Changes in the compulsive exercise test (CET) during family-based treatment of adolescents with restrictive eating disorders

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Eating disorders & exercise

- In ED compulsive exercise is common
- It is related to ED symptomatology, poor treatment outcome, and risk of relapse
Eating disorders & exercise

- Exercise may be a means to regulate weight…
- … but there may also be an element of mood regulation
- The Compulsive Exercise Test (CET) taps these different aspects of exercise
Compulsive exercise test (CET)

- Subscales
  - Avoidance and rule driven behaviour
  - Weight control exercise
  - Mood improvement
  - Lack of exercise enjoyment
  - Exercise rigidity
Compulsive exercise test (CET) 

Examples

• Weight control exercise
  – ”I exercise to burn calories and lose weight”
  – ”I exercise to improve my appearance”

• Avoidance and rule driven behaviour
  – ”If I cannot exercise I feel low or depressed”

• Mood improvement
  – I feel happier and more positive after I have exercised
Compulsive exercise test (CET)

- Previously validated in adolescents and young adults in a general population and in adolescents with ED
- Compulsive exercise is related to ED cognitions
Aim of study

- How does the CET change during family-based treatment of adolescents with restrictive ED?
Methods

• 143 adolescents with a restrictive ED
• Not previously treated
• Followed up for 1 year
• Instruments
  – Compulsory exercise test (CET)
  – EDE-Q
  – Exercise frequency (days/week)
  – Weight – recalculated into BMI SDS
• Interview at one-year follow-up
Participants (n=143)

- Gender (male/female) 8/135
- Age (years) 15.2 ± 1.6
- Weight loss (kg) 6.8 ± 5.7
- BMI SDS -0.88 ± 1.19
- Amenorrhoea/menses/hormones 56/68/11
- EDE-Q score 2.9 ± 1.7
- Diagnoses AN/OSFEDr 20/123
CET in adolescents with eating disorders

- These aspects of exercise are related to the ED as measured by EDE-Q
CET in adolescents with eating disorders

Avoidance  Weight control  Mood improvement

EDE-Q global score
Start of family-based treatment

• Starts on the day of assessment

• Parents are advised on...
  • ...handling and eating all meals with their adolescent
  • ...keeping the adolescent home from school
  • ...banning all exercise
  • ...preventing vomiting
Start of family-based treatment

• Parents are advised on banning all exercise

• No other specific intervention against exercise
• Exercise is reintroduced when it does not evoke ED ideation
1-year follow-up of adolescents with eating disorders

• Outcome measures
  – 1) EDE-Q global score <2.0
  – 2) Not fulfilling criteria for an ED at a clinical interview
# 1-year follow-up of adolescents with eating disorders

<table>
<thead>
<tr>
<th></th>
<th>no ED</th>
<th>ED</th>
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<tbody>
<tr>
<td>Gender (male/female)</td>
<td>7/75</td>
<td>1/60</td>
</tr>
<tr>
<td>Age (years)</td>
<td>16.2 ± 1.6</td>
<td>16.0 ± 1.6</td>
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<tr>
<td>Total weight gain (kg)</td>
<td>8.1 ± 4.7***</td>
<td>5.8 ± 7.0</td>
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<tr>
<td>BMI SDS</td>
<td>0.06 ± 0.92</td>
<td>-0.12 ± 1.02</td>
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<tr>
<td>3-month weight gain</td>
<td>4.9 ± 3.2***</td>
<td>2.6 ± 3.7</td>
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<tr>
<td>EDE-Q score</td>
<td>0.6 ± 0.6***</td>
<td>2.6 ± 1.5</td>
</tr>
<tr>
<td>Diagnoses AN/BN/OSFEDr</td>
<td>-</td>
<td>4/3/53</td>
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1-year follow-up of adolescents with eating disorders - CET

At presentation

1-year follow-up

No ED

ED
1-year follow-up of adolescents with eating disorders - CET

- Exercise for weight regulation and for avoiding low mood diminishes with recovery from the ED
- The desire to exercise for improving mood remains high
1-year follow-up – prediction of outcome

• Independent predictors of recovery from the ED
  – Lower EDE-Q global score at assessment
  – Higher BMI at assessment
  – Higher weight gain at start of treatment

• The subscales of CET, which are closely related to EDE-Q, do not add to the prediction
Summary 1

• Exercise for avoiding low mood and controlling weight decreases with recovery from an ED
• Exercise for mood improvement remains high
• At presentation it may not be possible to separate these aspects of exercise
Summary 2

• CET scores at presentation do not independently predict outcome of the ED
• This may due to that they are very closely related to ED cognitions, the EDE-Q score, which is an important predictor of outcome