

Meyer, Jessica; Souza, Chloe; Swift, Margot. "Media Screen Time, Physical Activity and Nutritional Indicators as Risk Factors for Childhood and Adolescent Overweight and Obesity in Aguas Zarcas, Costa Rica." Advisors: Drs. Freddy and Diana Ulate. Macalester College. 2011. 40pp.

Childhood obesity is becoming an increasingly prominent and dangerous issue worldwide. Although much is known about the related health problems, psychosocial issues, and medical costs of obesity, little has been discovered about the etiology and specific risk factors associated with the epidemic, especially in developing countries. I therefore conducted a study aiming to better understand the prevalence and related risk factors of obesity in rural Aguas Zarcas, Costa Rica in the Spring of 2011. I worked with 1,025 school-aged children ages 4 to 18 years old by distributing surveys about hypothesized risk factors (birth weight, amount of time spent in front of the television, computer, or video games, and usual time spent on physical activity) and measuring each subject's height, weight, and abdominal circumference. I then used this information to understand the relationship between the proposed risk factors and current obesity rate. I found that there was a positive relationship between screen time (time spent in front of a television, computer, or video game) and BMI/abdominal circumference, as well as a negative relationship between physical activity and BMI/abdominal circumference. For example, time spent watching television on the weekend was significantly related to BMI ($p < .001$) and physical activity throughout the week and weekend was significantly negatively correlated with both BMI and abdominal circumference ($p < 0.0001$). I further discovered that the majority of children involved in the study fell within healthy height and weight classifications, although 12% were considered obese according to BMI standards. I found a dependency between weight classifications (underweight, healthy, overweight, obese) and age groups for boys ($p < 0.01$) and girls ($p < 0.05$), meaning that certain age groups have higher rates of BMI than others. Obesity rates were especially high among both males and females ages 10 through 12. Although many of these findings cannot be widely generalized and compared to past studies due to differences in methodology, they can be used to inform the ministry of education and health in Costa Rica to implement intervention programs to further prevent the rise of childhood obesity.