Update: Psychosocial status of pediatric patients undergoing bariatric surgery

Sabine Herget, M.Sc., M.Sc.PH
Preventive Medicine
Sabine.herget@medizin.uni-leipzig.de
Outline

- Epidemiology of pediatric obesity
- Psychopathology and bariatric surgery
  - Depression
  - Eating disorders
  - Anxiety
- Psychological outcomes following surgery
- The Leipzig model for psychological assessment
- Relevance of social support
- Recommendations
Epidemiology of pediatric obesity

Pediatric overweight and obesity in Germany: Prevalence

- 14.8% overweight
- 6.1% obese

(Source: Kurth BM et al.; Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz. 2007; 50(5-6):736-43.)
Stabilizing prevalence rates

(Source: Blüher et al., International journal of pediatric obesity. 2011 6 (2-2) e199 - 206)

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Bariatric surgery in youth

- 0.73% of all bariatric surgeries on adolescents
- Adolescence as a crucial developmental stage: Compliance with postoperative lifestyle recommendations
- Health-related quality of life

Bariatric surgery in youth

Psychosocial status:
• Self-concept
  - body image
  - body dissatisfaction
• Behavioural status
  - Eating behavior
  - disruptive behavior
• Internalizing symptoms
• Externalizing symptoms

(Source: Zeller MH et al., Surgery for Obesity and Related Diseases. 2011 7: 145-150)
Depression in bariatric patients

- Use of Beck Depression Inventory (BDI)
- 16 – 30 % depression in clinical range (according to BDI)

(Source: Ratcliff MB et al., Surgery for Obesity and related diseases. 2011, (7):50-54)
## Eating disorders in bariatric patients

### Prevalence of abnormal eating behavior (n = 25)

<table>
<thead>
<tr>
<th>Behavior</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating unusual large amounts of food within a 2- h period in the past 6months</td>
<td>12 (48%)</td>
</tr>
<tr>
<td>Eating rapidly</td>
<td>11 (44 %)</td>
</tr>
<tr>
<td>Guilt associated with eating</td>
<td>9 (36 %)</td>
</tr>
<tr>
<td>Eating until uncomfortably full</td>
<td>9 (36 %)</td>
</tr>
<tr>
<td>Feeling a loss of control while eating an unusually large amount of food</td>
<td>6 (24 %)</td>
</tr>
<tr>
<td>Eating without hunger</td>
<td>6 (24 %)</td>
</tr>
<tr>
<td>Eating alone</td>
<td>5 (20 %)</td>
</tr>
</tbody>
</table>

(Source: Kim RJ et al., Obesity Surgery 2008, 18: 27-33)

- loss of control eating
- Binge eating disorder
## Eating disorders in bariatric patients II

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Class One, Eating Pathology N = 17</th>
<th>Class Two, Low Psychopathology N = 62</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI Total Score</td>
<td>20.16 (1.77)</td>
<td>3.65 (0.991)</td>
</tr>
<tr>
<td>YSR Total Score</td>
<td>76.20 (4.67)</td>
<td>22.98 (2.79)</td>
</tr>
<tr>
<td>MASC Total Score</td>
<td>42.63 (5.68)</td>
<td>19.95 (2.79)</td>
</tr>
<tr>
<td>PedsQL Total Score</td>
<td>50.53 (3.39)</td>
<td>83.64 (1.99)</td>
</tr>
<tr>
<td>FES-Cohesion Subscale</td>
<td>3.62 (0.653)</td>
<td>7.78 (0.385)</td>
</tr>
<tr>
<td>FES-Expressiveness Subscale</td>
<td>5.53 (0.577)</td>
<td>1.82 (0.355)</td>
</tr>
<tr>
<td>FES-conflict Subscale</td>
<td>6.39 (0.424)</td>
<td>5.87 (0.267)</td>
</tr>
</tbody>
</table>

n = 125

(Source: Sysko R et al., *Journal of pediatric obesity* 2011; 6: 280-297)
Mental health in bariatric patients

- ~ 16%: Anxiety disorders
- ~ 68%: Depressive symptoms, 30% clinical range depression

Need for pre-surgery interventions to increase compliance and adherence to post-surgery lifestyle recommendations

(Source: Nadler EP et al., Journal of pediatric surgery, 2009, 44: 1869-76)
Psychological outcomes following bariatric surgery

n = 37
Short term outcomes:
3 months after bariatric surgery

(Source: Jarvholm, K. et al. (2012). Obesity (Silver Spring), 20(2), 318-323.)
Psychological outcomes following bariatric surgery II

- Short term outcomes: 6 months after bariatric surgery
- Long term outcomes: 12 months after bariatric surgery

$n = 31$
- BMI
- BDI
- Physical comfort
- Body estimation
- Physical abilities
- Psychosocial status

(Source: Zeller MH et al., Obesity. 2009 17 (5):985-990)
Psychological outcomes following bariatric surgery III

Long term outcomes: (n = 16)

A = Depressive symptoms
B = Perceived social competence
C = Perceived professional competence
D = HR-quality of life

( Source: Zeller MH et al., Surgery for Obesity and Related Diseases. 2011 7: 727-732)
Parents: Psychological outcomes

n_{bariatric} = 16
n_{control} = 28

A) BMI
B) Psychological distress
A) Parenting stress
B) Family functioning

(Source: Zeller MH et al., Surgery for Obesity and Related Diseases. 2011 7: 145-150)
The Leipzig model of psychosocial assessment in pediatric patients

1. General diagnostics of psychiatric disorders
   1st session
   - Strength and Difficulties Questionnaire (SDQ, Goodman 1997)
   - Thematic Apperception Test (Murray 2007)
   - SF- Test (projective psychiatric diagnostic testing, Corman 2007)

2nd session
   - Depression inventory for children and adolescents
   - Beck Depression inventory

=> estimation of compliance with post-surgery recommendations
The Leipzig model of psychosocial assessment II

2. Assessment of Lifestyle

- Leipzig lifestyle questionnaire for adolescents
- FLZ: Questionnaire on life satisfaction
- Assessment of quality of life (KINDL®)
Conclusions

• Pediatric bariatric surgery circumstances do not generalize to adult bariatric population

• Extremely obese adolescent patients are often „carrier“ of psychiatric comorbidities

• Pre-surgery: Comprehensive psychosocial screening ( + treatment) needed

• Post-surgery: Difference between short- and long-term outcomes

• Family functioning seems not to be affected by bariatric surgery, social support is mandatory for effective post-surgery outcomes
Recommendations

• Conduction of further long-term studies involving a broader number of subjects is needed (controlled studies)

• Standardized measures of psychosocial status have to be applied in future studies

• Influence of psychosocial status on post-surgical dietary adherence, long-term weight loss and quality of life has to be elucidated

• Further examination on post-surgery impairment of mental health among subgroups of adolescent bariatric patients

• Examination of adolescents psychosocial interactions within age-salient contexts

• Development of effective pre- and postsurgery intervention strategies
Thank you for your attention!
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