Outcomes of Intensive Pediatric Eating Disorder Treatment Programs Using a Clinician-Rated Measure

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Introduction

- Prevalence of eating disorders (EDs) is rising (Herpertz-Dahlmann, 2008)
- Scarcity of outcomes research, particularly with respect to intensive pediatric treatment programs
- This can be attributed, in part, to poor monitoring and follow-up measures, including self-report and interview methods
  - These methods are:
    - Subject to underreporting due to the egosyntonic nature of EDs
    - Time consuming to administer
    - Not cost-efficient
    - Burdensome to patients

Introduction (continued)

- As such, these measures are not easily integrated into the general functioning of clinical practices
  - Cannot track patients on a frequent (i.e. weekly) basis
  - Cannot be applied to clinical decision making during the course of treatment
- These methods do not allow for clinician judgment, a potentially invaluable factor in the tracking of patients and clinical decision-making that has not yet been considered in ED research

Eating Disorder Symptom Severity Scale (EDS^3)

- A validated 16-item clinician-rated measure (Henderson et al., 2010)
- Designed to be quickly and easily administered by clinicians and other health care professionals on a weekly basis
  - Allows for efficient monitoring of ED severity
  - Provides the ability to be responsive to changes in the clinical needs of patients over time
  - Facilitates outcomes research on intensive ED treatment programs

Eating Disorder Symptom Severity Scale (EDS^3)

- Four general subscales:
  - ED Behaviours
    - Further broken down into Anorexia Nervosa (AN) and Bulimia Nervosa (BN) behaviours
  - ED Cognitions
  - ED Anxiety
  - Motivation for Treatment/Recovery

Eating Disorder Symptom Severity Scale (EDS^3)

- Makes use of a communimetric measure style, inherently providing significant meaning to each item response
  - "Actionable" level values
    - A score of 2 or 3 on the EDS^3
    - Indicates that intervention is required due to the severity of the problem
  - "Non-actionable" level values
    - A score of 0 or 1 on the EDS^3
    - Indicates that while immediate action is not required, the patient should continue to be monitored for any changes

Intensive Treatment Programs at CHEO

- There are two intensive ED treatment programs at the Children's Hospital of Eastern Ontario (CHEO):
  - Day Hospital Program (DHP)
  - Inpatient Program
- Main goals of both programs:
  - Medical stabilization
  - Improvement of psychological functioning
  - Normalization of eating patterns/reduction of disordered eating patterns

Objectives

- To evaluate the effectiveness of both the inpatient and day treatment programs using a clinician-rated measure – the EDS[3],
  - 1) Based on a comparison of mean subscale scores and mean overall scores from entry to discharge in each program
  - 2) Based on the percentage of patients in each program who moved from actionable to non-actionable levels, non-actionable to actionable levels, and for those who remained at the same level, on the individual items of the EDS[3]
  - 3) By examining the pattern of change in the mean total of subscale scores from week to week by program, as well as by diagnostic category

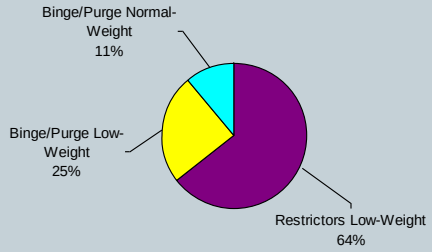
Methods

- Participants
  - 79 patients from CHEO's ED program who participated in an intensive treatment program between April 2010 and December 2011
    - 75 females, 4 males

	Inpatient Program	Day Hospital Program	Both Programs
Number of Participants	41 (51.9%)	22 (27.8%)	16 (20.3%)
Mean Age (*SD*)	15.52 years (*SD* = 1.92)	16.02 years (*SD* = 1.26)	

Methods

- Participant Diagnoses:



Methods

- Measures
  - Demographic, diagnosis, and treatment data
  - EDS[3]

Results

OBJECTIVE #1

Variable	Admission Mean (*SD*)	Discharge Mean (*SD*)	*N*	*t*	*p*	Effect size (Cohen's *d*)
Day Hospital Program						
Eating Disorder Behaviours	4.50 (2.34)	2.88 (1.93)	16	3.014	.009*	1.08
AN Behaviours	3.31 (1.40)	2.19 (1.22)	16	3.576	.003*	1.27
BN Behaviours	1.19 (1.56)	0.69 (0.95)	16	1.519	.150	0.59
Eating Disorder Cognitions	11.25 (2.91)	8.88 (3.05)	16	3.069	.008*	1.08
Eating Disorder Anxiety	6.00 (2.10)	3.75 (2.08)	16	3.576	.003*	1.26
Motivation for Treatment/Recovery	3.38 (3.07)	3.38 (2.66)	16	0.000	1.000	0.00
Total of Subscale Scores	25.13 (7.81)	18.88 (7.43)	16	3.456	.004*	1.22

*$p < .05$

Variable	Admission Mean (*SD*)	Discharge Mean (*SD*)	*N*	*t*	*p*	Effect size (Cohen's *d*)
Inpatient Program						
Eating Disorder Behaviours	5.62 (2.52)	4.50 (2.49)	26	2.923	.007*	0.81
AN Behaviours	4.38 (1.70)	3.38 (1.84)	26	3.407	.002*	0.95
BN Behaviours	1.28 (2.03)	1.16 (1.68)	25	0.681	.503	0.21
Eating Disorder Cognitions	11.31 (4.52)	10.38 (4.79)	26	1.755	.092	0.49
Eating Disorder Anxiety	6.08 (2.34)	5.28 (3.05)	25	1.746	.094	0.51
Motivation for Treatment/Recovery	6.50 (2.93)	5.35 (3.58)	26	2.423	.023*	0.69
Total of Subscale Scores	29.27 (9.08)	25.31 (11.45)	26	2.949	.007*	0.84

*$p < .05$

Results

OBJECTIVE # 2

Individual Variables of the EDS[3]

ED Behaviours
- Food Restriction
- Binge Eating
- Vomiting
- Excessive Exercise

ED Anxiety
- Food Anxiety
- Eating Rituals
- Social Anxiety Related to Eating & Body Image

ED Cognitions
- Body Image Dissatisfaction
- Body Image Distortion
- Fear of Gaining Weight
- Importance of Appearance to Self-Esteem
- Preoccupation with Food/ Weight

Motivation for Treatment/Recovery
- Motivation for Treatment
- Cooperation During Treatment
- Distorted Beliefs About Treatment
- Ability/Hope for Recovery

Actionable → Non-Actionable Day Hospital Program

ED Behaviours
- **Food Restriction → 37.5%**
- Binge Eating
- Vomiting
- Excessive Exercise

ED Anxiety
- **Food Anxiety → 50%**
- Eating Rituals
- Social Anxiety Related to Eating & Body Image

ED Cognitions
- Body Image Dissatisfaction
- **Body Image Distortion → 44%**
- Fear of Gaining Weight
- Importance of Appearance to Self-Esteem
- **Preoccupation with Food/ Weight → 44%**

Motivation for Treatment/Recovery
- Motivation for Treatment
- Cooperation During Treatment
- Distorted Beliefs About Treatment
- Ability/Hope for Recovery

Actionable → Actionable Day Hospital Program

ED Behaviours
- Food Restriction
- Binge Eating
- Vomiting
- Excessive Exercise

ED Anxiety
- Food Anxiety
- Eating Rituals
- Social Anxiety Related to Eating & Body Image

ED Cognitions
- **Body Image Dissatisfaction → 75%**
- Body Image Distortion
- **Fear of Gaining Weight → 75%**
- **Importance of Appearance to Self-Esteem → 75%**
- Preoccupation with Food/ Weight

Motivation for Treatment/Recovery
- Motivation for Treatment
- Cooperation During Treatment
- Distorted Beliefs About Treatment
- Ability/Hope for Recovery

Non-Actionable → Actionable Day Hospital Program

ED Behaviours
- Food Restriction
- Binge Eating
- Vomiting
- Excessive Exercise

ED Anxiety
- Food Anxiety
- Eating Rituals
- **Social Anxiety Related to Eating & Body Image** → 19%

ED Cognitions
- Body Image Dissatisfaction
- Body Image Distortion
- Fear of Gaining Weight
- Importance of Appearance to Self-Esteem
- Preoccupation with Food/ Weight

Motivation for Treatment/Recovery
- Motivation for Treatment
- **Cooperation During Treatment** → 12.5%
- **Distorted Beliefs About Treatment** → 19%
- Ability/Hope for Recovery

Actionable → Non-Actionable Inpatient Program

ED Behaviours
- **Food Restriction** → 23%
- Binge Eating
- Vomiting
- Excessive Exercise

ED Anxiety
- **Food Anxiety** → 24%
- Eating Rituals
- Social Anxiety Related to Eating & Body Image

ED Cognitions
- Body Image Dissatisfaction
- Body Image Distortion
- Fear of Gaining Weight
- Importance of Appearance to Self-Esteem
- Preoccupation with Food/ Weight

Motivation for Treatment/Recovery
- **Motivation for Treatment** → 24%
- Cooperation During Treatment
- Distorted Beliefs About Treatment
- Ability/Hope for Recovery

Actionable → Actionable Inpatient Program

ED Behaviours
- **Food Restriction** → 69%
- Binge Eating
- Vomiting
- Excessive Exercise

ED Anxiety
- Food Anxiety
- Eating Rituals
- Social Anxiety Related to Eating & Body Image

ED Cognitions
- **Body Image Dissatisfaction** → 69%
- Body Image Distortion
- Fear of Gaining Weight
- **Importance of Appearance to Self-Esteem** → 69%
- **Preoccupation with Food/ Weight** → 73%

Motivation for Treatment/Recovery
- Motivation for Treatment
- Cooperation During Treatment
- Distorted Beliefs About Treatment
- Ability/Hope for Recovery

Non-Actionable → Actionable Inpatient Program

ED Behaviours
- Food Restriction
- Binge Eating
- Vomiting
- Excessive Exercise

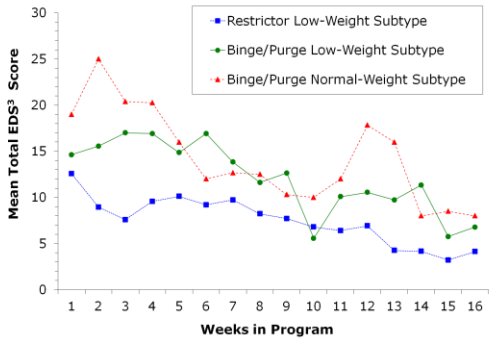
ED Anxiety
- Food Anxiety
- **Eating Rituals** → 8%
- Social Anxiety Related to Eating & Body Image

ED Cognitions
- **Body Image Dissatisfaction** → 11.5%
- **Body Image Distortion** → 7.5%
- Fear of Gaining Weight
- Importance of Appearance to Self-Esteem
- Preoccupation with Food/ Weight

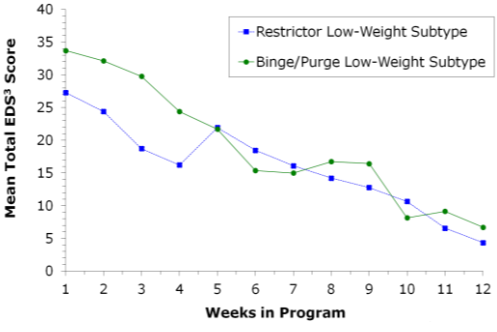
Motivation for Treatment/Recovery
- Motivation for Treatment
- **Cooperation During Treatment** → 8%
- Distorted Beliefs About Treatment
- Ability/Hope for Recovery

Results

OBJECTIVE #3



Day Hospital Treatment Program



Inpatient Treatment Program

Discussion

OBJECTIVE #1

Discussion
Day Hospital Program

- The DHP is significantly improving ED behaviours, AN behaviours, ED cognitions, ED anxiety, and total of subscale scores, from program entry to discharge
- The lack of significant change on the BN behaviours subscale was likely due to the small number of participants engaging in BN behaviours

Discussion
Day Hospital Program

- Previous research on adult ED populations has noted that significant improvement of motivation for treatment is difficult to achieve (Dean et al. 2008; Touyz et al., 2003)
  - Present study findings indicate that this may also be the case in pediatric populations

Discussion
Inpatient Program

- The inpatient program is significantly improving ED behaviours, AN behaviours, motivation for treatment/recovery, and the total of subscale scores
- As in the DHP, the lack of significant change on the BN behaviours subscale is likely due to the small sample size
- The finding that the motivation for treatment/ recovery subscale is significantly improving is very encouraging

Discussion

OBJECTIVE #2

Discussion
Day Hospital Program

- Results are indicative of a need for the DHP to better address:
  - Some ED cognitions variables
    - Body image dissatisfaction
    - Fear of gaining weight
    - Importance of self-esteem to appearance
  - Some motivation for treatment variables
    - Cooperation during treatment
    - Distorted beliefs about treatment
  - The social anxiety related to eating and body image variable

Discussion
Day Hospital Program

- The finding that body image dissatisfaction is a difficult variable to improve in an adolescent population is consistent with Goldstein et al. (2011)
  - Failed to report significant change on the body image dissatisfaction variable of the EDI-3
- This is not surprising given that body image dissatisfaction is at the core of ED pathology
  - Its pervasiveness is likely when program structure prevents progression toward desired thinness

Discussion
Inpatient Program

- Results are indicative of the inpatient program to better address:
  - Some ED cognitions variables
    - Body image dissatisfaction
    - Body image distortion
    - Importance of appearance to self-esteem
    - Preoccupation with food/weight
  - The eating ritual variable

Discussion

OBJECTIVE #3

Discussion
Day Hospital and Inpatient Programs

- Both programs are successful in reducing the overall severity of patients' illness
- A hierarchy of mean total symptom severity was observed between diagnostic categories
  - BP-NW subtype = highest level of severity (in DHP program)
  - BP-LW subtype = moderate levels of severity
  - R-LW subtype = lowest level of severity
- The difference in severity between the BP-LW and the R-LW subtype provides support for the importance of the subdivision of the AN criteria
  - Suggests that the BP-LW subtype is more psychologically ill than the R-LW subtype

Conclusion

Overall Implications

- Findings indicate the utility of the EDS^3 in identifying many different areas of significant change, without the need to incorporate multiple measures
- Both the DHP and the inpatient program are significantly improving total scores of symptom severity, as well as ED and AN behaviours
- Individuals variables of food restriction and food anxiety are showing clinically relevant change in both programs

Overall Implications

- Additional subscale areas and individual variables of change differed between programs suggesting possible areas to target for individual program improvement
- General trend of decreasing mean total EDS^3 scores indicates patients improve across time in both programs
  - All diagnostic subtype achieve similar low-level scores as they near the end of treatment (although hierarchy is maintained)
- Results show that there is a wealth of information that can be easily, affordably, and regularly obtained with limited burden on patients, when using a clinician-rated measure such as the EDS^3

Limitations and Future Directions

- Small sample size
  - Due to the relatively new implementation of the EDS^3 into clinical rounds at CHEO
- The ED behaviours subscale did not distinguish between "Urges" to perform a particular behaviour and "Symptoms" of a behaviour (i.e. actual participation in that behaviour)
  - The EDS^3 has since been modified to include an "Urges" subscale
- Future outcome studies incorporating the urges subscale are warranted

TRAINING ON EDS^3

- On line training platform available by December 2012
- Always open to feedback for improvement

THANK YOU!

QUESTIONS?

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Non-Actionable → Non-Actionable Inpatient Program

ED Behaviours

- Food Restriction
- **Binge Eating → 88%**
- **Vomiting → 64%**
- Excessive Exercise

ED Anxiety

- Food Anxiety
- Eating Rituals
- Social Anxiety Related to Eating & Body Image

ED Cognitions

- Body Image Dissatisfaction
- Body Image Distortion
- Fear of Gaining Weight
- Importance of Appearance to Self-Esteem
- Preoccupation with Food/ Weight

Motivation for Treatment/Recovery

- Motivation for Treatment
- **Cooperation During Treatment → 54%**
- Distorted Beliefs About Treatment
- Ability/Hope for Recovery

Non-Actionable → Non-Actionable Day Hospital Program

ED Behaviours

- Food Restriction
- **Binge Eating → 94%**
- **Vomiting → 69%**
- **Excessive Exercise → 69%**

ED Anxiety

- Food Anxiety
- Eating Rituals
- Social Anxiety Related to Eating & Body Image

ED Cognitions

- Body Image Dissatisfaction
- Body Image Distortion
- Fear of Gaining Weight
- Importance of Appearance to Self-Esteem
- Preoccupation with Food/ Weight

Motivation for Treatment/Recovery

- **Motivation for Treatment → 69%**
- **Cooperation During Treatment → 69%**
- Distorted Beliefs About Treatment
- Ability/Hope for Recovery