

## FIELD PROJECT

### A COMPARATIVE STUDY ON PHYSICAL AND EMOTIONAL HEALTH OF VEGANS AND NON-VEGETARIANS

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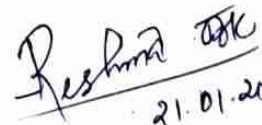
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# **A COMPARATIVE STUDY ON PHYSICAL AND EMOTIONAL HEALTH OF VEGANS AND NON-VEGETARIANS**



**Submitted to**  
**Department of Environmental Sciences**  
**All Saints' College Trivandrum**

## **INTRODUCTION**

To eat is a necessity, but to eat intelligently is an art. Eat to fuel your body not feed your emotions. Ever since the evolved human society has emerged, the debate between vegetarian and non-vegetarian diet has been going on worldwide. The debate seems to be perpetual and becomes a matter of concern; or rather a political agenda during election time, especially in our country, when all eyes are on your plate and on what you are eating. The debate that has been going on for ever about the inadequacies of a vegetarian diet versus hazards of a non-vegetarian diet is both, in a way, accurate and inaccurate at the same time. But before arriving at a verdict, have you noticed that people get sick from consuming an inadequate diet or overeating, and from leading sedentary lives more than because of *what* exactly they are eating. According to The World Health Organization (WHO), India records deaths from diabetes and heart diseases (lifestyle diseases) more than from accidents or infectious diseases.

A person's choice of diet broadly reflects his/her cultural, religious and to some extent his/her personal identity and preferences. The concept is introduced in the childhood itself, which eventually is altered as per the personal choice when one is grown up and is ready to take his/her own decisions. The choice of food may also change due to taste, desire, health condition or some other personal or relationship-related issues.





## **VEGETARIAN AND NON-VEGETARIAN DIET**

The common classification is normally vegetarian diet and non-vegetarian diet. And then, there is the new breed that includes egg in their vegetarian diet, calling themselves ‘eggetarian’ as they consider egg to be vegetarian; whatever that means!

### **Vegetarian diet**

The simplest definition of vegetarianism is a diet free of meat, fish, and fowl flesh. But eating habits of vegetarians cover a wide spectrum. At one end are lacto-ovo vegetarians, who avoid animal flesh but eat eggs and milk products. At the other end are vegans, who forgo eating (and often wearing) all animal-based products, including honey. Raw foodists are vegans who eat mainly raw fruits, vegetables, legumes, sprouts, and nuts.

There are also pescatarians, who eat fish and seafood; and lacto-vegetarians, who eat dairy products but not eggs. Fruitarians follow a diet that includes fruits, nuts, seeds, and other plant food. Those who follow a macrobiotic diet eat mostly grains but can also eat fish. They don't necessarily identify as vegetarians. Flexitarians refer to vegetarians who occasionally eat meat and fish.

A vegetarian diet is one wherein a person consumes all types of plant foods along with milk and dairy, and abstain from consuming all meat and animal derived foods and by-products. There is another category in vegetarians and they are known as vegans, who debar all dairy

products and eggs from their diet. This diet is rich in minerals and vitamins, which are important to maintain the health of our body. The fibre content is rich which is helpful in effective digestion. A vegetarian diet is said to reduce the risk of chronic diseases but vegetarians are at an increased risk for Iron, Zinc and Vitamin B12 deficiency, anaemia.

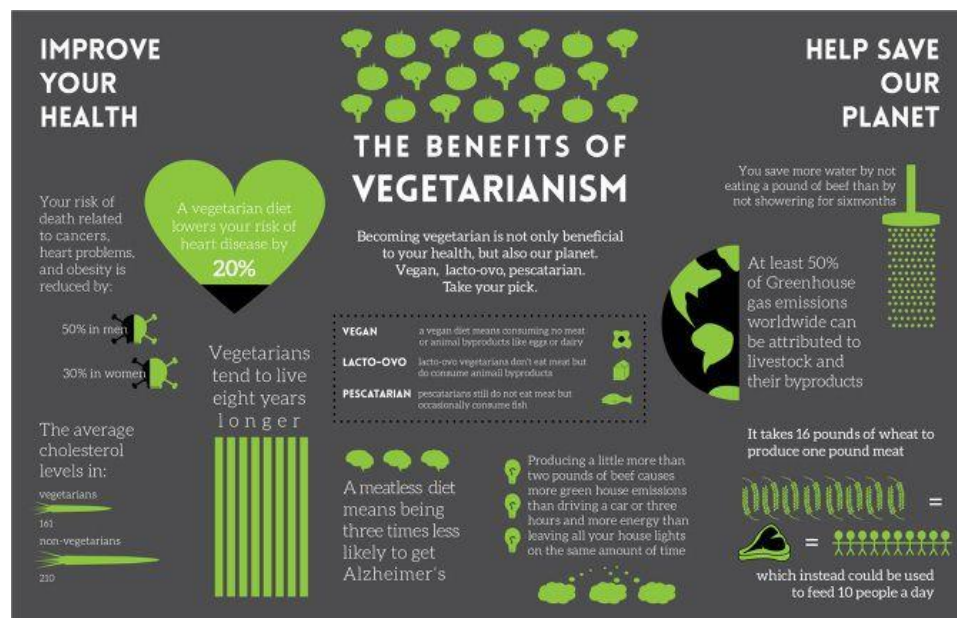
### Non-vegetarian diet

All plant foods as well as foods and by-products derived from animals like meat, poultry and fish, etc. are included in a non-vegetarian diet. From this diet we can obtain a high amount of protein and a main source of B complex vitamin especially, B12. Our body cannot produce certain amino acids on its own and a non-vegetarian diet is rich in certain amino acids. The risk of being prone to anaemia is reduced substantially but non-vegetarians are at high risk of suffering from a chronic disease, heart disease, hypertension, diabetes, etc. The fibre content is low which is not helpful in effective digestion. Eating excess of meat results in the formation of free radicals in our body which is the main known reason for causing cancer.

### Being a vegetarian

Vegetarian diet is rich in minerals and vitamins, which are important to maintain the health of our body. The fibre content is rich in the vegetarian diet, which is helpful in effective digestion. A veg diet is said to reduce the risk of chronic diseases.

But as everything has a flip side to it, nearly every significant study carried out on people who are vegetarians has shown that Vegetarians are at an increased risk for Iron, Zinc and Vitamin



B12 deficiency, anaemia. But, before the non-vegetarian's smirk, the fact is that vegetarians can very easily get adequate nutrition from their exclusively vegetarian diet, by consuming a variety of foods from each food group.

### **Being a non-vegetarian**

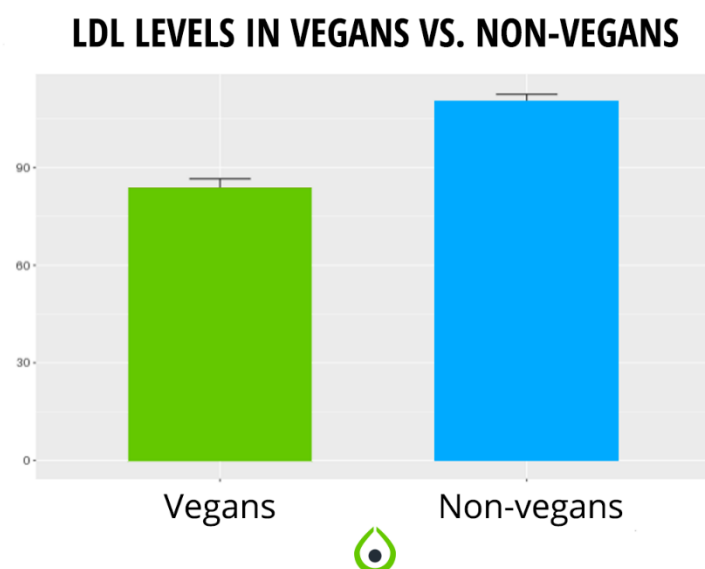
High value protein is obtained from the non-veg diet. This diet is the main source of B complex vitamin especially, B12. This diet is rich in certain amino acids, which our body cannot produce on its own. The risk of being prone to anaemia is reduced substantially. But like the vegetarian diet, this one too has a flip side. Non-vegetarians are at high risk of suffering from a chronic disease, heart disease, hypertension, diabetes, etc. Being low on fibre, non-vegetarian diet often results in obesity if enough exercises are not included in the daily routine. Having excess of meat results in the formation of free radicals in our body; the main known reason for causing cancer, unlike fruits and vegetables, which have antioxidants that help in destroying free radicals.

## **VEGANS VS. NON-VEGANS: WHO IS HEALTHIER?**

### **Where Vegans Take the Crown**

#### **Cardiovascular Health**

Vegans have considerably lower **LDL cholesterol** than those who do not (reported consuming animal products once a month or more). And this checks out – a summary of

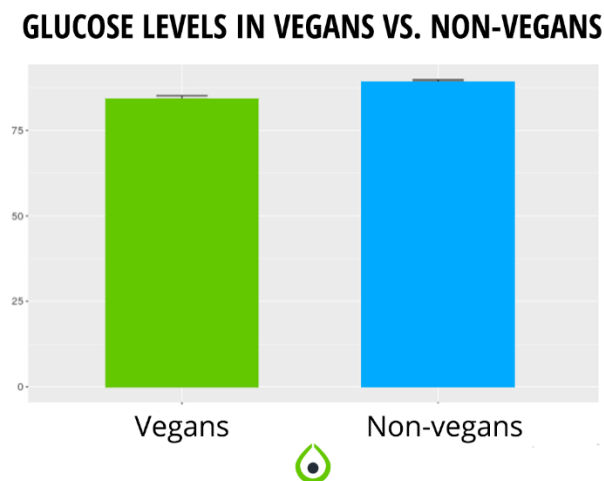


multiple trials found that vegetarian diets result in lower LDL levels than those which include meat.

In a more general sense, massive studies of thousands of people agree that vegan diets are associated with a lower risk of cardiovascular disease than omnivorous ones.

### **Blood Sugar Levels**

While the difference doesn't appear to be huge in the chart below, but vegans do have significantly lower blood **glucose** levels than non-vegans. The same pattern has been found in multiple studies (the same goes for **haemoglobin A1c**, too!).



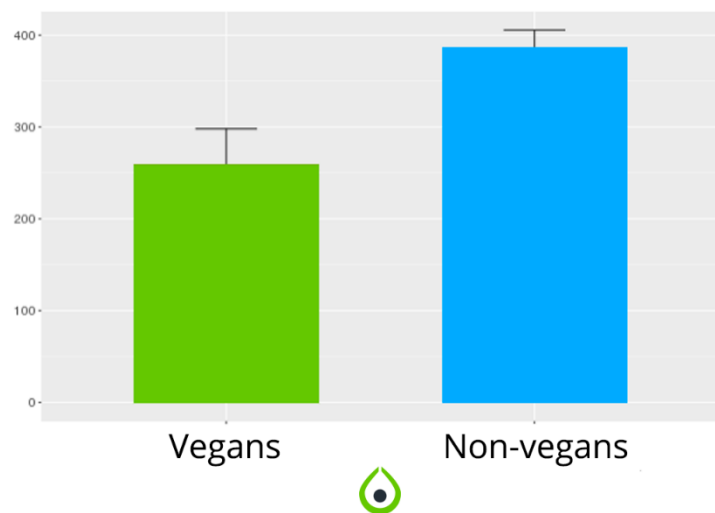
This might not seem intuitive at first – glucose is a carbohydrate, and animal products mostly contain fat and protein, so where's the overlap? Well, the specific type of iron found in animal foods (more on that in a minute) may interrupt glucose metabolism.

### **Where Meat Eaters Have A Leg Up**

#### **Sex Hormones**

Men who follow a vegan diet have significantly high **Sex Hormone Binding Globulin (SHBG)** than those who eat meat. This relationship holds true for women, too; vegan women have significantly higher levels than their meat-eating ones. SHBG safely transports sex hormones throughout the bloodstream and regulates their levels within the body. Additionally, SHBG prevents sex hormones from being cleared from the bloodstream, acting as a pool of reserved hormones that can be tapped into when levels become low. Since SHBG

### TESTOSTERONE LEVELS IN VEGANS VS. NON-VEGANS



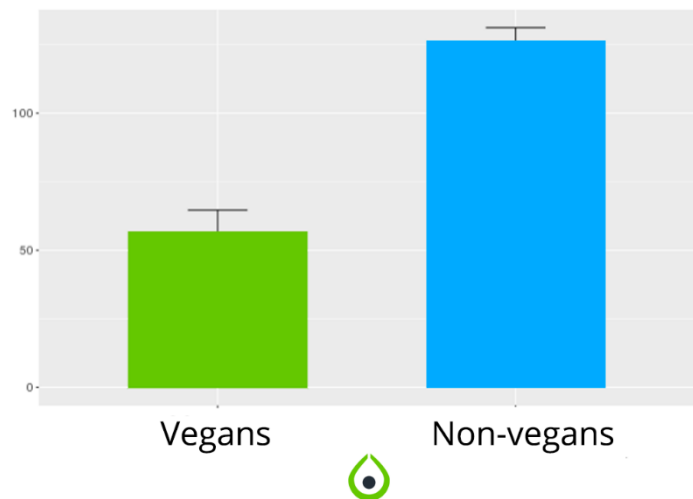
binds testosterone, high levels may create a false pretence of low testosterone levels.vegans have both lower testosterone and higher SHBG levels than non-vegan users. If you follow a vegan diet but are willing to experiment, try supplementing your diet with animal products and monitor your blood levels of SHBG and testosterone over time for any changes. Otherwise, be sure to monitor your protein intake and ensure you're hitting your daily needs (which depend on things like sex, age, and activity level).

### Iron Status



People who eat animal products with high concentrations of *haeme* iron (the form of iron found in animal sources), like meat and seafood, have significantly higher levels of **haemoglobin** and **haematocrit** than those who exclusively get their iron from plant sources. This is because haeme iron is perfectly structured for our bodies to absorb and use, directly influencing our red blood cell and iron biomarkers. *Non-haeme* iron (the form found in plant sources), on the other hand, is in a more difficult structure for our bodies to absorb.

### FERRITIN LEVELS IN VEGANS VS. NON-VEGANS



This often results in lower iron stores and levels. vegans have significantly lower levels of **ferritin** than those who eat animal products regularly. If you're vegan and your iron markers, particularly ferritin, are low, consume your iron-rich meals with a squeeze of citrus – vitamin C makes non-haeme iron more bioavailable. Since ferritin is a marker of long-term iron status, it's slow to respond to any changes we make in our diet – be sure to re-test at least 3 months after your initial results to track changes over time.

### THIS OR THAT

Non-vegetarians are prone to life-threatening diseases. That doesn't mean vegetarians are safe. Only less than 10% vegetarians are following a proper diet. As the lifestyle has changed the food habits from fresh to fast food, the risk of getting unhealthy becomes equal in both. Having well-balanced diet with lots of fruits and vegetables and a moderate amount of meat is good for health. Vegetarian can add mushrooms, lentils, soya instead of meat. Of course, fried foods have mouth-watering taste, so taking it once in a while doesn't harm anything. Similarly,

consuming healthy diet just for a day will not solve your health problems. Healthy eating should be the way of life, a habit. Every person has different constitution, metabolism, tolerances and intolerances for certain food items irrespective of diet category.

Nowadays, we hear a lot of people moving towards vegetarianism - from celebrities to models and to a lot of health enthusiasts. For years there has been an on-going debate on whether or not a vegetarian diet is healthy and aids weight loss. A Vegetarian diet can be divided into three parts that is - total vegetarian, lacto vegetarian and lacto-ovo vegetarian. A pure vegetarian diet includes fruits, nuts, vegetables, fruits, grains, and legumes. The lacto vegetarian diet contains dairy products like milk, butter, cheese etc., and plant food. According to the Delhi based nutritionist, Pooja Malhotra, "the lacto-vegetarian diets are very practical, easy to plan, wholesome diets. They certainly help in losing weight without compromising on nutrients. These are recommended for both adults and kids. " On the other hand, lacto-ovo vegetarian food includes eggs and dairy products like milk, butter, cheese and so on. No doubt a vegetarian diet is full of vitamins and minerals, fibre, magnesium, unsaturated fat and folic acid. Such diet protects us from various diseases like diabetes, heart diseases, controls blood pressure, and prevents us from cancer and lower cholesterol levels. A non-vegetarian diet includes chicken, meat, eggs and fish. A non-vegetarian diet also has several health benefits because this type of food is rich in protein and vitamin B. Non-vegetarian food strengthens our muscles and helps them grow faster. It also helps to maintain body stamina and haemoglobin.

## **CONCLUSION**

In the modern life, people become increasingly more health conscious. They not only care about delicious food but also balanced and moderate eating. This has contributed to a high occurrence of vegetarians. However, I'm sceptical an idea that human beings do not need to eat meat in order to maintain good health because they can get all their food needs from meatless products and meatless substances and a vegetarian diet is as healthy as a diet containing meat. To me, this saying is not absolutely right for some reasons. In general, the

human body needs protein to survive and thrive. Protein not only comes from meat but also from many plant sources such as grains, nuts, seeds, beans, whole grains and soy products. Meat is called complete protein because it contains all the amino acids that the body needs while soy beans are the only plant source of complete protein. Many other good sources of protein from plant are legumes, nuts, seeds and whole grains but they need to be eaten in combination to supply the full range of amino acids. Therefore, if there is enough protein provided to satisfy your total daily requirement, you can totally be healthy without meat.

However, meatless products and meatless substances generally cannot provide as much vitamins and minerals as meat products do. For instance, if you want your body to be provided sufficient calcium, you have to eat about 3-kilogram potatoes per day. This is impossible. And vitamin B12 is not found in significant amounts in any plant foods. More important, people do not eat meat have to eat many meals per day to get enough protein because the amounts of protein in plant products is less. As a result, a vegetarian diet cannot be as healthy as a diet containing meat. In brief, it doesn't matter what kind of lifestyle you are living. The most important thing you're better to know is that you need to supplement enough calories that your body needs and get into regular daily exercise.

