

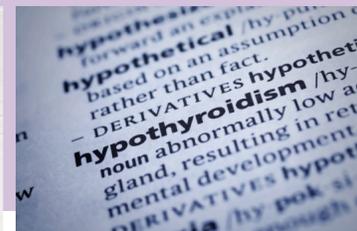


DO DIETARY SUPPLEMENTS AFFECT INFLAMMATION, OXIDATIVE STRESS, AND ANTIOXIDANT STATUS IN ADULTS WITH HYPOTHYROIDISM OR HASHIMOTO'S DISEASE?-A SYSTEMATIC REVIEW OF CONTROLLED TRIALS

Kubiak, K ; Szmids, MK ; Kaluza, J ; Zylka, A ; Sicinska, E
Antioxidants (Basel, Switzerland). 2023;12(10)
With expert review from Ana-Paula Agrela, MSc, BSc

A comprehensive systematic review was conducted to investigate the effects of dietary supplements (DS) on inflammation, oxidative stress, and antioxidant status in adults (>18 years old) with hypothyroidism (HT) or Hashimoto's thyroiditis (AIT).

The review included 22 controlled trials. The primary outcomes were inflammatory markers, oxidative stress, antioxidant levels, and thyroid function parameters. The supplements reviewed were primarily selenium and vitamin D, alongside others like Nigella sativa and genistein. The efficacy of dietary supplements in improving thyroid health and reducing inflammation and oxidative stress was inconclusive in this review, due to the low quality of the included studies and the limited number of available studies. Selenium supplementation may help reduce inflammation and improve thyroid function in HT/AIT patients. While vitamin D supplementation raised serum 25-hydroxy levels, it had minimal effects on inflammatory and thyroid parameters.



THE INFLUENCE OF NUTRITIONAL INTERVENTION IN THE TREATMENT OF HASHIMOTO'S THYROIDITIS-A SYSTEMATIC REVIEW

Osowiecka, K ; Myszkowska-Ryciak, J
Nutrients. 2023;15(4)

With Expert Review from Ana-Paula Agrela, MSc, BSc (Hons)

This systematic review investigated the impact of various nutritional interventions on anti-thyroid antibodies and thyroid hormone levels in participants with Hashimoto's thyroiditis. The review included 9 studies and looked at gluten-free, lactose-free and energy-restricted diets, with or without selected nutrients and foods supplements (ie. Nigella sativa, iodine). Improvements in disease parameters were observed in diets that were energy deficient, eliminated gluten, lactose and goitrogens or added Nigella sativa. Iodine restrictions did not show any improvements. Study authors highlight the wide variability in outcomes in the included research due to the complexity of the condition and many influencing factors. Participants in trials have variable thyroid status and function, and differences in regular dietary intakes of nutrients critical to thyroid health can easily distort the results. Potential benefits of dietary interventions in Hashimoto's disease may be more apparent in clinical settings with personalised approaches.

TAKE HOME MESSAGES:

- Diet, supplementation, and lifestyle factors play an important role in managing Hashimoto's thyroiditis.
- Tailored interventions based on individual dietary sensitivity, nutritional status and lifestyle factors are needed to optimise the effectiveness of the treatment and the patient's well-being.

SELENIUM SUPPLEMENTATION IN PATIENTS WITH HASHIMOTO THYROIDITIS:A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CLINICAL TRIALS

Huwiler, VV ; Maissen-Abgottsporn, S ; Stanga, Z ; et al.
Thyroid: Journal of the American Thyroid Association 2024
With Expert Review from Dr Yassine Bendiabdallah,
MPharm, PhD, IP, ABAAHP

Hashimoto Thyroiditis (HT) is a disease of the thyroid gland, which can result in insufficient production of thyroid hormone. Thyroid hormone is responsible for numerous functions within the body, such as weight regulation and energy production. Selenium is a nutrient that is used in the body to make thyroid hormones and low levels have been seen in patients with HT. Selenium supplementation has been researched previously, but inconsistent results have been shown. This systematic review and meta-analysis of 35 and 32 randomised control trials respectively, aimed to determine the effect of selenium supplementation on HT.

The results showed that selenium supplementation favourably influenced thyroid hormones and oxidative stress, without affecting inflammation, but only if individuals were not receiving thyroid hormone replacement therapy. Adverse events were similar between the supplementation and control groups. It was concluded that selenium supplementation is a safe and effective therapy for individuals with HT who are not receiving hormone replacement therapy. This study could be used by healthcare professionals to recommend selenium supplementation as a way to balance thyroid hormones and alleviate the effects of HT.



EFFECTS OF VITAMIN D SUPPLEMENTATION ON AUTOANTIBODIES AND THYROID FUNCTION IN PATIENTS WITH HASHIMOTO'S THYROIDITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS.

Tang, J ; Shan, S ; Li, F ; Yun, P
Medicine. 2023;102(52):e36759

Hashimoto's thyroiditis (HT) is an autoimmune disorder characterised by chronic inflammation of the thyroid gland, often leading to hypothyroidism. Vitamin D has immunomodulatory effects, and its deficiency has been linked to various autoimmune diseases. The primary aim of this study was to systematically review and analyse the effects of vitamin D supplementation on thyroid autoantibodies (anti-thyroid peroxidase [TPOAb] and anti-thyroglobulin [TgAb]) and thyroid function (TSH, FT4, and FT3 levels) in patients with Hashimoto's thyroiditis. This research is a systematic review and meta-analysis, incorporating data from multiple randomised controlled trials and observational studies. Results showed that vitamin D supplementation significantly reduced TPO-Ab and TG-Ab titers among HT patients, leading to improvements in thyroid function characterised by decreased TSH levels and increased FT3 and FT4 levels. Authors concluded that the findings of this study support the potential benefit of vitamin D supplementation in managing autoimmune aspects of Hashimoto's thyroiditis, though further research is needed to confirm these effects and determine optimal dosing.

