On Obesity of Children and Adolescents in USA in Relation to Other Health and Environmental Conditions

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On Obesity of Children and Adolescents in USA in Relation to other Health and Environmental Conditions

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Biostatistics

INTRODUCTION

- A child or a teen with Body Mass Index (BMI) at or above 85th percentile but below the 95th percentile for children of the same age and sex is classified as overweight while a child or teen with a BMI of at or above the 95th percentile is classified as obese (CDC, 2015).
- Childhood obesity is a serious public health challenge in USA (Glickman et al, 2012).
- It is estimated that about 30 percent of children in North America are either overweight or obese while 15 percent are obese (WHO, 2009).
- Studies have shown evidence that there are short-term, intermediate and long-term effects of childhood obesity.
- Increased morbidity and mortality have been found to be long-term consequences of childhood obesity (Dietz, 1998; Must & Strauss, 1999).
- There is an evidence to suggest that children who are either overweight or obese have a tendency to go into adulthood as overweight or obese.
- This puts them at greater risk of developing chronic diseases such as heart disease, type 2 diabetes, hypertetipemia, hypertension, sleep apnea, osteoarthritis, respiratory problems and some cancers (WHO,2010).

METHODS

- The data analyzed in this study is from the 2011-2012 National Survey of Children’s Health (2011 NSCH).
- A total of 95,677 NSCH phone interviews were conducted with an average of 1,876 interviews in the 50 states of America and the District of Columbia by parents/ guardians of children and youth aged 0-17 years.
- One child was selected at random as the subject of the survey from each household with one or more children between the ages of 0-17 years(CAHMI, 2013).
- In this study the dependent variable was obesity and it was dichotomized as - obese and not obese.
- There were a total of thirty-four (34) independent variables, which include:
  - Demographic variables: race, gender, family status of household, poverty level and health insurance status.
  - Health conditions: asthma, diabetes, learning disability, attention deficit disorder/ADD or attention deficit hyperactivity disorder (ADHD), depression, conduct disorder, asthma. Bone disorder, repetitive behavior, obesity problems, heart problems, and joint problems, bone disorders, chronic pain, osteoarthritis, eye disorders, epilepsy/seizure, hearing disorder, obesity problems, heart problems, and joint problems, bone disorders, chronic pain, osteoarthritis, eye disorders, epilepsy/seizure, hearing disorder.
  - Environmental conditions: a child’s living area 1.5 times higher for males and adolescents than their female counterpart were included in all other variables in the model.
  - Hispanic children were found to have an odds of obesity which was 1.409 times higher than males.
  - Black children had an odds of 1.301 times higher than white children while multivariable controlled children had an odds of obesity 1.515 times higher than white children controlling for all other variables in the model.
  - Children from households below the 400%, percent level had an odds of obesity 1.424 times higher than those who lived above the poverty level controlling for all other variables in the model.
  - Children who did not participate in physical activities had an odds of obesity 1.104 times higher than those who participated in physical activities controlling for all other variables in the model.
  - Hispanic children had 1.364 times higher odds of obesity than those who did not have obesity controlling for all other variables in the model.
  - Diabetes children were found to have 1.405 times higher odds of obesity than those who did not have obesity controlling for all other variables in the model.
  - Children who did not take part in physical activity had an odds of obesity higher than those who participated in physical activity controlling for all other variables in the model.
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RESULTS

- Biostatistics: the significance of relationship between childhood obesity and other health and environmental conditions could be clearly seen and when monitored over time will help assess the impact of intervention programs.
- Epidemiology: About 15% of children in America are obese and at risk of many chronic diseases therefore intervention programs to prevent and reduce childhood obesity would make for healthy and more productive lives.
- Community Health: At the community level efforts geared towards making children embrace healthy lifestyle such as playing more outdoors and choosing healthy meals would help reduce childhood obesity.
- Health Economics: When childhood obesity is controlled the money spent in the management of chronic diseases and disabilities would be saved.
- Health Policy: Policies could be made to provide children with access to healthy meals and adequate physical activities at the school during breaks, better living conditions and safe living environments.

STRENGTHS & LIMITATIONS

- The data used for the study was a secondary data collected for other purposes and as a result the study was only limited to available data.
- More than 10% of the data was missing.
- Strengths
  - The data used for the study was a National Survey of Children’s health conducted by the National Center for Health Statistics therefore validity and reliability could be confirmed.
  - The sample size of the data was large and randomly selected in all the 50 states in the USA which is very representative and as such the interpretation of results could be generalized.

CONCLUSIONS

- The youth of any nation is a reflection of its future.
- Obesity in children and adolescents is dangerous and could lead to an adulthood filled with many trips to the doctors and eventually an untimely death.
- It also could lead to low self-esteem, social stigmatization and decreased productivity.
- It is preventable and therefore concerted efforts should be geared in that direction.

PUBLIC HEALTH SIGNIFICANCE

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REFERENCES