OBESITY PREVENTION AND MANAGEMENT AND PEDIATRIC OBESITY IN THE TIME OF COVID-19

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Disclosure

- I have no relevant financial relationships with the manufacturers(s) of any commercial products(s) and/or provider of commercial services discussed in this CME activity
- I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.

About me

Undergraduate degree: Kansas State University, Nutritional Sciences
Medical School: University of Kansas Medical School
Residency: Phoenix Children's Hospital/Maricopa County Medical Center
  - Obesity Clinic within the Endocrine Department

Currently in private practice at Pediatric Partners in Overland Park

The Problem

• Childhood obesity is one of the most serious public health problems of the 21st century
• In 2012, approximately 31.8% of children 2-19 were overweight or obese in the US
• Today’s children may have a shorter lifespan than their parents


The State of Obesity:

Kansas

Children ages 1-4 participating in WIC
12.5%

Children ages 10-17
10.6%

High School Students
15.1%

https://stateofchildhoodobesity.org

Obesity: Definition

• Obesity
  • Excessive accumulation and storage of fat in the body
• Body mass index (BMI)
  • Kilogram/meter$^2$
  • Body weight adjusted for height
• Screening tool that correlates with body fat and health risks
• Children: Age and gender specific

Obesity: Definition

- Overweight BMI 85-94%
- Most will have excess body fat
- Obesity BMI >95%
- Almost all have excess body fat


COVID-19 and Obesity

COVID-19 and Pediatric Obesity

- Less well visits
- Parents and patients more stressed
- Nutrition and activity suffers with increased stress
- Challenges of quarantine
- Food sources different
- Changes in physical activity
- Changes in sleep patterns and quality
- Child care concerns
- Unemployment, food insecurity
- Mental health issues
- Violence

Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older

Treatment

- Stage 1 and 2—In Primary care office
- Stage 3—Pediatric Multidisciplinary clinic with Multidisciplinary team
- Stage 4—Pediatric Weight Management center
But can I get paid?

YES!!

- Justify medical decision making
- Bill based on time
- Use co-morbidities as ICD-10 when appropriate
  - Abnormal Weight Gain R53.5
  - Elevated blood pressure reading, without diagnosis of hypertension R04.0
  - Pure hyperglycemia E18.1
  - Acanthosis Nigricans L83
- Use “Abnormal weight gain” instead of “Obesity” when appropriate

How to make an impact

- Inform why we are concerned
  - Terminology
- Assess readiness
  - Motivational interviewing
- Talk about current habits
  - Surveys, diet history
- Small achievable goals
  - Patient led
  - Action Plan/toolkit
- Close follow up
  - Every month
  - Keep accountable
  - Focus on achieving goals, not on weight
  - See progress
- Get creative

Case study

9 yr old female
BMI dropped from 11/11/19 to 10/15/20
Only change noted is no longer eating lunch at school, stopped chocolate milk (was previously getting at school), activity level essentially unchanged.

National School Lunch Program

- Established in 1946 by President Harry Truman
- 30.4 million children participated in 2016
- In March 2020 schools transitioned to more “grab and go” options and more flexibility for delivery to students
- USDA issued a series of waivers granting more flexibility in how meals could be prepared, packaged, and served

School Lunch Program--Benefits

- “Nutritionally balanced low or no cost lunches to children”
- Change in nutritional standards may have contributed to healthier weight among school-age children, especially low income families
- Reduce food insecurity among students

School Lunch Program--Challenges

- Parents’ impression that school lunch is “healthy”
- Although fruits and vegetables are offered, unhealthy foods are also offered
- Focus on “kid food”
- Multiple options often provided and rely on kids to make good choices
- Although whole grains and low-fat options are now a priority, no focus on sugar intake
  - Chocolate milk, strawberry milk, or juice are common choices
School breakfast and lunch

Chocolate Milk: 18 g sugar (7 g added sugar)
Juice: 12 g sugar
Honey Nut Cheerios: 9 g sugar (9 g added sugar)
Fruit Snacks: 15 g sugar (15 g added sugar)

Sugar intake

Total: 54 g sugar = 13.5 teaspoons = Over ¼ cup added sugar per day (only breakfast and lunch)

Sugar tips to share with parents...

• Goal of less than 25 grams of added sugar per day
• Water or white milk as only drinks, educate about sugar intake in drinks
• Look for hidden sources of sugar like ketchup, dried cranberries, salad dressing
• Limit 100% fruit juice (schools and daycares)

Toolkit: Introduction

Improving the Health of Kansas Students - School Based Strategies to Promote and Implement Overweight and Obesity Prevention and Management in the School Setting

• Developed by the School Nurse Advisory Council (SNAC) with oversight and funding from the Kansas Department of Health and Environment, Bureau of Health Promotion through the Centers for Disease Control and Prevention's Preventive Health and Health Services Block Grant
• Goal: to provide school nurses with evidence-based overweight and obesity prevention and management information, tools, and resources to assist with supporting students in achieving optimal health, focusing on weight management

Toolkit: Introduction

• Toolkit for school nurses
• Target 10 counties with risk factors for obesity
• BMI screening at school
• Communication between nurse and healthcare provider using wellness plan
• Education to providers on prevention and treatment of childhood obesity
Toolkit

- School nurses already do hearing, vision screenings
- This toolkit will give them the information to screen for BMI, blood pressure and acanthosis nigricans
- Helps educate school nurses about overweight and obesity prevalence, prevention and treatment

School nurses can partner with primary care physicians to:

- Identify patients who are at risk of underweight, overweight, or obesity and refer these students to their healthcare provider
- Similar to asthma management model
- Continue same education message that comes from PCP
- Help make changes to work on goals
- Encourage psychological support when appropriate

Communication tool

Target Behavior—Portion Sizes

- Goal of less than a palm sized serving of food
- If they want seconds after this, offer the healthiest thing on the menu, usually the fruit or the vegetable
- Consider smaller plate
- Read food labels
- Premeasure serving sizes when appropriate

Target Behavior—Less Junk Food

- Swap junk food snacks for fruits and vegetables
- Limit access to junk food
- No food for rewards
- Limit snacks in general
  - Sports games
  - School activities
  - After school

Target Behavior—Balanced Meals

- Each meal should contain vegetable/fruit, protein, whole grain and healthy fat
- What is a healthy fat
- Eat the rainbow
- Non-meat sources of protein
- Eat meals at home or school
- Limit eating out to twice per week
- Eat as a family
**Target Behavior—Being More Active**

- Goal of 60 minutes per day
- Do not count PE time
- Physical activity as a family ideal
  - Walks, playing tag, bike rides
  - +/- sports practice
- Get creative in the winter
  - Less than 2 hours per day of screen time
  - More challenging with virtual school
  - No TV/ screens during mealtimes
- Step trackers
- Go Noodle, Peloton, Beachbody on Demand

**Target Behavior—5 vegetables and fruits per day**

- Adding a fruit or vegetable to every meal
- Adding a fruit or vegetable to every snack
- Eating the rainbow
- Trying a new fruit or vegetable
- Growing own food

**Target Behaviors—Low Sugar Beverages and Foods**

- Drink only water and white milk
- Limit access to foods with added sugars or hidden sugars
  - Granola bars, yogurt, dried fruits, applesauce, ketchup
- Maintain sugar intake of less than 25 grams per day
- Consider limiting “dessert” or having a set “dessert night” during the week
- If dessert is offered, avoid using it as a reward for eating meal
- Ellyn Satter Institute

**Case study**

- 6 year old female
- CC: Well visit
- HPI: No concerns from parent
- ROS: Unremarkable
- PMH: Unremarkable
- SH: Lives with mom and dad, 2 siblings, 1st grade, doing well, does dance once per week
- BMI 95th percentile, discussed with parent. Mom reports a “big appetite” but not picky
- Discussed limiting processed foods, increased fruits and vegetables, Labs ordered (not done)

**Case Study (continued)**

- Returns for 8 year well visit
- Still Dancing, now also doing horseback riding
- Now mom reports she is picky, doesn’t eat vegetables or meat
- BMI 99th
- Labs ordered (and done!)
  - CMP: Nl except ALT 34 (8-24)
  - Hemoglobin A1C: 5% (<5.7%)
  - Lipid panel: Total Chol 198 (<170)
    - TG 230 (<150)
    - LDL 117 (<110)
    - Non-HDL 152 (<120)
    - HDL 46 (>45)
- Again discussed goals, f/u in office in 1 mo

**Case Study (continued)**

- Returns 1 mo later
- Started a “whole food diet”
  - Portion sizes down and “seems less hungry”
- BMI down to 95th percentile
- Goal: decrease sugar intake, start fish oil supplementation and work on veggies
  - F/U in 3 mos
- Returns 2 mo later
- Family has done well with decreased sugar
- Now patient “feels less tired”
- BMI down to 94th percentile
- Goal: Decrease simple carbs, continue whole food diet, F/U in 3 mos
Case Study (continued)

• Returns 5 mo later
• Has made continued improvements to diet
• BMI now down to 91st percentile
• Continue plan

• Next follow up is 6 mos later for well visit June 2020
• BMI now 95th percentile
• “Suspect related to quarantine”
• Discussed restarting healthy habits
• Plan for flu in 3 mos

Case Study (continued)

• Returns 3 mos later
• She has started dance again, also got a bike after last visit and has started family bike rides
• Has returned to in-person school
• Bringing lunch to school
• BMI 94th percentile
• Goal: Limit sugar to 24 g per day, work on pickiness

• Returns 3 mos later
• Post holidays, not limiting sugar much over the holidays
• BMI 89th percentile
• Continue to work on variety of foods, continue whole foods diet, work on physical activity

Case Study (continued)

• Returns April 2021
• More exercise with nice weather
• Doing well with limiting sugar and continues diet
• Loves smoothie bowls (adding flaxseed and chia seeds)
• Doing healthier options for “treats” that they make about once per week
• Has increased fruits
• Now eating some veggies but still could use some work
• Labs pending

Case Study (continued)

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Resources