

THE OPTIMAL HUMAN DIET

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Abstract

Background: Now that humans have access to an extreme abundance of food and create our own factory and lab made food, the debate of what is the healthiest diet for us is always debated. New dietary guidelines are recommended by governments and doctors every few years. There are many diets people take on these days. When chronic disease is so common in society today, diet recommendations must have gone wrong.

Objective: This study aims to disprove the notion that red meat is bad for you and should be eliminated from people's diets. The study also aims to show that a diet that consists mostly of Animal-based foods is essential and can be used to optimize health.

Design and Method: The research method is a peer-reviewed literature search for other studies that have studied red meat, nutrition, and diet. The research that was done is qualitative. The effects of not eating meat and other animal foods, the carnivore diet, and the nutrients of red meat have been researched to answer the research questions. The main research questions are: *What is the optimal human diet? Why is red meat deemed unhealthy and is it unhealthy? What happens when you do not eat animal-based foods? How has society been misled on diet? What effects does eating mostly meat have on chronic diseases?*

Results: A diet that consists of only or mostly meat was found to have great health benefits and little negative effects in one study. In another study, the lack of nutrients from not consuming animal-based foods was shown to be detrimental for pregnant Women and their babies. Bones of Vegans and Vegetarians were shown to be significantly weaker than meat-eaters. Red meat consumption was not shown to be associated with cardiovascular disease and mortality.

Conclusions: Diet is the most important aspect of health. Many diets have their benefits, and most people will be fine and healthy on them. If one wants to thrive and lower the risk of chronic disease, a diet with mostly meat and fruit is what should be taken on. Humans absorb all the

nutrients, minerals, and more from these foods alone. This study observed that red meat is not the unhealthy food it is claimed to be by doctors and mainstream health experts and without animal-based foods, malnourishment is inevitable.

Keywords: *Diet, Nutrition, Chronic Disease, Longevity, Health, Carnivore, Meat, Vegetarian*

Introduction and Background

Only 12 percent of Americans are metabolically healthy, according to a study by (Araujo 2019). Metabolic health is the ideal level of all health markers such as blood sugar, triglycerides, cholesterol, blood pressure, etc. Something has gone wrong with the way we eat over the past few decades. Humans in western society have been misled about what a healthy diet is. Ever since agriculture became popular, humans have had access to more foods. Civilizations started mass-producing crops and created new foods with the products that we have accumulated.

Along with new food inventions, humans have also added many chemicals and unnatural ingredients to food. Steele (2016) found that processed food makes up 60% of the American diet. Chronic illnesses are also on the rise, and diet is the cause of this. Obesity^[MOU1] has also been on the rise in America starting in the 20th Century. Obesity prevalence in adults rose from 30 percent in the early 2000s to 42 percent in 2017 (Hales, 2020). Heart disease, cancer, and immune issues result from the diet. When did we become so metabolically unhealthy?

Diet recommendations have changed throughout the years. There are many diets people take on these days. Popular diets are Vegan, Vegetarian, Ketogenic, and Paleolithic diets. People are constantly trying to find the optimal diet for health and longevity. What is the optimal diet for humans? Why do we believe that foods are good for us when they are not? The primary debate in

nutrition and health is whether humans should be eating meat and animal products. Diets prioritizing plant foods have been on the rise in the 21st Century. Individuals decide to cut back on meat consumption based on lackluster, incomplete studies and observations. This study shows that a diet high in animal-based foods such as muscle meat, organs, eggs, and fruit is the optimal diet for humans based on many different studies on different factors.

Literature Review

Meat and Evolution

Some of the sources used are mainly about nutrition in meat and what happens when people do not get nutrients from meat. The research question for an analysis article by M.Z. Baltic (2015) and others asks how meat consumption is the cause for human evolution. The authors looked at evidence in the form of fossil morphology and archaeology. They analyzed the diets of human ancestors such as homo habilis and homo erectus. Associations between increased meat in the diet for early humans and changes in the body and mind. Comparisons of early humans that ate less meat than others after them were made. They have found out that meat eating resulted in bigger body size than the previous humans. Ancestors that ate more meat also had larger brains and were more intelligent. This article is unique to my other sources because it is the only one that talks about the role that more meat eating played in human evolution.

Nutrition

The study by Baltic (2015) has another purpose and that was to look into all of the nutrients in meat and see why they are the most nutritious foods on the planet. The authors looked at the vitamins and minerals in meat and talked about different studies on these nutrients and the lack

of them. This part of the article is not a specific study so there are no participants. It just mentions results from many other red meat studies. Things that are widely believed about red meat like it causes cancer are mentioned and then reasons against these thoughts are stated. The main point of this section of the article is to explain and show why red meat should be in our diets.

The article by Pawlak (2017) is about vitamin deficiencies, specifically vitamin b12 in vegan and vegetarian pregnant women and lactating women. The research question is what are the effects that a vegan diet has on the fetus of pregnant women and babies fed milk from lactating vegan or vegetarian mothers. This source is a meta-analysis so there are no original experiments being recorded. The author talks about multiple studies on vitamin b12 deficiencies in pregnant and lactating women. Studies showed that vegan women and their babies did not have enough vitamin b12. Vegan and vegetarian mothers had inadequate levels of b12 to meet the demand of the fetus. Vegan women are not able to get enough b12 unless they eat meat or supplement it. The participants in all of the studies were pregnant and women that breastfed. For most of them, their b12 levels were measured.

The article by Iguacel (2019) and others is on the bone density and strength of vegans and vegetarians compared to meat eaters. The research question the authors have in mind questions what a vegan diet does to the bones. The authors searched through science databases and analyzed them in one paper to learn what happens to your bone density and strength when you eat a vegan diet. Studies were included if they were original, performed on humans, and written in english or spanish. Twenty studies with a combined participant number of 37,000 showed that vegan and vegetarians had a lower bone density matrix. This source relates to the article by

Pawlak because they both examine the negative effects of not eating meat or animal products on health.

Red Meat and Mortality

The article by Pan (2019) and other authors studies the risks of meat consumption focusing on mortality. This article is an argument against my stance on red meat. The author's research question is "what are the mortality risks of consuming red meat regularly?" The researchers also look at the risk of chronic diseases from red meat. The researchers observed over one hundred thousand participants. They asked the participants about their food intake, health updates, and lifestyle every four years. The deaths of the participants were documented when that time came. This article is similar to another study by the same authors but that one is about type 2 diabetes. They both observe participants until their death. This argument is the biggest argument against having your diet be mostly red meat.

A study that shows results different from Pan's (2019) is an Australian study by Seema Miharshahi that compared the all-cause mortality of people on Vegetarian diets and non-Vegetarian diets. The study has a sample size of over 200,000 thousand participants and they are all over the age of 45. The researchers formed three groups; full Vegetarians, semi-Vegetarians, and non-Vegetarians. Semi-Vegetarian diets would be limited meat consumption and Pescatarians; which only eat fish and no other animal foods. The study is another longitudinal study where the participants are checked in throughout the years to make sure they are still on the diet they started with and how their health is. Much of the literature mentioned is on studies that follow participants until their death.

The Carnivore Diet

There has been one study done recently on a diet called the Carnivore Diet. The Carnivore Diet is the Animal-Based diet but without the fruit and honey. The article by Lennerz (2021) is the first study done on the effects of the Carnivore Diet itself. Since the Carnivore diet and Animal-Based diet are almost the same, this study is extremely important for the argument that our diet should be full of meat and cutting out vegetables and seeds if we can. The research question of the article asks what the effects of an all animal sourced diet is. The study is a survey study on people that have been on the Carnivore Diet for 14 months. Participants had to report their health markers to the researchers and what exactly they were eating every day. The goal was to see how many people reported positive effects since starting the diet. There is no known study like this one since this diet is fairly new.

Conclusion

The literature that has been discussed are all great contributions to the topic of an animal based diet. The studies are all based on science and observations. What these sources do best, excluding the one by Pan (2019), is show why meat must be in human diets. They give great insight on what humans should be doing when it comes to diet to stay healthy.

The strengths of some of these sources are the sample size of the experiments. Multiple studies observe thousands of participants. Articles like the ones about the problems with vegan diets are good at explaining what happens when there is a lack of nutrition from animal sources. The only weakness of this group of sources is that most of them are meta-analyses done by the authors. It is still good information to take away and use but it would be better if the authors did their own experiments so these could be primary sources.

Literature on an animal based diet is very limited because it is a fairly new idea that we have been eating in ways not following our evolution. There are also no studies that control for other foods when doing experiments on red meat. In every experiment, participants are never told not to eat other harmful foods and cook the meat in oils that are harmful. So, there is a lot of under thinking in the studies available. There are studies missing on modern hunter-gatherer populations that eat mostly meat and fruit. There are studies missing on people that only eat a carnivore diet and animal based diet. I searched for information on this particular tribe in Africa called the Hadza who eat a primarily animal based diet but there were no studies. I also searched for studies on the difference between grass-fed beef and factory farmed beef that people eat today. This would have been very impactful to have. I also could not find studies where grains and vegetables were eliminated from the diet. This would have been the most helpful information to have. There are many types of studies missing from this topic and that makes it harder to argue my point but there are still some good, strong articles.

Methodology

The method of this research paper was to find and analyze many sources about human diet but focus on meat and the lack of meat. This method is a Systematic Literature Search. There were no first hand experiments done, only analyzing other researchers' studies. The studies analyzed were observational, survey, and analytical studies.

The way data was collected was through a Systematic Literature Search. Many articles on nutrition and diet were read and analyzed relating to the topic on Google Scholar. I used Google Scholar because it has a wider variety of articles. I searched by using keywords that associate with each other like "cancer and red meat." The search always consisted of two key terms which

always brought me to studies with the same goal. There was one study I was able to search directly for one study that was specifically on the effects of the Carnivore-Diet from prior knowledge and that it is the only one available that is on Humans only eating animal products. When deciding to use the studies I did, I made sure most of them had a big sample size and had as little flaws as possible. Articles that argue against my thesis were also chosen to point out the flaws and disprove. Most of the sources were meta-analysis articles. A meta-analysis study is an analysis of multiple studies in one research paper. A systematic literature search would lead to writing a meta-analysis paper. There are not many primary source articles on the topic of an Animal Based Diet itself but I was able to find literature on the different aspects and then piece it together. Systematic literature search was the method because it was the only way to get studies from all around the world on the topic. You do not want to look at studies from one area of the world, you want to look at multiple areas when talking about health because health has many factors. A Literature Search allowed me to have that diversity and sample size for the argument. It allows collection from a wide variety of sources and that was what was needed. These sources also varied on the type of study they were, so there was variety in that too. The systematic literature search is a method that is reproducible. Being able to reproduce a study on the same topic is always favorable because that is how statements are proven correct.

No first hand experiments were done by me because the tools and sample size are not available. The tools needed would be blood tests to analyze certain health markers for people on an Animal-Based diet or similar and comparing it with Vegans or Vegetarians. For something like diet, you are also going to want a very large sample size that is diverse and that was not available to me either.

There are a couple of biases towards my argument. One bias is that I eat an animal-based diet. I made this decision from tens of hours of literature reading. Another bias would be that I really enjoy eating meat every meal. I don't think these biases affected the argument because this is a science and data based argument. Data from other researchers were used and there is no primary data from me.

Results

The topic researched is human diet and nutrition and what is optimal for humans to live long disease-free lives. The main focus is an animal-based diet consisting primarily of foods from animals; meat, animal organs, and eggs. Fruit is also included. The point of the research is to debate the claim that red meat is unhealthy and people should be eating plant-based diets. The types of studies that have been evaluated are longitudinal observational studies, clinical trial studies, a few case studies, and survey studies. Most of the studies looked at are from meta-analysis sources that analyze multiple studies showing the results of the original studies. This research aims to push for further thinking and experiments on diets mostly made up of animal products without things like seed oils, refined sugar, bread, and processed foods. To show proof that red meat is not the enemy and that it is healthy to eat as much as one chooses. The data was analyzed by searching for scholarly journals using keywords relating to the few research questions. The results of those studies were examined to see if they provided evidence of meat-based diets being perfectly fine and even having benefits over other diets. When analyzing studies claiming that red meat causes the many chronic issues we have today, they had to have large sample sizes. The purpose of discussing studies that aim to prove that diets high in meat (red meat specifically) are bad is to point out their flaws and disprove them. The Results chapter of this paper details the results of the articles used for this study to answer the research questions:

RQ#1: *Is red meat really the cause of chronic illnesses?*

RQ#2: *What is the optimal human diet and what foods should be eliminated?*

RQ#3: *How have people in Western Society been nutritionally misled?*

The first set of results are studies on the effects of being on diets that limit animal products or eliminate them. One article shows results from twenty different studies on these diets. It shows that vegans and vegetarians had much lower bone density than omnivores in the lumbar spine. Vegans had the lowest bone density (Iguacel, 2019). The same experiment also found that bones in the whole body were less strong on a Vegan and Vegetarian diet. Interestingly, the researchers found that the effects of not eating animal foods were more prevalent in Caucasian males. Another study in the same paper by Iguacel showed that Vegans had a higher risk of fracturing bones than Omnivores but did not find that higher risk in Vegetarians. However, vegetarians did show a significantly larger risk of fracture in a sensitivity analysis study in the same paper. Another article (Pawlak, 2017) studies the negative effects of not having meat in your diet in the context of vitamin B12, an essential nutrient. A study in this article showed that Vegetarians and Vegans had way lower serum vitamin B12 than Omnivores. The average serum B12 for Vegans was 172 pmol/l, Vegetarians had 209 pmol/l, and Omnivores had 303 pmol/l. That is almost double what a Vegan has.

There has been one study on the Carnivore Diet, a diet almost identical to an Animal-Based diet that excludes fruit. The study by Lennerz^[MOU1] (2021) reports on the effects of being on the Carnivore Diet. This study surveyed over 2000 participants. In the study, 95% of participants reported satisfaction and improvement in overall health. In addition, 48% to 98% of participants reported improvement in their long-term medical conditions. A small group of the

participants said their health markers like LDL cholesterol were elevated, and HDL Cholesterol and triglycerides were optimal for all of those reported. Participants with diabetes reported benefits for their condition, and 84% to 100% reported a reduction in the need for diabetes medication. Along with these benefits, fat loss was also widely reported.

Cholesterol and saturated fat being bad are one of the main arguments against eating red meat, eggs, and whole fat milk. One study by Ramadan (1973) found that replacing saturated fat with high linoleic acid fats (seed/vegetable oils) did not lower the risk of death from heart disease. Doing this did reduce serum cholesterol, though. The study also found that there was a 22% higher risk of death for each 30mg/dL reduction of serum cholesterol. There was no benefit to removing animal fat from participants' diets. Teicholz (2014) refers to a few studies on saturated fat and cholesterol in her journal. One of the studies showed that reducing saturated fat intake increased the risk of heart disease in women.

On the other hand, high cholesterol was seen to be associated with longer life. Multiple studies pooled together by de Souza (2015) showed that saturated fat intake was not associated with all-cause mortality with a 95% confidence interval. It showed no association with the risk of diabetes. Trans fat intake was associated with all-cause mortality from six studies analyzed by de Souza. Another study on the mortality of Vegetarians versus regular meat-eaters found that the claim that Vegetarians live longer than non-vegetarians was false. (Mihirshahi, 2017) Both diet groups had the same all-cause mortality rate. The study had a sample size of 240,000 people in Australia and was a longitudinal study that took place over multiple years.

Counterargument results show that the consumption of unprocessed and processed red meat of just one serving a day was associated with a higher total mortality rate with a 95%

confidence interval (Pan, 2012). The risk of chronic diseases like cancer and cardiovascular disease was also higher. The researchers estimated that replacing one serving a day of red meat with other proteins would lower mortality risk by 7 to 9 percent. Another study with 4,000,000 participants by Pan showed a higher risk of diabetes with red meat consumption. The rates of diabetes with red meat consumption were 1.12, 1.32, 1.14x more likely. The researchers also estimated that replacing red meat from people's diets would result in a 16 to 35 percent lower risk of Type 2 Diabetes.

Discussion

The findings of the many studies on different factors of diet showed that you cannot thrive without meat and animal based foods. It showed that meat is essential for Human consumption and has benefits that you cannot get in plant foods. People that exclude animal foods from their diet like meat, milk, and eggs have lower bone density than non-Vegans and Vegetarians. The investigators concluded that Vegetarians and Vegans should be very careful about going on these diets. Also, vitamin B12 deficiency in pregnant, lactating women, and their babies were found to be a big problem for people that do not eat animal-based products. It was shown that people that do not eat meat have less than half the B12 than people that do. One study on the Carnivore diet which is almost identical to an Animal-based diet showed that eating mostly meat in every meal had benefits in health and improvement in their diabetes. The purpose of that study was to see the health impacts of only eating meat. The researchers concluded that this topic needs further research. The study does reject the theory that eating a lot of red meat will cause health problems since people's health problems got better. Several research papers analyze the relationship between red meat, cholesterol and health. Removing saturated fat was seen not to decrease the risk of heart disease as it was replaced with linoleic acid fats which are

bad for you. The fats that are touted as healthy in the U.S. today. Cholesterol was lowered when less saturated fat was consumed though. Another study showed an increase in risk of heart disease in Women when replacing saturated fat. These studies reject the known “fact” that foods high in saturated fat like animal foods cause cardiovascular health issues. Doctors and government health institutions are always saying to reduce red meat intake for this reason. These studies missed some important things. Researchers did not control for what the meat is cooked in and what the meat is eaten with.

The counterargument studies show that red meat consumption is associated with multiple health risks and it is the researchers aim to find that. These studies have many flaws though. They do not track what is being eaten with red meat, what it is cooked in, and what the lifestyles of the participants are. The first two are extremely important because as shown in other studies, replacing saturated fat with linoleic acid increased risk of heart disease or did not have a change. Also, if you are not tracking what else the person is eating, they could be eating all of this processed food and sugar that would drastically change their health. When proving something is bad you must isolate it or track other factors heavily.

Conclusion

My research has shown that a diet high in animal products is not harmful and has many benefits. It is undeniable that the nutrients of animal foods are essential for optimal health. The current nutrition recommendations and fear of animal foods like meat and eggs will only do harm to health. There also needs to be a lot more research done on Carnivore and Animal-based diets themselves without other foods added in.

BIBLIOGRAPHY/REFERENCES

- Araujo, J., Cai, J., & Stevens, J. (n.d.). *Prevalence of optimal metabolic health in American adults: National ...* Retrieved May 1, 2022, from <https://liebertpub.com/doi/10.1089/met.2018.0105>
- Baltic, M. Z., & Boskovic, M. (2015). When man met meat: Meat in human nutrition from ancient times till today. *Procedia Food Science*, 5, 6-9. <https://www.sciencedirect.com/science/article/pii/S2211601X15000929>
- Centers for Disease Control and Prevention. (2020, February 27). *Products - data briefs - number 360 - February 2020*. Centers for Disease Control and Prevention. Retrieved May 1, 2022, from <https://www.cdc.gov/nchs/products/databriefs/db360.htm>
- de Souza, R. J., Mente, A., Maroleanu, A., Cozma, A. I., Ha, V., Kishibe, T., Uleryk, E., Budylowski, P., Schünemann, H., Beyene, J., & Anand, S. S. (2015). Intake of saturated and trans unsaturated fatty acids and risk of all cause mortality, cardiovascular disease, and type 2 diabetes: systematic review and meta-analysis of observational studies. *B* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4532752/>
- Iguacel, I., Miguel-Berges, M. L., Gómez-Bruton, A., Moreno, L. A., & Julián, C. (2019). Veganism, vegetarianism, bone mineral density, and fracture risk: a systematic review and meta-analysis. *Nutrition reviews*, 77(1), 1-18. <https://academic.oup.com/nutritionreviews/article/77/1/1/5146363?login=true>
- Pan, A., Sun, Q., Bernstein, A. M., Schulze, M. B., Manson, J. E., Stampfer, M. J., ... & Hu, F. B. (2012). Red meat consumption and mortality: results from 2 prospective cohort studies. *Archives of internal medicine*, 172(7), 555-563. <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/1134845>
- Pan, A., Sun, Q., Bernstein, A. M., Schulze, M. B., Manson, J. E., Willett, W. C., & Hu, F. B. (2011). Red meat consumption and risk of type 2 diabetes: 3 cohorts of US adults and an updated meta-analysis. *The American journal of clinical nutrition*, 94(4), 1088-1096. <https://academic.oup.com/ajcn/article/94/4/1088/4598110?login=true>
- Pawlak, R. (2017). To vegan or not to vegan when pregnant, lactating or feeding young children. *European journal of clinical nutrition*, 71(11), 1259-1262. <https://www.nature.com/articles/ejcn2017111>

Lennerz, Belinda S. (2021). Behavioral Characteristics and Self-Reported Health Status among 2029 Adults Consuming a “Carnivore Diet.” *Current Developments in Nutrition*, Volume 5, Issue 12.

<https://academic.oup.com/cdn/article/5/12/nzab133/6415894>

Mihrshahi, S., Ding, D., Gale, J., Allman-Farinelli, M., Banks, E., & Bauman, A. E. (2017). Vegetarian diet and all-cause mortality: Evidence from a large population-based Australian cohort-the 45 and Up Study. *Preventive medicine*, 97, 1-7.

https://www.sciencedirect.com/science/article/pii/S0091743516304479?casa_token=1TuRYo_LfGIAAAAAA:uQt1n2VpoD_e9GZmR-MhjMUxFe5KQrPmraGspQoEK8_zNEQpYU8VS5KQejweZX8ywLvnhRUULJ0

Ramsden, C. E., Zamora, D., Majchrzak-Hong, S., Faurot, K. R., Broste, S. K., Frantz, R. P., Davis, J. M., Ringel, A., Suchindran, C. M., & Hibbeln, J. R. (2016). Re-evaluation of the traditional diet-heart hypothesis: analysis of recovered data from Minnesota Coronary Experiment (1968-73). *BMJ (Clinical research ed.)*, 353, i1246.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4836695/>

Steele, E. M., Baraldi, L. G., Louzada, M. L. da C., Moubarac, J.-C., Mozaffarian, D., & Monteiro, C. A. (2016, January 1). *Ultra-processed foods and added sugars in the US diet: Evidence from a nationally representative cross-sectional study*. *BMJ Open*.

Retrieved May 1, 2022, from <https://bmjopen.bmj.com/content/6/3/e009892>

Teicholz, N. (2014). The Questionable Link Between Saturated Fat and Heart Disease.

The Wall Street Journal. <http://www.beachchemistry.com/wp-content/uploads/2007/01/The-Questionable-Link-Between-Saturated-Fat-and-Heart-Disease.pdf>