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Mission Childhood Obesity: Prevention Begins at Intervention

Parents, medical professionals, and school educators across the United States have observed children’s and adolescents’ weight increase to epidemic proportions. According to the U.S. Surgeon General, childhood obesity has emerged as one of the most preeminent public health concerns: One in three children are affected by excessive weight gain, obesity, and ‘adult’ comorbidities (qtd. in Wechsler et al. 4; Kumar and Kelly 251). The prevalence of obese children is significantly rising with a multifactorial and complex etiology (Kumar and Kelly 261). Reversing the epidemic is an undertaking that requires the active participation of all community and family members, pediatricians, teachers, and government agencies. By implementing nutritious meal programs and ample opportunities for exercise, schools can positively impact the overall health of children and adolescents. Therefore, the health curricula of all American public schools should address childhood obesity to minimize its negative effects.

In 1960, an American study was conducted to provide statistical “data on childhood obesity’s persistence into adulthood” (Dawes 8). In order to determine the etiology and significance of childhood obesity’s presence in adulthood, the Public Health Service collected and analyzed twenty years of statistical data (Dawes 8). The results were astonishing and led public health officials to reexamine their perception of childhood obesity. According to their research, eighty to eighty-five “percent of overweight children would grow up to become overweight adults” (Dawes 8). The obesity epidemic and obesity-related comorbidities are pressing issues that should be addressed to alleviate their presence in the community.

Fat was once theorized to be a “metabolically inactive energy store;” however, it is now considered to have an “active role, emitting and responding to hormonal signals and regulating the body’s internal economy” (Dawes 9). Excessive amounts of fat in childhood damages the body’s chemical processes and interferes with the regulation of hormones. For instance, insulin is one of the hormones that could be negatively impacted by damaged chemical processes (Page). If a child consumes a sugary beverage, their blood glucose levels will rise. If their pancreas functions normally, then it will release insulin and lower the concentration of glucose in the blood (Page). If the pancreas does not function effectively, then their blood sugar levels will remain elevated and can be indicative of insulin-resistant diabetes. This physiological process exemplifies one of the negative impacts poor eating habits have on children’s body.

A diagnosis of obesity requires a medical professional to calculate the child’s body mass index (BMI). BMI, derived from an individual’s height and weight, has “emerged as the acceptable clinical standard measure of [obesity]” among children above the age of two (Kumar and Kelly 251). Although BMI provides an estimate of the adiposity in the pediatric population, it fails to account for children of small stature or who have an increased muscle mass (Kumar and Kelly 251). It is crucial healthcare professionals examine children’s BMI with scrutiny and only as a means to gain insight into their condition. Pediatricians must chart their patients’ growth to identify an exponential trend and pinpoint areas of excessive weight gain in a short time frame. Identifying the underlying conditions or illnesses (mental or physical) that perpetuate excessive eating and an unwillingness to exercise are necessary when examining childhood obesity and implementing a health curriculum.

The role of pediatricians is to evaluate the cause and effect of childhood obesity and obesity-related comorbidities. If the cause and effect are not properly identified, then treating the effect may not improve the cause. School educators do not have the resources or expertise to determine the necessary actions required to decrease the rate of obese children and its associated comorbidities. Therefore, government agencies and policymakers must implement proven strategies to aid in the epidemic. Once a child is diagnosed as obese, their chances of developing early onset comorbidities significantly increases, especially if the condition is present in immediate family members.

Since conception, children rely on their parents to provide food and nourishment. Parents must recognize early feeding cues in infancy to promote a positive parent-child relationship and to help them form a positive perception of food. When parents use food as a means to constrain and exert dominance, it can “lead to undesirable feeding behaviour [sic] and increase the risk [of] obesity” in their children (Bomberg et al. 310). It is imperative parents and family members teach their children food is necessary for growth, development, and energy rather than as a means to suppress their emotions. Forced and unhealthy eating habits are carried into adulthood and are extremely difficult to change. Therefore, it is the parents’ and educators’ responsibility to teach their children healthy eating habits.

Depending on a community’s understanding of obesity, it can alter their definition of its etiologies. Children and adolescents are very docile and easily impressionable by their family, friends, and community members. It is crucial children establish healthy eating habits in infancy to avoid overeating and weight gain in the future. Although there are multiple internal and external factors that instigate excessive weight gain and obesity, genetics, sedentary lifestyles, poor eating habits, and emotional distress are the most prevalent. According to an ecological model proposed by Davison and colleagues, the “child risk factors for obesity include dietary intake, physical activity, and sedentary behavior” (qtd. in Sahoo et al. 188; Lueke 207). Based on this information, weight gain and obesity are the result of increased dietary intake and a decreased expenditure.

Excessive weight gain and obesity can be attributed to an adolescent’s genome and genetics. Genes are responsible for thirty to fifty percent of an individual’s adiposity and BMI is twenty-five to forty percent heritable (Kumar and Kelly 251; Sahoo et al. 188). A genetic predisposition does not entirely indicate a child will become obese. A defect in children’s gene sequence is rare and is commonly seen in those who “have early-onset obesity and characteristic features,” which includes “short stature, dysmorphic features, developmental delay, or intellectual disability, retinal changes, or deafness” (Kumar and Kelly 254). In order to pinpoint specific factors that contribute to obesity, pediatricians and school educators should evaluate the entire child.

In addition to genetics, conditions that affect the endocrine system have been linked to the obesity epidemic. The most prevalent conditions in children “are central adiposity, elevated blood pressure, elevated triglyceride levels, decreased high-density lipoprotein (HDL) cholesterol, increased low-density lipoprotein cholesterol,” and an ineffective pancreas (Hassink 2). If pediatricians are able to treat the cause of metabolic syndromes, then the appropriate measures and educational tools can be implemented into the health curricula to decrease weight gain and increase physical exertion.

A sedentary lifestyle consists of minimal or no physical activity. Children who live a sedentary lifestyle are usually sitting, lying down, engaging in social media applications, or playing computer games. A sedentary lifestyle in children often includes binge watching television shows, which inevitably increases their vulnerability to unhealthy food advertisements (Frechette). If the federal government’s intention is to limit the frequency of overweight and obese children, then it “may be directly promoted by a requirement restricting [their] exposure to junk food commercials” (Frechette). The mediums that are used to target children and advertise calorie dense foods should be regulated and educators should address the harmful effects of junk food on children’s perception of their body.

In addition to the internal and external factors described above, emotional distress can cause weight gain and obesity via maladaptive coping mechanisms. It is crucial school educators understand that an emotional vulnerability to food and its use as a coping mechanism can be a cause and an effect. Psychosocial and emotional distress negatively impacts a child’s or adolescents’ psyche by “eating to suppress negative emotions” and “appetite up-regulation” (Kumar and Kelly 253). Therefore, emotional instability can perpetuate binge eating and obesity. Although extensive research has been conducted to determine the prevalence of anxiety and depression between children who have a high BMI and those who do not, the relationship is not unidirectional and the results are misleading (Sahoo et al. 190). School educators should be obligated to identify emotional distress and provide students with alternative methods to overcome their fears, anxiety, or depression.

The onset of comorbidities is related to a cause and effect complex. If the cause is treated, then the effect can diminish. A comorbidity is the simultaneous presence of two chronic diseases or conditions in a patient (O’Hara et al. 26). The most common comorbidities associated with excessive weight gain and obesity affect the endocrine, cardiovascular, and musculoskeletal system as well as children’s and adolescent’s mental health (Kumar and Kelly 254-256). Not all overweight or obese individuals will develop a secondary disease. However, the absence of additional illnesses does not indicate a child’s health is less severe or warrants less treatment.

Although malfunctioning endocrine glands can cause weight gain, it is very rare to be seen without a sedentary lifestyle or poor eating habits. An obesity specialist remarked the following:

It is remarkable how general is the idea even among physicians that the usual cause of obesity [in children] is some abnormality of the glands. Such abnormalities do occur, but with the exception of the thyroid, are so rare that this cause may be disregarded except in large hospital clinics where such cases may be considered medical curiosities. The use of thyroid extract in the treatment of obesity is a short cut attended with danger to the growing tissues and is seldom. (Dawes 92)

Obesity is most notably caused by a multitude of factors that cannot be explained solely on ineffective endocrine glands. Obesity can propel the onset of sexual maturation, the development of hyperandrogenism, and polycystic ovarian syndrome (Kumar and Kelly 255). Children could develop the illnesses described above if the concentration of their hormones are not properly maintained. Based on this information, endocrine abnormalities should not be the sole focus when determining the cause of a child’s adiposity.

The psychological ramifications of excess weight gain and obesity are detrimental to a child’s mental health and can instigate the development of anxiety, depression, low self-esteem, and a low quality of life. Erik Erikson’s psychoanalytical theory identified eight stages of development that are crucial for success in social situations: family relationships, school, intimacy, and end-of-life care (Giddens). Children and adolescents are expected to progress through eight different stages of psychosocial development (see table 1). Children and adolescents are often bullied and harassed by their classmates, which can perpetuate their desire to use food as comfort. Women who are obese during adolescence had a family history of “lower family income, lower rates of marriage, and higher rates of poverty” (Kumar and Kelly 255-56). It is not uncommon for children’s mental status to change rapidly and use food as a coping mechanism, which consequently increases their chance of becoming obese and developing a negative perception of food.

Table 1

Erik Erikson’s Psychoanalytical Theory: Eight Stages of Psychosocial Development



Source: McLeod, Saul. *Erik Erikson*. 2017. SimplyPsychology, <https://www.simplypsychology.org/Erik-Erikson.html>. Accessed 9 Nov. 2017.

In addition to the psychological ramifications obesity poses on children and adolescents, researchers have identified numerous diseases that are triggered by an increased caloric intake and decreased activity expenditure. According to Sahoo and colleagues, “fatty liver disease, sleep apnea, Type 2 diabetes, asthma, hepatic steatosis (fatty liver disease), cardiovascular disease, high cholesterol, cholelithiasis (gallstones), glucose intolerance and insulin resistance, skin conditions, menstrual abnormalities, impaired balance, and orthopedic problems” are conditions affected by increased caloric intake and low activity (190). Thus, adiposity has a negative impact on every body system.

The relationship between healthcare utilization and childhood obesity is relatively ambiguous and has not provided enough insights to decrease spending. According to Doherty and colleagues, studies regarding the correlation between weight gain and obesity on healthcare costs have not been conclusive (84). In 2010, the annual “cost of being obese was $4879 for women and $2642 for men” whereas the annual cost of being overweight was $524 and $432 for women and men, respectively (Lueke 209). The rising healthcare costs are not only attributed to the financial strain, but also accounts for “lost wages, higher insurance premiums, and higher costs of personal items” (Lueke 209). The treatment of obesity and obesity-related comorbidities pose a large financial strain on hospital employees, insurance companies, and healthcare spending.

The access to processed and high caloric foods negatively impact children’s and adolescents’ health. Schools should eliminate unhealthy foods by implementing a healthy lunch program. The Healthy, Hunger Free-Kids Act (HHFKA) aims to provide every student with high-quality and nutritious meals. However, the HHFKA has a high cost of compliance, increases waste, has limited flexibility of expected guidelines, and is perceived as an ill-advised attempt to monitor the diets of all American school children (Bakst). In some cases, schools have “transferred money out of their teaching budgets to cover the costs” of healthy food and the National School Board Association cannot disregard the “higher costs and operational issues created by the rigid [requirements] of the Healthy, Hunger-Free Kids Act” (Bakst). There is an urgency to incorporate the opinions of all parents because of the negative perception of the current lunch program.

In 1946, Congress passed the National School Lunch Act (NSLP), which aims to “[safe-guard] the health and well-being of American children and [improve] the nation’s agricultural economy” (Lueke 210). Many opponents to the NSLP argued that school meals and government policies allowed the sale and distribution of unhealthy foods that have been linked to obesity, heart disease, and diabetes (Yeoman). This unethical dilemma was executed because the integration of the NSLP provided participating schools six billion dollars per year “to offer low-cost meals to students” (Yeoman). For instance, in 2001 it was reported that “the USDA spent a total of $350 million on surplus beef and cheese for schools—more than double the $161 million spent on all fruits and vegetables, most of which were canned or frozen. On top of its regular purchases, the USDA makes special purchases in direct response to industry lobbying” (Yeoman). This budgeting revealed the USDA’s conflicting mission to combat obesity without the students’ best interests in mind.

Although the HHFKA has improved the nutrition of students, most parents are reluctant to amend or implement a new lunch program because it is not the government’s responsibility to dictate their children’s diet. Farris and Serrano disseminated a questionnaire that included thirty four questions examining the “perceived benefits and challenges of school and packed lunches” (A-96). The results indicated parents did not believe they could prepare healthier meals than their children’s school. It was also reported by Briefel and colleagues that children and adolescents who participated in their school’s lunch program “had more balanced diets because they had relatively low intake of low-nutrition, energy-dense foods and low-calorie intake of sugar-sweetened beverages” (qtd. in Liou et al. 567). In order to fix the inaccurate perceptions of school lunch programs, policymakers should collaborate with the students’ parents to formulate a meal program that incorporates personal preferences.

All American schools should implement healthy meals in conjunction with increased opportunities for physical exercise. A retrospective study, conducted by O’Malley and colleagues, used data acquired from the Monitoring the Future and the Youth, Education, and Society surveys to “explore whether characteristics of the U.S. secondary school physical activity environment are associated with student body mass index (BMI) and physical activity (S71). Their study did not reveal a significant correlation between physical education (PE) programs and student self-reported height, weight, and activity level (O’Malley et al. S71). However, it did provide insights into current physical education policies and identified the problem was attributed to non-vigorous exercise.

The goal of *Healthy People 2010* is to focus on increasing the opportunities for children and adolescents to exercise at least sixty minutes a day (O’Malley et al. S71). According to Carlson et al., implementing various practices such as a PE teacher and frequent monitoring during physical activities can improve students’ willingness to participate (595). Physical education is an integral part of academia that requires the support of faculty members; however, children are not mandated or motivated enough to participate because schools are preoccupied with preparing students for standardized tests.

Wechsler and colleagues stated “the adoption of policies at the school, school district, state, or federal level” is crucial to the successful implementation of healthy lunch programs and physical activity (7). Thus, information regarding policy and laws in relation to healthy eating has to be disseminated in a timely manner. Improving the policies and instituting proven interventions to combat the obesity epidemic is necessary and should be required by all American public schools. It should be the schools mission to foster their students’ growth and development by providing healthy meals and exercise programs rather than focusing on academia. In order to excel in academic disciplines, children and adolescents need a well-balanced diet and frequent exercise to enhance their energy and overall health. Once students are receiving the necessary nutrients, they will be less emotional, tired, and mentally able to participate in class discussions and standardized assessments. Schools should be obligated to address the childhood obesity epidemic in their health curricula as well as implement healthy meals and opportunities for vigorous exercise.

Works Cited

Bakst, Daren. “It is Not the Government’s Job to Fight Childhood Obesity.” *Childhood Obesity*, edited by Tamara Thompson, Greenhaven Press, 2016. *Opposing Viewpoints in Context*. <http://ic.galegroup.com.hrt-proxy.libraries.vsc.edu/ic/ovic/ViewpointsDetailsPage/ViewpointsDetailsWindow?disableHighlighting=false&displayGroupName=Viewpoints&currPage=&scanId=&query=&docIndex=&source=&prodId=OVIC&search_within_results=&p=OVIC%3AGIC&mode=view&catId=&u=vol_ccv&limiter=&display-query=&displayGroups=&contentModules=&action=e&sortBy=&documentId=GALE%7CEJ3010964203&windowstate=normal&activityType=BasicSearch&failOverType=&commentary>. Accessed 12 October 2017.

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Bomberg, E, et al. “The Financial Costs, Behaviour and Psychology of Obesity: A One Health Analysis.” *Journal of Comparative Pathology*, vol. 156, no. 4, May 2017, pp. 310-325. EBSCO*host*, 10.1016/j.jcpa.2017.03.007. Accessed 3 Oct. 2017.

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Carlson, et al. “Elementary School Practices and Children’s Objectivity Measured Physical Activity During School.” *Preventative Medicine*, vol. 57, no. 5, Nov. 2013, pp. 591-595. EBSCO*host*, 10.1016/j.ypmed.2013.08.003. Accessed 22 October 2017.

Rule 11, page 20, Rule 3, page 14

Dawes, Laura. *Childhood Obesity in America*. Harvard University Press, 2014. EBSCO*host,* <http://search.ebscohost.com.hrt-proxy.libraries.vsc.edu/login.aspx?direct=true&AuthType=ip,cookie&db=edsjbk&AN=edsjbk.j.ctt7zswv6&site=eds-live&scope=site&profile=eds-ccv>. Accessed 23 September 2017.

Rule 17, page 25

Doherty, Edel, et al. “The Impact of Childhood Overweight and Obesity on Healthcare Utilisation.” *Economics and Human Biology*, vol. 27, no. Pt A, Nov. 2017, pp. 84-92. EBSCO*host*, <http://search.ebscohost.com.hrt-proxy.libraries.vsc.edu/login.aspx?direct=true&AuthType=ip,cookie&db=cmedm&AN=28550809&site=eds-live&scope=site&profile=eds-ccv>. Accessed 3 Oct. 2017.

Rule 11, page 20, Rule 3, page 14

Farris, A. and Elena Serrano. “Elementary Parent Perceptions on choosing to Participate in the National School Lunch Program or Packing Their Children’s Lunches.” *Journal of the Academy of Nutrition and Dietetics*, vol. 114, no. 9, Sept. 2014, p. A-96. EBSCOhost, https://doi.org/10.1016/j.jand.2014.06.329. Accessed 3 Oct. 2017.

Rule 11, page 20, Rule 2, page 14

Frechette, Steve. “The Effect of Television Food Advertising on Children’s Preferences, Demands, and intake of High-Fat and Low-Nutrient Products.” *American Journal of Research*, vol. 2, no. 2, Oct. 2015, p. 246. EBSCO*host,* <http://search.ebscohost.com.hrt-proxy.libraries.vsc.edu/login.aspx?direct=true&AuthType=ip,cookie&db=edsgao&AN=edsgcl.461530095&site=eds-live&scope=site&profile=eds-ccv>. Accessed 18 Sept. 2017.

Rule 11, page 20

Giddens, Evelyn. Personal interview. 25 July 2015.

Rule 44, page 36

Hassink, Sandra G. *Pediatric Obesity: Prevention, Intervention, and Treatment Strategies for Primary Care*. American Academy of Pediatrics, 2014. EBSCO*host,* <http://search.ebscohost.com.hrt-proxy.libraries.vsc.edu/login.aspx?direct=true&AuthType=ip,cookie&db=nlebk&AN=1243662&site=eds-live&scope=site&profile=eds-ccv>*.* Accessed 23 September 2017.

Rule 17, page 25

Kumar, Seema and Aaron S. Kelly. “Review of Childhood Obesity: From Epidemiology, Etiology, and Comorbidities to Clinical Assessment and Treatment.” *Mayo Clinic Proceedings*, vol. 92, no. 2, Feb. 2017, pp. 251-265. EBSCO*host,* <http://search.ebscohost.com.hrt-proxy.libraries.vsc.edu/login.aspx?direct=true&AuthType=ip,cookie&db=edsgbe&AN=edsgcl.484460621&site=eds-live&scope=site&profile=eds-ccv>. Accessed 11 Sept. 2017.

Rule 11, page 20, Rule 2, page 14

Liou, Yiing Mei, et al. “School Lunch, Policy, and Environment are Determinants for Preventing Childhood Obesity: Evidence from a Two-Year Nationwide Prospective Study.” *Obesity Research and Clinical Practice*, vol. 9, no. 6, Nov.-Dec. 2015, pp. 563-572. EBSCO*host*, 10.1016/j.orcp.2015.02.012. Accessed 3 Oct. 2017.

Rule 11, page 20, Rule 3, page 14

Lueke, Lesley. “Devouring Childhood Obesity by Helping Children Help Themselves.” *The Journal of Legal Medicine,* vol. 32, no. 2, Apr. 2011, pp. 205-220. EBSCO*host*, doi:10.1080/01947648.2011.576621. Accessed 13 Sept. 2017.

Rule 11, page 20

O’Hara, Ruth, et al. “Handling Clinical Comorbidity in Randomized Clinical Trials in Psychiatry.” *Journal of Psychiatric Research*, vol. 86, Mar. 2017, pp. 26-33. EBSCO*host*, 10.1016/j.jpsychires.2016.11.006. Accessed 21 Oct. 2017.

Rule 11, page 20

O’Malley, Patrick, et al. “School Physical Activity Environment Related to Student Obesity and Activity: A National Study of Schools and Students.” *Journal of Adolescent Health*, vol. 42, no. 3, Sept. 2009, pp. S71-S81. EBSCO*host*, <http://search.ebscohost.com.hrt-proxy.libraries.vsc.edu/login.aspx?direct=true&AuthType=ip,cookie&db=edsgao&AN=edsgcl.206399026&site=eds-live&scope=site&profile=eds-ccv>. Accessed 20 Oct. 2017

Rule 11, page 20

Page, Scott. Personal interview. 12 November 2014.

Rule 44, page 36

Sahoo, Krushnapriya, et al. “Childhood Obesity: Causes and Consequences.” *Journal of Family Medicine & Primary Care*, vol. 4, no. 2, Apr. 2015, pp. 187-192. EBSCO*host*, doi:10.4103/2249-4863.154628. Accessed 19 Sept. 2017.

Rule 11, page 20, Rule 3, page 14

Wechsler, Howell, et al. Centers for Disease Control and Prevention. “The Role of Schools in Childhood Obesity.” *The State Education Standard*, 4-7 December 2004. https://www.cdc.gov/healthyyouth/physicalactivity/pdf/roleofschools\_obesity.pdf. Accessed 9 Oct. 2017.

Rule 11, page 20

Yeoman, Barry. "School Lunches Cause Childhood Obesity." *Food*, edited by Laura K. Egendorf, Greenhaven Press, 2006*. Opposing Viewpoints in Context*, <http://link.galegroup.com.hrt-proxy.libraries.vsc.edu/apps/doc/EJ3010432224/OVIC?u=vol_ccv&xid=96b35567>. Accessed 22 Oct. 2017.

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