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Awer Kuol Raziani, Hrustic Mooy Singhal & Irvine Zivkovic Bleich

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Causes and Effects of Obesity on Health of Children in Australia

[1*]Awer Kuol Raziani, [2]Hrustic Mooy Singhal & [3]Irvine Zivkovic Bleich

[1,2&3]University of Tasmania

[*]Email of the corresponding author: awerkuolraziani@gmail.com

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Abstract

WHO defines obesity as an abnormal or increased fat accumulation where Body mass index (BMI) is significant. Obesity in children is rising in many countries like the USA, the UK, and Australia. Thus, the study examined the causes and effects of obesity on the Health of Children in Australia. The study reviewed the literature to make conclusions. Based on the findings from the previous studies, it was established that obesity in children is caused by poor food choices, inadequate or low physical activity and family eating habits. Sociocultural factors, family, environmental aspects, metabolism, genetics, and short sleep patterns are also factors that contribute to children's obesity. The effects of obesity are that it increases the risks of developing a variety of chronic health problems, like coronary heart disease, hypertension, cancer, sleep apnea, gallstones and osteoarthritis. Obese children also perform academically poorly in school compared to those of normal weight. Childhood obesity can profoundly affect physical health, social and emotional well-being, and self-esteem. The study concluded that children who are obese tend to stay obese in adulthood and are prone to increased risk for diabetes and cardiac problems at a younger age. Obesity has been on the rise among children in Australia. Obese children perform poorly academically than the recommended normal-weight children, with a negative relationship noted between obesity and cognitive skills. It is recommended that a comprehensive approach is required to prevent and reduce childhood obesity. This includes professional medical assistance and lifestyle interventions to increase energy intake, physical activity, and behavioural change. In addition, it is recommended that policies be developed to help intervene in how the increase in weight among children can be reduced. The school should ensure they expose the children to regular exercise to reduce their weight and remain fit

Keywords: *Obesity, Health, Children, Australia*

1.0 Background of the study

Obesity is a growing epidemic affecting many demographic groups, including children and adolescents (Dong, Jan, Zou, Dong, Wang, Yang & Patton, 2019). Obese children under five years are estimated to be about 25 million globally. Obese children and adolescents have more than doubled in Australia over the past thirty to forty years and similar doubling rates have been noted globally, including in developing nations and regions where there has been an increase in Westernization of behaviour and new dietary lifestyles. According to OECD estimates, from 2030 to 2060, OECD nations will spend more than 9.5% of their total annual health budgets on diseases caused by obesity (Faienza, Chiarito, Molina-Molina, Shanmugam, Lammert, Krawczyk & Portincasa, 2020). Furthermore, the effects of obesity on life expectancy, health expenditure, and labor market output are expected to reduce GDP by 4.2% each year.

Childhood obesity is the twenty-first century's most difficult public health issue (Chew, 2021). It has been recognized as a worldwide pandemic health problem. Obese children are more likely to remain obese in adulthood and are more likely to develop diabetes and cardiac problems at a younger age. Obesity in childhood is linked to high morbidity and premature death. Obesity prevention in children is a high priority in the current situation (Weihrauch-Blüher, Kromeyer-Hauschild, Widhalm, K., Korsten-Reck, Jödicke & Wiegand, 2018). Obesity in children is rising in many countries like the USA, the UK, and Australia (Warin & Zivkovic, 2019). 1 in every five children and adolescents in Australia is obese. The number of obese 4–10-year-olds almost doubled between 1990 and 2000. Obesity in children has more than tripled. At the present rate, 58% of youthful Australians are projected to be obese by 2040. Obese or overweight children and teenagers have more body fat for their age (Woolcott & Bergman, 2019). Obese children have the highest weight range, above what is considered healthy for their age. A child who is overweight has a body mass index (BMI) which is higher than that of an obese child.

In Australia, approximately one in every five children aged 5 to 10 is considered obese (Machado, Steele, Levy, da Costa Louzada, Rangan, Woods & Monteiro, 2020). Obesity affects one out of every nine people in this age group. Many factors can increase a child's risk of becoming overweight or obese. Currently, the number of obese children in Australia has more than doubled, with a quarter of children categorized as obese. This increase in obese children is concerning since it brings about health issues and may cause social issues. Children who are obese are more likely to be harassed by their peers or to develop low self-esteem or body image issues (Fields, Brown, Skelton, Cain & Cohen, 2021). When children become obese, it calls for more effort and commitment to get them back to the recommended weight. Obesity in children is one of the many serious threats to their long-term and short-term health. Obese children are much more likely to become obese adults.

Unutilized energy is stored in the body as fat. To maintain a healthy weight, one should utilize the energy from the foods consumed (Caprio, Santoro & Weiss, 2020). If a person consumes more energy than they use, the body will keep the excess energy as fat. Food choices, like preferring high fat and sugary foods over healthier options, low or no physical activity, whereby Australian children are less active than in the past, using more time on sedentary pursuits the Australian children watch television for about 2 hours daily and spend a lot of time on computers and playing

other computer games (Loos & Yeo, 2022). A family's eating habits may significantly impact whether a child maintains a healthy weight. Some obese parents can be less concerned about their children being obese than healthy-weight parents. Some rare gene disorders lead to severe childhood obesity, according to genetics (Loid, Mustila, Mäkitie, Viljakainen, Kämpe, Tossavainen & Mäkitie, 2020). In various other individuals, particular genes acting together usually make some children more prone to obesity. In cases where a family has a history of obesity, parents should be especially mindful of making healthy food choices for the entire family.

As obesity has become more common, there have been significant changes in how people live (Sanyaolu, Okorie, Qi, Locke & Rehman, 2019). Due to these changes, individuals are consuming more or becoming less physically active, which has increased obesity cases. For example, the overall cost of food has decreased, more food is prepared outside the home, energy-dense foods and beverages are more readily available, portion sizes have increased, marketing of energy-dense foods and beverages has increased, car use has increased, the number of two-income families has increased, time spent working has increased. The role of physical education in the school curriculum has decreased (Shaikh, Bradhurst, Ma, Tan, Egger & Vardy, 2020).

Most of the health issues related to obesity will become apparent in adulthood. Children frequently show early signs of these later conditions (Andolfi & Fisichella, 2018). Most obese children encounter the following health problems: Type 2 diabetes, which is mostly found in older adults, is now being noted in children; eating disorders like bulimia or binge eating; orthopaedic disorders issues with foot structure, liver complications including fatty liver, respiratory complications like blocked airways and restrictions in the chest wall that causes breathlessness when doing exercise, and sleep apnoea, which is a phenomenon that causes challenges when breathing while sleeping (Sanyal, Van Natta, Clark, Neuschwander-Tetri, Diehl, Dasarathy & Tonascia, 2021). It also leads to snoring, frequent waking, and inadequate sleep. Cardiomyopathy, a condition within the heart muscle caused when more effort is required to pump blood, causes people to feel exhausted and leads to low concentration during the day (Thaiparnit, Kritsanasung & Chumuang, 2019). Thus, the study examined the causes and effects of obesity on the Health of Children in Australia. The study reviewed the literature to make conclusions.

2.0 Literature Review

Wang, Zhao, Huang, Hong, Yu, Xiao and Jia (2021) noted that the underlying causes of childhood obesity are nowadays hot research topics. Since many causes have been identified, researchers are still comparing them against each other while taking into account the lifestyles of at-risk people. A few of these causes include a child's socioeconomic status, a lack of physical activity, more time watching television, and the consequences of health disparities. These and other factors are examined in greater depth and used to the population of interest: preschool-aged children in Bahamas, and particularly preschool-aged children in Bimini, Bahamas. The research was conducted in a descriptive manner. Structured surveys were used to collect primary information. A stratified sampling method was utilized to select 45 research participants from the entire population. The research discovered a substantial link between obesity and the health of children in Bimini. The importance of multi-level interventions addressing the root causes of preschool childhood obesity is emphasized. It was concluded that obesity usually has an adverse effect on

the health and well-being of children and raises the risks of obesity and the associated serious health conditions in adulthood.

Nittari, Scuri, Sagaro, Petrelli and Grappasonni (2020) discovered that the cases of obesity among the child have reached epidemic levels in both established and growing nations. Obesity is known to have an adverse effect on both physical and psychological health. Obese children are more likely to remain obese even in adulthood and usually develop non-communicable diseases such as diabetes and cardiovascular disease at a younger age. How obesity develops is not fully understood, and it is thought to be a condition with many causes. Environmental factors, various people lifestyles, and cultural environment all play key roles in the worldwide obesity epidemic. Obesity is highly thought to be the result of high caloric and fat consumption. Also there is proof that more sugar intake from soft drinks, raised the portion size and a steady decrease in physical activity have all led to the worldwide increase in obesity rates. Childhood obesity may have a negative effect on a child's physical health, social and emotional well-being, and self-esteem. It is additionally related to poor academic performance and a low quality of life for the child. Obesity in childhood is associated with many co-morbid problems, consisting of metabolic, cardiovascular, orthopedic, neurological, hepatic, pulmonary, and renal disorders.

Bel-Serrat, Ojeda-Rodríguez, Heinen, Buoncristiano, Abdrakhmanova, Duleva and Breda (2019) noted that childhood obesity is on the rise in a lot of nations. Because obesity is largely likely to persist into adulthood, present rates endanger people's health and future in both established and growing nations. These public health epidemics have substantial economic, social, and individual-level effects, and it has become a significant study topic of interest for a variety of subjects, even economics. The economics and associated disciplines literature related with the causes of obesity in childhood and analyze the findings to give a proper understanding of the explanations for the increasing childhood obesity rates. This is a critical step toward developing proper strategies to regulate worldwide childhood obesity cases. The school should ensure they expose the children to regular exercise to reduce their weight and remain fit. Specific strategies for addressing childhood obesity, such as limiting the marketing and availability of unhealthy foods and drinks, are included in obesity prevention policies in Australia and around the world. To prevent and reduce childhood obesity, a comprehensive approach is required.

Rito, Buoncristiano, Spinelli, Salanave, Kunešová, Hejgaard and Breda (2019) indicated that obese in children is among the world's emerging health problems, with children forced to deal with the complexities that come with it while going about their daily lives. According to a WHO from 2018, the number of obese children worldwide surpassed 50 million. Obesity, as defined by the WHO, is defined as an abnormal or increased fat accumulation, where BMI is greater than 30. The issue is widespread throughout the world. Since the last few decades, the incidence has skyrocketed and continues to rise. Inadequate sugary beverage consumption, a high consumption of fast food and snacks, personal psychology, dietary habits, physical activity, sociocultural factors, family, environmental aspects, metabolism, genetics, and short sleep patterns are all factors that contribute to the onset of childhood obesity. Aside from the high risk of many acute and serious medical conditions, obese children face harsh psychological experiences in terms of mental and emotional experiences that have the potential to persist into adulthood and thus affect quality of life in both childhood and adulthood. Children who are obese mostly experience anxiety and depression, low

self-esteem, bullying and harassment, stigmatization and ostracization, and other uncountable emotional conditions. To prevent the adverse effects and implications of obesity, proper preventive measures should begin in childhood. If not intervened, children who are obese have high chances of remaining obese into adulthood. Obesity can be avoided through supportive policies, environments, institutions, and communities, regular physical activity, and increased awareness.

Singhal (2020) conducted study to examine the causes of childhood obesity and its long-term health consequences, with a focus on modifiable nutritional risk factors. Obesity in children especially in toddlers (1-6 years) is a main public health concern worldwide. Understanding obesity risk factors in the early years is hence critical for guiding parents, educators, and health care professionals caring for young children and creating preventative methods. The majority of study has concentrated on biological risk aspects, that might be widely classified as genetic predisposition, poor eating habits (and the behaviors that affect more food consumption), inadequate physical activity, and the function of developmental factors in childhood which affects long-term health. The latter consists the development of dietary habits and patterns in young children, as well as the impact of excessive protein consumption on the risk of later obesity. Other risk factors that were highly relevant to young children included insufficient sleep, excessive intake of sugar-sweetened beverages, and large food portions. Knowing the factors causing obesity in preschool children is especially essential because obesity in children increases the risk of obesity and cardio metabolic disease in adults.

Woolcott and Bergman (2019) established that children who are obese tend to stay obese in adulthood and are prone to increased risk for diabetes and cardiac problems at a younger age. Childhood obesity is on the rise in a lot of nations. Obese children perform worse academically than the recommended normal-weight children, with a negative relationship noted between obesity and cognitive skills. Obese children perform poorly academically than the recommended normal-weight children, with a negative relationship noted between obesity and cognitive skills. Victimization due to obesity plays a significant role in the negative effect on mental health and general health. Economic status, household occupations, nutrition, and inactivity substantially caused obesity. Obesity in childhood is associated with many co-morbid problems, including metabolic, cardiovascular, orthopaedic, neurological, hepatic, pulmonary, and renal disorders. Obesity also increases the risks of various chronic health problems, like coronary heart disease, hypertension, cancer, sleep apnea, gallstones and osteoarthritis. To keep a healthy weight, one should utilize the energy from the foods consumed.In some cases, obese parents may be less concerned about their children being obese than healthy-weight parents. Some rare gene disorders lead to severe childhood obesity, according to genetics. Type 2 diabetes, mostly found in older adults, is now noted in children. The study recommended that a comprehensive approach is required to prevent and reduce childhood obesity. This includes professional medical assistance and lifestyle interventions to increase energy intake, physical activity, and behavioural change. In addition, it is recommended that policies be developed to help intervene in how the increase in weight among children can be reduced. The school should ensure they expose the children to regular exercise to reduce their weight and remain fit. Specific strategies for addressing childhood obesity, such as limiting the marketing and availability of unhealthy foods and drinks, are included in obesity prevention policies in Australia and around the world. To prevent and reduce childhood

obesity, a comprehensive approach is required. This includes professional medical assistance and lifestyle interventions to increase energy intake, physical activity, and behavioural change. These strategies work best with national policies like laws and regulations, taxation and price interventions, community-based interventions, and health promotion campaigns. Because childhood obesity persists into adulthood, policies should prioritize eradicating the problem in childhood. The treatment of diseases caused by obesity is said to be costly.

Ward, Bleich, Cradock, Barrett, Giles, Flax and Gortmaker (2019) reported that obesity has been recognized as an epidemic in the USA for over twenty years, but the number of obese adults and children continues to rise. In the United States, the rates of obesity in adults and children are currently 59% and 15%, respectively. Obesity has almost doubled in the same population, from about 20% in 1990 to an estimated 30% in 2000. Since the early 1980s, the number of children and teens who are obese has more than doubled. Approximately 15% of children and adolescents are now severely obese. Obesity places a strain on the healthcare system, depletes financial resources, and has far-reaching social effects. Obesity is associated to a number of serious health problems, like type 2 diabetes, heart disease, hypertension, and stroke. It has also been related to an increase in the prevalence of particular types of cancer. Obesity is a risk factor for heart disease, hypoxia, sleep apnea, hernia, and arthritis on its own. In the USA, obesity is the 7th leading cause of mortalities. According to some estimates, the total annual cost of obesity is $98 billion. Others estimate that the cost of obesity-related health care alone is $80 billion. Other yearly costs related with obesity include 50 million lost workdays, 70 million doctor's office visits, 250 million restricted activity days, and 95 million bed-bound days. One of the most painful factors of obesity is emotional suffering. The American people values physical appearance and frequently associates attractiveness with slim people, particularly in females. Such information can be devastating to individuals who are obese. Many people believe that obese people are gluttons or lazy, which is not true. Obese people frequently encounter prejudice or discrimination in the workplace, school, and social settings. Rejection, shame, and depression are all common emotions.

Zhou, Zhao, Zhang, Xiao, Wu, Visscher and Jia (2021) noted that childhood obesity risk factors are not well established in developing countries such as Sweden, and this information is critical for the development of tailored interventions. The research sought to determine prominent risk factors for overweight/obesity and overfat/obesity in Malmo, Sweden, primary school children. A multi-stage random cluster sampling approach was utilized to conduct a school-based cross-sectional study. The risk factors for overweight/obese and overfat/obese were identified using bi-variable and multivariable logistic regression. The study included 500 participants in total. After multivariable adjustment, higher socioeconomic households, parental diabetes status, and living in Malmo, Stockholm, Visby, or Gothenburg towns as opposed to Linköping town district were substantial risk factors for overweight/obesity. Children living in cities, having only one child, and having parents with diabetes mellitus were all statistically substantial risk factors for being overweight or obese. When compared to Linköping, residents of Malmo, Stockholm, and Visby towns were more likely to be overweight or obese. The study identified prominent proximal determinants of overweight/obesity and over fat/obesity among primary school children in Sweden, which will help policymakers. Aggressive nutrition education should be tailored and targeted to the most affected urban areas within high-risk towns.

Joslyn and Haider-Markel (2019) performed research to evaluate obese people's perceptions of the causes and complications of obesity. The particular study's population included thirty obese adults. The information was gathered from the participants via a questionnaire. The data was tabulated and evaluated utilizing percentage as a statistical tool. Following an analysis, the researcher concluded that the major causes of adult obesity include heredity, eating more without exercising, social cultural conditions, and a lack of knowledge about health principles. Obesity also increases the risks of developing a variety of chronic health problems, like coronary heart disease, hypertension, cancer, sleep apnea, gallstones, osteoarthritis, and infertility or fluctuations of periods.

Raziani and Raziani (2020) conducted study to find out how common obesity affects primary school children in the Mendoza and Salta towns in Argentina. The research sought to explore those aspects in terms of prevalence, causes, and effects on social, health, and learning behaviors and outcomes in children. Schools were chosen by the use of simple random sampling, while students and teachers were chosen using systematic and simple random sampling. Weight and height measurements were taken to calculate Body Mass Index (BMI) and skinfold measurement were taken to calculate body fat percentage. Questionnaires, a semi-structured interview meeting, and discussion guides for focus groups were utilized. According to the results, 15.5% of children were obese. Obesity was substantially caused by economic status, household occupations, nutrition, and inactivity. Obese children frequently experienced hypertension, excessive sweating, teasing, and peer rejection. Furthermore, it has been reported that obese children underperformed in both class and physical activities. The research found that obesity was not conducive to children's health, indicating the need for intervention. The research suggested that education programs be established through mass media to raise people's awareness of the effects of obesity on children's health, social, and learning behaviors and outcomes.

3.0 Findings

Based on the findings from the previous studies, it was established that obesity in children is caused by poor food choices, inadequate or low physical activity and family eating habits. Sociocultural factors, family, environmental aspects, metabolism, genetics, and short sleep patterns are also factors that contribute to children's obesity. The effects of obesity are that it increases the risks of developing a variety of chronic health problems, like coronary heart disease, hypertension, cancer, sleep apnea, gallstones and osteoarthritis. Obese children also perform academically poorly in school compared to those of normal weight. Childhood obesity can profoundly affect physical health, social and emotional well-being, and self-esteem. It has been discovered that children who engage in less physical activity and live an inactive lifestyle are highly associated with more gadget use, video games, and closed indoor games. This causes an imbalance in the diet-to-physical-activity ratio, leading to obesity. Children with high BMI are socially isolated because their peers ignore them.

Child obesity increases exponentially during adolescence and leads to various medical conditions. Obesity in children is caused by poor food choices, inadequate or low physical activity, and family eating habits. Obesity was not conducive to children's health, indicating the need for intervention. Australia is implementing broad preventive health programms tailored to decreasing obesity, and

a nationwide obesity approach is being developed. Obesity is regarded as undesirable in developed nations such as Australia and is frequently associated with negative stereotypes like laziness and poor discipline. These stereotyping and devaluing of people due to their obesity (or "weight stigma") are widespread, with even preschool-aged children associating negative characteristics with individuals with bigger body sizes.

Obese children and adolescents usually face weight-based bullying and teasing, resulting in a lower quality of life and well-being. Obese children also perform academically poorly in school compared to those of normal weight. Obesity usually has an adverse effect on the health and well-being of children and raises the risks of obesity and the associated serious health conditions in adulthood. Obesity in children is estimated to be five times more likely than obesity in adults, and obesity in childhood is very likely to persist into adulthood. Obesity significantly strains the healthcare system, with more serious obesity related to healthcare expenses. Obesity accounted for 10.8% of the disease burden in Australia in 2017, therefore being the second-leading risk factor contributing to disease burden after tobacco use. Several global initiatives aim to reduce obesity and, thus, non-communicable diseases (NCDs) like cardiovascular disease, cancer, serious respiratory diseases, and diabetes.

4.0 Conclusion

The study concluded that children who are obese tend to stay obese in adulthood and are prone to increased risk for diabetes and cardiac problems at a younger age. Obesity has been on the rise among children in Australia. Obese children perform poorly academically than the recommended normal-weight children, with a negative relationship noted between obesity and cognitive skills. Victimization due to obesity plays a significant role in the negative effect on mental health and general health. Childhood obesity is on the rise in a lot of nations. Obese children perform worse academically than the recommended normal-weight children, with a negative relationship noted between obesity and cognitive skills. Many factors could explain this pattern, including poor health brought about by obesity, which affects school attendance and performance, and weight-based harassment and bullying, which leads to psychosocial issues and low self-esteem, which affects a child's learning and cognition. Children who are obese mostly experience anxiety and depression, low self-esteem, bullying and harassment, stigmatization and ostracization, and other uncountable emotional conditions. High consumption of fast food and snacks, personal psychology, dietary habits, physical activity, sociocultural factors, family and environmental aspects, metabolism, genetics, and short sleep patterns are all factors that contribute to the onset of childhood obesity.

It was further concluded that obesity strains the healthcare system, depletes financial resources, and has far-reaching social effects. Economic status, household occupations, nutrition, and inactivity substantially caused obesity. Obesity in childhood is associated with many co-morbid problems, including metabolic, cardiovascular, orthopaedic, neurological, hepatic, pulmonary, and renal disorders. Obesity also increases the risks of various chronic health problems, like coronary heart disease, hypertension, cancer, sleep apnea, gallstones and osteoarthritis. To keep a healthy weight, one should utilize the energy from the foods consumed.In some cases, obese parents may be less concerned about their children being obese than healthy-weight parents. Some rare gene

disorders lead to severe childhood obesity, according to genetics. Type 2 diabetes, mostly found in older adults, is now noted in children.

5.0 Recommendations

It is recommended that a comprehensive approach is required to prevent and reduce childhood obesity. This includes professional medical assistance and lifestyle interventions to increase energy intake, physical activity, and behavioural change. In addition, it is recommended that policies be developed to help intervene in how the increase in weight among children can be reduced. The school should ensure they expose the children to regular exercise to reduce their weight and remain fit. Specific strategies for addressing childhood obesity, such as limiting the marketing and availability of unhealthy foods and drinks, are included in obesity prevention policies in Australia and around the world. To prevent and reduce childhood obesity, a comprehensive approach is required. This includes professional medical assistance and lifestyle interventions to increase energy intake, physical activity, and behavioural change. These strategies work best with national policies like laws and regulations, taxation and price interventions, community-based interventions, and health promotion campaigns. Because childhood obesity persists into adulthood, policies should prioritize eradicating the problem in childhood. The treatment of diseases caused by obesity is said to be costly. Therefore, efforts should be made to combat the problem among school children. There is also a need to raise community awareness about the types of foods which should be given to children and the frequency with which they are fed. This does not mean that children should be given low-calorie or non-nutritious foods, but there should be calorie control concerning their activities.

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