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## Overweight Children and Adolescents: Impact on Psychological and Social Development

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*Chapter XXXII*

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## **Overweight Children and Adolescents: Impact on Psychological and Social Development**

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### **Abstract**

The global epidemic of childhood and adolescent overweight has become a major public health concern. Not only are these youth more likely to become obese as adults, and thus more prone to obesity-related diseases than their non overweight peers, they are also likely to suffer emotional and social effects associated with overweight. Overweight in youth has been linked to depression, low self-esteem, eating disorders, negative body image, and stigma. It appears to be bi-directional in nature, with overweight sometimes predicting certain psychological effects and psychosocial issues sometimes predicting overweight. Effective assessment and treatment of psychological and mental health issues in overweight youth will help overweight youth deal more effectively with their social and psychological milieus. Additionally, interventions for mental health concerns may have the added health benefit of increasing weight loss, thus decreasing obesity-related disease for which the overweight adolescent is prone.

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## Introduction

Adolescence is defined most simply by the word 'change'--physical, cognitive, emotional, and social. As physical and cognitive changes occur, so do changes in the domains of emotional/psychological development and social interaction/relationships. Psychological health and social adequacy are important components of mental health, but adolescence brings with it unique challenges, and interruption of development within any domain may occur. Disruptions in emotional and social development can be influenced by many things, including physical and/or medical problems (1).

Obesity has become one of the most common diseases and disease-associated conditions in the United States (US) and other countries. In the year 2000, it was estimated that obesity would soon surpass tobacco smoking as the leading cause of preventable death in the United States (2) and it has also been suggested that today's young people may, on average, live less healthy and ultimately shorter lives than their parents due to overweight and obesity; in fact, this epidemic may reverse the modern era's steady increase in life expectancy (3,4). Further, it has been estimated that as this century progresses, more people will die from the complications of overnutrition than of starvation (5). Pinhas-Hamiel (6) noted that "life-style-related diseases are no longer the exclusive domain of adult medicine." Furthermore, overweight has a bi-directional relationship with mental and psychological health in that psychosocial factors have been shown to predict overweight, but overweight also impacts psychosocial factors such as psychological development and social functioning (7,8).

Overweight in children and adolescents is usually defined as a body mass index (BMI) equal to or greater than the 95th percentile, compared to pediatric population reference data when plotted on the appropriate age and gender chart; children and adolescents with a BMI between the 85th and 95th percentile are considered to be at risk for overweight, according to the Centers for Disease Control and Prevention (CDC); the CDC does not use the term obesity for children and adolescents. Most overweight preadolescent children and at least 70% of overweight adolescents will remain obese into adulthood (9), significantly increasing the chances of obesity-related disease as well as psychological complications associated with overweight (7,8).

Between 1980 and 2002, overweight prevalence tripled in children and adolescents ages 6 to 19 years (10-12). Comparing results obtained from the 1999-2000 National Health and Nutrition Examination Survey (NHANES) to results from the NHANES survey in 2003-2004, 13.9% vs. 17.1%, respectively, of US children and adolescents were overweight. For female children and adolescents, the percentage overweight increased from 13.8% in 1999-2000 to 16.0% in 2003-2004; for male children and adolescents, the increase went from 14.0% to 18.2% during the same time period (11). More than 10% of school age children are overweight worldwide with the Americas reporting rates as high as 32% (9). According to the 2005 Youth Risk Behavior Survey, a national probability sample of 9th – 12th graders which

assesses risk behaviors and risk factors (13), approximately 16% of students in the US were at risk for overweight, and 13% were already overweight.

Childhood and adolescent overweight has some endogenous causes, but when those causes are ruled out, then behavioral and psychological factors, rather than biological ones, are primarily responsible for the upward trend in adolescent overweight. Behavioral factors such as lack of physical exercise, sedentary behavior, and poor dietary choices have been cited as common risk factors for weight gain, although psychological and mental health factors also factor into the equation (14,15).

### Psychosocial Risks for Adolescents

In the realm of psychological and social development, today's youth often face challenges in mental health and wellness as they progress from childhood to adolescence to adulthood. Over the past 20 years, the proportion of pediatric patient visits in general pediatric practices with psychosocial problems has increased from 7% to 19% (16). According to the 1999 US Surgeon General's report on children's mental health, 13% of children and adolescents have anxiety disorders, 6.2% have mood disorders, 10.3% have disruptive disorders, and 2% have substance use disorders, for a total of 20.9% having one or more mental health or substance abuse disorders (1). Of those needing active mental health interventions, 11% were found to have significant functional impairment and 5% were found to have extreme functional impairment (1). Other research has found that 27% of children ages 9, 11, and 13 years of age have mental impairment, and 20% have a diagnosable mental health condition (17). Further, suicide is the third leading cause of death in the US for children ages 15-24 years and suicide attempts reach a peak during the midadolescent years (1,18,19) highlighting the psychological vulnerability adolescents experience.

Many children and adolescents have both physical and mental disorders, and it has been found that the majority of children and adolescents with medical problems have higher levels of mental disorders (20), suggesting that having a chronic health condition, such as overweight, may increase the likelihood of mental health issues and concerns. In fact, one recent study found serious adverse consequences of overweight on health-related quality of life (HRQOL) in a clinical sample of severely overweight (BMI: 34.7) children and adolescents 5 to 15 years of age (21).

## **Psycho-Social Risks for Overweight Adolescents**

### Depression

Several studies have documented a clear correlation between depression and overweight in adolescents (22-24). Goodman et al (25) have shown in a nationally representative, longitudinal study of over 9,000 adolescents that depressed mood in non overweight individuals is associated with the development of overweight at one year and worsening overweight in baseline overweight participants, suggesting that depression may precede

overweight. Other studies using community samples of overweight versus non overweight adolescents have found no differences in depressive symptoms between the two groups (26). Swallen et al (27) found a statistically significant relationship between BMI and general physical health in adolescents from age 12 to 20 years, but only young adolescents (12-14 years) evidenced a deleterious impact on emotional health as reported by depression and/or low self esteem. Several studies, including a recent one by Daniels (22), failed to confirm a relationship between overweight and symptoms of depression in adolescents. Thus, the relationship between depressive symptoms and overweight in children and adolescents is not completely clear, although depression appears to play a role in the mental health of a certain subpopulation of overweight adolescents.

### Self-Esteem

Studies on self-esteem in overweight children and adolescents also report inconsistent results. Some studies have shown moderately lower self-esteem in overweight children and adolescents than their non overweight peers (28, 29), while others have shown no difference between population-based groups of overweight children and their non overweight peers (30,31). Studies also show that overweight females are at greater risk for self-esteem problems because body image is so important to self-image (28), perhaps because girls are expected to be thin, beautiful, flawless, sexy, cookie-cutter images of the super models and actresses they attempt to emulate. In clinical populations, there is a clear relationship between overweight and self-esteem in children and adolescents, with more heavily overweight children having lower self-esteem (31). One hypothesis is that clinically referred children represent a subgroup of overweight children associated with especially low self-esteem (15).

### Eating Disorders

The age of onset for 85% of all eating disorders is between 11 and 20 years (32) and eating disorders have been found to be associated with overweight in adolescents (33). Overweight youth are stigmatized (34), predisposing them to unhealthy dieting practices and attempts to lose weight. Britz et al (35) reported that the rate of eating disorders was six times higher in an overweight patient group than a population-based control group. The disorders included bulimia nervosa, eating disorders not otherwise specified, and anorexia nervosa. Sixty percent of females and 35.5% of males reported binge eating episodes.

### Body Image

Overweight in adolescents has been associated with negative body image (7). Overweight children as young as age five can develop a negative body image (36). A consistently replicated finding is that overweight children and adolescents have a more negative body image than their peers (37). A 1994 study by Grilo et al (38) demonstrated that

“the greater the frequency of being teased about weight and shape while growing up, the more negative one’s appearance is regarded, and the greater the degree of body dissatisfaction in adulthood” (p. 448). Studies have shown that overweight girls appear to have a more negative body image than overweight boys (29).

## Stigmatization

Stigmatization of overweight children and adolescents is significant and has long been a part of western culture (39). Studies have shown that children as young as three years of age begin to have negative attitudes toward overweight and obesity. When given different methods for assessing stigmatizing attitudes, these children ascribe negative characteristics to overweight targets, including mean, ugly, stupid, and sloppy, compared to non overweight targets (40). These trends tend to worsen as children get older (41). Such stereotypes are born out in real-life when studies show that US women who were overweight adolescents become adults with lower educational attainment, lower paying jobs, higher rates of poverty, and less likelihood of marriage in comparison to thinner women (42,43). Stigma associated with overweight thought to be greater for girls than for boys (27).

Overweight impacts adolescents’ relationships due to increased vulnerability to weight-related teasing and social isolation. Overweight adolescents may be socially marginalized among their peers and experience more weight-related stigmatization by peers and family members (7,44). Overweight youth have greater difficulty in gaining admission to college, although there is no indication that they are less apt to be able to complete the course work (39).

## Evaluation of Mental Health

Overweight adolescents should be thoroughly evaluated to identify any psychological conditions that may affect the course of medical treatment for weight loss or other medical co-morbidities (15). However, most pediatric health care providers are not trained to assess mental health issues and may have limited experience in daily practice in addressing mental health related problems. Other factors, including limited visit time and lack of established office strategies (24), may also contribute to the lack of detection of the psychological and psychosocial factors leading to overweight or originating from it. Additionally, pediatricians may directly or indirectly express “fatism,” which may contaminate the relationship with their young patients, and is particularly true with younger, overweight patients where parent-bashing or blaming is common (15).

Jonides et al (45) reporting results of a questionnaire to pediatricians asking about the routine evaluation of various psychological and emotional factors including self-esteem, eating disorders, concern about weight, family dynamics and history of abuse, showed that by far not every provider asks and elaborates on all of those important factors. Friedman (46) suggested that pediatricians are in an ideal position to detect psychological issues in young people, and they should be better trained to probe for and recognize signs of major mental

illnesses. Weitzman and Leventhal (47) concluded that the pediatric practice setting is an optimal environment for behavioral health screening if the currently available tools are used effectively. However, training is lacking in these areas.

Given that most providers specializing in adolescent overweight are not trained in mental and behavioral health evaluations, having a team of providers, including mental health providers familiar with evaluation of and treatment options for various mental and behavioral health conditions in adolescents, would add significant value to the team caring for this particular patient subset. Evaluation and treatment of underlying psychological and behavioral problems by a health care provider trained in adolescent mental health will aid in the reduction of obesity-related psychological co-morbidity in adolescents.

## **Suggestions for Mental Health Evaluation**

There is no consensus recommendation for the evaluation of mental health in overweight adolescents, and there are no studies comparing different methods for psychiatric assessment of affected children (15). An expert committee recommendation on overweight evaluation and treatment by Barlow and Dietz (48) suggested that asking the right questions in “objective, non accusatory language” would help establish a basis of trust between family and provider, which is key to long-term, successful management. Additionally, the use of well-validated instruments for evaluation is important.

A thorough psychiatric, psychological and family history regarding the patient needs to be taken. As rapport is established, questions regarding the patient’s weight, concerns about weight, weight gain or loss, eating issues, and psychosocial issues associated with being overweight (e.g., friendships, teasing, depression, low self-esteem) need to be broached. It is also important to assess readiness for change. When dealing with an adolescent, the family context is important, and the entire family must have some readiness for change for any to occur.

Paper and pencil assessment instruments can be useful in the initial assessment of psychological variables associated with overweight. As noted earlier, no specific guidelines have been established, but the following instruments are suggested as a potential assessment packet which assesses depressive symptoms, behaviors across a variety of domains, eating issues, and acute and characterological psychological concerns. A summary of the suggested instruments may be seen in table 1.

In order to assess level of depression, the Children’s Depression Inventory (CDI), a 27-item, symptom-oriented scale for children ages 6 -17 years (49) may be utilized. The CDI is a highly reliable and valid measure (50) and has been used effectively in several studies with overweight children (51,52). Since the CDI is a self-report measure, it can be supplemented by a parent-completed Child Behavior Checklist (53) in order to obtain corroborating or conflicting data from parents. Issues regarding eating can be measured through completion of a version of the Eating Attitude Test (54,55). This is a 6-point, forced choice, self-report inventory that measures dieting behaviors, food preoccupation, anorexia, bulimia, and concerns about being overweight. Versions for teenagers and younger children (chEAT), have demonstrated concurrent and predictive validity as well as reliability (55). Finally, for

overall symptom assessment, younger children (9-12 years) can complete the Millon Pre-adolescent Clinical Inventory (M-PACI), and adolescents (13-19 years) can complete the Millon Adolescent Clinical Inventory (MACI). Both instruments are designed to quickly and accurately identify psychological problems and determine both emerging personality patterns and acute psychological symptoms.

**Table 1. Psychological assessment instruments for overweight adolescents**

| Instrument  | Age Group (yrs) | Measures   | Method of report |
|---|-----------------|--|------------------|
| Children's Depression Inventory (CDI)             | 6-17            | Symptoms of depression   | Self-report      |
| Child Behavior Checklist (CBCL)                   | 6-18            | Child's activities, social relations, and school performance                     | Parent report    |
| Children's Eating Attitude Test (chEAT)           | 7-14            | Diet behaviors, food preoccupation, anorexia, bulimia, concerns about overweight | Self-report      |
| Millon Pre-adolescent Clinical Inventory (M-PACI) | 9-12            | Emerging personality patterns and acute psychological symptoms                   | Self-report      |
| Millon Adolescent Clinical Inventory (MACI)       | 13-19           | Emerging personality patterns and acute psychological symptoms                   | Self-report      |

Addressing mental health by correct and timely assessment and intervention can be of significant importance in improving the outcome of obesity-related problems in adolescents. Also, the correct diagnosis and therapy of mental health problems, if associated with overweight, can improve weight management and decrease medical complications.

## Conclusions

Overweight, obesity, and obesity-related diseases have become major problems in the developed and developing world in recent years. Adolescents are a high risk group for developing overweight, and most overweight teenagers will be unsuccessful in their attempts, should they make any, to lose weight; they move on to become an overweight or obese adult with the concomitant risk for medical disease. Along with obesity-related disease states, overweight adolescents are also likely to suffer from some psychosocial effects of overweight, such as depression, low self-esteem, eating disorders, negative body image, and stigmatization from peers, thus increasing the probability of obesity-related mental health comorbidities.

The public health agenda with regard to overweight and obesity has shifted the focus toward primary prevention of overweight. Primary prevention is certainly the strategy for which to strive, but secondary and tertiary prevention are more reasonable strategies at this time since overweight and its potential complications are more prevalent than ever and need to be addressed aggressively and comprehensively.

To improve obesity-related morbidity and mortality in this age group, providers involved in their care need to develop a better understanding and increased focus on mental health in addition to physical health. One strategy is a comprehensive team approach, including a mental health specialist who not only addresses those issues in the patient and family but also teaches the pediatric provider better strategies for initial screening.

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