Junk Food & Obesity in Children: Opting to go under the knife

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Case Report 1
Can Junk Food come in the way of your dreams?

- 17 yr old boy, 198 kgs heavy.
- Professional dancer & football player – given up
- Family had a habit of eating out at least 3 times / week; gained weight
- Sleeve 8 months back – lost 60 kgs
- Started dancing again
Case Report 2
Lifestyle-habit based obesity

- 13 yr old 202 kgs boy
- Fond of fast food
- Diabetic, hypertensive & had bent tibia
- Treatment financed by MOH, Oman
- Sleeve 7 months back – lost 62 kgs
- Stopped all medicines
Childhood Obesity — The Shape of Things to Come — Phase 1


- ↑ numbers of overweight (>85 percentile) & obese (>95 percentile)
- 1 in 3 children across USA & 1 in 2 in minorities
Increase in co-morbidities

- 10 folds increase in T2DM in adolescents in 2 decades (> T1DM in minorities)
- Increasing incidences of fatty liver (unheard in past in children) – 1 in 3 adolescents
- Psycho-social – Isolation, low education, low employability, poverty
- Others – Orthopedic, Sleep Apnea, Reflux
Childhood Obesity — The Shape of Things to Come: phase 3
David S. Ludwig, M.D., Ph.D.

• 100,000 extra CHD cases from today’s obese adolescents (5%-16% ↑)

• T2DM – Amputations, Kidney Failures & premature Deaths,

• Fatty Liver – hepatitis & un-recognised cirrhosis

• Poverty & isolation – delayed access & treatment

• Risk of mid age death in adolescent obese girls is 3 times more than normal weight girls

• Shortened life expectancy by 2-5 years in obese children – more than effect of all cancers combined.
Childhood Obesity — The Shape of Things to Come: phase 4
David S. Ludwig, M.D., Ph.D.

Trans-generational manifestation

• Persistence of obesity promoting habits handed down to generations.
• Irreversible changes in hormone pathways, fat cells & brain affecting body metabolism
• Maternal hyper-glycemia – predicts BMI at 5-7 years age of children
Obesity in Youth

- BMI ≥ 85th - Overweight ~ 32%
- BMI ≥ 95th - Obese ~17%
- BMI ≥ 99th %ile - Extremely Obese ~ 4%

Use of the BMI 99%ile - recognition that prevalence of cardio-metabolic risk factors and increased adiposity rises dramatically near 99%ile
**Teens do not outgrow Obesity**

Freedman, DS. J Pediatr 2007;150:12-7

<table>
<thead>
<tr>
<th>Adult BMI</th>
<th>Teens ≥ 99%ile</th>
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<tbody>
<tr>
<td>≥ 30</td>
<td>100%</td>
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<tr>
<td>≥ 35</td>
<td>88%</td>
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<tr>
<td>≥ 40</td>
<td>65%</td>
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Almost 90% of extremely obese teenagers become extremely obese adults!
Obesity in Indian Children

- 22% obesity prevalence rate in children & adolescents between 5-19 yrs.

- Indian adolescents and young adults (13-25 yrs) consume four times of daily recommendation of fats and nearly at par with the intake in adolescents in north America
A Brewing Storm

9% of 0-14 yrs children are morbidly obese

while only

2% of overall population is morbidly obese

11 cities survey of Sec A & B by Nielsen Co 2011
Steep rise in fast food consumption in India
ASSOCHAM study – National Bureau of Economic Research

- 3000 households survey
- Dual income, bachelors - convenience, time pressed
- 85% of parents with < 5 year old children are serving fast food > 7-10 times/month
- 86% households in metros prefer ‘food on the go’
- 40% - 60% annual growth of processed food industry
- We are fuelling a population of obese teens.
‘Adult’ Diseases in > 99 percentile Teens

- Obstructive Sleep Apnea
- Fatty liver – 83% - Remain unsuspected
- Cardiovascular disease - > 33% have > 3 cardiac risk factors
- Diabetes – 13.3% - abN glucose value- higher β cell failure
- Dyslipidemia
- PCOS, Infertility
- Cancers - breast, uterus, cervix, colon, esophagus, pancreas
  - kidney, prostate
Priority?

For teen & family, psychosocial disease have immediate & important consequences.
Treatment Options for teenage obesity

- Lifestyle Changes: For patients with BMI above 40, only 2% wt loss is recorded.

- Surgical: effective & only option in some

- Regulatory: To be implemented at the Govt level.
# Lifestyle Program

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<tr>
<th>BMI</th>
<th>&lt; 40</th>
<th>&gt;40</th>
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<tbody>
<tr>
<td>Completion Rate</td>
<td>84%</td>
<td>6%</td>
</tr>
<tr>
<td>Decrease in % overweight</td>
<td>10%</td>
<td>2%</td>
</tr>
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HealthWorks at Cincinnati Children’s USA
Why Bariatric Surgery in Teens?

- Conservative treatment options not effective for extreme Teen obesity
- 33% non-completion rate
- Completers lost average only 2.5 kg
- NOT maintained 7 months later
Stringent Selection Criterion for Surgery

- 99th percentile
- BMI > 50 / 40 with co-morbidity
- Physiological maturity
  -- Completion of pubertal spurt –
    in girls by 13-14 yrs & in boys by 15-16 yrs
  -- Early puberty in morbidly obese.
- Psychological maturity - adherence
Surgical Treatment

- Weight Loss - 25% - 50%
- Safety of Surgery - 0.05% - 0.1% mortality
- Side effects – Completely preventable
- Diabetes Remission – 90% off medication within 1 year
Accepted Surgeries for Teens

• Gastric Band

• Sleeve

• Bypass
What’s the choice?

• Lifestyle Changes have limited success
  Will a BMI change of 2 kg/m² make a difference in health outcomes at BMI≥40?
• Surgery, though successful in selected kids cannot be a treatment option for millions
• Emphasis really needs to be on societal changes - prevention before a child gets to 99th%ile
• As a mom, I know it is my responsibility—and no one else's—to raise my kids.
• But ...our best efforts are undermined by an avalanche of advertisements aimed at ..kids? And what are these ads teaching...? That it's good to have salty, sugary food and snacks every day—breakfast, lunch, and dinner?
• Our kids didn't do this to themselves. They don't decide the sugar content in soda or the advertising content of a television show.
• Kids don't choose what's served to them for lunch at school, and shouldn't be deciding what's served to them for dinner at home.
• ..It's not that people don't know or don't want to do the right thing
Should we be at Mercy?

Hoping that CSR of Fast food industry will help them understand the dangers involved in their products
Imperative: Regulation of Food Industry

- On the line of tobacco control
- Children targeted advertisement restriction
- Calorie restriction/portion
- Food outlet restriction - 335 bars/lounges in 3 kms stretch of a Mumbai suburb
‘Food’ For thought

Americans currently spend more money on fast food than on movies, books, magazines, newspapers, videos, and music combined.

We are raising a generation – It’s our responsibility what we hand down a healthy tomorrow