

Focus on Mental Health in Children and Youth living with Obesity

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Outline

- Overview of socio-cultural attitudes towards body weight and shape in society
- Common Mental health conditions associated with obesity in children
- Highlight some emerging mental health-related issues
- Describe how and why these mental health factors/conditions can inform treatment planning



Body Mass Index

- **Overweight adult***
 - BMI 25-29.9 kg/m²
 - **Overweight child****
 - BMI-for-age 85th-95th percentile
 - **Obese adult**
 - BMI > 30.0 kg/m²
 - **Obese child**
 - BMI-for-age > 95th percentile
- BMI age/ sex specific; Not ideal for failure to thrive
 - Estimate of body fat only; doesn't factor in lean muscle
 - BMI calculation = wt (kg) ÷ ht (cm) ÷ ht (cm) x 10,000



Prevalence of Overweight & Obesity in Children and Youth

- Canada
 - approximately 25% of children and youth are living with overweight or obesity (Roberts, 2012).
- Similar rates in other developed countries.



“Globesity”

- “A complex condition, one with serious social and psychological dimensions, that affects virtually all age and socioeconomic groups and threatens to overwhelm both developed and developing countries”
 - World Health Organization (WHO)
- WHO facts:
 - > 1.2 billion people worldwide are living with overweight
 - 250 million are living with obesity
 - 115 million obese in developing countries



Society and Media Pressures

- In western society the media is a powerful influence and exerts extreme pressure on our youth today
- Body image and weight messages are explicitly present and typically state:
 - Thin women are beautiful, successful, and happy
 - Lean and muscular men are handsome, happy and successful

Grabe et al. Psychological Bulletin 2003

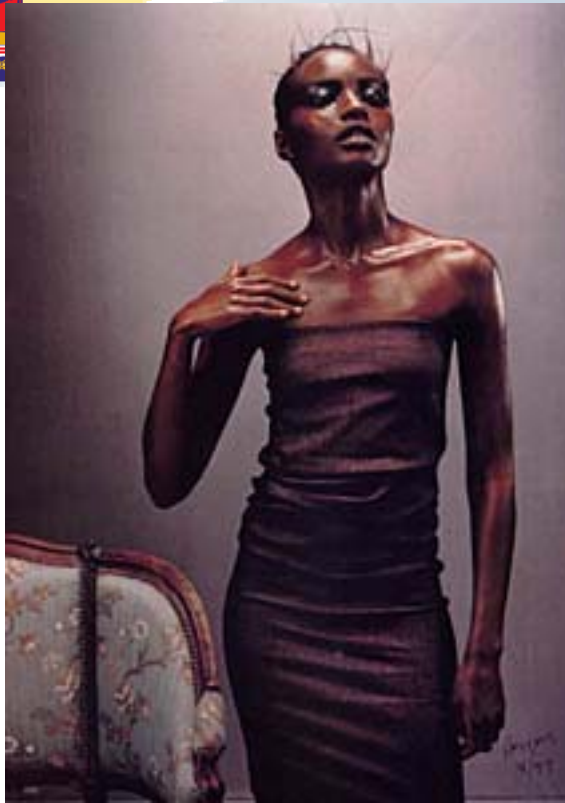


Exposure to Unrealistic Beauty Ideals

- The average child and youth living in Canada and the US accrues 6-8 hours of screen time per day (Leathersdale et al. 2015).
- This translates to exposure to thousands of unrealistic standards of beauty for children and youth, which get internalized



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THIN, THIN, THIN



Males are targeted as well

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The Diet Industry Culture (Pawlak, 2009)

Familiar Claims:

- “Lose weight quickly”
- “Reset your genetic code”
- “Eat all you want – Lose up to 30 pounds in 3 weeks”
- “Scientifically sound”, “Based on proven studies”

Private weight loss industry in the US estimated at
\$58.6 billion annually (Marketdata Enterprises, 2009)



Biology and Genetics

- Contrary to what the media and diet industry want you to believe, body weight and shape are NOT that malleable and strongly influenced (70%) by genetics and biology. (NIH taskforce on clinical guidelines)
- 95% of people who lose weight by dieting regain it (or more) within 3-5 yrs (Mann et al. 2007)
- Clash between culture and biology (Brownell 2010)



Weight Stigma/Discrimination Starts Young

**Has Anything Changed over the Past 40
years?**

Latner & Stunkard, 2003

- 1961 vs. 2001: Repeated 1961 study on stigma associated child obesity in 2001.
- 5th and 6th Graders asked to rank 6 drawings of “how much they liked the child”
 - *children were depicted as either “healthy”, disabled, or obese*



Latner & Stunkard, 2003 cont.

Rankings: Which Child Do You Like Best?

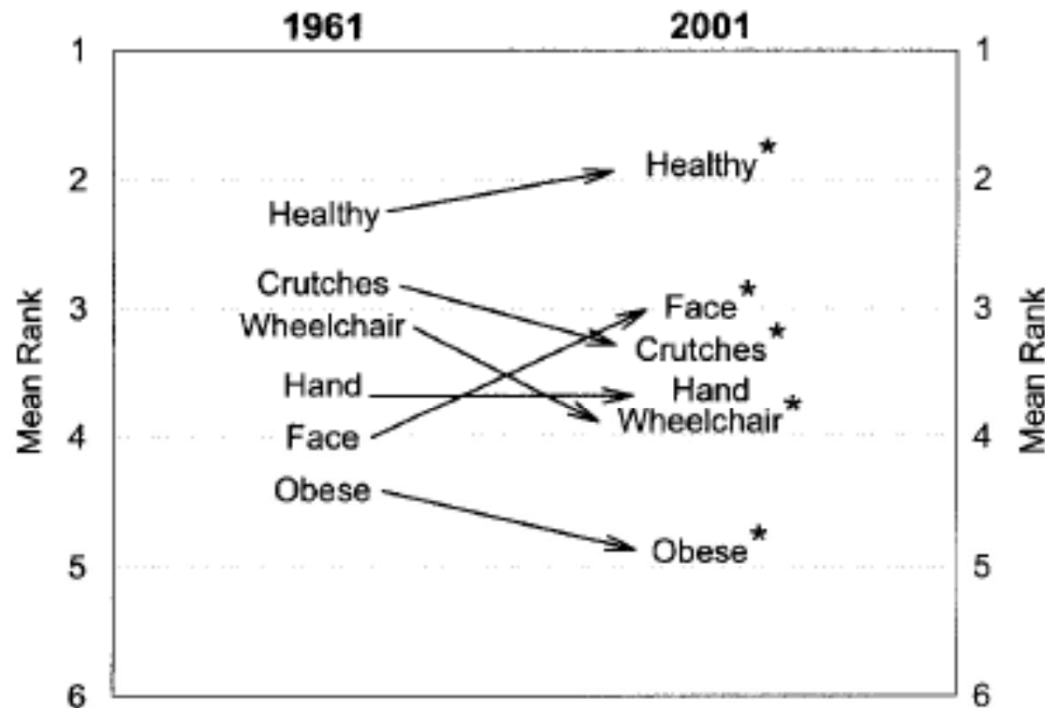


Figure 1: Rank order of drawings reported in 1961 by Richardson et al. and rank order of drawings found in the present study. Asterisks indicate significant differences at $p < 0.001$.



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Prevalence of Weight Teasing in youth with overweight/obesity

- In our REAL study (N=3,000 children & Youth) weight-teasing:

Youth with Overweight/Obese:

- **Weight teasing by peers: 65%**
- Weight teasing by **parents: 43%**
- Other adults -11%
- **Combined** (parents, peers, others):
 - Overweight = 69% experienced some weight teasing
 - Obese =84% experienced some form of weight teasing



Child obesity and Weight-Teasing

- Weight teasing more prevalent in girls than boys with OW/obesity (65% vs. 47%)
(Goldfield et al., 2010)
- These rates are comparable to other large community based studies, but clinical samples who present for treatment have higher rates of weight teasing.

Goldfield et al 2010 Paedtr Child health



Mental Health Problems in Children with Obesity

- Common Mental Health Issues:
 - Body dissatisfaction- disordered eating.
 - Depression
 - Self-esteem
 - Quality of life
 - Neurocognitive
 - Executive functioning – links to LD/ADHD



Psychosocial issues

- **Body Dissatisfaction in Youth....**
- 40 – 50% of Canadian youth age 11-15 say they need to lose weight
- 61% of Grade 7/8 students were trying to lose weight

Canadian study: Jones et al.





Psychosocial Issues-Body Image

- Body Dissatisfaction
 - Wide body of research consistently shows that children and youth with obesity are more dissatisfied with their body image than peers who are not-obese.
 - REAL study (n=3,000) dose-response effect of weight status whereby body dissatisfaction in youth with **obesity > overweight > Average range**.
 - Effects were independent of age and gender (Goldfield et al 2010 J School Health)



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Body Dissatisfaction: The Negative Spiral

Consider:

- Genetics
- Set point theory
- Environment

Culture of Over Valuing Thinness

Internalization of unrealistic standards

- **High body self-consciousness**
- **Low body esteem**
- **High weight preoccupation**

- **Strict dieting practices**
- **Weight loss strategies**

- **Increased overeating**
- **Emotional eating**
- **Binge eating**

Feelings of shame, guilt, anger, depression
Increased weight over time





Depression and childhood obesity

- Depression -widely studied mental health conditions in people living with obesity
- 25-50% of youth with obesity report elevated depressive symptoms,↑clinical samples (McElroy, 2004).
- In a sample of >15,000 adults presenting for depression treatment, 40% were obese (Boudreau, 2013), rates way higher than expected

Luppino et al. 2010 JAMA



Depression and childhood obesity

- Meta-analytic reviews of longitudinal studies show the relationship is likely bidirectional
- Those with obesity at baseline had a 55% increased risk of depression years later (Luppino et al. 2010).
- Depression at baseline increased odds of developing obesity from 1.9 to 3.5 - 15 years later (Liem et al., 2008)
- Although somewhat mixed, girls seem to be at higher risk than boys (Korczak et al. 2013).

Luppino et al. 2010 JAMA



Depression and childhood obesity

- Depression can interfere with weight management treatment through reduced attendance, adherence to the intervention, increased attrition (Zeller et al. 2004)
- Depression is often an exclusion criterion in many weight management programs

Luppino et al. 2010 JAMA



Mechanisms Linking Child Obesity & Depression

- Obesity → Depression
 - Stigma, shame and guilt (Stevens et al. 2016)
 - Weight teasing/bullying
 - Social marginalization
 - Reduced sleep quality
 - Dieting or disordered eating
 - Biological factors (impaired neurotransmitter function, neuroendocrine markers of inflammation, gut bacteria –microbiome)



Mechanisms Linking Depression to obesity

- Depression → Obesity
 - Emotional eating/Binge eating
 - Reduced sleep
 - Reduced physical activity
 - Increased sedentary behaviour/screen time
 - Dysregulated neurotransmitters in dopamine, serotonin that moderate food reward, hunger
 - HPA- axis impacts neurotransmitters, appetite-related hormones (Cortisol, GLP1, Ghrelin, Leptin etc)



Child Obesity and Self-Esteem

- French (2005) reviewed 35 studies and about 50% showed lower self-esteem in children & youth with obesity, but most x-sectional
- In prospective studies, obesity tended to predict lower self-esteem at 1-3 year follow-up.
- For each unit increase in BMI, self-esteem dropped by 5% (Veugelers et al. 2009).
- Some studies in children show that weight loss is associated with improved self-esteem, but uncertain if improvement is from mastery of healthy active lifestyle behaviours or weight loss per se.
- We found increases in fitness were more related to increases self-esteem than changes in weight or body composition (Goldfield et al. 2012).



Child Obesity and Quality of Life (QOL)

- Youth with overweight and obesity often report lower QOL across several domains, such as emotional, social, school and physical functioning, as well as weight related QOL (Tsiros et al. 2009).
- Landmark study found that adolescents with obesity rated their QOL very similarly to a group of youth undergoing chemotherapy for cancer treatment (Schwimmer et al., 2002)
- Systematic review including longitudinal studies showed that obesity is a more often a precursor of diminished QOL, not a consequence (Tsiros et al., 2009).



Neurocognitive Correlates and Obesity: Role of executive functioning

- Definition:
 - Executive function (EF) refers to the self-regulatory cognitive processes that are associated with monitoring and controlling both thought and goal directed behaviours.
 - Domains of EF include:
 - Inhibitory/impulse control
 - Attention and mental flexibility (cognitive control)
 - Motivation – ability to initiate and complete tasks to obtain goals
 - Emotion regulation
 - Planning/organization



Neurocognitive Correlates of Obesity in Youth

- 2 Systematic Reviews:
 - Liang et al. (2014) reviewed 67 studies, Reiner et al (2013) reviewed 23 studies.
 - MAIN findings – no consistent relationships between obesity and overall cognitive functioning (intelligence), language, learning, memory or academic achievement.
 - Both reviews found that obesity was associated with difficulties in indicators of executive functioning- namely – **inhibitory control and attention** and obesity.



Neurocognitive associations with childhood obesity

- Most studies were cross-sectional, so caution is needed when interpreting directionality
- However, the handful of longitudinal studies show that **poor inhibitory control** was the primary aspect of executive functioning that predicted weight gain and obesity status in later life. (Liang et al. 2014)
- **Mechanisms** -poor inhibitory control /impulsivity was associated with increased food intake, binge eating, and reduced physical activity (Liang et al. 2014).



Child Obesity and ADHD

- Historically- Children with ADHD were leaner, but recently this trend has reversed
- Children with (untreated) ADHD were 50% more likely to present with overweight/obesity than children without ADHD (Waring & Lapane, 2008).
- Data from the National Survey of Children's Health (NSCH; N=46,707) indicate 18.9% of children with ADHD had obesity (Chen et al. 2010)



Child Obesity and ADHD

- Systematic review showed number of people seeking obesity treatment with ADHD is much greater than expected given rates in the general population (5%) (Cortese et al. 2010)
- CHEO's Center for Healthy Active Living, which has assessed over 200 families, found that about 25% of the patients had a learning or attention disorder.



Summary

- children with obesity are growing up in a culture of weight-bias, discrimination and stigma
- These socio-cultural attitudes combined with some biological vulnerabilities predispose these children to developing mental health issues:
 - These issues have implications for treatment planning



Informing Treatment Planning

1. Hippocratic Oath (Do no harm)

- Use appropriate language that is person centred and reduces stigma, shame or guilt.
- Employ emotional sensitivity – it is not easy to live with obesity in our current weight-biased culture



Informing Treatment Planning

2. Thorough Mental Health/Psychosocial Assessment

- Assess for depression, anxiety, body image disturbance, binge eating disorder, quality of life, peer relations, social support, family dynamics, attachment etc.
- Assess for executive functioning indicators, ADHD or learning issues that complicate treatment



Informing Treatment Planning

3. Clinical Decision-have the resources & expertise to address the comorbidities or refer out?

- Etiology of obesity is complex and heterogeneous so try to avoid simplistic strategies that focus on eating less and exercising more - One size does NOT fit all
- Multidisciplinary approach- dieticians, exercise specialists, psychologists, social workers, that offer group and individualized intervention tailored to meet the client's needs.



Treatment Planning-Key Targets

Body Dissatisfaction- we know its prevalent, is predictive of disordered eating, weight gain, and poor mental health.

- **Health at Every Size (HAES)**-based on size acceptance and focuses on improving lifestyle behaviours rather than focusing on weight.
- **HAES** -has been shown to enhance body image and mental health in youth with obesity.
- Improved body image has been shown to attenuate weight gain and promote healthier eating behaviours in youth (Loth et al. 2015)



Treatment Planning-Key Targets

- If resources permit, it would be helpful to provide children and families with strategies to better manage/cope with:
 - Mood, anxiety, self-esteem issues
 - **conflict with peers/parents**
 - **Executive functioning** (i.e. **impulse control**, planning, organization) to make following a multi-dimensional treatment program less challenging.
 - Targeting these mental health indicators would likely improve adherence, reduce attrition, and improve efficacy



Treatment Planning-Future Directions

Resilience and strength-based approaches

- Not all children and youth with obesity have psychosocial issues despite the prevalence of weight-bias and stigma in society.
- Future research is needed to better identify protective factors to promote emotional resilience and positive mental health.
- Future research should evaluate if incorporating elements of positive psychology, self-compassion theory and other strength-based approaches in treatment enhances physical and mental health in this population of children and youth.



Back to You

- Thank You for your attention
- Any Questions?