



Pediatric Obesity, Self-Esteem, and Family Functioning in a Diverse Community

Jerome Taylor MD, Mary Savoye-Desanti RD, and Paulina Nowicka PhD

Yale Child Study Center, Yale School of Medicine, New Haven, CT

Objective

Many studies have linked childhood obesity with poorer mental health outcomes. Curbing childhood obesity has become a national priority and there is increased focus on preventive mental health care. The Bright Bodies program is a weight loss program for obese children. The program is built on a partnership between primary care and a diverse urban community. We examined the links between obesity, self-esteem, and family functioning. We also examined whether weight loss improved self-esteem.

Method

Children

Bright Bodies was an initiative that grew out the high obesity rate in children (ages 10-17) treated in the Yale pediatrics clinics (N=75). Children in the program were largely from low-income, minority communities and were being monitored medically to assess for type 2 diabetes mellitus in the Yale clinic (demographics in Table 1). Children were randomized to Bright Bodies (N=32) or waitlist controls (N=43).

Bright Bodies Intervention

The program takes place in the evenings in local schools. It is 3 hrs/wk over 3-months, usually splitting time between physical activities and lessons on nutrition. However, it is mindful of the psychological aspects of obesity in childhood.

Table 1. Baseline Characteristics

Age, mean	13
Male, %	65%
Race, %	-
White (non-Hispanic)	33%
Black	28%
Hispanic	39%
BMI-z score	2.2
Self-esteem T, mean	41
Family Assessment Device, mean	-
Problem Solving	2.0
Communication	2.1
Roles	2.2
Affective Responsiveness	1.9
Affective Involvement	2.0
Behavioral Control	1.7
General Functioning	1.8

Mental Health Components

- Daily food, mood and activity records
- Parent support and psychoeducation groups
- Positive reinforcement plans for children and parents
- Interactive lessons on self-esteem
- Lessons on peer relationships and teamwork
- Bullying discussions

Outcomes

- Piers-Harris Children's Self-Concept Scale (self-esteem)
- Family Assessment Device (family functioning)
- BMI Z-score

Results

- Obese children had low-average self-esteem and normal levels of family functioning at baseline (Table 1).
- There was no association between baseline BMI z-score and self-esteem or family functioning (Table 2).
- There was no association between BMI z-score change and changes in self-esteem or family functioning (Table 3).
- There were no self-esteem or family functioning differences based on randomization to Bright Bodies or the waitlist, though weight loss was also very modest.

Table 2. Correlation of baseline BMI Z-score with baseline self-esteem and family functioning

	r	P value
Piers-Harris (self-esteem) T, mean	0.01	0.91
Family Assessment Device, mean	-	-
Problem Solving	0.07	0.58
Communication	0.04	0.78
Roles	0.34	0.01
Affective Responsiveness	0.04	0.78
Affective Involvement	0.1	0.46
Behavioral Control	0.06	0.64
General Functioning	0.12	0.36

Table 3. Correlation of BMI Z-score change with self-esteem and family functioning change.

	r	P value
Piers-Harris (self-esteem) T, mean	-0.14	0.33
Family Assessment Device, mean	-	-
Problem Solving	-0.07	0.65
Communication	-0.09	0.58
Roles	-0.23	0.15
Affective Responsiveness	-0.24	0.13
Affective Involvement	-0.17	0.28
Behavioral Control	-0.2	0.22
General Functioning	-0.26	0.11

Discussion

Study Limitations

- The Piers-Harris and Family Assessment Device are self-reports as opposed to objective
- Examination of long-term mental health outcomes may demonstrate a difference

Strengths of the Program

- Education about diet and exercise
- Community and primary-care collaboration with preventive mental health care in mind
- Family involvement

Opportunities

- Greater use of evidence-based techniques for mental illness (e.g. mindfulness, CBT) to overcome challenges associated with obesity may lead to greater generalization to psychological domains.
- Targeted interventions for children with mental illness or children on atypical neuroleptics

Conclusions

Obesity and weight loss were not associated with self-reported self-esteem or family functioning. Programs integrating preventive mental health care into primary care and community-based programs should be evaluated in randomized controlled trials.

References: Savoye, Mary et al. . Long-term Results of an Obesity Program in an Ethnically Diverse Pediatric Population. Pediatrics Vol. 127 No. 3 March 1, 2011 pp. 402 -410.

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Email: jerome.taylor@yale.edu