

## **Childhood Obesity, Nutrition, and Mental Health**

First Lady and native Chicagoan Michelle Obama is leading the movement to combat child obesity and improve the overall health and well-being of the nation's children. At the 2010 launch of her "Let's move!" national campaign, she stated that "the physical and emotional health of an entire generation and the economic health and security of our nation is at stake." She explained in a Washington Post Op Ed that the "Let's Move!" campaign has a "single and very ambitious goal: solving the problem of childhood obesity in a generation, so kids born today can reach adulthood at a healthy weight."

First Lady Obama has good reason. The Children's Defense Fund reports that nearly 1 in 3 children in America is overweight or obese, meaning that the childhood obesity crisis affects millions. Rates of childhood obesity have tripled among school-aged children and adolescents over the past thirty years and younger children are growing fat sooner. The challenge to reverse this trend is immense and complex.

### **Nutrition and Exercise**

The Institute of Medicine of the National Academies reports that for the past three decades, Americans of all ages have reduced their physical activity as they've increased pursuits that keep them sedentary. Almost 10 percent of infants and toddlers carry excess weight for their length and slightly more than 20 percent of children between the ages of two and five are already overweight or obese. Children ages 11 to 14 spent an average of nearly 12 hours watching television, on the computer, or playing video games, although the Institute recommends that their children's screen time - television, videos, digital media, video games, and internet use – should be limited and parents should encourage greater physical activity to combat increasing obesity.<sup>1</sup> Children who do not routinely participate in sports or extracurricular activities are more likely to be overweight or obese compared with children who participate in free-time physical activity. The Institute of Medicine recommends that children ages six to nineteen should engage in moderate to vigorous activity for at least 60 minutes on most days. About two-thirds of children do not do this, and roughly twenty-five percent of adolescents do not partake in any physical activity ever.

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<sup>1</sup> Institute of Medicine of the National Academies Early Childhood Obesity Prevention Policies, Report Brief, June 2011

While physical activity decreases, calorie intake is increasing. The U.S. Centers for Disease Control and Prevention reports that only about twenty percent of high school students eat the recommended amount of fruits and vegetables while fast food consumption has increased by a factor of five among children and adolescents since 1970. Almost a third of children eat fast food every day. Along these lines, the consumption of sugar and corn syrup sweetened beverages, which constitute nearly eleven percent of children's total calorie consumption, is a major contributing factor to obesity. All of this is significant - children who are overweight during their preschool years are five times as likely to be overweight adolescents.<sup>2</sup>

### **Mens Sana in Corpore Sano**

Twenty-four hundred years ago, Hippocrates stated that food is medicine and medicine is food. Overall health, including mental well-being, is directly related to food and nutrition. Obesity increases the risk of more than just cardiovascular disease, diabetes, high cholesterol, high blood pressure, bone and joint problems, stroke, and cancer. There is growing concern that the mental health of an obese child suffers because of weight issues. Scientific evidence substantiates the point that adults and children suffer from anxiety and depression as a result of their obesity.

There is an association between habitual diet quality and mental disorder that is being increasingly substantiated. An 'American' diet of processed and fried foods, refined grains, sugary products, and beer is tied to major depression and anxiety disorders, while a 'traditional' diet of vegetables, fruit, meat, fish, and whole grains is associated with lower odds of depression and anxiety.<sup>3</sup> Researchers at Johns Hopkins University are demonstrating an increased risk for depression in both men and women who are obese and an association between severe obesity and depression.<sup>4 5</sup> Causality may not be totally explicit, but an improved diet (more traditional, less 'American') would lower rates of obesity and overweight and lower the likelihood of depression. A

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<sup>2</sup> Nader PR, O'Brien M, Houts R, et al; National Institute of Child Health and Human Development Early Child Care Research Network "Identifying risk for obesity in early childhood;" *Pediatrics*. 2006; 118(3):e594-e601

<sup>3</sup> Association of Western and Traditional Diets with Depression and Anxiety in Women; *American Journal of Psychiatry* 2010; 167:1-7; Jacka, Pasco, Mykletun, et al.

<sup>4</sup> "Is Obesity Associated with Major Depression? Results from the Third National Health and Nutrition Examination Study;" *American Journal of Epidemiology*. Vol. 158, No. 12, Chiadi Onyike

<sup>5</sup> "Obesity and mental disorders in the general population: results from the mental health surveys"; *International Journal of Obesity*, 2008; 32, 192 – 200; KM Scott, Bruffaerts, et al.

healthier diet has been found to be associated with a reduction in the likelihood for depression in men and both depression and anxiety in women.<sup>6</sup>

Good nutrition starting immediately at birth is critical for long-term health. Unfortunately, the majority of American children are being raised on an ‘American’ diet, and even infants are being fed too many calories. Researchers have found that nutrient-enriched formula promoting faster weight gain in infancy increased body fat later in life. The result is overweight babies and young children. Data show that the association between infant growth and nutrition and the long-term risk of obesity is independent of genetic or environmental factors that influence early growth and later obesity. Therefore, there is at least a partial causal link between early nutrition and long-term weight issues.<sup>7</sup>

Research from the University of Missouri and UCLA shows that a child’s mental health cannot be separated from the state of his or her body. Just like adults, children are susceptible to mental health problems as a result of issues of excess weight. Those who are overweight or have weight problems do not fare as well in social and behavioral functioning, experiencing sadness, loneliness, and anxiety. Unfortunately, this is often perpetuated by social stigmatizing by other children and adults.<sup>8</sup> Researchers have also found that low self-esteem was more prevalent among overweight and obese children than among children of normal weight. Overweight and obese children were also found to experience great poor school performance and infrequent physical activity.<sup>9</sup> None of this is insignificant because low childhood self-esteem has important implications on that child’s mental health as an adult, which continues the negative cycle.

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<sup>6</sup> “The Association Between Habitual Diet Quality and the Common Mental Disorders in Community-Dwelling Adults: The Hordaland Health Study; Jacka, Mykeltun, et. al.; *Psychosomatic Medicine* 73: 483-490 (2011)

<sup>7</sup> “Nutrition in Infancy and long-term risk of obesity: evidence from two randomized controlled trials,” Singhal, Kennedy, et. al, *American Journal of Clinical Nutrition*, 2010; 92: 1133-44)

<sup>8</sup> “Implications of Overweight Onset and Persistence for Social and Behavioral Development Between Kindergarten Entry and Third Grade;” *Applied Developmental Science*, 13(2), 88-103, 2009: Gable, Krull, Chang.

<sup>9</sup> The influence of childhood obesity on the development of self-esteem” Statistics Canada, Catalogue no. 82-003-XPE, Health Reports, Vol. 20, no. 2, June 2009, F. Wang, T.C. Wild, W. Kipp, S. Kuhle and P.J. Veugelers

## Obesity in Illinois

In general, citizens of Illinois eat unhealthy diets and are overweight or worse. In fact, the Illinois Alliance to Prevent Obesity reports that 62% of Illinois adults are obese. Unfortunately, Illinois children do not fall outside this norm. With 20.7 percent of the state's children qualifying as obese, Illinois is the fourth most obese state in the U.S. after Mississippi, Georgia and Kentucky. Urban children suffer even slightly more. Northwestern University reports that the obesity rate for Chicago's children ages 3-7 is 22 percent, which is more than twice the national average. For Chicago children ages 6-11, the obesity rate is 28 percent, one and a half times the nation's average<sup>10</sup>.

Thankfully, efforts are being made by Illinois institutions to change the direction of this trend toward ubiquitous obesity. In 2010, the University of Illinois received a \$4.5 million federal grant to train graduate students in child obesity prevention. Hopefully this will have a positive effect on deterring unhealthy eating habits and sedentary lifestyles.

Additionally, the Illinois Alliance to Prevent Obesity, under the auspices of the Illinois Public Health Institute, has developed a three year strategic road map that comprises eight objectives. The Alliance brings public and private organizations together to tackle this immense problem. The eight objectives are:

- Increase access to retailers who serve or sell healthy and affordable food options;
- develop state-level obesity prevention resources and infrastructure
- increase consumption of healthy foods and beverages in relation to consumption of unhealthy food and beverages that have minimal nutritional value
- promote healthy and affordable food consumption in senior centers, schools, parks, child care centers and after school programs
- increase opportunities for safe and affordable physical activity in communities, senior centers, schools, childcare settings, and after-school programs
- promote safe and active transportation;
- promote healthy and active lifestyles in workplaces;
- promote obesity prevention and treatment through hospitals and health care systems.

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<sup>10</sup> <http://news.medill.northwestern.edu/chicago/news.aspx?id=164601>