

The Critical Role Parents Play in Determining the BMI of Their Children

By Andrea Bloom, MBA



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Childhood obesity has reached epidemic levels. The most recent National Health and Nutrition Examination Survey (NHANES) 2009-2010 prevalence data of child

overweight and obesity reveals that 31.8% of all children fall into this category with 16.9% of all children being obese (1). This is a significant public health concern because most obese children become obese adults and subsequently suffer the negative health consequences associated with obesity and its comorbidities (2). This article will examine the impact that parental obesity, eating behaviors, physical activity lifestyle, food environment and role modeling have on children. Children are dependent on parents to structure their home environment and daily lifestyles, including the food made available at home, the food purchased at restaurants, the overall eating behaviors promoted and modeled by the parents, and the physical activity lifestyle adopted by the family. These household influences, in turn, impact long-term energy balance, insulin resistance, weight status of children and ultimately health.

With metabolic compromise already apparent at birth, maternal obesity creates a significant risk for the next generations. The period of prenatal development is an important phase in determining obesity in children as the fetuses of obese mothers develop insulin resistance in utero (3). The prevalence of childhood obesity may also be increasing as a result of positive assortative mating with obese parents. Parental weight status is strongly associated with their offspring up to age 5 and it predicts the risk of adulthood obesity as well. Most childhood obesity cases appear to result from a genetic predisposition that may interact synergistically with the obesogenic environment (4). Therefore,

Pediatric Weight Management



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Evidence shows that parents and caregivers play a vital role on children's eating and physical activity patterns. Modifying children's food environments and their activity levels may aid in reducing obesity prevalence and its associated cardio-metabolic complications. This article provides tools to use in your practice to empower your clients and patients who are parents or caregivers.

strategies to counteract the obesity epidemic need to be targeted at women and their partners prior to conception so they can give the next generation a healthy start. For children born to an obese parent or parents, family-based interventions must be implemented as early as possible to prevent the onset of childhood obesity. When a child is diagnosed as obese, family-based strategies can be effective in returning to a healthier BMI (5).

Obesogenic Food Environment

The obesogenic food environment is a key driver in the dramatic increase in both adult and childhood obesity. Some of these obesogenic factors include: increased food availability, the trend towards eating almost half of meals away from home, the rapid increase in fast-food outlets, the increased amount of energy-dense prepared, processed and packaged foods, the dramatic rise in sugar-sweetened beverage consumption, and the increase in portion sizes (6). Reclaiming the food environment of our youth starts with a household-based approach to healthy food behaviors and empowering parents and adult caregivers as "agents of change." Role modeling of healthy habits has a double benefit by reducing both the weight of the children and that of the parents (7).

Healthy Eating Interventions within the Family:

- Create a balanced eating pattern of whole foods from the five primary food groups based on the plate model
- Plan family meals together, involve the children in meal planning, prepare and shop for food so the children can learn and adopt lifelong healthy eating habits
- Remove sugar-sweetened beverages from the home
- Send children to school with a healthy homemade lunch and a canteen of water
- Avoid packaged foods that are energy dense and made-up of refined grains and sugar or sugar equivalents
- Moderate portion sizes at home and at restaurants (take extras home or share meals)
- Avoid fast food restaurants and when eating out select healthy options which include vegetables, fruit and whole grains
- Teach other adult caregivers what foods and beverages to serve their children

Dearth of Physical Activity

Across many aspects of modern life, adults and children are experiencing a dramatic decrease in energy expenditure relative to past generations. Far fewer children walk or

ride their bikes to school than previous generations. Children don't play outside as freely as they did in the past and physical education has been eliminated in many schools. All of these factors have contributed significantly to a decline in overall energy expenditure for children. Furthermore, lack of exercise has a negative impact on skeletal muscle lipid turnover, which is a contributing factor to lipid-induced insulin resistance (8). Lack of energy expenditure combined with lipid-induced insulin resistance work together to produce an even greater negative impact on childhood obesity.

Screen time (TV, computers, internet, video games, smart phones) has replaced

outdoor activities for many children. TV viewing is also associated with an increase in the consumption of energy-dense snacks, sugar-sweetened beverages, and a lower intake of fruits and vegetables (9). This is due, in part, to aggressive TV advertising directed at children by the soda and packaged food companies that profit from children's consumption (10). Currently children watch an average of three to four hours of TV a day (11). When TV viewing is added to other components of screen time (computers, video games, smart phones), most of children's discretionary time is consumed with screen time and there is little if any time left for physical activity.

In addition, children require more physical activity than adults to maintain good health. Children need on average at least 12,000 steps a day including 60 minutes of moderate-to-vigorous physical activity (12). To achieve the physical activity guidelines for children, it takes a concerted effort to add activity into their daily lives.

Healthy Activity Interventions within the Family:

- Allow children access to TVs and/or computers in communal rooms only
- Limit screen time to a maximum of 2 hours/day (13)
- Enroll children in organized youth athletics
- Engage the whole family in regular physical activity
- Find safe places for children to play outdoors
- If safe, have children walk or ride bikes to school; if not, create a parent chaperone system to escort walking children to school

In conclusion, one key approach to making an impact on reversing the childhood obesity epidemic involves parents and caregivers taking a leadership role in shaping a home environment that supports healthy lifestyle habits. Healthy eating and activity is a family affair and creating a foundation of health begins with the parents adopting an overall healthy lifestyle. The best time to initiate healthy eating and activity behaviors is before conception as this provides the best protection against obesity for children. A healthy family lifestyle can be implemented at any point in time, but takes more effort after eating and activity patterns have been established. Parents and adult caregivers have a key role to play in transforming their parenting practices around food and activity to contribute to the long-term health of their children.

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Hello Weight Management DPG Student Members!

My name is Meredith and I am the Student Services Coordinator for WM DPG. First, I'd like to start off by saying Happy New Year! 2013 will be a great year and I hope you are looking forward to it as much as I am. One exciting event I'm looking forward to is the Weight Management Symposium that will be held in Indianapolis this year on April 12-14. I love going to the symposium because of the great opportunities for networking and all of the weight management focused sessions. I hope to see you there!

Did you know there is a section of www.wmdp.org just for students? It's called the Student's Corner. There you will find several resources such as a link to the Academy's Community of Interest for students, and links to WM DPG newsletter articles written by our student members. We are always looking for newsletter article submissions on anything weight management related from our students, so if you are interested please email me for more information! Also, let me know if you have any ideas on how I can improve your experience with WM DPG as a student member – I'm here to help!

On behalf of the WM DPG Executive Committee, thank you for being a member of our great DPG!

Best wishes,

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