## Editorial

# Vegetarian Diet: A Boon or Bane for Health? 

Varshil Mehta ${ }^{1,2}$<br>1. Editor in Chief, Journal of Medical Research and Innovation 2. MGM Medical College, Navi Mumbai, India.<br>Corresponding details: Email Id: varshil91@gmail.com, Address: 103, Sky High Tower, Orlem Tank Road, Malad West, Mumbai, India.


#### Abstract

In recent times, there have been many pieces of scientific evidence, which suggest that wholesome vegetarian diets offer significant advantages compared to diets containing meat and other foods of animal origin. The benefits range from lower intakes of cholesterol, saturated fats, animal proteins and higher intakes of dietary fiber, vitamin C and E , carotenoids, magnesium, folic acid, and other phytochemicals. However, it is often said that vegetarian diet lacks the nutrients like vitamin B12, proteins, zinc, calcium etc., but if an "Appropriate diet with proper planning" involving supplements is consumed, these deficiencies will never exist. Through the present editorial, I would like to show few benefits of having a vegetarian meal.


Keywords: Vegetarian meal, Cardiovascular diseases, Cataracts, Kidney stones, Hyperlipidemia, Obesity.

## Introduction

A vegetarian diet is a kind of diet that involves little or non-consumption of any meat or its products, including meat from cattle, poultry, and fish and/or any other animal. There are many types of vegetarian diet which exist today, but none follows a specific pattern. This mode of food is gradually gaining popularity all over the world. One of the largest vegetarian communities lives in India ( $35.71 \%$ ). A large percentage of people also thrive on the vegetarian diet in countries like USA (3.78\%), UK (8.57\%), Germany (9.02\%) and Italy (9.67\%). The numbers are shown in figure 1 [1].

Most of the vegetarians follow the vegetarian diet due to their religious beliefs. Most of them follow a strict pattern of veganism, involving the complete abandonment of food associated with animals, including milk, poultry eggs, and other products which are made from animals or its products.

Particularly, Jains (People who follow Jainism) follow an even tougher diet which not only involves strict vegetarian diet but also involves non-consumption of anything which is grown underground such as potatoes and onions.

Below, in figure 2, different and most commonly practiced forms of vegetarian diets are presented with a brief explanation for each of them.

At the moment, various European nutrition advice associations condone that a vegetarian/vegan diet can be harmless and nutritionally sound, if it consists of a balanced diet. However, it should include the intake of dietary supplements, especially during pregnancy and lactation.

As an example, the German Academy of Nutrition and Dietology, recommends an approximate diet of a vegan, which can be used to overcome the problems associated with the deficiency of certain macro- and micro-nutrients [2]. With proper planning, vegetarian diet could be a boon to the health, especially to those who have diseases such as cardiovascular diseases, cataracts, kidney stones, depressive mood etc.


Figure 1. Most common countries practising vegetarian diet.

## Pure Vegetarian

- Consumable: Food of vegetable origin
- Non-consumable: All animal products including eggs, also honey


## Eggetarian / Ovovegetarian

- Consumable: Food of vegetable origin, eggs, milk and its products - Non-consumable: Meat, fish (including other marine animals) and derivatives


## Jain Diet

- Consumable: Food of vegetable, milk and its products.
- Non-consumable: Meat and products of its processing, eggs, anything what is grown below the land like potatoes, onions, garlic etc.
- Consumable: Food of vegetable origin, milk and its products


## Lacto-vegetarian

- Non-consumable: Meat, fish (including other marine animals), eggs and derivatives

Figure 2. Forms of Vegetarian diet.

## Benefits of practising vegetarian meal

Adopting a vegetarian diet can definitely lead to a better health. A vegetarian diet is generally associated with an increase in fiber, folic acid, magnesium, vitamins $C$ and $E$, unsaturated fat, and countless phytochemicals content.

Low risk of diabetes: In a recent meta-analysis conducted by Lee and Park, concluded that a vegetarian diet is inversely proportionate to the risk of developing diabetes [3].

Reduction of blood cholesterol levels: Another such meta-analysis conducted by Wang et al., concluded that vegetarian diets could effectively lower blood concentrations of Total-Cholesterol, Low Density Lipoprotein-C, High Density Lipoprotein-C, and non-High Density Lipoprotein-C [4].

Improvement of Mood: A recent study showed that by restricting meat and its products, mood improvements did happen. This is because that the vegetarian diet has low Arachidonic acid (associated with mood disturbances) [5].

Reduction in risk of developing cataracts and kidney stones: A recent study showed that by replacing the non-vegetarian diet with the vegetarian diet, will result in a higher urine pH and thus low chances of developing kidney stones [6]. Furthermore, a study by the Nuffield Department of Clinical Medicine at the University of Oxford has shown a strong positive association between the risk of developing cataracts and consumption of meat products. Hence, a vegetarian diet could also help in reducing the risk of developing cataracts [7].

Reduction in risk of developing cardiovascular and cancer diseases: Furthermore, a recent metaanalysis by Dinu M et al., concluded that vegetarianism is quite helpful, in reducing the incidence rate of diseases like cardiovascular (reduction in risk by $7 \%$ ) and cancer diseases (reduction by $8 \%$ ). The most important benefit is in reducing the risk of mortality and morbidity of the coronary heart disease (reduction by $25 \%$ ). The study findings are shown in the below table 1 [8].

Also, it should be remembered that those who stick to vegetarianism usually change not only the diet but also the way of life, which means that they often do not have bad habits such as smoking or alcohol abuse and are more physically active, etc [9]. Hence, a vegetarian often have a low cholesterol level, appropriate weight, normal blood pressure, and are less prone to develop cardiovascular and cancer diseases. The benefits are shown in figure 3.

However, there are some concerns as well which needs to be taken care of. Vegetarian meal lacks many nutrients like vitamin B12, zinc, proteins, calcium etc. Hence, it is of utmost importance, that a well planned and appropriate diet plan should be followed. The nutrients which are known to be deficient in the vegetarian meal should be supplemented along with the food in any other form of vitamin B12 capsules. But, as we weigh the benefits vs. risk, vegetarian diet comes out to be a winner for health if the deficient is supplemented along side. One can follow the diet plan as recommended by the German Academy of Nutrition and Dietology, which can be used to overcome the problems associated with the deficiency of certain macro- and micro-nutrients [2].

Vegetarian Diet: A boon or bane for Health?

| Indicator | Number of <br> studies (n) | Number of <br> participants | Relative <br> risk* | p-Value |
| :---: | :---: | :---: | :---: | :---: |
| Mortality (All reasons) | 5 | 66,018 | 0.94 | In-determinant |
| Morbidity/mortality due to cardiovascular <br> diseases or disorders | 4 | 47,757 | 0.93 | 0.07 |
| Incidence or mortality from coronary heart <br> disease | 5 | 65,058 | 0.75 | $<0.001$ |
| Morbidity or mortality from cerebrovascular <br> diseases | 3 | 43,616 | Unreliable | In-determinant |
| Incidence of cancer | 2 | 38,033 | 0.92 | 0.002 |
| Mortality from oncological diseases | 3 | 31,676 | 0.98 | In-determinant |

Table 1. Risk of incidence and mortality among vegetarians compared to the general population according to the Dinu et al study [ 8,9]
(Relative Risk of <1 indicates a lower risk for vegetarians to fall ill or die from diseases)


Figure 3. Benefits of having a vegetarian diet [3]

## Conclusion

A vegetarian diet is a boon to health. It can help a person to have a lower cholesterol level, lower weight, lower blood pressure, and a reduced risk of developing cardiovascular diseases. It also helps in preventing the deadly chronic diseases like diabetes and cancer. It may also help in prolonging the longevity. However, if the diet is not planned properly, it may be proved to be a bane to the health. Hence, more studies should be conducted to prove the beneficial effects of the vegetarian diet. In my opinion, I would suggest everyone to consider a vegetarian diet as an option to the adjuvant therapy if some are at a borderline of developing any of the diseases like diabetes, cardiovascular diseases, kidney stones, hyperlipidemia, and cataracts or is suffering from depression.

## References

1. Leitzmann C. Vegetarian nutrition past, present, future. The American journal of clinical nutrition. 2014;100(Supplement 100):496S-502S.
[View Article] [PubMed] [Google Scholar]
2. Richter M, Boeing H, Grünewald-Funk D. Vegan diet: Position of the German Nutrition Society (DGE). Ernährungs Umsch. 2016;63(4):92-102.
[View Article] [Google Scholar]
3. Lee Y, Park K. Adherence to a Vegetarian Diet and Diabetes Risk: A Systematic Review and Meta-Analysis of Observational Studies. Nutrients. 2017;9(6):603.
[View Article] [PubMed] [Google Scholar]
4. Wang F, Zheng J, Yang B, Jiang J, Fu Y, Li D. Effects of Vegetarian Diets on Blood Lipids: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Journal of the American Heart Association: Cardiovascular and Cerebrovascular Disease. 2015;4(10):e002408. [View Article] [PubMed] [Google Scholar]
5. Beezhold BL, Johnston CS. Restriction of meat, fish, and poultry in omnivores improves mood: a pilot randomized controlled trial. Nutr J. 2012;11:9. [View Article] [PubMed] [Google Scholar]
6. Heilberg IP, Goldfarb DS. Optimum nutrition for kidney stone disease. Adv Chronic Kidney Dis. 2013;20(2):165-74.
[View Article] [PubMed] [Google Scholar]
7. Appleby PN, Allen NE, Key TJ. Diet, vegetarianism, and cataract risk. Am J Clin Nutr. 2011;93(5):1128-35. [View Article] [PubMed] [Google Scholar]
8. Dinu M, Abbate R, Gensini GF, Casini A, Sofi F. Vegetarian, vegan diets and multiple health outcomes: a systematic review with meta-analysis of observational studies. Critical reviews in food science and nutrition. 2017;57(17):3640-9. [View Article] [PubMed] [Google Scholar]
9. Bezsheiko V. The impact of vegetarianism and veganism on health and longevity. Psychosomatic Medicine and General Practice. 2017;2(3):e020340.
[View Article] [Google Scholar]
