

Veganism and Oral Health: A Way of Living

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Dear Editor,

Veganism entails a way of living that commits an individual to only plant-based substitutes and eliminates animal exploitation and cruelty. Veganism is often motivated by ethical, environmental, and health concerns. Many people believe that it is wrong to use and exploit animals for human purposes, and that veganism is the most ethical way to live. Additionally, the impact of animal agriculture on the environment and the health benefits bought about by a plant-based diet are often cited as reasons for adopting a vegan lifestyle.

Veganism encompasses a larger philosophy that influences not only dietary choices, but other aspects of life, such as apparel, cosmetics, and entertainment. It entails making decisions that prioritize the health of people, the environment, and animals. Non-vegans describe veganism in a variety of ways, frequently focusing on the foods that vegans avoid. However, vegans typically refer to veganism as a political philosophy denying animals as commodities or as a component of an environmentally sustainable ideology.¹⁻³ Although many people view being a vegan as radical, veganism is progressively gaining popularity not only in Western nations but also in other cultures throughout the world.^{4,5} However, the political, collective, and social movement facets of veganism receive little attention from academics. To comprehend and practice an environmentally sustainable way of life, it is crucial to have a broad grasp of veganism on an ideological and societal level.

It is possible to understand the intersectional justice movement's opposition to speciesism and animal exploitation as well as the vegan identity as a single social group that opposes the status of animals as products.⁶ According to the social identity concept, our group memberships and the social groups we believe we belong to have a big impact on how we view ourselves and the world.⁷ Some social classifications and group affiliations become prominent in our daily lives as we interpret the world through those classifications.⁸ As a result, when appropriate, our beliefs and actions in all social circumstances will be influenced by our identity as members of the social category of vegans.

Numerous social psychology research projects on veganism or vegans focus on vegans as a marginalized stigmatized group and explore the causes of vegan stigma using a critical discourse framework.⁹⁻¹¹ For instance, it was shown that vegans were branded and labeled as unrealistic sentimentalists, fanatics, or radicals using a discourse analysis that critically evaluated vegaphobia in the UK newspapers.¹²

Numerous studies show that vegans who consume diets high in dietary fiber have healthier body weights than omnivores do, lower blood sugar levels than omnivores do, lower cholesterol levels than omnivores do, and lower blood pressure levels than omnivores

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do.¹³⁻¹⁶ A plant-based diet can lower the risk of many chronic diseases and mortality since it is anti-inflammatory.^{17,18} Additionally, a plant-based diet appears to stimulate the growth of a stronger gut bacteria system.^{19,20} Diets that are based solely on plants thereby lower the risk of gastrointestinal disease. Nevertheless, a deficiency in vitamins D and B12 has been linked to osteoporosis, a higher risk of fracture, and low bone mineral density.²¹ People who follow a vegan diet, which focuses on eating solely things derived from plants, have grown in number dramatically in recent years. A plant-based diet can be adopted at any stage of life when it is carefully planned. Vegan diets that cut out one or more food groups and limit calories. To prevent long-term micronutrient deficiencies, vegans should carefully control their dietary intake of all micronutrients by adding supplements. One should consult a doctor and a nutritionist for advice, and if necessary, take supplements, to ensure that you are getting enough vitamin B12, vitamin D, calcium, and iron. Modern dietary recommendations and research must be followed so that vegans adhere to medical specialists.

One could argue that being a vegan is more than just a way of life; rather, it is a social movement opposed to the exploitation of animals (including people) and the environment.^{8,22} Diet is one way that activists can showcase and act out their activist character.²³ Michael Pollan, a political activist, emphasizes how people engage in political activity through forking food, saying, "The nice thing about food is that you get three votes a day. Each of them has the power to transform the world. Thus, veganism can be viewed as a tool for political goals and behaviors and as a means of bringing about societal change."²⁴ A retrospective study conducted by Nur Liyana Hannah Bintilzham Akmal et al. reported that the majority of temporomandibular disorders (TMD) patients were on the mixed diet (65.38%) as compared to 34.62% of the vegetarian population. A significant association between dietary habits and temporomandibular joint (TMJ) disorders were noted.²⁵

It has been mentioned that being a vegan and being veganism goes beyond simply choosing a plant-based diet to include veganism as an identity trait that influences behaviors and beliefs that are dependent on social identification norms. It is likely to depend on the social environment whether veganism is a component of a social identity or a social identity in and of itself. For instance, being a vegan can be a component of your social identity. Veganism can also be a component of your identity as an animal rights activist if you reject all types of animal abuse. Importantly, being vegan is more than just a culinary preference or identity because it encompasses social principles and standards. What constitutes veganism may vary depending on the dominant social identity, such as those associated with feminism, ecology, or animal rights. Furthermore, being vegan involves acting in a way that considers others as well as oneself and one's own group.

Implication on Oral Health

Veganism impacts oral health both positively and negatively. The metanalysis of Smits KPJ et al. reported 21 papers on oral health among vegans. Vegans are associated with a greater odd of dental erosion (OR 2.40; 95% CI: 1.24–4.66) significant at $p = 0.009$. As vegans may opt for starchy, sugar-based carbohydrates which can result in demineralization. Also, vegans might need to eat at frequent intervals to meet their daily calorie intake. This increases the frequency of acid exposure as compared to their mixed diet cohorts. Additionally, an increased fruit and vegetable intake also reduces salivary pH which leads to erosion of tooth surfaces. This could further get accentuated by drinking hot water or lemon.²⁶

A vegan diet can also impact the TMJ indirectly. The TMJ is the joint that connects the jawbone to the skull, and its health can be influenced by various factors, such as genetics, oral habits, stress, trauma, and certain medical conditions.^{27–30} Temporomandibular joint problems can significantly affect a person's oral health-related quality of life and subsequently be an economic burden.^{31,32} Vegan diets often involve a diverse range of plant-based foods, which may vary in texture. Chewing certain foods, such as tough vegetables, nuts, or seeds, can exert more force on the TMJ. If excessive stress is placed on the TMJ during chewing, it could potentially contribute to jaw discomfort or exacerbate existing TMJ issues. Prolonged or frequent chewing of rough or chewy plant-based foods may also stress the TMJ. The jaw musculature can become tense due to stress and tension, which can result in TMJ problems like pain, clicking, or trouble opening and closing the mouth.

The TMJ may also have an indirect effect from specific nutrient deficiencies.³³ Vegan diets that are well-balanced can include all the nutrients required to maintain good oral health. Animal products are a typical source of several nutrients such as omega-3 fatty acids, calcium, vitamin D, and vitamin B12. Low levels of calcium or vitamin D may harm bone health, surrounding the TMJ. Temporomandibular joint issues may be exacerbated by weakened or damaged bones.^{34,35}

Additionally, certain people may have inflammatory disorders that affect the joints, including TMJ. Though not specific to veganism, certain autoimmune diseases like rheumatoid arthritis or systemic diseases like lupus can induce inflammation and perhaps harm the TMJ. It is however important to remember that both vegans and non-vegans can have these problems due to trauma, stress, oral habits, and occlusion. While the diet itself may not directly cause stress, adopting a vegan lifestyle that promotes mindfulness, stress management, and overall well-being can be

beneficial for managing muscle tension and reducing the risk of TMJ-related problems.

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