



## Overweight Teenagers Risk Heart Disease as Adults

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A new study by researchers at the US National Heart, Lung, and Blood Institute has found that if a girl is overweight before she enters her teenage, her chances of becoming obese and falling prey to heart disease as a woman increase dramatically.

For the study, which is published in *The Journal of Pediatrics*, the scientists used data from the National Heart, Lung and Blood Institutes Growth and Health Study (NGHS). More than 2,300 girls aged 9 and 10 were covered under the study and then followed for a period of over ten years. The height, weight, blood pressure and cholesterol of all volunteers were measured every year through age 18. Thereafter the teens reported their own measures at ages 21 through 23. The girls were nearly equally split between Caucasians and African-Americans.

The focus of the research was to measure the extent to which the girls were overweight. The BMI (body mass index) based definition for weight as given by the Centers for Disease Control and Prevention (CDC) was used for measurement. Cardiovascular risk factors were measured using high blood pressure and lipid levels (HDL cholesterol and triglycerides).

Significant difference was seen between the white girls and the black girls at age nine as well as when they grew into adults. While seven percent of the white girls were overweight in their pre-teens, 17 percent of the black girls were overweight at age nine. Similarly where 10 percent white girls were overweight on reaching adulthood, the figure for black girls rose to 24 percent.

The researchers found girls were 1.6 times more prone to becoming overweight between the ages of nine and 12 than later in adolescence. Girls in the overweight groups also recorded gradual but marked increases in their blood pressure and cholesterol levels. But what startled the researchers most was that the girls who were overweight as pre-teens were at 11 to 30 times higher the risk of becoming obese as

an adult. There was also an increased risk of heart disease.

This led researchers to the conclusion that there is a significant relationship between risk of heart disease in adulthood and being overweight by the age of nine. We really need to get to kids before age 9 and 10, and this really puts the pressure on elementary school, preschool and whatever societal institutions we have to really focus on young ages, said study co-author Eva Obarzanek, a Research Nutritionist at the US National Heart, Lung, and Blood Institute.

This shows that obesity and other risk factors for heart disease track from younger to older. This is a wake-up call for policymakers, for schools, for parents, said Arlene Spark, Associate Professor of Nutrition at Hunter College, in New York City. The success rate for treatment is practically zero. The only thing that we can really hope for is that we can prevent children from becoming overweight and obese.

Dr. Bonita H. Franklin, a Clinical Assistant Professor of Pediatrics at New York University School of Medicine, added, Heart disease is the major cause of mortality in adults in the US. This is implying that these factors which are known to make heart disease more likely in adults are already present in young children, so you would presume that there would be an increased health burden and probably shorter life span for this next generation.

We put a biological value to the definition that we use for overweight for children, Obarzanek said. We attach a health consequence to that cut-off point. In these days of evidence-based medicine, this really is strong evidence.

The researchers also found strong racial differences in the sense that black girls were at 1.5 times high risk of becoming overweight at any given age than white girls. This led the authors to opine that prevention effects need to focus both on young children and take into account such differences.

This is concerning, but I wouldn't say that it's hopeless, Franklin said. Efforts to work with pre-teens would be very important. The younger, the better.