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## Research Article

### The Prevalence of Overweight and Obesity in California

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#### Abstract

The overall purpose of this study was to determine behavioral factors that affect dietary fat on the development of obesity both in children and adulthood. A secondary data set was utilized to determine the causes and health consequences of overweight and obesity. The research question tests the hypothesis that exercise alone would not prevent childhood obesity. This study is set out to compare finding and results from NHANES survey of the National Center for Health Statistics (NCHS) and the California Health Interview Survey (CHIS). Descriptive statistics findings from the CHIS data using the Statistical Package for Social Sciences (SPSS) proved that about 14.2% children are overweight or obese compared to 85.8% that are not overweight in California. The NCHS report also indicated that 17.2% among children and adolescents were considered to have obesity and 6% to have extreme obesity.

#### Introduction

Body Mass Index (BMI) is normally the tools use to estimate overweight and obesity in both in adults and children. The prevalence of adulthood and childhood obesity is a global issue and remains the major epidemic in the United States. This epidemic is really threatening global population which represent serious health threat and increases the risk of developing many chronic diseases especially cardiovascular diseases. BMI is defined as weighted in kilograms divided by height in meters squared and is related to the amount of fat in the bodies which can raise the risk of many health problems. Therefore, a health care professional can determine if a person's health is at risk because of their weight. BMI of adults ages 20 and older normal weight is in the range of 18.5 to 24.9 and overweight classification is in the range of 25 to 29.9. When the weight is over 30 it is classified as obesity. A weight over 40 is classified as extreme obesity. For children and adolescents ages 2 to 19, overweight or obesity is classified at or above the 85th percentile on the Center for Disease Control and Prevention (CDC) growth charts while at or above the 95th percentile is classified as obesity; extreme obesity is at or above 120% of the 95th percentile on the CDC growth charts [1].

Overweight and obesity is a risk factor that can significantly impact an individual's morbidity and mortality throughout the lifecycle in both low income as well as middle-income countries. Child overweight and obesity prevalence have increased substantially in the past three decades and continued to worsen. Children, and adolescents who are affected by overweight or obesity has more than tripled since the 1970s. Data from the National Health and Nutrition Surveys (NHANES) database show alarming statistics on the growth in the number of children who are at risk for obesity, falling between the 85<sup>th</sup> and 95<sup>th</sup> percentiles of the weight for length growth references created by the CDC [2].

Childhood obesity is a complex health issue that is known to have a significant effect on a child's social and emotional well-being, as well as physical health. Being overweight/obese can affect academic performance and can potentially lower the quality of life experienced. However, the current epidemic of obesity maybe caused largely by an environment that promotes excessive food intake and discourages physical activity. Humans most of the time have weak physiological mechanisms to defend against body weight gain when food is abundant even though we generally and mentally have excellent physiological mechanisms to defend

against body weight loss if we regularly involve in physical activity that protect against obesity. Studies have also shown that childhood obesity is a crucial predictor of obesity in adulthood and comorbidities are similar in children as in the adult population. These co-morbidities include high blood pressure, hyperlipidemia, type 2 diabetes, osteoarthritis, and mental disorder such as depression. Although the exact mechanism of developing obesity is not yet fully understood, there are several causes of becoming overweight or obese.

The most common reason is the consumption of high-calorie and low-nutrient foods and beverages. Other factors that influence unhealthy diet is behavior, community/cultural environmental influences, and lifestyle preferences [3]. Currently, healthcare cost in the United States continue to rise; accounting for 17.6% of the gross domestic product. The United States is ranked the costliest amongst the developed countries in the world [4]. With the continued increase of cost in healthcare and the decreasing resources to fund, it is imperative that early detection, prevention, and treatment of childhood obesity are addressed. Early detection and prevention can potentially be achieved using the school system.

## Purpose

Studies have shown that national childhood obesity rates between the ages 2 to 19 years old is at 18.5% and continues to rise. Currently, 91% of American children get less than the recommended 60 minutes of daily physical activity. Children have a poorer diet, and almost two-thirds of American children consume high sugar beverages daily. The increase in the prevalence of obesity can create a burden on society and the healthcare industry. Therefore, the purpose of this study was to determine behavioral factors that affect dietary fat on the development of obesity both in children and adulthood. Children grow at different rates and times as it is sometime difficult to tell if a child is overweight compared to adult with mere body structure of the person. It is important for healthcare provider to regularly evaluate a child's BMI, growth, and potential health risks due to excess body weight.

Childhood overweight and obesity are associated with premature mortality, development of chronic disease, like adults, as well as a decline in the quality of life. With the ongoing epidemic and increase in prevalence in the US, the issues add burden to the overall healthcare expenditure. Childhood obesity greatly impacts the economy as it accounts for 0.7-2.8% of a country's total healthcare expenditure. An obese individual has a 30% higher medical cost compared to an individual with a healthy weight [5]. With the ACA mandate, California is one of the few states that cover weight loss programs. As of 2012, nutritional counseling and therapy have been included in the decree. California is one of the sixteen states that include some coverage and reimbursement for any nutritional screening, dietary counseling, and therapy addressing obesity. Also, as of 2014, there is no cost sharing for

consumers when it comes to obesity screening and counseling for both adults and children [6]. Having this form of coverage will help the parents be more receptive to enrolling their children in the counseling classes.

## Methodology

A secondary data set was utilized to determine the causes and health consequences of overweight and obesity. This lone question also tests the hypothesis that exercise alone would not prevent childhood obesity. This study is set out to compare finding and results from NHANES survey of the National Center for Health Statistics (NCHS) and the California Health Interview Survey (CHIS). NCHS is part of the Centers for Disease control and prevention and its data presented on prevalence are from the 2013-2014 unlike the 2011-2012 California Health Interview Survey (CHIS 2011-2012) Child Data [7]. The data file consists of individual records from the Child interview of CHIS 2011-2012. The health topics covered in the CHIS vary in topics. The range goes from screening information and demographics to health care access and utilization as well as diet, physical activity and park use.

CHIS data is useful to many different users, including, but not limited to legislators, policy makers, local health departments, state agencies, community organizations, advocacy groups, foundations, researchers, and many others. The data is used to either gain funding for social programs, or gain a further understanding to current issues that California citizens are facing. Ultimately, the CHIS data is used to justify programs that fight health threats such as the obesity and diabetes epidemic, as well as help set policies that improve the overall public health. The research question for this study was to determine what are the causes and health consequences of overweight and obesity.

## Findings and Analysis

Descriptive statistics findings from the CHIS data using the Statistical Package for Social Sciences (SPSS) based on the overweight or obese indicated that about 14.2% are overweight or obese compared to 85.8% that are not overweight in California. Data also indicated that there is significant relationship between overweight or obese teens and volunteer work or community service for males and females. The proportion of obese or overweight male teens that have done some volunteer work or community service is 10.3% less than their counterparts (normal males) and 13% for females. Lastly, the data analysis indicated that there is significant relationship between overweight or obese male teens and participation in those extracurricular activities but for female teens, the difference is not significant. The proportion of obese or overweight male teens that participated in any clubs or organizations outside of school in the past 12 months is 7.4% less than their counterparts. In total, obese teens are participating 6.4% less in Clubs or organizations outside of school than normal teens.

The NCHS report indicated that 17.2% among children and adolescents were considered to have obesity and 6% to have extreme obesity. An independent t-test was conducted to determine whether the number of days in a typical week that a teen is physically active for 60 minutes or more is different between teens that are considered overweight or obese and teens that are of normal weight. Teens that are overweight or obese have significantly fewer days where they are physically active for 60 minutes or more than those who are not overweight or obese ( $t=-2.361$ ,  $p=.018$ ). In the sample, the overweight or obese teens have an average that is .275 less than the average of the teens that are not overweight or obese. In addition, from Chi-squared test, taking PE at school is significantly related to overweight/obese ( $p=.0032$ ).

In the NHANES data, more than 70.2% adults were considered to be overweight or have obesity, 32.5% were considered to be overweight, 37.7% were considered to have obesity and 7.7% were considered to have extreme obesity. Also, prevalence of obesity continues to increase significantly among adult population children between 2013 -2014. Factors that causes of overweight and obesity among adults and children/youth includes genes, eating habits, physical inactivity, computer, too much time on cell phone, sleep habits, TV, medical conditions or medication, geographical location of where people live including their access to health food, or basic healthcare.

Our environment foster behaviors that significantly contribute to obesity because even though if the body has excellent physiological defenses against the depletion of body energy stores and at the same time has weak defenses against the accumulation of excess energy stores when food is abundant.

Individual's body weight and body composition are generally determined by interactions between the environment and genetics and the environment's contribution to obesity must be thought of in terms of how it increases the frequency of behaviors that increase the risk of positive energy balance. What this means is that having positive energy balance will increase body mass in order to restore energy balance and obesity can be viewed not as a result of defective physiology but as the natural response to the environment. The key to avoiding obesity in unsupportive environments is maintaining a pattern of healthy behaviors. Although, genetic makeup plays a major role in that it determines the strength of an individual's physiological defense against gaining and maintaining an obese body fat level. According to Research Chair in Obesity [8], genetics plays a role in obesity and can directly cause obesity in disorders such as Bardet-Biedl syndrome and Prader-Willi syndrome. Again, genes do not always predict future health; genes and behavior may both be needed for a person to be overweight or in some cases, multiple genes may increase one's susceptibility for obesity and require outside factors such as abundant food supply or little physical activity.

## Conclusion and Discussion

After carefully reviewing the material collected, the different sources and analyzing the results, it is evidence that obesity has become not only a national problem, but also a worldwide epidemic that requires immediate attention. The key to solving the obesity epidemic is prevention by way of providing effective educational tools for parents in order to teach their children about proper diet and health living lifestyles. The worldwide trend has been making steady improvement in lowering the obesity rates among children and the most important preventative measure is to eat healthy and participate in regular physical exercise. Prevention measures must also be taken on a social level. Government programs must be able to provide funding for providing effective policies in which encourage healthy programs [9].

In conclusion, childhood obesity has become not only a major national health concern in the United States, but has also become a major issue across the globe. It has been well documented that the number of obese children has increased significantly since the 1970's. According to the Centers for Disease Control and Prevention [10], approximately 17% (or 12.5 million) of children and adolescents aged 2-19 years of age are obese. Some of the major risks of obese children are that they are more likely to have high blood pressure, high cholesterol and type-2 diabetes, which are risk factors for cardiovascular disease. In addition, obese children are more likely to become obese adults. The reality of the issue is that the family dynamics has changed significantly. The need for dual incomes in a family household is necessary for survival, which results in less time for preparation of healthy meals for the family and more dependency on fast food.

In March of 2013 report, the American Diabetes Association released a study that estimated the total costs of diagnosed diabetes have risen to over \$245 billion dollars in 2012. That was a 41% increase over a five period from 2007, when the costs were estimated to be at \$174 billion [11]. The study provided valuable insight into how the \$245 billion was calculated. In 2012, it was estimated that \$176 billion was attributed to direct medical costs and \$69 billion was correlated to reduced productivity [9]. Health risks such as cardiovascular disease, cancer, diabetes, osteoarthritis, and chronic kidney diseases can be prevented creating an environment that does not promote overeating and lack of regular activity. The food and restaurant industries should be encouraging to promote actions that reduces portion sizes or high-energy density foods. These includes foods that are naturally low in fat and energy density (fruits, vegetables and whole grains; to be made available and affordable in both restaurants and grocery stores) and public health efforts that promotes appropriate incentives. Physical activity is also very important and helps individual maintain a relatively low risk of obesity by engaging in regular high levels of physical activity. These diseases increase when a person's BMI

exceeds 23. Obesity and overweight were estimated to have caused over 3.4 million deaths (most of which were from cardiovascular causes) globally in 2010.

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