

Nutritional analysis of Vegan diet as a possible substitute for a healthy meat diet.

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Abstract -Veganism is the philosophy of condemning the commodity status of animals. It mainly focuses on a lifestyle wherein the dietary plan of an individual is constrained only to products based on plants and any other natural resources but animals. Although, there are several distinctions in the categories of veganism, any individual abiding such a lifestyle is usually referred to as a Vegan. However, the question that intrigues the leading scientists in this field of study is that whether this plant substituted diet can actually make up for a protein rich, meat diet. This paper analyses vegan products as a possible substitute for a non-vegetarian diet in terms of the protein content and other necessary nutrients and its effect on the average life span of an individual by weighing the statistics conducted in various labs around the globe. The result of this detailed analysis will corroborate the development of novel vegan produce as a possible substitute for the conventionally used animal products.

to higher average life expectancy and overall improved health conditions.

2. Body of Paper

Section 2.1 - Types of vegetarian diets

Although a major population of the Western countries still prefer to stick to their cultural diet of steak and chicken, statistics show that around 2.5 million of the older generation (aged above 55), have given up the consumption of red meat and switched over to a vegan diet. The reasons for this change of lifestyle is varied and range from health perks to environmental concerns. However, such a sudden transition to a complete vegetarian diet is not a well advocated advice. Hence, gradual changes can be adopted. There are various method of adopting a vegetarian diet such as:

- Semi-Vegetarian – People abiding to this lifestyle usually eat selective meat such as only chicken and fish but avoid red meat.
- Lacto-ovo Vegetarian – Such vegetarians usually prefer taking their daily lactose dose by consuming dairy products and also include eggs in their diet and skip all other forms of animal products.
- Pescatarian – This lifestyle usually consumes all sorts of meat and poultry but are forbidden from consumption of seafood.
- Vegan –This forms one of the strictest vegetarian diets wherein there is no consumption of animal products whatsoever.

Key Words: Vegan, dietary plan, protein, meat, nutrients

1.INTRODUCTION

While the philosophy of veganism has been more in talks over the past decade, its origin dates back to 1944, when Donald Watson coined the term “Vegan”. It was around that time did he found the Vegan Society in the UK. It initially referred to vegetarians who did not consume dairy products. However, over the years, people abstained from consuming any and every thing which had a link with the animal industry ranging from eggs and honey to butter and cheese. While vegans broadly abstain from animal products, there are many ways in which animal products are used, and different individuals and organizations that identify with the practice of veganism may use some limited animal products based on philosophy, means or other concerns. The matter of concern with Veganism is that how healthy is it as a diet to be followed for over a large span. Studies continue to show that almost everything belonging to the animal industry, today, has a vegan alternative which quite well acts as a substitute in terms of the nutrient content, texture and other physiological aspects. This will not only culminate to prevention of colossal waste of animal life at the altar of a number of industries but will indirectly have a positive impact on the human health leading

PESCE(A)TARIAN	
LACTO-OVO-VEGETARIAN	
OVO-VEGETARIAN	
LACTO-VEGETARIAN	
VEGAN	
FREEGAN	
FRUITARIAN	

INDEX

meat poultry fish eggs milk cheese honey grains fruits vegetables (meats & leaves) vegetables (fruits) nuts pulses

If a food is dimmed it means that it there is not a common approach towards it by the members of the respective group

Section 2.2 – Vegan Substitutes

- Meat**
Soy being a protein rich source, forms a major part of the vegan diet. Meatless products made from Soybean, or wheat-based seitan are used in the manufacture of vegetarian sausages and dubious meat minces. Other forms of consumption of soy include soy milk and tofu. Tofu is formed by coagulation of soy milk using certain microbial actions for producing a variety of products varying in texture, water content for a range of uses including shakes, salads, desserts and stir-fries. TSP (Textured soy protein) is another form of consumption of soy.
- Milk and Dairy**
An appropriate replacement of all sorts of dairy milk is plant milk which basically includes soy milk, cashew milk, almond milk, oat milk, rice milk, flax milk and several others. Lab analysis indicate that one cup of Soy milk (240mL) contains about 7 grams of protein whereas one cup (240mL) of Cow milk provides approximately 8 grams of protein. Other dairy products such as cheese finds alternatives made from seeds such as sunflower, sesame. The meltability of cheese can be easily replicated using coconut oil, tapioca and nutritional yeast along with other ingredients.

the colon which is too far from the small intestine, where absorption of B₁₂ occurs. Ruminants, such as cows and sheep, absorb B₁₂ produced by bacteria in their guts. Animals store vitamin B₁₂ in liver and muscle and some pass the vitamin into their eggs and milk; meat, liver, eggs and milk are therefore sources of B₁₂. Vegans can obtain Vitamin B₁₂ from tempeh and nori (edible seaweed). It is usually fermented by industrial bacteria, example, *Pseudomonas denitrificans*, which are further processed in order to manufacture ingredients which are used in supplements.

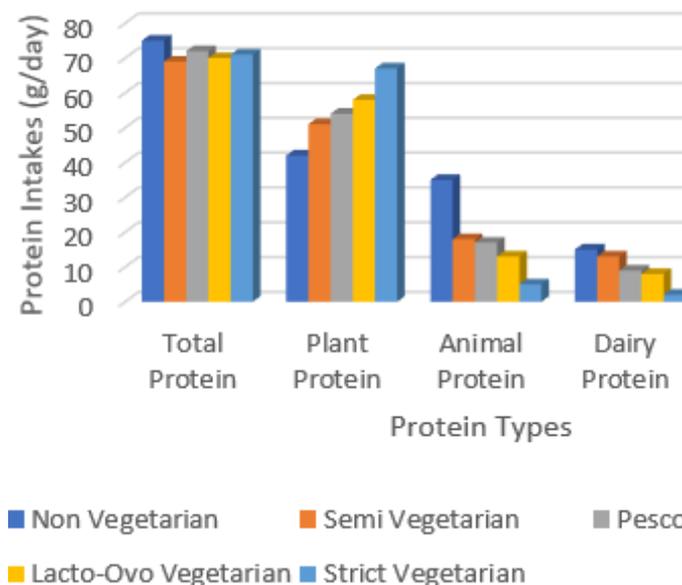
Omega-3 Fatty acids and Iron

Although a major source of Omega-3 fatty acids is fish oil, a particular fatty acid called Alpha-linolenic acid (ALA) is found in walnuts and vegetable oils which form a great substitute for that found in fish oil. A laboratory study shows that the iron content in the body of a vegetarian is usually 5-15 percent whereas that in the body of a non-vegetarian is about 18 percent. In order to compensate for this lack of iron in diet, it is advised that vegans/vegetarians include foods such as blackstrap molasses, lentils, spinach, chickpeas and lima beans. The absorption of this iron can be made more efficient by simultaneously consuming foods rich in Vitamin C.

Section 2.3 – Nutrient substitute

Protein

Proteins are considered as the building blocks of life. The necessity of proteins is well known. However, as vegans do not consume any form of animal produce, where do they get their protein from? Vegans usually get their share of proteins from plant-based products such as legumes, nuts, black beans, brown rice, barley and wheat amongst several others. Health scientists usually recommend the consumption of soy beans and quinoa as they packed with all the essential amino acids in amounts (0.8 g/kg of body weight) that are just right for an adult human being. In 2012, USA agreed that soy protein could replace meat protein in the National School Lunch Program.



Vitamin B₁₂

The importance of Vitamin B₁₂ cannot be neglected as it forms an integral nutrient required for the maturation and formation of RBCs and synthesis of DNA. These are vital body functions and a lack of it can at times lead to megaloblastic anemia which can prove to be fatal. B₁₂ is produced in nature only by certain bacteria and archaea; it is not made by any animal, fungus, or plant. It is synthesized by some gut bacteria in humans and other animals, but humans cannot absorb the B₁₂ made in their guts, as it is made in

Section 2.4 – Impact on health

While people usually consider veganism as a solution for weight loss and detox, veganism holds much more. Veganism in fact provides a healthy alternative for the calorie brimmed meat diet. It satisfies the nutrient need of an individual and at the same time makes him more benevolent towards nature and maintaining an ecological balance. One common motivation for shunning steak and stilton and going vegan is the promised

health benefits. The vegan diet is generally considered to be higher in fiber and lower in cholesterol, protein, calcium and salt than an omnivorous diet – but there are still misconceptions and concerns around cutting meat, fish, eggs and dairy completely from our diets.

3. CONCLUSIONS

While the research suggests that a vegetarian, or in fact a vegan diet would sufficiently substitute a non-vegetarian diet, recent health studies go on to express their distaste for this. They would rather prefer a blend of both types of diets, namely, vegan and non-vegetarian. Months of vegan diet followed by short spans of non-vegetarian diet would not only provide the body necessary supplements but would in fact make the body more resistant to bodily disfunctions. A proper balance of the two would be the most suitable fit for the overall well-being. Hence, instead of demonstrating a rigid shift to veganism, humans should rather emulate an amalgamation in order to have better sustainability.

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