Creating Healthy Work Environments 2019

Childhood Obesity: A Review of Risk Factors, Effects, and What We Can Do About It

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Childhood obesity is a serious global issue that merits the attention of interdisciplinary professionals. Between 2009 and 2011, 19.8% of Canadian children between the ages of 5 and 17 were overweight and an additional 11.3% were obese, which was calculated using World Health Organization cut-offs (Roberts, Shields, de Groh, Aziz, & Gilbert, 2012, p. 5). In comparison, 14.9 % of children ages 2 to 17 years in the United States were overweight while an additional 17.3% were obese between 2011 and 2012 (Skinner & Skelton, 2014, p. 565). These statistics were calculated using the Centers for Disease Control and Prevention (CDC) body mass index (BMI) guidelines which define childhood overweight as weight greater than or equal to the 85th percentile but less than the 95th percentile, and childhood obesity as weight greater than or equal to the 95th percentile (Skinner & Skelton, 2014, p. 562; CDC, 2016, para. 1). Childhood obesity has many biopsychosocial consequences that are of concern to the child's short-term and long-term health. Physical complications of obesity include hypertension, high cholesterol, glucose intolerance, insulin resistance, type 2 diabetes, asthma, sleep apnea, menstrual abnormalities, joint problems, musculoskeletal discomfort, fatty liver disease, cholelithiasis, and gastro-esophageal reflux (CDC, 2016, para. 7; Sahoo et al., 2015, p. 190). While many of these health conditions were previously thought only to appear in adulthood, they are becoming increasingly prevalent among obese children (Sahoo et al., 2015, p. 190). Furthermore, obese children are likely to remain obese into adulthood (Sahoo et al., 2015, p. 187), therefore increasing their risk for or exacerbating obesity-related diseases. This is significant, since an estimated $215 billion is spent annually in the U.S. on direct and indirect obesity-related expenses in the child and adult populations, emphasizing an urgent need to reduce rates of obesity and its complications (Hammond, & Levine, 2010, p. 294). From the psychosocial standpoint, obese children are at an increased risk for anxiety, depression, low-self-esteem, low self-reported quality of life, body dissatisfaction, stigmatization, bullying, social marginalization, and eating disorders (CDC, 2016, para. 8; Sahoo et al., 2015, p. 190). Overweight and obese children are also more likely to have problems at school in comparison to normal weight children, which can impact academic success (Sahoo et al., 2015, pp. 190-191).

Risk factors for childhood obesity can be classified into 6 main categories: unhealthy diet, eating habits, sedentary lifestyle, social influence, genetics (Sahoo et al., 2015, pp. 188-190); and insufficient sleep (Ruan, Xun, Cai, He, & Tang, 2015, p. 12). However, these factors cannot be fully explored without considering some social determinants of health, including: low socioeconomic status, low educational level, and food insecurity (Mikkonen, & Raphael, 2010). We must also consider the impact of child marketing, accessibility, and mental health.

Interventions can be divided into two levels: individual & family-centered interventions and societal interventions. On the individual & family level, one can prevent or reverse childhood overweight and obesity by implementing a healthy diet and adequate physical activity, limiting TV and electronics usage, increasing quality time with the family, living in safe neighborhoods with fewer fast food options, having adults act as healthy role models (Sahoo et al., 2015, pp. 188-189); breastfeeding in infancy (American Academy of Pediatrics, 2012, p. e830); and increasing hours of sleep (Ruan et al., 2015, p. 12). On the societal level we must look to build partnerships with the interdisciplinary team, including dietitians, physicians, and other nurses; as well as school boards, principals and teachers; and government affiliates in the health, education, and marketing sectors. Proposed changes in the school system involve increasing health education taught by nurses and dietitians, increasing the number or length of physical education classes, increasing opportunities for and accessibility to active extracurricular activities, improving the quality and affordability of cafeteria food, incorporating school gardens, integrating cooking classes into the curriculum, cultivating an enriched play environment and limiting screen-time during school hours. Corporate interventions are directed mostly at marketing and accessibility. A major recommendation is to reduce the amount of child-directed marketing for unhealthy foods (Sahoo et al.,

2015, p. 189) and entertainment products that promote sedentary lifestyles, such as video games and TV shows. Increasing the amount of grocery stores that are easily accessible by public transport, increasing the amount of locally produced merchandise, and selling blemished produce at a lower cost are other interventions that may promote healthier eating and thus reduce rates of childhood overweight and obesity. It is important also to advocate for smaller portion sizes in the fast food and restaurant industries to discourage overconsumption (Sahoo et al., 2015, p. 189). Within neighborhoods, increasing the number of community gardens and farmers markets may also have a positive impact on the accessibility of healthy food options.

If these individual/family and societal interventions can be incorporated as the new norm, it is likely that rates of childhood overweight and obesity will decline. Not only would this be hugely beneficial to the health of the individual, reduced prevalence of childhood obesity implies reduced healthcare costs on obesity-related comorbidities and complications. I recommend that these spared resources be reallocated towards an upstream approach to promote the sustainability of childhood obesity prevention. Nurses, having strong relationships with patients and families, extensive knowledge about health, strong communication skills, and leadership experience are in a prime position to initiate a childhood obesity movement. On the individual & family-centered level, nurses can make change by engaging in high quality patient & family teaching; seeking opportunities to teach in schools and in the community; participating in nursing research and implementing best practices related to childhood obesity prevention and reversal; and being a positive role model for patients, families, peers, and other nurses. On the societal level, nurses must be able to advocate for change, participate in research, build partnerships with other sectors, and inspire others to take a stand against childhood obesity.

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Abstract Summary:
Childhood obesity is a global issue, with a multitude of physical, psychological, and social implications that can follow into adulthood. Many interventions can be made on the individual and familial level; however, society must also implement some changes. Nurses must serve as leaders for change in this call for action.

Content Outline:
What is childhood overweight and obesity?

- Definition of overweight & obesity (BMI ranges)

Prevalence of childhood overweight and obesity

- In Canada
- In the US
- Globally

Why is this a problem?

- Physical consequences
- Psychological consequences
- Social and academic consequences

How does childhood obesity impact society?

- Overall health of community
- Creates and exacerbates other medical conditions (i.e. diabetes, sleep apnea, slowed healing after surgery, increased rates of infection)
- High cost to the healthcare system

Why is obesity more harmful in childhood than in adulthood?

- Individuals are living with the health impacts of overweight and obesity (i.e. diabetes) for a greater number of years, therefore causing more damage to the body and predicted earlier death
- Children who are overweight/obese are more likely to carry this weight into adulthood
- Childhood is a critical time period for learning & practicing habits. These habits can be carried into adulthood

What are the risk factors for childhood overweight and obesity?

- Unhealthy diet
- Eating habits
- Sedentary lifestyle
- Social influence
- Genetics
- Not enough sleep

*Consider the social determinants of health: low socioeconomic status, low educational level, and food insecurity. Also consider the impact of child marketing, accessibility, and mental health.

Individual & family-centered interventions

- Healthy diet, adequate physical activity, breastfeeding in infancy, limited electronics usage, sleep regulation, increased quality time spent with children, adults acting as healthy role models, living in neighborhoods with fewer fast food options.

Societal interventions

- School system – increasing health education taught by nurses and dietitians, increasing the amount of physical education classes, increasing opportunities for and accessibility to active extracurricular activities, moving classes outside, improving the quality and affordability of cafeteria food, incorporating school gardens, integrating mandatory cooking classes, cultivated an enriched play environment to promote physical activity, and limiting screen-time at school.
- Corporate interventions – reduce the amount of child-marketing for unhealthy foods and entertainment that promotes sedentary lifestyles; increasing accessibility of grocery stores by public transport; increasing locally produced foods; selling blemished produce at lower prices; smaller portion sizes in the fast food and restaurant industries
- Neighborhoods – community gardens and farmers markets

What will be the impact of these solutions? What are the long-term results?

- Reduced rates of childhood overweight and obesity, which will improve population health in the physical, psychological, social, and academic domains.
- Improved hospital outcomes (fewer complications and fewer re-hospitalizations)
- Reduced healthcare costs spent on obesity-related diseases and complications
- More healthcare funds that can be allocated towards an upstream approach to childhood obesity resolution and prevention

What parties are involved?

- School boards, principals, teachers
- Dietitians, nurses, physicians
- Parents, children
- Government affiliates in the health, education, and marketing sectors

What can nurses do to make an impact?

- High quality patient & family teaching
- Teach at schools and in the community
- Act as a positive role model for patients, families, peers, and other nurses
- Participate in nursing research and implement best practices related to childhood obesity prevention and treatment

- Advocate for change
- Build partnerships with other disciplines and sectors
- Inspire others to take a stand against childhood obesity

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Professional Experience: Terra Hodgins is a fourth year RN student at MacEwan University in Edmonton, Alberta. She joined the Chi Nu Chapter of Sigma in November 2017 as an opportunity to learn from nurse leaders, engage in nursing research, and partake in nursing excellence. Through her bachelor's program, Terra has gained experience in a wide variety of clinical settings and hopes to work in pediatrics after graduation. Her long-term career goal is to become a pediatric nurse practitioner. Terra is dedicated to helping those in need and has volunteered with multiple organizations within her community. She has further exemplified this by taking on a leadership position in her place of work, where she has initiated several volunteer and philanthropy activities to give back to the community. She values nursing research and is excited to be an advocate for change in her professional journey.

Author Summary: Terra Hodgins is a fourth year RN student at MacEwan University in Edmonton, Alberta. She joined the Chi Nu Chapter of Sigma in November 2017 as an opportunity to learn from nurse leaders, engage in nursing research, and partake in nursing excellence. Through her bachelor's program, Terra has gained experience in a variety of clinical setting and hopes to work in pediatrics after graduation. Her long-term career goal is to become a pediatric nurse practitioner.