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Rhet 105

November 27, 2017

Word Count: 2,000

### Diet and Chronic Disease

Diet and food choices have an impact on chronic diseases, therefore we should improve dietary guidelines so that people can live healthier lives. The Western Diet as it is referred to in many of my sources is a diet high in fat among other things and contributes not only to obesity but also to diabetes and cancer. In this essay, I will be looking at a few popular diets that are suggested for various medical reasons, the effect that diet has on diabetes, and the effect that diet has on cancer. Across the board the recommendation was to have a more plant based diet and eat less processed meats and certain kinds of fats. The fats to avoid are saturated fats and trans fats. There are also recommendations related to eating less sodium and added sugars. Unfortunately, these simple recommendations are not as widely publicized as they should be. Instead, they get lost in all the popular nutrition claims and fad diets that may not actually be healthy. This is why we need to improve dietary guidelines so that they are easier to understand and follow.

Currently, dietary guidelines are highly dictated by agencies that are funded by many food manufacturers, so the guidelines can tend to fit their agenda. The other source of nutritional information is so full of claims that are not actually scientifically supported and full of contradictions that it can be hard to tell what to actually follow.

In the video, *Smart Foods that Impact your fight with Chronic Disease* multiple popular diets are brought up including the Gerson Diet, the Paleo diet, and the Peter D'damo diet (Envita Medical Center). These diets were featured because they are considered to have benefits for people with certain chronic diseases. The chronic diseases ranged from diabetes to cancer and heart disease. The Peter D'damo diet is also sometimes called the blood type diet and has many different versions depending on the person's blood type. For example, for people with Type A blood a vegetarian diet is suggested because according to D'damo "people with type A blood have a sensitive immune system" (WebMD). The other diets have various restrictions and reasons behind those restrictions according to the blood type. The Paleo diet is a diet where people can only consume foods that would have been available in Paleolithic times, essentially only natural foods and no processed foods. According to Cancer Center, the Paleo diet may help to prevent cancer and benefit patients because of its effect on blood glucose levels, and because it helps to reduce inflammation by cutting out certain foods. The Paleo diet does not allow the consumption of "cereal grains, legumes, dairy, refined sugar, potatoes, and processed foods" (Runyon). Instead it encourages the consumption of fruits and vegetables, seafood and eggs, and nuts and seeds. The Gerson diet is a diet that was developed by Max Gerson and claims to be an effective alternative treatment to cancer and other chronic diseases. The Gerson Institute website lists the main components of the diet as "thirteen glasses of fresh, raw carrot-apple and green leaf juices ... three full plant based meals... fresh fruit and vegetables available at all hours" (Gerson). The diet is full of nutrients both macro and micro and low in things like sodium. Generally, people have difficulty choosing the right diet for themselves and their needs. This is made more difficult by all of the complicated diets like the ones listed above because people do not have enough information about what is healthy and what is not. If there were better dietary

guidelines people would be able to better design diets for their needs without having to follow over-complicated diets. The video also said that people should work with professionals to create a diet that meets their personal needs. I agree with this because people may only need to make simple diet changes and would not benefit from one of the fad diets that are popularized in media. Professionals will be able to help people create diets based off their specific health needs and develop a diet that can help treat or prevent certain chronic diseases. For example, if a patient has diabetes a professional can suggest a diet that will help with their glucose levels while making sure they meet their energy needs without negatively impacting their health in other ways.

The first source that I will be looking at in relation to diet and diabetes is in article from the American Diabetes Association. The article goes through many common myths related to diabetes but I will just be focusing on the ones directly related to diet. The first myth is a common one amongst parents trying to limit their children's sugar consumption. The myth is that "Eating too much sugar causes diabetes" (American Diabetes Association). To understand why this myth is wrong you need to know about the different types of diabetes. Type 1 diabetes is genetic and is generally diagnosed in children. This type of diabetes is caused by the cells of the pancreas being unable to produce sufficient insulin. Type 2 diabetes occurs when the body's cells become resistant to insulin so the glucose is not properly absorbed, additionally there may be damage to the pancreatic beta cells that produce insulin (Thompson). One of the main risk factors for type 2 diabetes is obesity and a high fat diet. This connection was investigated in multiple studies done by Ohtsubo et al. The study looked at the connection between the high fat Western diet, obesity, and type 2 diabetes using both humans and mice. The study found that fatty acids could damage the beta cells of the pancreas. Additionally, fatty acids and obesity

contributed to cells being more resistant to insulin which resulted in them not absorbing insulin (Ohtsubo). The next myth is that “people with diabetes should eat special diabetic foods” (American Diabetes Association). People with diabetes should actually follow the same healthful diet plans that most people should follow. This means limiting consumption of saturated and trans fats, foods high in sodium, and foods with added/refined sugars. Both of these myths show the need for better dietary guidelines both for people with diabetes and for the general population wanting to prevent the development of diabetes. People believing in myths like these and other dietary myths can lead to them making incorrect and potentially dangerous diet choice that may increase their risk of chronic disease. Additionally, they may believe they are doing something beneficial for their bodies such as eating special diabetic foods when those foods still raise glucose levels and may lead to people paying less attention to what they are consuming. This can lead to them not paying as close attention to their insulin levels as they would if they were consuming foods that were not diabetic foods.

In 2016, an estimated 20% of Cancers were caused by a combination of controllable factors. These factors include diet, weight, lack of exercise, and consumption of alcohol (Thompson). Nutritional factors in the development of cancer fit into two categories, factors that reduce the likelihood of cancer developing and factors that increase it. Dietary fibers, antioxidants, and phytochemicals help to prevent and sometimes fight cancer. Diets with lots of saturated fats, processed foods, and alcohol increase the likelihood of cancer developing. Cancer research UK went through the four main categories of food that have an effect on the development of cancer. The article starts with fruits and vegetables which “are an excellent source of many vitamins and minerals, as well as fiber.” They also help to prevent obesity which can be a contributing factor for cancer. (Fiber also comes up in an article from the Physicians

Committee for Responsible Medicine (PCRM). The PCRM gives many different reasons and types of cancer that fiber aids in preventing. The first one is colorectal cancer, this is because fiber helps food to move faster through the colon and gets carcinogen containing wastes out of the colon faster so they will not affect the cells. Fiber may also help with breast cancer because it can bind to estrogen and diets high in fiber are usually lower in fat. In addition, “fiber may also have a protective effect against mouth, throat, and esophageal cancers” (Physicians Committee for Responsible Medicine) as well as prostate cancers because diets high in fruits and vegetables are also high in antioxidants which help to protect against cancer. (Physicians Committee for Responsible Medicine). The article “Say No to Cancer” also discussed the effect that antioxidants can have on cancer. Diets high in antioxidants lead to a lower risk for cancer because they “have the potential to halt the damage done by oxygen free radicals” (Anthony). Free radicals are naturally occurring the body but when they are in high concentrations they can cause cellular damage, including damage to DNA that can cause cancer to develop. The antioxidants in foods help the body’s natural antioxidants to fight the excess free radicals and reduce the risk of cancer (Anthony). All of these sources show the way that diet can have a direct effect both on the development and progression of Cancer. Similarly, to diabetes they suggestions that they make are normal suggestions that should be included in guidelines for a healthful diet. They are encouraging the consumption of a heavily plant based diet similarly to the suggestions related to the prevention and management on diabetes. This helps to prove my thesis that we need to improve dietary guidelines so that people can live healthier lives whether or not they have chronic diseases.

Overall the sources that I encountered while doing research and writing my essay came to a consensus about the type of foods that we should and should not eat. Overall no matter your health conditions it is a good idea to eat lots of fruits and vegetables along with lean meats, legumes, and dairy. You should also avoid or consume in moderation sodium, processed foods, and refined/added sugars. These are simple recommendations that everyone can incorporate into their diets easily. People should also do their research with reputable sources rather than following the fad diets that pop up in the media. If people have specialized dietary needs they should consult with a registered dietician so that they can develop a diet plan specialized for their body and condition. Overall, I think my sources have shown that we need improved dietary guidelines so that people can live healthier lives whether or not they have chronic diseases.

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