

Examining identifiable risk factors and health outcomes associated with Cardiovascular Disease in Children and Adults

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Background: The World Health Organization (2020) recently reported that “Cardiovascular diseases (CVDs) are the number 1 cause of death globally, taking an estimated 17.9 million lives each year. CVDs are a group of disorders of the heart and blood vessels and include coronary heart disease, cerebrovascular disease, rheumatic heart disease and other conditions. Cardiovascular disease (CVD) is now being studied as a health condition which not only significantly affects American children’s groups, but this health outcome is now at the forefront of many public health research initiatives, which are investigating a possible link between CVD and other negative health outcomes which may be associated with high disease and mortality rates in children.

Objective: To examine the association between cardiovascular health and identifiable health outcomes in children and adults.

Methods: A large randomly drawn sample (N = 524,581) of boys (n = 244,553) and girls (n = 280,028) ages 5 to 12, was examined in this research study to test for the association between cardiovascular health and disease related outcomes. Additionally, a large adult sample of American adults ages 19 to 55 (N = 3,984,918), was assessed to determine if the factors of Hypertension, Atherosclerosis, Chest Pain, Diabetes, Obesity, Drug Abuse, and Alcohol Abuse were significant predictors of Heart Failure and diseases relative to heart health. Based on the 2018 American Community Survey Single-Year Estimates, provided by the United States Census Bureau (2018), it was determined that the study samples adequately represented the population of American children from each socioeconomic level. The Pearson Chi Square test was applied to measure for significant variable associations of specific disease outcomes and associated risk factors in children. A multiple regression analysis was applied to determine to analyze for significant predictors of cardiovascular health in adult groups. A multiple regression analysis was also conducted in American Adults (N = 3,984,918), to determine if the factors of Hypertension, Atherosclerosis, Chest Pain, Diabetes, Obesity, Drug Abuse, and Alcohol Abuse, proved to be significant predictors of Heart Failure (a = .05). In addition to the application of the predictive analysis method, the Pearson r correlational analysis was conducted to determine significant relationships between variable (a = .05)

Results: The results from this research study revealed that there were statistically significant associations between CVD and Healthcare Quality (X²= 14,238, p < .01), CVD and Household Income (X²= 223,121, p < .01),

CVD and Race (X²= 5435.8, p < .01), and CVD and Gender (X²= 301,235, p < .01) in American children analyzed during the study. These significant associations between CVD outcomes and the four identifiable risk factors in this study provide an indicator that factors Healthcare Quality, Household Income, Race, and Gender, are not independent of CVD outcomes in American children between the ages of 4 to 12 years. The research found that the factors of obesity and type 2 diabetes risk were significant predictors for cardiovascular health in adults (p < .05). The research results also found that Hypertension, type 2 Diabetes, Drug Abuse, and Alcohol Abuse were significant predictors for heart failure in adults (p < .05). The Pearson r analysis revealed that there were significant relationships between Hypertension and Atherosclerosis (r = .910, a = .016), Diabetes and Heart Failure (r = .930, a = .011), and Alcohol Abuse and Heart Failure (r = .925, a = .012).

Conclusion: The results of this research provides support for an increase in knowledge and efforts to create and apply more effective approaches to promote positive health behavioral lifestyle modifications in adult and children’s populations. In order to reduce or eliminate behaviors that contribute to heart disease, preventive measures will need to be implemented to ensure quality health outcomes in children and adults. Daily exercise, health eating habits, and a sufficient amounts of sleep can assist in the prevention of obesity, diabetes, and heart disease in children and adults (University of Rochester Medical Center, 2018). Educational and community-based programs can be employed in such settings as schools, community centers, and churches. The goal of the educational and community-based programs is to operate under nontraditional healthcare settings that will foster and promote frequent informal communications and knowledge sharing within schools and communities through social interactions on the prevention of heart diseases in children and adults (Office of Disease Prevention and Health Promotion, 2018).

Biography: amien Byas, Ph.D. currently serves as a Professor of Biostatistics in a masters of Public Health program. He also serves senior research fellow and international research consultant. He has conducted several research projects relative to, assessing health disparities for economically disadvantaged populations in the United States, examining critical health issues in Caribbean nations, and studies relative to health promotion and disease prevention for children and adults worldwide.

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