

Pediatric Obesity: Current Guidelines and Recommendations

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Disclosures

- I have nothing to disclose

Objectives

- Explore the etiology of childhood obesity
 - Diagnostic criteria
 - Etiology
 - Sociocultural considerations
- Describe assessment, prevention, and treatment options for childhood obesity
 - 2023 AAP Clinical Practice Guidelines
- COVID 19 Impact on Obesity

Definitions

- Overweight
 - BMI between 85th and 95th percentile
- Obesity
 - BMI at or above the 95th percentile
- Severe Obesity
 - Class 2
 - BMI > 120% to 140% of the 95th percentile
 - Class 3
 - \geq 140% of the 95th percentile

AAP Clinical Practice Guidelines

- “Obesity results from a multifactorial set of socioecological, environmental, and genetic influences that act on children and families”
- Does not include:
 - Prevention recommendations
 - Evaluation and/or treatment recommends for children less than 2

Prevalence

- (CDC)
 - 19% of children and adolescents aged 2—19 years are obese
 - 3X increase from 1980 data
 - 12% with BMI above 97%
 - If the epidemiologic model stays stable
 - 57% of children will become obese by age 35

Prevalence

- 2-5 year olds
 - 13.9%
 - No increase from the 1999 data
- 6-11 year olds
 - 18.4%
 - Increase from 15.8%
- 12-19 year olds
 - 20.6%
 - Increase from 16%

Etiology (AAP Guidelines)

TABLE 1 Selected Examples of Multilevel Influencers and Contributors to Obesity

Example	Description
A. Policy factors	<ul style="list-style-type: none">• Marketing of unhealthy foods• Underresourced communities• Food insecurity
B. Neighborhood and community factors	<ol style="list-style-type: none">1. School environment2. Lack of fresh food access3. Fast food proximity4. Access to safe physical activity5. Environmental health
C. Family and home environment factors	<ol style="list-style-type: none">1. Parenting feeding style2. Sugar-sweetened beverages3. Portion sizes4. Snacking behavior5. Dining out and family meals6. Screen time7. Sedentary behavior8. Sleep duration9. Environmental smoke exposure10. Psychosocial stress11. Adverse childhood experiences

Etiology

D. Individual factors

- D.1. Genetic factors
 - a. Monogenetic syndromes and polygenetic effects
 - b. Epigenetic effects
- D.2. Prenatal risk
 - a. Parental obesity
 - b. Maternal weight gain
 - c. Gestational diabetes
 - d. Maternal smoking
- D.3. Postnatal risk
 - a. Birth weight
 - b. Early breastfeeding cessation and formula feeding
 - c. Rapid weight gain during infancy and early childhood
 - d. Early use of antibiotics
- D.4. Childhood risk
 - a. Endocrine disorders
 - b. Children and youth with special health care needs
 - 1. Children with autism spectrum disorder
 - 2. Children with developmental and physical disabilities
 - 3. Children with myelomeningocele
 - c. Attention-deficit/hyperactivity disorder
 - d. Weight-promoting appetitive traits
 - e. Medication use (weight-promoting medications)
 - f. Depression

COVID 19 and Obesity

- Spring 2020 response
 - Increased
 - Screen time
 - High-salt foods
 - Sugary drinks
 - Alcohol
 - Decreased
 - Physical activity

What were the consequences?

COVID 19 and Obesity

- Retrospective chart review
 - 230,453 pediatric healthcare visits
 - January 1, 2018 – January 31, 2022
 - Ages 2-18
- Visits were categorized into periods
 - **Pre-Pandemic**-January 2018-February 2020
 - **Pandemic**-March 2020-January 2021
 - **Post Pandemic**-February 2021-January 2022

BMiZ scores	Pre-Pandemic Period				Pandemic Period				Post-Pandemic			
	Under weight	Healthy Weight	Over weight	Obese	Under weight	Healthy Weight	Over weight	Obese	Under weight	Healthy Weight	Over weight	Obese
Variables												
Sex												
Male	593	28496	18291	15264	210	10716	7316	6772	293	14293	9564	9087
	0.95%	45.49%	29.20%	24.37%	0.84%	42.84%	29.25%	27.07%	0.88%	43.00%	28.78%	27.34%
Female	400	24367	17558	12600	112	9682	7556	5938	157	12871	10008	12871
	0.73%	44.36%	31.97%	22.94%	0.48%	41.58%	32.45%	25.50%	0.51%	41.64%	32.37%	25.48%
Age Group												
2-5	361	11248	5363	2283	97	3872	1889	903	121	5068	2236	992
	1.88%	58.55%	27.92%	11.65%	1.43%	57.27%	27.94%	13.36%	1.44%	60.21%	26.57%	11.79%
6-10	236	13053	8241	5749	62	4080	2838	2304	121	5281	3700	3023
	0.87%	47.85%	30.21%	21.07%	0.67%	43.95%	30.57%	24.82%	1.00%	43.55%	30.52%	24.93%
11-13	202	14889	10615	10077	73	5185	3950	3821	73	6321	4723	4819
	0.56%	41.61%	29.66%	28.16%	0.56%	39.80%	30.32	29.33	0.46%	39.66%	29.64%	30.24%
14-18	194	13673	11630	9800	90	7261	6195	5682	135	10494	8913	8130
	0.55%	38.74%	32.95%	27.76%	0.47%	37.76%	32.22%	29.55%	0.49%	37.92%	32.21%	29.38%
Region												
Rural	413	23830	17146	14812	121	8509	6604	6282	198	11723	9170	8778
	0.73%	42.40%	30.51%	26.36%	0.56%	39.55%	30.69%	29.20%	0.66%	39.25%	30.70%	29.39%
Urban	580	29033	18703	13052	201	11889	8268	6428	252	15441	10402	8186
	0.95%	47.31%	30.48%	21.27%	0.75%	44.39%	30.87%	24.00%	0.74%	45.04%	30.34%	23.88%
C1 = BMiZ Category I (underweight) ($Z < -2.0$) C2 = BMiZ Category II (healthy weight) ($-2.0 \leq Z < 1.0$)												
C3 = BMiZ Category III (overweight) ($1.0 \leq Z < 2.0$) C4 = BMiZ Category IV (Obese) ($2.0 \leq Z \leq 3.0$)												

Pediatric Obesity

- We already had a problem, but now it has worsened
- What do we do?

Assessment

- Overweight children are identified as such by their PCP only 28% of the time
 - Parents identify their own children even less often
- Who was identified?
 - Older children
 - Those with highest body mass index (BMI)
- What are the consequences of missed identification?
 - Missed early intervention for those at-risk of being overweight

How do we assess?

- Obesity assessment should be completed at every Well Child Visit
 - BMI still gold standard
 - 24+ months
 - Diet assessment
 - Diet quality
 - Feeding difficulties
 - Food insecurity
 - Physical activity assessment
 - Screen time

Assessment

- Focused family history
 - Risk of obesity
 - 9% if both parents are lean
 - 60-80% if both parents are obese
- Developmental considerations
 - Increased prevalence in children with special health care needs
- Adverse Childhood Experiences (ACEs)
- Laboratory Evaluation
 - Consider lipid evaluation for 2-9 yo with severe obesity

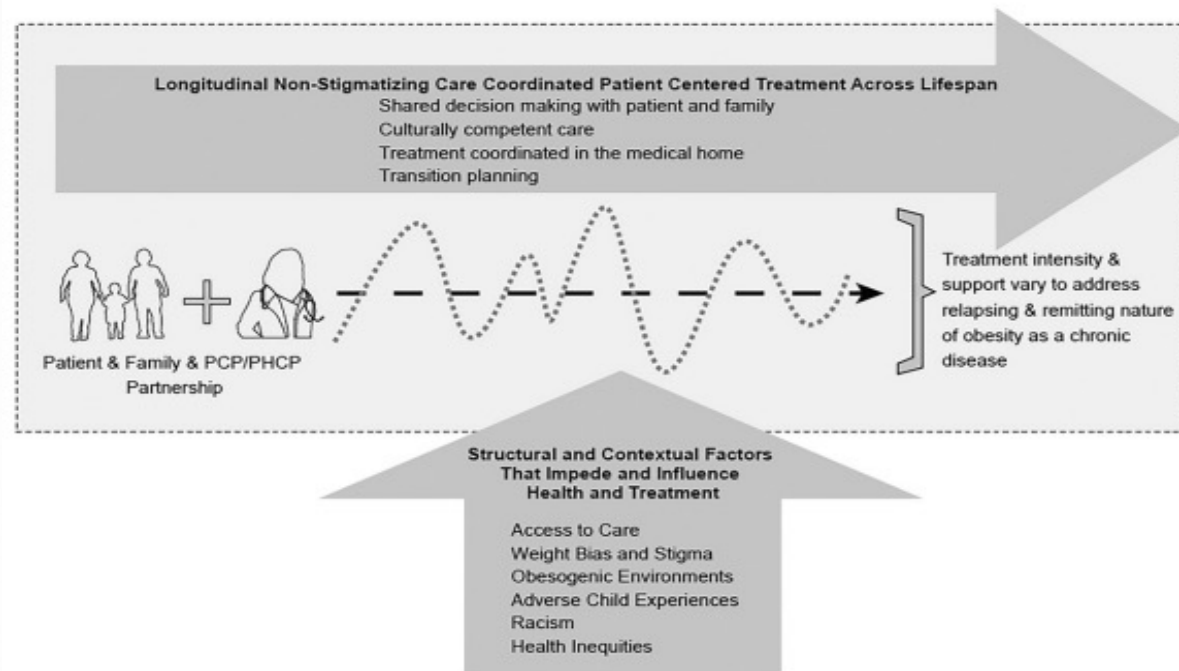
What do we say?

- 3 key factors to facilitate non stigmatizing conversation
 - Ask permission to discuss BMI and/or weight
 - Avoid labeling by using person first language
 - Use words that are perceived as neutral
 - Preferred words: unhealthy weight, too much weight for age, height, or health
 - Non-preferred words: obesity, large, overweight, chubby, fat

What do we do?

- Have the conversation
- Assess factors impacting the family
- Assess readiness to change

New Gold Standard








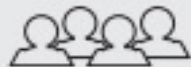

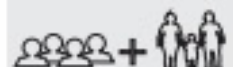




Treatment of Obesity

- Chronic disease=chronic care model
 - Bring awareness
 - Motivational interviewing
 - Intervention
 - What intervention do we choose?

Intensive Health Behavior and Lifestyle Treatment

Intensive Health Behavior and Lifestyle Treatment (IHBLT)

WHO:	WHEN:	WHAT:	WHERE:	DOSAGE:	FORMAT:	CHANNEL:
 Patient and family in partnership with a multidisciplinary treatment team*	 Promptly for child or adolescent with overweight or obesity	 Health education and skill building on multiple topics  Behavior modification and counseling	 Healthcare setting  Community-based setting with linkage to medical home	 Longitudinal treatment across 3-12 months with ideally ≥ 26 contact hours	 Group,  Individual, or  Both	 Face-to-face (strongest evidence)  Virtual (growing evidence)

* PCPs and/or PHCPs with training in obesity as well as other professionals trained in behavior and lifestyle fields such as dietitians, exercise specialists and behavioral health practitioners

- “Dose” matters!

Pharmacotherapy

- Metformin
 - Not FDA approved for weight loss
 - Modest reduction in BMI when paired with lifestyle change
- Orlistat (Xenical)
 - FDA approved for 12+
 - Side effect profile poor—uncommonly used as a result
- **Glucagon-like peptide-1 receptor agonists (liraglutide, exenatide, dulaglutide, and semaglutide)**
 - **Slows gastric emptying to decrease hunger**
 - **Liraglutide FDA approve for 12+ for obesity**
 - **Exenatide FDA approved for 10+ for T2DM**
- Phentermine
 - FDA approved for short term use
 - Age>16
 - Side effect profile similar to other stimulants
- Topiramate
 - FDA approved
 - Seizures 2+
 - headaches for 12+
 - Side effect profile
 - Cognitive slowing
 - Potential teratogen
 - Counseling for birth control
- Phentermine+Topiramate
 - Approved for adult weight loss
 - Use to treatment resistant adolescents

Metabolic and Bariatric Surgery (MBS)

- Reserved for adolescents with severe obesity
 - ≥ 10 years of age
 - $\text{BMI} \geq 1.2 \times 95^{\text{th}}$ percentile with a weight related co-morbidity
 - $\text{BMI} \geq 1.4 \times 95^{\text{th}}$ percentile irrespective of co-morbidity
- Degree of BMI reduction 30%
 - Regardless of starting BMI
- Improved chances of consistently and durably altering co-morbid conditions

Metabolic and Bariatric Surgery (MBS)

- Results are promising, but not without risk
 - Micronutrient deficiencies
 - Higher rate of fractures
 - Excess skin requiring future surgeries
 - Tendency for increased alcohol abuse
 - Increased post-surgical loss of control eating

Summary

- Pediatric obesity is not going away
- It is a chronic health condition
 - Medical home
 - Community recourses
- Treatment needs to be comprehensive
 - Lifestyle change is often not enough
 - Medication and surgery discussions should not be avoided for extreme cases

Resources

- www.guidelines.gov, National Childhood Action Network Expert Committee Recommendation
- National Initiative for Children's Healthcare Quality (NICHQ)
- American Academy of Pediatrics (AAP)
- American Medical Association (AMA)

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