Neglect: Failure to Thrive and Obesity

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KEYWORDS

• Failure to thrive • Medical neglect • Neglect • Obesity • Pediatrics

KEY POINTS

- Weight status and interval weight gain should be documented at every medical visit.
- Screening for psychosocial risk factors and food security is integral to prevention of nutritional deficiencies and child maltreatment.
- The etiology of FTT or obesity is seldom the result of a single causative medical, genetic or socioeconomic factor.
- The approach to nutritional rehabilitation in FTT or obesity requires multidisciplinary assessment and management.
- Weight status, in the absence of medical complications, does not necessarily constitute neglect.
- Weight status, with concern for future health, may reflect neglect, and a report to child protective services (CPS) may be needed.
- Medical neglect should be considered in both failure to thrive and obesity when there is a serious risk of harm from identified medical complications, additional or worsening medical complications occurring despite a multidisciplinary approach, and/or noncompliance with the treatment plan.

INTRODUCTION

Discussions on malnutrition in childhood and adolescence have traditionally centered on inadequate growth as well as nutrient deficiencies, such as iron or vitamin D. Malnutrition is a "cellular imbalance between nutrient requirement and intake" and should encompass both undernutrition and overnutrition.[1] Undernutrition may negatively affect both physical growth and development. Inadequate growth in weight or height, based on serial observations on a growth chart, is often referred to as failure to thrive (FTT). Whereas FTT is the result of inadequate nutrition, the focus of the

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medical system often shifts to etiology (organic or nonorganic) and to determine whether there is caregiver neglect or maltreatment.[2,3] In 2013, the American Society for Parenteral and Enteral Nutrition pediatric malnutrition working group recommended defining malnutrition or FTT as illness related or non–illness related, encouraging an approach that includes the role of illness, as well as environment and behavioral factors.[1] Overnutrition, in the form of obesity, can have medical complications in childhood that predict serious morbidity in adulthood[4] with much current debate as to the role of caregiver neglect and referrals to child protective services (CPS).[5–8] Both forms of malnutrition involve a complex interaction of medical and psychosocial factors and necessitate a comprehensive, multidisciplinary approach to evaluation and treatment.

DEFINING AGE-APPROPRIATE GROWTH

The approach to malnutrition requires an understanding of normal growth in childhood. Measurements of height and weight should be obtained at serial visits and compared with growth standards for males and females as well as special populations (eg, prematurity, Down syndrome). In 2010, the Centers for Disease Control and Prevention (CDC), the National Institutes of Health, and the American Academy of Pediatrics recommended the adoption of the World Health Organization (WHO) 2006 growth charts for children ages 0 to 2 years and the CDC 2000 growth charts for children ages 2 to 19 years. The WHO 2006 growth charts include longitudinal serial data on children younger than 2 from multiple countries, whereas the CDC 2000 charts are based on cross-sectional, nonserial data from only the United States. The infants differ; 100% of WHO infants were still breastfeeding at 4 months versus only one third of CDC infants.[9] Although the CDC 2000 charts use the 5% and 95% to designate underweight and obesity, WHO 2006 utilizes z-scores of -2.0 and 2.0 translating to 2.3% and 97.7%, respectively. There are concerns that the WHO 2006 growth charts, in comparison with the CDC 2000 growth charts, underestimate the percentage of children who are underweight or stunted in height[10,11] and overestimate the percentage of children who are overweight and obese.[11] If the WHO growth chart is utilized correctly, similar results occur for height and overweight.[12] Despite these concerns, WHO 2006 charts are considered growth standards "that describe how healthy children should grow under optimal environmental and health conditions."[9]

Traditionally, FTT has been identified in children who have a weight for age that drops below 3% to 5% or who have crossed two major growth percentiles.[13–15] Crossing of major growth percentiles, however, is not uncommon in healthy children.[16] Acute malnutrition or wasting is defined as inadequate growth for fewer than 3 months and is reflected in weight for age. Chronic malnutrition, defined as inadequate growth for longer than 3 months, includes deficits in height velocity or stunting.[1] There are multiple classification strategies (**Table 1**) for determining the degree of malnutrition (mild, moderate, or severe). The use of WHO or Cole z-scores may have some benefits over other methods, because neither requires the determination of an ideal weight or ideal weight for height for the individual child. Overweight or obesity is best represented by weight for height or body mass index (BMI) with 85% to 94% defining overweight, 95% to 98% obesity, and 99% or greater severe obesity. However, caution is urged in classifying adolescents because their BMI can exceed adult criteria for obesity (BMI $\geq$30 kg/m^2).[17]

PREVALENCE

Based on WHO growth standards, it is estimated that 16% of children younger than 5 years in developing countries were underweight in 2011. This translates to more