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Research Article

Nutritional Factors To Control Vitiligo: An Autoimmune Disorder.

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Short title: Dietary influence on Vitiligo.

Abstract

Vitiligo is a chronic autoimmune disorder characterized by the loss of melanocytes, the cells responsible for producing melanin, the pigment that gives skin, hair, and eyes their color. This loss results in the appearance of white patches on the skin, which can vary in size and location. The exact cause of vitiligo remains unclear, but genetic predisposition, environmental factors, and oxidative stress and auto immunity are believed to play crucial roles. The autoimmune component means the body's immune system when attacks its own melanocytes and kills the cells, vitiligo appears. Here we will discuss the link of nutrition, if any, has any role to control the disease when there is no such cure present at this time.

Keywords: Tyrosinase. Melanogenesis, Autiimmunity, Vitiligo, Nutrients.

INTRODUCTION

Vitiligo, an autoimmune skin disorder linked to hormonal and genetic factors, results in reduced pigmentation due to a gradual decline of the pigment producing cell, melanocytes [1-6]. The potential link between diet and vitiligo, in its severity or progression have been suggested [7,8]. Here we will discuss that issue in details with pros and cons of the melanocyte activity under the influence of different nutritional factors and diet patterns. This systematic review deals with the comprehensive search of the issue on PubMed, Google Scholar, and European PMC studies.

A: What is the Skin Pigmentation or Melanogenesis?

Skin pigmentation (melanogenesis) is driven by melanocytes, present in the basal layer of the epidermis [9,10]. Synthesized melanin are packaged into a specialized organelles called melanosomes before they are transferred to surrounding "keratinocytes" through cellular extensions known as dendrites [11, 12].

The production of melanin is triggered by various factors including sun exposure [13]. The melanin pigment is a polymer, synthesized from L-tyrosine amino acid, by the key enzyme, tyrosinase [9]. Besides tyrosinase there are two other important enzymes involved in the synthesis of melanin, and they are TRP-1 and TRP-2 [10]. Disruptions of any of the above factors can lead to pigmentation disorders like hyperpigmentation or hypopigmentation [14]. While genetics are the major factor, diet can also play an effective role in the regulation of melanogenesis [15, 16]. Here, we discuss several issues regarding "what and how" nutrients can help pigmentary disorders.

A-1: Melanogenesis Pathway in the Skin: Melanogenesis is the biological process responsible for melanin production in the skin, primarily within melanocytes located in the epidermis. This process synthesizes two types of melanin: eumelanin (brown–black) and pheomelanin (yellow–red), which protect the skin from harmful UV radiation. Melanogenesis is regulated by both intrinsic factors (e.g., hormones, cytokines) and extrinsic factors (e.g., UV radiation) [9, 16- 18]. Key signaling pathways involved include cAMP, p53, ERK/MAPK, and PI3K/Akt [19, 20]. Enzymes like tyrosinase and tyrosinase-related proteins (TRP-1, TRP-2) are the main factors to synthesize melanin from L-tyrosine [10, 21]. Transcription factors such as MITF regulate the expression of these enzymes [22, 23].

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UV exposure induces DNA damage, leading to the release of α-MSH, which binds to MC1R on melanocytes, activating the steps for melanogenesis [24-26]. Dysregulation of this process can result in the pigmentation disorders like melasma or contribute to the development of skin cancer, melanoma [27-29]. Understanding these pathways is crucial for developing the therapies for the treatment of vitiligo (hypopigmentation) or hyperpigmentation.

A-2: *Understanding of Oxidative Stress in Vitiligo.* Understanding of oxidative stress in vitiligo involves recognizing how an imbalance between damaging free radicals and the body's natural defenses can affect skin pigment. When oxidative stress is high, melanocytes become more fragile and susceptible to damage [30].

Diet plays a role to resist this damage because antioxidants presents in diet help to neutralize the free radicals. Certain foods contain compounds that support the cellular repair, and deficiencies of certain nutrients can worsen oxidative imbalance.

B: The Potential Link Between Diet and Vitiligo:

B-1: Does Diet Affect Vitiligo? Diet, on its own, isn't a direct cause of vitiligo, and neither a cure. However, research increasingly suggests a correlation between dietary habits and the severity or progression of the disease [31]. The link centers primarily on the following:

- **Oxidative Stress:** As mentioned above, vitiligo is associated with increased oxidative stress in the body. Fruits and vegetables, those rich in vitamins A, C, and E, are good to be consumed [32, 33]. Foods like berries, spinach, kale, citrus fruits, nuts, and seeds are also should be included in diet [32]. Spices like turmeric and ginger, known for their antioxidant and anti-inflammatory properties, are noted to be considered [34, 35].
- **Inflammation:** Chronic inflammation can exacerbate autoimmune conditions like vitiligo [36, 37]. Certain foods can promote inflammation, while others have anti-inflammatory properties. Identifying and avoiding pro-inflammatory foods can be a helpful strategy [38]. Processed foods, refined sugars, and unhealthy fats (trans fats and saturated fats) are to be avoided [39]. Further, food that may cause allergies, as these can trigger inflammation, are not to be taken by the vitiligo victims [39]. Some individuals found that avoiding gluten or dairy products reduces inflammation [40].
- **Nutrient Deficiencies:** Some studies suggest that individuals with vitiligo may have deficiencies in certain nutrients, such as Vitamin D, Vitamin B12, folic acid, copper, zinc, and iron [32]. Addressing these deficiencies through diet or supplementation may support melanocyte function and overall health.
  - **Vitamin B12 and Folic Acid:** These nutrients play a role in melanocyte function [32].
  - **Antioxidants:** Supplements like Vitamin C, Vitamin E, and alpha-lipoic acid may help reduce oxidative stress [41].
  - **Minerals:** Copper, zinc, and selenium are essential for various bodily functions, including immune function and pigment production [42].

B-2: Gut Health: The gut microbiome plays a crucial role in immune function [43]. An imbalanced gut microbiome (dysbiosis) can contribute to inflammation and autoimmune responses [44]. Diet significantly influences the composition of the gut microbiome are pro-inflammatory foods, like processed foods, refined sugars, and unhealthy fats (trans fats and saturated fats) [45-47]. Potential food allergies can trigger inflammation, also [48, 49].

- **Prioritize Nutrient-Dense Foods:**
  - Whole, unprocessed foods that provide essential vitamins and minerals.
  - Lean protein sources like fish, poultry, beans, and lentils.
  - Healthy fats from sources like olive oil, avocados, and fatty fish.

B-3: Support Gut Health:

- Probiotic-rich foods like yogurt, kefir, sauerkraut, and kimchi promote a healthy gut microbiome.
- Prebiotic foods like garlic, onions, bananas, and asparagus feed beneficial gut bacteria.
- Fiber-rich foods help to create a balanced gut environment.

B-4: Supplements are Necessary:

Addressing nutritional deficiencies through diet alone can sometimes be challenging. In such cases, supplementation may be beneficial. However, it's crucial to consult with a healthcare professional or registered dietitian before starting any new supplements. Self-treating with supplements can be harmful. Potentially helpful supplements include: vitamin D, vitamin B12, folate, zinc, or copper [32, 39]. These supplements do not reverse vitiligo but can improve overall health, support immune function, and contribute to skin resilience. Any supplementation should be medically supervised, age-appropriate, and balanced with dietary intake to prevent overdosing or interactions.

C: Diet for Children with Vitiligo [32, 50]:

Children often respond better to lifestyle patterns rather than strict regimens, however:

- A variety of fruits and vegetables are recommended.
- It is better to avoid strict diet rules unless medically

necessary.
- Any supplements should be used upon medical advice.

D: The Importance of Personalized Approach:
- **Working with a healthcare professional or registered dietitian:** They can assess your individual needs, identify potential nutrient deficiencies, and develop a tailored dietary plan [51-53].
- **Keeping a food diary:** This can help you track your food intake and identify potential triggers [51-53]..
- **Monitoring your symptoms:** Pay attention to how your skin reacts to different foods and supplements.
- **Considering food sensitivity testing:** If you suspect food sensitivities, testing may help you identify specific foods to avoid.

DISCUSSIONS

Vitiligo is an autoimmune condition that typically requires medical treatment, however, as of yet, there is no such cure available [1-6]. Though diet one cannot cure vitiligo but it can manage the disease through the antioxidant and anti-inflammatory food constituents present in them [8]. However, there's no one-size-fits-all "vitiligo diet." A balanced, nutrient-rich diet is generally recommended [8]. Stress management, sun protection, and regular exercise are also important for managing vitiligo [54].

Food allergies or sensitivities can trigger inflammation and potentially worsen vitiligo symptoms. Identifying and avoiding these triggers can be helpful [55]. While food supplements can be beneficial to manage vitiligo, it is crucial to consult with a healthcare professional before hand to ensure that they are safe and appropriate for the individual. Since stress can exacerbate vitiligo, certain foods and nutrients, such as, those are rich in magnesium and B vitamins, may help support stress management. Therefore, a balanced diet, coupled with stress-reduction techniques, is important. Improving gut health through diet can help vitiligo. Probiotic-rich foods, prebiotic foods, and fiber-rich foods are good in this sense. Limiting processed foods and refined sugars is also important to consider in your diet.

In brief, for the vitiligo victims, the key nutrients include vitamins A, C, D, and E, B vitamins (especially B12 and folic acid), and minerals like copper, zinc, and selenium. A balanced diet rich in these nutrients is recommended.

Abbreviations

TRP-1: Tyrosinase-related protein 1,
TRP-2: Tyrosinase-related protein 2, (Dopachrome tautomrase)
MITF: Microphthalmia-associated Transcription Factor."
MC1-R: Melanocortin 1 Receptor."

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Consent for publications

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Ethical Approval

Not applicable

REFERENCES

1. American Academy of Dermatology. Vitiligo: An Overview (https://www.aad.org/public/diseases/a-z/vitiligo-treatment). Accessed 11/23/2022.

2. American Osteopathic College of Dermatology. Vitiligo (https://www.aocd.org/page/Vitiligo). Accessed 11/23/2022.

3. Genetics Home Reference. Vitiligo (https://medlineplus.gov/genetics/condition/vitiligo/). Accessed 11/23/2022.

4. Grimes PE, Miller MM. Vitiligo: Patient stories, self-esteem, and the psychological burden of disease (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5986114/). Int J Womens Dermatol. 2018;4(1):32-37. Accessed 11/23/2022

5. National Organization for Albinism and Hypopigmentation. About Hypopigmentation (https://www.albinism.org/about-hypopigmentation). Accessed 11/23/2022.

6. Rosmarin D, Passeron T, Pandya AG, et al. Two Phase 3, Randomized, Controlled Trials of Ruxolitinib Cream for Vitiligo (https://pubmed.ncbi.nlm.nih.gov/36260792/). N Engl J Med. 2022 Oct 20;387(16):1445-1455. Accessed 11/23/2022.

7. Hewitt M, Pandher K, Prabhu I, Pourang A, Elbuluk N, Huggins RH, "The Role of Nutrition, Supplements, and the Gut Microbiome in Vitiligo: This article provides an overview of the available research on the role of nutrition and the gastrointestinal microbiome in vitiligo. Increased oxidative stress and inflammation are potential mechanisms"., JOID, vol. 1, no. 1, Jan. 2025, doi: 10.64550/joid.pmgw1x89.

8. Dutta RR, Kumar T, Ingole N. Diet and Vitiligo: The Story So Far. Cureus. 2022 Aug 28;14(8):e28516. doi: 10.7759/cureus.28516..

9. Schlessinger DI, Rahimi N, Schlessinger J. Biochemistry, Melanin. [Updated 2025 Jul 14]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2026 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK459156/

10. Wang F, Ma W, Fan D, Hu J, An X and Wang Z The biochemistry of melanogenesis: an insight into the function and mechanism of melanogenesis-related proteins. Front. Mol. Biosci. 2024; 11:1440187. doi: 10.3389/fmolb.2024.1440187

11. Bao M, Gempeler M, Campiche R. Melanosome Transport and Processing in Skin Pigmentation: Mechanisms and Targets for Pigmentation Modulation. Int J Mol Sci. 2025 Sep 4;26(17):8630. doi: 10.3390/ijms26178630.

12. Benito-Martínez S, Salavessa L, Raposo G, Marks MS, Delevoye C. Melanin Transfer and Fate within Keratinocytes in Human Skin Pigmentation. Integr Comp Biol. 2021 Oct 14;61(4):1546-1555. doi: 10.1093/icb/icab094.

13. Guermazi D, Saliba E. The Genetics and Evolution of Human Pigmentation. Biology (Basel). 2025 Aug 10;14(8):1026. doi: 10.3390/biology14081026.

14. Lee AY. Skin Pigmentation Abnormalities and Their Possible Relationship with Skin Aging. Int J Mol Sci. 2021 Apr 2;22(7):3727. doi: 10.3390/ijms22073727.

15. Watson AE, Yusuf N. The Influence of Dietary Factors on Melanoma Development and Progression: A Comprehensive Review. Nutrients. 2025 May 31;17(11):1891. doi: 10.3390/nu17111891.

16. Hong S, Lim H, Kim DH. Biological Roles of Melanin and Natural Product-Derived Approaches for Its Modulation. Int J Mol Sci. 2026 Jan 8; 27(2): 653. doi: 10.3390/ijms27020653.

17. Videira IF, Moura DF, Magina S. Mechanisms regulating melanogenesis. An Bras Dermatol. 2013 Jan-Feb;88(1):76-83. doi: 10.1590/s0365-05962013000100009.

18. Byun, Kyunghee. (2025). Melanogenesis Pathway in the Skin. 10.1007/978-981-95-0233-2_4.

19. Hida T, Kamiya T, Kawakami A, Ogino J, Sohma H, Uhara H, Jimbow K. Elucidation of Melanogenesis Cascade for Identifying Pathophysiology and Therapeutic Approach of Pigmentary Disorders and Melanoma. Int J Mol Sci. 2020 Aug 25;21(17):6129. doi: 10.3390/ijms21176129.

20. D'Mello SA, Finlay GJ, Baguley BC, Askarian-Amiri ME. Signaling Pathways in Melanogenesis. Int J Mol Sci. 2016 Jul 15;17(7):1144. doi: 10.3390/ijms17071144.

21. Bold Purity. Melanogenesis Explained: How Skin Produces Melanin & What Controls It. May 24, 2026. https://boldpurity.com/blogs/skin-science-journal/melanogenesis-skin-pigmentation?srsltid=AfmBOoqA-S7M8-N-DMKMdwuvwEEvQSCI5KzPx2-sufBReIEtdvN-6jMZjO

22. Yasumoto K, Yokoyama K, Takahashi K, Tomita Y, Shibahara S. Functional analysis of microphthalmia-associated transcription factor in pigment cell-specific transcription of the human tyrosinase family genes. J Biol Chem. 1997 Jan 3;272(1):503-9. doi: 10.1074/jbc.272.1.503.

23. Marie-Jeanne Pierrat, Véronique Marsaud, Alain Mauviel, Delphine Javelaud,Transcriptional repression of the tyrosinase-related protein 2 gene by transforming growth factor-β and the Kruppel-like transcription factor GLI2,Journal of Dermatological Science, 2019; 94(3): 321-329,https://doi.org/10.1016/j.jdermsci.2019.04.001.

24. Chen H, Weng QY, Fisher DE. UV signaling pathways within the skin. J Invest Dermatol. 2014 Aug;134(8):2080-2085. doi: 10.1038/jid.2014.161.

25. Sarkar S, Gaddameedhi S. Solar ultraviolet-induced DNA damage response: Melanocytes story in transformation to environmental melanomagenesis. Environ Mol Mutagen. 2020 Aug;61(7):736-751. doi: 10.1002/em.22370.

26. Sun X, Zhang N, Yin C, Zhu B and Li X (2020) Ultraviolet Radiation and Melanomagenesis: From Mechanism to Immunotherapy. Front. Oncol. 10:951. doi: 10.3389/fonc.2020.00951

27. Maddaleno AS, Camargo J, Mitjans M, Vinardell MP. Melanogenesis and Melasma Treatment. Cosmetics. 2021; 8(3):82. https://doi.org/10.3390/cosmetics8030082

28. Slominski RM, Sarna T, Płonka PM, Raman C, Brożyna AA, Slominski AT. Melanoma, Melanin, and Melanogenesis: The Yin and Yang Relationship. Front Oncol. 2022 Mar 14;12:842496. doi: 10.3389/fonc.2022.842496.

29. Miao F, Wan J, Zhou Y, Shi Y. Unraveling Melasma: From Epidermal Pigmentation to Microenvironmental Dysregulation. Biology (Basel). 2025 Oct 13;14(10):1402. doi: 10.3390/biology14101402.

30. Xuan Y, Yang Y, Xiang L, Zhang C. The Role of Oxidative Stress in the Pathogenesis of Vitiligo: A Culprit for Melanocyte Death. Oxid Med Cell Longev. 2022 Jan 22;2022:8498472. doi: 10.1155/2022/8498472.

31. Lobo V, Patil A, Phatak A, Chandra N. Free radicals, antioxidants and functional foods: Impact on human health. Pharmacogn Rev. 2010 Jul;4(8):118-26. doi: 10.4103/0973-7847.70902.

32. Dutta RR, Kumar T, Ingole N. Diet and Vitiligo: The Story So Far. Cureus. 2022 Aug 28;14(8):e28516. doi: 10.7759/cureus.28516.

33. Eternity Hospital. Vitiligo Diet Plan: Best Foods to Eat, Foods to Avoid & Expert Nutrition Guide. Accessed on June 24, 2026.https://www.hospitaleternity.com/healthy-skin-diet-for-vitiligo/

34. Jalalmanesh S, Mansouri P, Rajabi M, Monji F Therapeutic effects of turmeric topica/ cream in vitiligo: A randomized. double-blind. placebo-contro/led pilot study. J Cosmet Dermatol. 2022 Oct.27(70): 4454-4467.

35. Yang L, Yang F, Teng L, Katayama I. 6-Shogaol Protects Human Melanocytes against Oxidative Stress through Activation of the Nrf2-Antioxidant Response Element Signaling Pathway. Int J Mol Sci. 2020 May 16;21(10):3537. doi: 10.3390/ijms21103537.

36. Chang WL, Lee WR, Kuo YC, Huang YH. Vitiligo: An Autoimmune Skin Disease and its Immunomodulatory Therapeutic Intervention. Front Cell Dev Biol. 2021 Dec 14;9:797026. doi: 10.3389/fcell.2021.797026.

37. Hu Z, Wang T. Beyond skin white spots: Vitiligo and associated comorbidities. Front Med (Lausanne). 2023 Feb 23;10:1072837. doi: 10.3389/fmed.2023.1072837.

38. Yu X, Pu H, Voss M. Overview of anti-inflammatory diets and their promising effects on non-communicable diseases. Br J Nutr. 2024 Oct 14;132(7):898-918. doi: 10.1017/S0007114524001405.

39. Diaz MJ, Tran JT, Rose D, Wei A, Lakshmipathy D, Lipner SR. Dietary Interventions, Supplements, and Plant-Derived Compounds for Adjunct Vitiligo Management: A Review of the Literature. Nutrients. 2025 Jan 20;17(2):357. doi: 10.3390/nu17020357.

40. Hess JM, Stephensen CB, Kratz M, Bolling BW. Exploring the Links between Diet and Inflammation: Dairy Foods as Case Studies. Adv Nutr. 2021 Oct 11;12(Suppl 1):1S-13S. doi: 10.1093/advances/nmab108.

41. El-Senousey HK, Chen B, Wang JY, Atta AM, Mohamed FR, Nie QH, Effects of dietary vitamin C, vitamin E, and alpha-lipoic acid supplementation on the antioxidant defense system and immune-related gene expression in broilers exposed to oxidative stress by dexamethasone, Poultry Science, 2018; 97(1): 30-38,https://doi.org/10.3382/ps/pex298.

42. Lossow K, Maares M, Heinze T, Pellowski D, Richter E, Schröder K, et al. Distribution interactions of the trace elements zinc, copper, and selenium under conditions of their parallel deficiency, Redox Biology, 2026; 89:103963. https://doi.org/10.1016/j.redox.2025.103963.

43. Mousa WK, Chehadeh F, Husband S. Microbial dysbiosis in the gut drives systemic autoimmune diseases. Front Immunol. 2022 Oct 20; 13: 906258. doi: 10.3389/fimmu.2022.906258.

44. Singh K, Bhadauriya AS. Effect of microbial dysbiosis on autoimmune associated inflammation. Int Rev Cell Mol Biol. 2025; 395: 1-22. doi:10.1016/bs.ircmb.2024.12.016.

45. Zhang P. Influence of Foods and Nutrition on the Gut Microbiome and Implications for Intestinal Health. Int J Mol Sci. 2022 Aug 24; 23(17): 9588. doi: 10.3390/ijms23179588.

46. Spiller AL, Costa BGd, Yoshihara RNY, Nogueira EJZ, Castelhano NS, Santos A, et al. Ultra-Processed Foods, Gut Microbiota, and Inflammatory Bowel Disease: A Critical Review of Emerging Evidence. Nutrients. 2025; 17(16): 2677. https://doi.org/10.3390/nu17162677.

47. Rondinella D, Raoul PC, Valeriani E, Venturini I, Cintoni M, Severino A, et al., The Detrimental Impact of Ultra-Processed Foods on the Human Gut Microbiome and Gut Barrier. Nutrients. 2025 Feb 28; 17(5): 859. doi: 10.3390/nu17050859.

48. Yu W, Freeland DMH, Nadeau KC. Food allergy: immune mechanisms, diagnosis and immunotherapy. Nat Rev Immunol. 2016 Dec; 16(12):751-765. doi: 10.1038/nri.2016.111.

49. U.S. Food and Drug Administration. Food Allergies (https://www.fda.gov/food/food-labeling-nutrition/food-allergies). Content current as of 4/12/2024. Accessed 11/11/2024.

50. Vitiligo Diet: Vitiligo Treatment. What to Eat with Vitiligo: A Complete Guide to Foods & Vitamins.(Accessed on July 17, 2026). https://vitilox.com/vitiligo-diet-and-nutrition/

51. Di Nardo V, Barygina V, França K, Tirant M, Valle Y, Lotti T. Functional nutrition as integrated approach in vitiligo management. Dermatol Ther. 2019; 32(4): e12625.

52. Hadi Z, Kaur R, Parekh Z, et al. Exploring the impact of diet and nutrition on vitiligo: A systematic review of dietary factors and nutritional interventions. J Cosmet Dermatol. March 11, 2024.

53. Ni Y, Zhang Y, Sun J, Zhao L, Wu B, Ye J. The effect of antioxidant dietary supplements and diet-derived circulating antioxidants on vitiligo outcome: evidence from genetic association and comprehensive Mendelian randomization. Front Nutr. 2024 Jan 11.

54. Jenette Restivo, Health Writer; Assistant Director for Digital Content Creation and Engagement, Harvard Health Publishing. (Reviewed by Megan Noe, MD, MPH, MSCE, Former Editorial Advisory Board Member, Harvard Health Publishing). Vitiligo: Managing and living with this challenging skin condition. September 23, 2024. Harvard Health Publishing. Harvard Medical School. https://www.health.harvard.edu/diseases-and-conditions/vitiligo-managing-and-living-with-this-challenging-skin-condition

55. Typology, Paris. Can vitiligo be caused by food allergies? Published on March 20, 2025, updated on March 21, 2025, by Lilia, Scientific Editor. https://us.typology.com/library/le-vitiligo-peut-il-etre-cause-par-des-allergies-alimentaires.54What