

Cardiovascular
disease and cancer
are the two



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Cardiovascular disease and cancer are the two leading causes of cancer worldwide (Koene1). The two diseases are usually considered to be separate, but there may be a link between the two. The experiment being tested is whether cancer is linked to cardiovascular disease, and if having cancer will increase the chance of acquiring cardiovascular disease. The different experiments conducted were performed on different groups, which help better understand if there is a link to cardiovascular disease and cancer in the entire population, or just a specific group. In article one, Journal of Clinical Oncology, the scientists surveyed "case data from the years 1973-2011. They then took that information to analyze the different races and genders, and their risk of contracting cardiovascular disease (Beckman 1). In article 2, The Patient Education & Counseling article, the scientists "recruited English speaking breast cancer survivors in New Jersey" (Christian 1). They conducted surveys and interviews to those breast cancer survivors.

They surveyed those individuals and asked them questions about their medical history, and any other questions that pertained to the scientists experiment. In article three, the scientists "explore the risk factors common to both CVD and cancer, highlighting the major epidemiological studies and potential biological mechanisms that account for them" (Koene 1).

The scientists found and reported that there was a link between cancer and cardiovascular disease in all three of the articles.

According to article three, there were modifiable Cardiovascular Disease risk factors along with non-modifiable risk factors (Koene 1). There was an alarming link between obesity, cancer, and Cardiovascular disease. In article three, the scientists researched whether obesity, cancer, and cardiovascular

disease had a shared biology. Leptin and interleukin-6 are both often found in obese patients. Leptin has been proven to cause cardiovascular disease, while interleukin-6, often found in adipose tissue, was linked to cancer. A result found in all three of the articles found that African Americans, who had previously had cancer as a child or younger adult, are far more likely to have cardiovascular disease and die from it than any other race. All three articles also found that breast cancer was a leading cause to cardiovascular disease.

All three of the articles are trying to uncover if there is a link between cardiovascular disease and cancer, and they all did similar experiments and received similar results. All three articles found that African American women are at the highest risk of cancer and cardiovascular disease. Two of the three articles found that breast cancer was the leading cancer that could cause cardiovascular disease, which is why women are more likely to get cardiovascular disease after having cancer. Article one and two, studied and investigated whether "cardiovascular risk differs as a function of race and primary cancer type" (Berkman 1). The scientists' main goal in this article was to determine whether race played a large role in cardiovascular disease risk after having cancer. The scientist also observed whether different cancers were more likely to cause cardiovascular disease. Article three differed from article one and two because the scientist focused on the whole population rather than a specific gender and cancer. The scientists also researched "modifiable and non-modifiable CVD risks related to cancer.

There are many different strengths and weaknesses in all of the research and experiments performed. Article one, studied 164,316 different patients,
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which is a strong amount of individuals for an experiment. Although they studied and observed a lot of individuals, 10% were African Americans, 82% were white, and 8% were other races (Berkman 1). The scientists' results about African American women who had cancer are more likely to develop cardiovascular disease could be different if they had an even amount of individuals among the different races. Article two also observed many individuals, which is a strength, but the scientists only observed English speaking African Americans and White breast cancer survivors in New Jersey.

This part of the experiment is a weakness because 45% of the population in New Jersey is white, while 12% are African American, according to Sergio Bichao, an author at Central Jersey. Article three has the strongest amount of information. Article three observed the entire population rather than specific genders and races.

A large weakness is the scientists didn't specifically state the amount of individuals they were observing, but the scientists providing statistics implying that a large amount of individuals were observed. Article two was the only article that contained bias. Article two only observed English speaking breast cancer survivors in the state of New Jersey.

Since there are more than three times the amount of white people in New Jersey, the scientists were most likely trying to skew the results. Article one and two were similar to the question, does cancer cause cardiovascular disease, but article three was the closest. Article one and two focused specifically on women and breast cancer.

Article three was very similar to the stated question because the scientists researched the entire population. The scientists also listed non-modifiable risk factors, "including age, sex, and race/ethnicity, are uncontrollable features that influence incidence rates of both cancer and CVD" (Koene 1). Dr. Koene also listed "modifiable cardiovascular risk factors and their cancer risk".

Obesity was the leading cause of both Obesity and Cardiovascular disease (1). Article one is relevant to cancer and cardiovascular disease because the scientists researched the effects that cancer at a young age had on women, and then the chances these women would develop cardiovascular disease. Article two was also relevant because the scientists researched whether breast cancer leads to cardiovascular disease. Article three was the most relevant because it gave many risk factors to cardiovascular disease from multiple types of cancer.

The scientists also found some ways that cardiovascular disease, and even cancer, can be prevented. All three articles further proved the point that cancer can lead to cardiovascular disease. Genetics play a large role in the risk of getting both cancer and cardiovascular disease. I will be adding on to Dr. Berman's Experiment, but I will be creating a bigger population. The experiment being conducted will be a large group of both women and men separated into two groups.

The two groups will be individuals with cancer, and individuals who were diagnosed with cardiovascular disease after having cancer. As the scientist, I will observe these individuals for 20 years. For those 20 years, the individuals will have yearly checkups. The patients with cancer will be observed to see if they are starting to develop cardiovascular disease. The

patients who already have cardiovascular disease will be observed and asked to record all of the activity that is done in his or her life. This will help determine if the cardiovascular disease was non-modifiable or modifiable.