How Do Nutritional Habits Correlate with Preventing Various Cancers?

**Abstract**

What is Cancer? Cancer can be defined as a disease that is caused by an uncontrolled division of abnormal cells in a part of the body. It can be caused by either genetics or environmental carcinogens. Some believe that the traditional way to cure cancer with chemotherapy, radiotherapy, and surgery are still the only way to cure it. Recent findings show that there might could be another way to help prevent it using an understanding of nutrition. If nutrition is a better way to help prevent cancer we need to start looking into how this works because it would be a more ideal way to treat the body rather than our current options that damage neighboring normal cells. In the article by Campbell TC “Cancer Prevention and Treatments by Wholistic Nutrition”, uses a different perspective that suggests that cancer development is a nutrition-responsive disease rather than a genetic one. There still is not enough evidence to prove that this is true, but there is enough evidence to prove that this approach has potential.

**Introduction**

 The idea of nutrition is something that is starting to become more popular in the younger generations. There are a lot of different life style choices that are being promoted on social media, TV, and ads. All of these various lifestyle choices are becoming more and more popular because of the obesity problem that we are facing. The Centers for Disease Control and Prevention, CDC, has stated on their government website that the prevalence of obesity in 2015-2016 was 39.8% in the US. This affects about 93.3 million adults in our society, more so Hispanics, non-Hispanic blacks, and middle-aged adults ages 40-59 had shown the highest prevalence of obesity (Hales , Carroll, Fryar, & Odgen, 2019). Obesity can be linked to many different diseases and cancers in today’s society, this caused some people in the younger generation to start living a healthier life style. The first thing that people are looking at is how they can better change their diet. They are trying to reevaluate what they are putting into their bodies to make an effort in staying healthy. There are many reasons why people become unhealthy, but the most common ones we hear is because cost of healthier foods are more expensive or the convenience factor. There has been research that was conducted to see if there was a way our nutrition habits actually have a contribution to various cancer such as breast and gastrointestinal cancers. The article “Cancer Prevention and Treatments by Wholisitc Nutrition”***,*** aimed to start a discussion that was mainly centered on the unusual complexity of the underling biology of the various processes regarding the relationship of nutrition and cancer.

**Progress**

People first became interested on the effect that diet had on cancer in 1940-1960s. In the various laboratory tests that they had performed they were able to see that emphasis was on nutrients that had modifying effects on cancer. In the later 1960s and 1970s researchers started to research the human population and they came to the conclusion that if people consumed nutrients that were made of animal based foods it was associated more with cancer and obesity, but if they consumed the nutrients of plant based foods they would have a decreasing risk for various cancers. For example based on various autopsy studies many women in their 40s had already developed breast cancer. They formed the opinion that the reason such a high number of women get breast cancer is because of the lack of plant based nutrient intake in their diet (Madigan & Karhu, 2018). Breast cancer is one of the most prevalent cancers among American women. The American Cancer Society released their facts that had stated that an estimated 250,000 are diagnosed, and 40,000 women and 460 men die from it annually. Even though we are able to screen for it and find it, that doesn’t necessarily prevent this cancer. “Looking at breast cancer specifically, a 2013 study that followed approximately 30,000 post-menopausal women with no history of breast cancer for 7 years showed that by achieving just 3 of 10 AICR recommendations (maintaining a normal body weight, limiting alcohol, and eating mostly plant-based), a 62% decreased risk of breast cancer was achieved. Additionally, the rate at which eating plant-based can change an individual’s physiology is quite remarkable.” (Madigan & Karhu, 2018) This is just one major example as to how diet contributes to the prevention of cancer. They also came up with the idea that certain non-nutrient chemicals in food were more responsible for genetic mutations. For example the carcinogens that are found in red meat, on the flip side if people had a higher intake of a plant based diet that was filled with fruits, vegetables, nuts, etc. they would be able to help slow or prevent cancer. The theories are now developing into a larger theory that diet, nutrition, and cancer all fall under one of three groups: initiation, promotion, and progression. All three of these stages can be broken down further with more research.

 Cancer initiation is the first step that is dealing with the effect of the mutations happening to the cells in the body from chemical carcinogens, this is the start of the enzymatic activation of the carcinogen. The next stage promotion, is what occurs with a cell that is already mutated and it clones itself into a multicellular tissue mass that will become billions of cancer cells. Last stage in this is cancer progression. Progression is where the cancer cells become more aggressive and they are able to spread in the body. There are many different point of views of how our nutrition habits can either help or hurt these three. These are the basic stages that are being looked at for the treatment of cancer in today’s society. They are looking to see what is initiating it, how the cells are able to keep cloning the mutated cell, and what is causing it to keep spreading throughout the whole body. Research is now being conducted to see what various nutritional consumptions are causing a ripple effect on these categories.

**Discussion:**

Every type of cancer is different, but the major things that they share in common are that diet and exercise will help prevent or prolong cancer. It has been noted that different kinds of nutrients have different effects on various cancers. The research shows that there is some truth in that what we are putting into our bodies can be toxic if consumed in excess, so we need to mind our nutrition skills. I think that we are in the right mind set of thinking, we just have a lot more research to do before when can be certain that nutrition is a cancer preventative. In order to prove the hypothesis would be to conduct an intervention in diets of human cancer patients. There is already some evidence that is showing that whole food plant based diets reverses heart disease, but not for other chronic diseases. We currently think that it would have to be the same nutritional effect on cancer, but there is something that is still missing to make that true. We need to start looking at nutrition in a more complex manner with complex systems in order to figure out what works for what type of cancer to help prevent or prolong cancer.

# References

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