Editorial

BECOMING VEGAN - BENEFICIAL OR HARMFUL ?

Zohaib Sadiq[a*], Ahmad Noeman[a], Saqib Shafi Sheikh[a]

[a]Pujab Institute of Cardiology, Lahore.
* Corresponding author:
Email: sadkians@yahoo.com

Submission Date : 06-03-2020
Revision Date: 07-03-2020
Publication Date: 20-03-2020

All authors declare no conflict of interest.

This editorial may be cited as: Sadiq Z, Noeman A, Sheikh SS. Becoming Vegan - Beneficial or Harmful. J Cardiovasc Dis 2020;16(1):1-2

Vegetarianism ; a general term for plant based diet is being adopted for various reasons which include potential health benefits , religious , socio political , ecological and ethical issues related to animal rights. Plant based diets can be grouped into different types.

Vegetarian diet: a diet devoid of all flesh foods but may include egg or dairy products.

Vegan diet: a dietary pattern free from all flesh foods, eggs and dairy products and sometimes honey.

Ovo-vegetarian diets: a diet without flesh foods and dairy foods but includes eggs.

Lacto-ovo-vegetarian diet: a diet devoid of all flesh foods but includes eggs or dairy products.

Raw vegan diet: a strictly fresh and uncooked food intake based on fruits, seeds, nuts and vegetables.

Macrobiotic diet: a strict whole foods, plant based diet that includes fish but no other flesh foods and includes mostly brown rice and whole grain supplemented with local vegetables and seaweed, beans, nuts , seeds and fruits.

Semi-vegetarian diet: a plant based dietary pattern with occasional addition of flesh foods perhaps once or twice weekly.

For potential health benefits, Vegetarian diets are being adopted on grounds of wellness or therapeutic purposes. For wellness, it is adopted when individuals are in good health and do not need any specific alteration or recommendation in diet for health problems. A therapeutic approach differs in a sense that a person needs to adopt a vegetarian or vegan diet as a clinical need for treatment of a health problem or a chronic disease.

Healthier eating and food choices are a growing trend to overcome weight problems. Therapeutic use of vegan diet is effective for treating obesity in both short term (< 1 year) or long term (> 1 year) and may perform better than alternative omnivorous diets for other purpose.[1]

Abdominal obesity, hypertension, diabetes and hyperlipidemia are diet related modifiable heart disease risk factors. Vegetarian diets can improve these , can lower total cholesterol from 7.2 % to 26.6% and low density lipoprotein from 8.7% to 35 %.[2] They also decrease C reactive protein and reduce oxidative stress and protect from plaque formation. So, vegetarian diets can reduce the risk of developing ischemic heart disease. It was estimated that the probability of vegetarians developing cardiovascular diseases at age 55 years was 6.1% compared to 17.9% among age matched omnivores. Vegetarians tend to have a lower body mass index, an additional reduction in risk. Low fat vegans and vegetarian diets combined with other lifestyle

(J Cardiovasc Dis 2020;16(1):1 - 2)

factors like non smoking and weight reduction have been shown to reverse atherosclerosis [3].Results of EPIC – OXFORD study showed that vegans have the lowest rate of hypertension among all diets groups.[4] Vegans and lacto-ovo-vegetarians diets are associated with reduction in type 2 diabetes' risk up to one half as compared to non vegetarian diets[5]. Several studies showed that vegetarian diets can lower cancer risk as compared to non vegetarians diets. Use of antibiotics in animal feed is another area of concern associated with antibiotic resistance.

Adopting a vegan diet is beneficial, however some nutritional aspects should be considered before starting it.

Protein consumed from a variety of plant foods supplies adequate quantity of essential amino acids when caloric intake is met. However lactating and pregnant vegetarian women may need to include additional 25g protein each day. Iron intake among vegetarian men and post menopausal women is adequate however children, premenopausal women and pregnants may consume less iron than recommended daily allowance. Use of iron fortified breads , cereals beans and raisins with good sources of vitamin C like tomatoes and citrus fruits for adequate iron absorption and cooking in cast iron pans may prove to be a factor in iron deficiency prevention. Vegetarians and especially vegans have low zinc intakes and status.[6] There is recommendation of 50 % more intake in vegans as compared to non vegetarians due to presence of zinc absorption inhibitors in plant foods. Calcium intake in vegans is consistently lower than recommended intake. Vegetarians especially vegans have lower bone mineral density as compared to non vegetarians. One prospective study showed that vegans with calcium intake less than 525mg/day had 25 % higher risk of bone fracture.[7] Lacto-ovo-vegetarians show a relatively high intake of calcium often exceeding the recommendations. Calcium can be found in dairy products, legumes , spinach, broccoli , calcium fortified foods etc. If intake is low , well absorbed calcium supplements can be recommended in divided dozes. Vitamin D deficiency is also reported among vegetarian children and adults[8]. Obtaining adequate vit D from fortified foods is challenging as few plant foods are fortified with this. Vitamin D supplements are helpful in these situations. Vitamin B12 status is the most compromised among vegans [9]. Vegetarians can decrease their risk of developing circulatory health problem by ensuring adequate intake of vitamin B12 which is associated with arterial epithelial function and better blood flow. Also, vitamin B12 is essential in reducing homocystein which is independent risk factor for heart diseases. Prevalence of vitamin B12 deficiency is 43% to 88% in vegans. It is recommended that vegetarians regardless of the type of diet they adhere to , should take vitamin B12 supplements. Vegetarianism is associated with eating disorder among adolescents and young adults, they were more likely to engage in binge eating with loss of control. Older adults and elderly may get benefit in prevention of heart disease and obesity by adopting vegetarian diets and also are less prone to develop iron deficiency , but they have a higher risk of developing vitamin B 12 deficiency due to decrease in intrinsic factor.

To conclude, well designed vegan or vegetarian diet can provide adequate nutrition for both wellness and disease prevention as a therapeutic use. Vegetarians may have risk for developing some nutritional deficiencies especially vitamin B 12 deficiency that can be rectified by taking supplements and also these deficiencies are not the main cause of mortality and morbidity as compared to cardiovascular diseases that can be prevented by adopting a vegetarian diet .

REFERENCES

1) Turner-McGrievy GM, Barnard ND, Scialli AR. A two-year randomized weight loss trial comparing a vegan diet to a more moderate low-fat diet. Obesity. 2007; 15(9):2276-2281.
2) Ferdowsian HR, Barnard ND. Effects of plant-based diets on plasma lipids. Am JCardiol. 2009;104(7):947-956.
3) Ornish D, Brown S, Scherwitz L, et al. Can lifestyle changes reverse coronary heart disease? Lancet. 1990;336(8708):129-133.
4)Appleby PN, Davey GK, Key TJ. Hypertension and blood pressure among meat eaters, fish eaters, vegetarians and vegans in EPIC-Oxford. Public Health Nutr. 2002; 5(5):645-654.
5)Tonstad S, Butler T, Yan R, Fraser GE. Type of vegetarian diet, body weight, and prevalence of type 2 diabetes. Diab Care. 2009;32(5):791-796.
6) Foster M, Chu A, Petocz P, Samman S. Effect of vegetarian diets on zinc status: A systematic review and meta-analysis of studies in humans. J Sci Food Agric 2013;(15). 93:2362-2371.
7) Appleby P, Roddam A, Allen N, Key T. Comparative fracture risk in vegetarians and nonvegetarians in EPIC-Oxford. Eur J Clin Nutr. 2007;61(12):1400-1406.
8). Plasma concentrations of 25-hydroxyvitamin D in meat eaters, fish eaters, vegetarians and vegans: Results from the EPIC-Oxford study
9) Pawlak R, Parrott SJ, Raj S, CullumDugan D, Lucus D. How prevalent is vitamin B12 deficiency among vegetarians? Nutr Rev. 2013;71(2):110-117.