

Diabetes in Children in America: Risk and Prevention

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Introduction

This paper aims to present the issue of diabetes in children in America and related social and cultural factors that promote the disease. Over the past few decades, the incidence of diabetes in children has increased significantly. Type 2 diabetes that was uncommon in the 1950s is becoming much more prevalent, causing alarm and questions as to the reason for the increase and factors contributing to the increase. Research on prevention and positive factors has proven that changes in lifestyle and dietary choices can significantly reduce and even prevent diabetes in children.

Health Issue

Diabetes in the American population, and across the world, has increased over the past decade. Type 1 diabetes (previously called Juvenile diabetes) has significantly increased at the end of the 20th century compared to the 1920s to 1950s (Gale, 2002). The International Diabetes Federation estimates that Type 1 diabetes in children rises by 3% per year. The (International Diabetes Federation, 2011) reports that in 2011, an estimated that 78 000 children under 15 years old develop the disease per year. Children are usually diagnosed with Type 1 diabetes and account for almost all cases of diabetes in children (National Diabetes Education Program, 2014); however, cases of Type 2 diabetes in children are increasing due to obesity and sedentary lifestyles.

There is a distinction between Type 1 diabetes and Type 2 diabetes: Type 1 is an autoimmune disease where the body's immune system attacks its own cells, and the body does not produce its own insulin. These individuals rely on taking insulin or other hypoglycaemic agents (Zimmet, Albert, & Shaw, 2001). Some research has shown that this type of diabetes does have a genetic factor; however, certain other conditions such as viral infections are necessary to trigger this gene to develop diabetes (Piłaciński & Zozulińska-Ziółkiewicz, 2014).

Type 2 diabetes is much more common, specifically in adults; however, the recent increase in the diagnosis of children with Type 2 diabetes is cause for alarm. With Type 2 diabetes, the body is resistant to insulin, and the body does not use insulin properly. Ineffective use of insulin causes blood sugar levels to rise higher than normal and is also called hyperglycemia (American Diabetes Association, n.d.).

Behavioural Factors that influence diabetes

- A sedentary lifestyle and diet high in fats are the leading causes of diabetes in children.
- Existing obesity in children increases their risk of diabetes due to no physical activity and poor diet.

Targeted Population

This review is based on children and young adults aged 0 – 15 years living in the Americas. More research has been conducted on this age group and therefore provides more information.

According to Child Trends, a non-profit organisation, in 2014 there were 23.9 million children in America between the ages of 0 – 5 years, 24.7 million children between the

ages of 6 – 11 years and 25 million children between the ages of 12 – 17 years. Children made up 23 % of the total population (Child Trends Data Bank, 2015).

The disease affects girls more than boys, and the incidence rates for type 2 diabetes are three times higher in Latino-American and African-American children aged 15 to 19 years than their white counterparts (Hasson, et al., 2013). It also affects mostly those of non-European descent between the ages of 12 and 14 years (Fagot-Campagna, Venkat Narayan, & Imperatore, 2001).

According to Healthline, Type 2 diabetes are more prevalent among Native Americans, African Americans, Hispanics, and Asian Americans than Caucasians (Santos-Longhurst, 2014).

Social and Cultural Behaviours as Risk or Prevention Factors

Social Behaviours/Factors:

Many authors have researched the influence of lifestyle factors of children in the prevention and treatment of diabetes. Specifically, obesity and a sedentary lifestyle are major risk factors (Wing, et al., 2001). There is a strong relationship between obesity in children and diabetes. Intervention studies suggest that weight loss and increased physical activity may help prevent or delay type 2 diabetes. In this regard, in their study (Galler, Lindau, Ernert, Thalemann, & Raile, 2011) concluded that irrespective of socioeconomic background or physical activity, mass consumption of media is a significant risk for poor metabolic control in youths with Type 1 diabetes. The advancements of technology could be partly to blame: computers, television, and video games are more attractive to children and cause them to become more inactive.

Advancements in transportation methods also contribute further as walking or cycling to school or friends are no more the norm (Hill & Peters, 1998).

Increasingly, the media and even schools promote and advertise less healthy foods and exercise. This makes it difficult even for children to make healthy food choices. Obesity marks the current social environment in which American children live due to excessive food intake and the discouragement of physical activity. As (Hill & Peters, 1998) explain, the environment promotes excessive food portions with lower prices, and in return, promoting obesity.

In their study, (Tuomilehto, et al., 2001) found that a change in lifestyle can prevent type 2 diabetes, and any physical activity or exercise is beneficial to preventing diabetes. Society needs to undergo a complete mindset change to prevent diabetes in this regard.

Cultural factors:

(Caprio, et al., 2008) notes that acculturation can result in abandonment of traditional beliefs and behaviours as well as a diet that minimize the risk of obesity towards beliefs, diets, and behaviours that increase the risk of obesity. In this regard, (Kulkarni, 2004) researched different ethnic groups in America and their eating patterns in terms of culture. He found that for instance, Asian Indians, due to acculturation, changed their diets from relatively high-fiber, low-fat foods to the selection of other ethnic or American foods that were less healthy with higher fats, higher-fat animal proteins, and low fiber with increasing consumption of fast foods.

Moreover, (Hasson, et al., 2013) confirmed previous research that the self-perception of successful integration of two cultures, “black” and “white,” overweight/obese African-American children and adolescents provide protective health benefits such as

more physical activity, reduced fat consumption, and reduced alcohol consumption and smoking. Their research further identified that with Latin American children and youth, household social position positively associated with type 2 diabetes.

Positive and Negative Factors of Social and Cultural Behaviours

Negative Factors

- As discussed above, negative factors that influence diabetes are poor diets, excessive meal quantities, media advertising, and none or little physical activity.
- The advancement of technology such as computers and video games as well as transport has contributed to a poor active lifestyle.

Positive Factors

- The current lifestyle change where people are moving away from fast food to a diet of organic and healthy food will impact the development or prevention of childhood diabetes. However, this change is a new trend, and further research is needed to determine if and what effect this will have on childhood diabetes in America.
- In the case of African Americans, a perceived integration of their own culture and American culture significantly decrease their risk of developing obesity and related diabetes.

Conclusion and Recommendations

The incidence of diabetes in children and youth has substantially increased over the past few decades in America, but also worldwide. Several lifestyles, social, and cultural factors play a role in this increase. The good news is that the onset of diabetes

and the management of the disease and prevention thereof is possible if certain choices are made. The diagnosis of diabetes does not have to be a death sentence anymore. Even though it causes specific stresses in the family, it can be appropriately managed by tweaks and proper planning.

Further Recommendations

Lifestyle is usually transferred to children by parents, and in fact, many adults are also currently living with diabetes. Changes in lifestyle and diet should become a household exercise for all family members to be healthy and prevent obesity and diabetes.

- The current trend toward less junk food and healthier/organic food in American diets will undoubtedly have a significant impact on the development of diabetes in children and Americans as a whole. However, due to this being a recent development, further research is needed to determine if and what effect this has on the disease and children.
- Regarding diets that strongly depend on culture and ethnicity, public health officials should promote substitution and small changes in these diets to make it healthier but still acceptable.
- Public education on food portion sizes and a change in advertising on low-quality foods should be considered.
- Schools should promote healthier food choices as well as integrate physical activities in the daily routines of children.

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