

Title: "Who is Next? Evaluating Factors that May Contribute to Heart Failure"

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Cardiovascular diseases are the number one causes of death globally, and for African Americans those risks are even higher. As an African American university student studying Biology, I am passionate about researching the diseases that affect my race. Current research states that behavioral factors such as obesity, tobacco use, unhealthy diet, and harmful use of alcohol should be avoided. I have chosen to research predictors of what helps patients survive if they already have heart failure. Heart failure develops gradually, where the heart becomes weaker over time and has trouble pumping blood to nourish the cells in the body. Data was collected on 299 patients with heart failure at the Faisalabad Institute of Cardiology. Is the survival rate better for patients with higher ejection percentages? Is the average serum sodium level a predictor of survival? Is there a difference in age or sex between patients who survived and died? Can anemia levels, creatinine levels, high blood pressure, platelet count, or sodium levels predict survival? Does smoking or having diabetes decrease chances of survival? My research also investigates the interrelationships of the variables predicting survival. Is the average ejection percentage lower than the normal range of 55% and above? Do patients with diabetes have a decreased ejection rate or lower platelet count? Is the average serum sodium the same for males and females? Does age play a factor in the levels of serum sodium? Is having high creatinine levels related to high blood pressure? Parametric and non-parametric hypothesis tests were used to analyze these questions. Statistical graphics, stratified box plots and scatterplots, will be used to convey the findings. Knowing the risk factors that predict survival and the interrelationships of those predictors, enables African Americans, and all people, to understand the potential benefits of reducing these factors.

Word Count: 296