

# Answers to Heather's Questions

2024-04-14

## Question 1: *Can dietary changes affect psoriasis?*

Based on the literature reviewed, dietary changes can indeed affect psoriasis, offering potential therapeutic benefits alongside conventional treatments. Several studies and reviews have explored the impact of various dietary interventions on psoriasis, highlighting the role of specific nutrients, dietary patterns, and supplements in managing this chronic inflammatory skin condition.

- 1. Omega-3 Fatty Acids:** Omega-3 polyunsaturated fatty acids (PUFAs), particularly those from fish oil like eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), have been shown to possess potent immunomodulatory activities. These fatty acids can modulate the amount and types of eicosanoids produced, affecting inflammatory processes and potentially benefiting individuals with psoriasis. Dietary supplementation with omega-3 fatty acids has been associated with decreased disease activity and a reduced need for anti-inflammatory drugs in several inflammatory and autoimmune diseases, including psoriasis[1][2][3][4].
- 2. Vitamin D and Omega-3 Fatty Acid Supplementation:** A randomized controlled trial, the VITAL study, investigated the effects of vitamin D (2000 IU/day) and omega-3 fatty acids (1000 mg/day) on autoimmune disease incidence, including psoriasis. The study found that vitamin D supplementation, with or without omega-3 fatty acids, reduced the incidence of autoimmune diseases by 22%, suggesting a potential benefit for psoriasis patients[5].
- 3. Dietary Patterns:** The Mediterranean diet, characterized by a high intake of fruits, vegetables, whole grains, and healthy fats, including omega-3 fatty acids, has been associated with protective effects against chronic inflammatory diseases. This diet's anti-inflammatory properties may benefit individuals with psoriasis. Additionally, weight management through dietary changes is crucial, as obesity is a known risk factor for psoriasis and can exacerbate the disease's severity[6][7].
- 4. Gluten-Free Diet:** For individuals with psoriasis and non-celiac gluten sensitivity, a gluten-free diet may offer improvements. The review by Bell KA et al. suggests that a gluten-free diet may benefit certain dermatologic conditions, including psoriasis, especially for patients who are seropositive for antigliadin antibodies[8].
- 5. Nutritional Therapy:** Nutritional therapy focusing on low-energy diets, increased intake of vegetables, fruits, whole grains, legumes, and omega-3 fatty acids, while avoiding alcohol, animal fats, red meat, and highly processed foods, has been recommended for individuals suffering from psoriasis. Tailoring the diet to individual patient needs can positively affect the course of psoriasis and its comorbidities[9].

In summary, dietary changes can indeed affect psoriasis, with evidence supporting the benefits of omega-3 fatty acids, vitamin D supplementation, Mediterranean and gluten-free diets, and general nutritional therapy in managing this condition. While these dietary interventions show promise, they should complement, not replace, conventional pharmacologic treatments. Further research is needed to establish more specific dietary guidelines and understand the mechanisms through which diet impacts psoriasis.

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## Question 2: What are the pros and cons of consuming non-pasteurized milk vs. pasteurized?

[Raw Output](#)

Consuming non-pasteurized (raw) milk and pasteurized milk each come with their own set of advantages and disadvantages, based on evidence from various studies and reviews.

### Pros of Non-Pasteurized Milk:

- 1. Nutritional Content:** Non-pasteurized milk is believed to retain more natural enzymes, vitamins, and minerals than pasteurized milk, as the heat treatment during pasteurization can reduce or alter the nutritional content of milk [2].
- 2. Probiotic Benefits:** Raw milk can contain beneficial bacteria that are good for the gut microbiome. These probiotics are often lost during the pasteurization process [2].
- 3. Potential for Allergy Reduction:** Some studies suggest that consumption of raw milk may be associated with a reduced risk of childhood asthma, allergies, and respiratory infections [3].

### Cons of Non-Pasteurized Milk:

- 1. Risk of Bacterial Infections:** Raw milk can serve as a vector for zoonotic transmission of diseases, such as bovine tuberculosis (bTB), Listeria, Salmonella, Brucella, and E. coli, which can pose significant health risks, especially to vulnerable populations like infants, pregnant women, the elderly, and immunocompromised individuals [4][5].
- 2. Inconsistency in Safety:** The safety of raw milk can vary significantly depending on the source, with risks of contamination from the environment, handling, and storage practices [5].

### Pros of Pasteurized Milk:

- 1. Reduced Risk of Pathogen Transmission:** Pasteurization effectively kills harmful bacteria and pathogens present in raw milk, significantly reducing the risk of foodborne illnesses and infections [6].
- 2. Longer Shelf Life:** Pasteurized milk has a longer shelf life than raw milk due to the elimination of microbes that can cause spoilage, making it more suitable for storage and transport [6].
- 3. Regulatory Standards:** Pasteurized milk is subject to strict regulatory standards for safety and quality, providing consumers with a consistent and reliable product [6].

### Cons of Pasteurized Milk:

- 1. Loss of Nutrients:** The pasteurization process can lead to the loss of some vitamins, minerals, and beneficial enzymes present in raw milk [2].
- 2. Absence of Probiotics:** Beneficial bacteria are also destroyed during pasteurization, which means pasteurized milk does not offer the same probiotic benefits as raw milk [2].
- 3. Allergic Reactions:** While not directly a con of pasteurization itself, individuals with allergies to milk proteins may still experience allergic reactions to pasteurized milk [3].

In conclusion, the choice between consuming non-pasteurized and pasteurized milk depends on weighing the nutritional and probiotic benefits of raw milk against the safety and regulatory assurances provided by pasteurization. Consumers should consider their health status, access to high-quality raw milk, and personal preferences when making this decision. Further research and advancements in milk processing technologies may help to mitigate some of the cons associated with each type of milk.

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**Question 3:** *Is there a significant difference in the nutritional content and effects on the body of consuming grass fed beef versus CAFO beef?*

The evidence provided from various studies highlights significant differences in the nutritional content and effects on the body between consuming grass-fed beef versus CAFO (Concentrated Animal Feeding Operations) beef. Grass-fed beef is reported to have a more favorable fatty acid profile, including higher levels of omega-3 polyunsaturated fatty acids (PUFAs), conjugated linoleic acid (CLA), and a lower ratio of omega-6 to omega-3 fatty acids compared to grain-fed beef from CAFOs [1][2][3][4][5][6][9][13][20]. These differences are attributed to the diets fed to the cattle, with grass-fed cattle consuming a more natural, forage-based diet rich in compounds that lead to the production of these beneficial fatty acids.

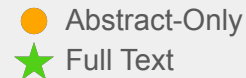
Grass-fed beef also contains higher levels of certain vitamins and antioxidants, such as vitamin E, which contribute to its health benefits, including potentially lower risks for cardiovascular disease (CVD) [6][14][18]. The consumption of grass-fed beef has been linked to increased plasma and platelet levels of n-3 PUFAs in humans, which are beneficial for heart health [20]. Conversely, beef from CAFOs, which are typically grain-fed, has been shown to have higher levels of saturated fats and may contribute to higher cholesterol levels, although the evidence suggests that the impact on CVD risk factors may not be significantly different when comparing low-oleic acid and high-oleic acid ground beef [18].

Moreover, the method of raising cattle (grass-fed vs. grain-fed) not only affects the nutritional quality of the beef but also influences the ecological impact and the overall sustainability of beef production. Grass-fed systems are generally considered more environmentally friendly and sustainable compared to CAFOs, which have been associated with higher environmental and ecological risks [8][19].

However, it's important to note that despite the nutritional advantages of grass-fed beef, the consumption of any type of red meat should be balanced within the context of a healthy diet. Excessive consumption of red meat, regardless of its feeding regimen, has been linked to various health issues, including an increased risk of certain cancers and chronic diseases [18].

In summary, grass-fed beef offers a healthier nutritional profile, with higher levels of beneficial fatty acids, vitamins, and antioxidants, which may contribute to a lower risk of cardiovascular diseases. These differences are attributed to the natural, forage-based diet of grass-fed cattle. While the consumption of grass-fed beef can be part of a healthy diet, moderation is key to maintaining overall health.

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