire-Parent Report Version and Children's Depression Inventory were used for the assessment of psychiatric symptoms. After the clinical evaluation, an education session about healthy eating and physical activity was attended by both groups. After that, for the behavioral groups, parents and children were assigned to different groups, while for the game intervention group, parents were assigned to behavioral sessions and children were assigned to game (Kaledo) sessions. A total of six sessions with 1-h duration and 2-week interval were performed in both groups. Height and weight were measured in each session and analysis was performed on the data of the children who participated in all of the sessions. Although a total of 108 children were clinically evaluated, 52 children and their parents, 26 in the behavioral group and 26 in the game intervention group, participated in two or more sessions. Twenty-four participants, 12 in behavioral and 12 in the game intervention group, finished the study by participating in all of the six sessions. Thus, dropout rate was 74%. BMI and BMI z-scores decreased in both groups compared with the initial measures and these changes were statistically significant. For the behavioral group, these changes were -1.01 (25.44 to 24.43, p = 0.03) and -0.17 (2.07 to 1.90, p = 0.000) and for the game group, -0.74 (26.98 to 26.24, p = 0.007) and -0.09 (2.07 to 1.98, p = 0.003). There were no significant differences between behavioral and game intervention groups in point of BMI and BMI z-scores (p = 0.130 and p = 0.706). Conclusion: Family-based behavioral group treatment and game (Kaledo) intervention were found to be effective in childhood obesity management in this research. There was no significant difference between the two interventions. According to this study, these intervention models can be advised to primary care physicians to be used in the management of childhood obesity. What is Known: - Family-based behavioral group treatment is known as the most efficient model for childhood obesity management. What is New: - In this study, for the first time, a game (Kaledo) intervention was found to be effective in childhood obesity management. - Compared with family-based behavioral group treatment, there was no significant difference between the two interventions.
22. Toftemo, Ingun, Jenum, Anne Karen, Lagerlov, Per, et al. **Contrasting patterns of overweight and thinness among preschool children of different ethnic groups in Norway, and relations with maternal and early life factors.** BMC Public Health. 2018 18 1 N.PAG-N.PAG. Background: Childhood obesity is a worldwide health challenge and risk factor for adult life obesity, which predisposes to development of type 2 diabetes and cardiovascular diseases. However, also thinness in early life has been related to these diseases, especially if followed by fat gain. In European countries, susceptibility to cardio-metabolic diseases varies considerably between ethnic groups. We investigated ethnic differences in overweight and thinness in a multi-ethnic, population-based cohort of preschool children in Norway, and associations with maternal and early postnatal factors. Methods: Participants were children aged 4-5 years (n = 570) drawn from the population-based STORK Groruddalen cohort of healthy women and offspring followed from early pregnancy. Ethnic groups were: European (n = 298), South Asian (n = 154), and Middle East/North African (n = 118). Children's growth data were provided from routine visits at local Child Health Clinics. Weight status was defined by the International Obesity Task Force. Using multinomial logistic regression analysis, we explored ethnic differences in overweight and thinness, and associations with maternal-, pre-, and postnatal factors. Results: Children of Middle East/North African origin had higher prevalence of overweight (22.0%) compared to European (12.8%) children, and in adjusted logistic regression analysis almost the double risk (OR 1.98; 95%CI: 1.08-3.63). Prevalence was lower in children of South Asian origin (5.2%). Children with South Asian background had higher prevalence of thinness (26.0%) compared to ethnic Europeans (10.4%), and the double risk (OR 2.20; 95%CI: 1.25-3.87) in adjusted models. Applying newly suggested BMI adjustments in South Asian children, taking into account their relatively increased adiposity, markedly increased the prevalence of overweight, and decreased the prevalence of thinness in this subgroup. Birthweight and maternal prepregnant overweight were strongly, positively associated with overweight, and inversely associated with thinness. Lower maternal age was associated with overweight only. Conclusions: In a multi-ethnic cohort we found strikingly different patterns of overweight and thinness among children of different ethnic groups at age 4-5 years, and a strong association between maternal BMI and their children's weight status. More knowledge is needed on what characterizes and what promotes healthy growth patterns in multi-ethnic populations.

23. Verhage, Chantal L., Gillebaart, Marleen, van, der Veek and Vereijken, Carel M. J. L. **The relation between family meals and health of infants and toddlers: A review.** Appetite. 2018 127 97-109. Family meals are associated with multiple health benefits in children and adolescents including evidence that eating together as a family may play a role in reducing childhood obesity. The current review aims to investigate whether the beneficial health effects of the family meal also apply to infants and toddlers. PubMed, Web of Science, Scopus and PsycInfo were searched and 14 empirical studies were identified. The findings were discussed according to frequency of having a family meal and parental perception, associations between the family meal and health aspects (e.g., eating behaviors and diet quality) and causal influences of these associations. Descriptive data showed that mothers offer food at a structured mealtime, but that eating together as a family was not always upheld. The frequency of family meals was positively associated with more nutrient-dense food intake and a more balanced diet. Different advantages (e.g., social importance, practical considerations) and obstacles (e.g., planning, possible mess) of the family meal were mentioned by parents. Further, having structured mealtimes and family meals was
associated with more food enjoyment and less fussy and emotional eating. Finally, no causal studies were identified. The limited number of studies suggests that the pattern of positive associations between family meal and child health which has been shown in older children may also exist in infants and toddlers. More specific research is needed to examine the causality of the associations between the family meal and health of the infant and toddler. The associations between the family meal and less fussiness and emotional eating, more food enjoyment and better nutrient intake suggest that the family meal is a valuable moment to promote healthy eating in toddlers and infants.

24. Vidgen, Helen A., Love, Penelope V., Wutzke, Sonia E., et al. A description of health care system factors in the implementation of universal weight management services for children with overweight or obesity: case studies from Queensland and New South Wales, Australia. IMPLEMENT SCI. 2018 13 1 N.PAG-N.PAG .Background: The prevalence of childhood obesity poses an urgent global challenge. The World Health Organization (WHO) Commission on Ending Childhood Obesity recommends the provision of appropriate family-based, lifestyle weight management services through universal health care to support families of children with overweight or obesity; however, there are few examples of their implementation ‘at scale’. The purpose of this research was to compare and contrast the impact of system and organisational factors on the implementation of childhood obesity management services within two Australian States (New South Wales and Queensland) to comprehensively describe their influence on the achievement of the WHO recommendation. Methods: Purposeful stratified sampling was used to select health service study sites (n = 16) representative of program implementation (none, discontinued, repeated) and geographic location within each State. Within each health service site, staff involved in program delivery, co-ordination and management roles participated (n = 39). An additional 11 staff involved in implementation at State level also participated. The Consolidated Framework for Implementation Research (CFIR) was used to develop interview scripts. Telephone interviews were recorded and transcribed. Transcripts were thematically coded and scored according to CFIR constructs and rating rules to identify enablers and barriers to implementation according to sample characteristics. Results: New South Wales achieved ongoing implementation; Queensland did not. Enablers included a quality evidence-based program, State government recognition of the urgency of the health issue and a commitment to address it, formally appointed and funded internal implementation leaders, strong communication and reporting at all levels. Barriers included the complexity of the health issue, in particular a lack of clear roles and responsibilities for local health service delivery, inadequate ongoing funding and challenges in meeting the diverse needs of families. Conclusions: This research is an important progression of the evidence base in relation to the translation of childhood obesity management trials into routine health service delivery. Understanding enablers and barriers to program implementation ‘at scale’ is imperative to inform future planning and investment by Australia and WHO member states to meet their commitment to deliver childhood weight management services as part of universal health coverage.

25. Walter, Lisa M., Tamanyan, Knarik, Limawan, Albert P., et al. Overweight and obese children with sleep disordered breathing have elevated arterial stiffness. Sleep Med. 2018 48 187-193 .Background: The prevalence of obese children with sleep disordered breathing (SDB) is increasing. Obesity and SDB are independent cardiovascular risk factors, of which arterial stiffness is an early sign. Pulse wave velocity (PWV), is a marker of arterial
stiffness and central systolic blood pressure (cSBP) is a better predictor of cardiovascular outcome than peripheral blood pressure. Therefore, we aimed to determine PWV and cSBP in overweight/obese or normal weight children with sleep disordered breathing (SDB), and non-snoring normal weight controls.

Methods: Children (3-18 y) with SDB (overweight/obese BMI z-scores ≥ 1.04), n = 48; normal weight n = 44) referred for clinical assessment of SDB and normal weight non-snoring controls recruited from the community (n = 38) underwent overnight polysomnography. PWV was calculated using photoplethysmography. cSBP was calculated using applanation tonometry in a subset of children older than 8 y (n = 55) who had usable waveforms.

Results: Overweight/obese SDB group had higher PWV (mean cm/s (95% CI); wake: 366 (355-380); sleep: 340 (324-357)), than the normal-weight SDB group (wake: 257 (247-267), p = 0.002; sleep: 255 (242-269), p = 0.005), and non-snoring controls (wake: 238 (226-249), p = 0.002; sleep: 235 (220-250), p < 0.001). The normal-weight SDB group had higher PWV than controls (p = 0.03). Overweight/obese children with SDB had higher cSBP (105 (100-110) mmHg) compared with the normal weight children with SDB (96 (90-102)) and the non-snoring controls (97 (91-104); p < 0.05 for both).

Conclusion: This study suggests that overweight/obesity substantially worsens the cardiovascular sequelae of SDB, highlighting the imperative to treat obesity and SDB in children early in order to reduce future cardiovascular disease risk.

26. Williams, A., de Vlieger, N., Young, M., et al. Dietary outcomes of overweight fathers and their children in the Healthy Dads, Healthy Kids community randomised controlled trial. J.Hum.Nutr.Diet. 2018 31 4 523-532 .Abstract: Background: Few studies have examined dietary intake changes following a weight loss intervention in fathers and the association between father–child dietary intakes. The present study aimed to: (i) evaluate the change in dietary intake in overweight fathers randomised to a family-based lifestyle intervention Healthy Dads Healthy Kids (HDHK)] versus controls and (ii) investigate whether an association exists between father–child dietary intakes. Methods: A secondary analysis was conducted of father–child baseline and 3-month post-intervention data (n = 93) collected in the HDHK community randomised controlled trial. Intention-to-treat linear mixed models were used to assess dietary changes by group, time (baseline and 3-month) and the group-by-time interaction. Cohens d was used to determine effect sizes. Results: Significant group-by-time effects (all P < 0.05) favouring fathers in the intervention group were identified for total daily energy intake (−1956 kJ, d = 0.74), total sugars (−45 g, d = 0.63), sodium (−414 mg, d = 0.58) and % energy from nutrient-dense, core foods (+10.1%, d = 0.86), fruit (+2.4%, d = 0.71), vegetarian protein sources (+1.2%, d = 0.57), pre-packed snacks (+1.7%, d = 0.58) and sugar-sweetened beverages (−4.1%, d = 0.58). At baseline, positive correlations were observed between father–child intakes for a number of dietary variables, and significant correlations were observed between father–child change scores for % energy carbohydrate (r = 0.35, P = 0.023), % energy from fruit (r = 0.47, P = 0.002), vegetarian protein sources (r = 0.46, P = 0.002) and frequency of consuming meals with vegetables (r = 0.38, P = 0.012). Conclusions: The HDHK intervention successfully improved some aspects of father’s dietary intakes compared to controls. The fathers’ eating patterns also correlated with those of their children for several dietary variables. These novel data suggest that fathers can be targeted as agents of dietary change within obesity prevention and treatment programmes.
27. Wiseman, Kara P., Patel, Minal, Dwyer, Laura A. and Nebeling, Linda C. **Perceived weight and barriers to physical activity in parent-adolescent dyads.** Health Psychol. 2018 37 8 767-774. **Objective:** Family-based physical activity interventions have the potential to reduce obesity, but more information is needed regarding physical activity in the family context. This study used an actor-partner interdependence model to estimate the dyadic association between perceived weight status and barriers to physical activity in dyads of adults and their adolescent children. It was hypothesized that greater perceived weight would be associated with greater barriers perceived by both one’s self and one’s partner. **Method:** Data from 1,568 dyads in the Family Life, Activity, Sun, Health, and Eating study were used to examine the dyadic association between perceived weight status (i.e., greater perceived weight category) and barriers to physical activity. Models were stratified by actual weight (an overweight or obese dyad member vs. two normal weight dyad members) and adjusted for parent education, parent and adolescent age, gender, and race. **Results:** Among dyads with at least 1 overweight/obese member, greater perceived weight status was positively associated with one’s own perceived barriers (significant actor effects, $\beta$s = 1.17 and 1.03, $p$s < 0.01) and one’s partner’s perceived barriers (significant partner effects, $\beta$s = 0.38 and 0.62, $p$s < 0.01). No statistically significant relationships were found for dyads with only normal weight members. **Conclusions:** Among dyads with at least 1 overweight or obese member, significant partner effects for parents and adolescents demonstrate that the weight perception of 1 dyad member correlates with the barriers of the other member. These dyadic associations highlight the potential importance of family-based interventions for physical activity.

28. Xu, Joshua, Hardy, Louise L., Guo, Cici Z. and Garnett, Sarah P. **The trends and prevalence of obesity and morbid obesity among Australian school-aged children, 1985-2014.** J.Paediatr.Child Health. 2018 54 8 907-912. **Aim:** Children with obesity have a greater risk of adverse social and physical health outcomes. We examined temporal changes in body mass index (BMI) z-scores and the prevalence obesity and morbid obesity in children from 1985 to 2014. **Methods:** Secondary data analysis of BMI data for children aged 7-15 years from five cross-sectional Australian datasets. Changes in age- and gender-adjusted BMI (BMI z-scores) and nutritional status were categorised using the International Obesity Task Force cut-off points. **Results:** The percentage of children who were obese tripled between 1985 and 1995 from 1.6 to 4.7%, before plateauing between 1995 and 2014. The percentage of morbidly obese children was <1% in 1985 and 1995, increasing to 2% between 1995 and 2007, with no further increase between 2007 and 2014. The proportion of obese children classified as morbidly obese was 12% in 1985-1995, 24% in 2007-2012 and 28% in 2014. Between 1985 and 2012, the mean BMI z-score increased in children categorised as obese from 1.94 (standard deviation 0.15) to 2.03 (0.22), and then plateaued. For morbidly obese children, the mean BMI z-score was 2.4 (0.13) and remained similar over the study period. **Conclusions:** Our findings suggest that the relative fatness of children with morbid obesity, as measured by BMI z-score, has remained stable. The proportion of obese and morbidly obese children has also plateaued between 2007 and 2014. However, the prevalence of obesity remains high, and more dedicated resources are required to treat children with obesity to reduce the short- and long-term health impact.
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