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A Scoping Review on Prevalence of Hashimoto's Thyroiditis and Possible Associated Factors

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ADMINISTRATIVE INFORMATION

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 March 2025 and was last updated on 12 March 2025.

INTRODUCTION

Review question / Objective The objective of this scoping review was to synthesize and analyze the different studies that have evaluated the prevalence of HT (in adults) and possible associated factors.

Background Hashimoto's thyroiditis (HT) is the most common autoimmune thyroid disease (AITD), and is characterized by the presence of thyroid autoantibodies against thyroid peroxidase and/or thyroglobulin. Several studies have found that the global prevalence of HT has increased in recent decades, while others show the opposite.

Rationale AITD is a group of diseases characterized by the breakdown of tolerance to thyroid autoantigens (specially, thyroid peroxidase –TPO–, thyroglobulin –Tg– and the thyrotropin receptor –TR–); which induces an autoimmune response both humoral and cellular, with the presence of circulating Abs to thyroid autoantigens (TgAb, TPOAb and TRAb) and lymphocytic infiltration.

The clinical spectrum of AITD includes Hashimoto's thyroiditis (HT), Graves–Basedow disease (GBD), postpartum thyroiditis, drug–induced thyroiditis, thyroiditis associated with polyglandular syndromes and atrophic thyroiditis. Among all AITDs, HT is the most common AID affecting the thyroid gland; clinically, HT often manifests with hypothyroidism (subclinical or overt) as a consequence of thyrocyte destruction (a phenomenon mediated by both humoral and cellular immunity).

HT is the main cause of hypothyroidism in iodine–sufficient areas of the world; the global prevalence is variable, depending on various factors (e.g., socioeconomic, environmental, genetic, inter alia), estimated between 4.8–25.8%, and 0.9–7.9% in men and women, respectively. However, it has also been described that the prevalence of HT has increased in recent decades; while, other studies have shown that the prevalence has decreased slightly.

This review describes the global prevalence of HT and analyses the possible factors that may influence the population variability of the disease.

METHODS

Strategy of data synthesis A comprehensive and sensitive search was performed in the following databases: MEDLINE, Web of Science, PubMed, and Scopus. The search was limited to articles published between January 1965 and October 2024 (adults, humans, clinical trials, meta–analysis, review, and systematic review) only articles in English were considered.

Eligibility criteria The search criteria were: Epidemiology[Title/Abstract] OR Prevalence[Title/Abstract] AND Hashimoto Disease[Mesh] OR Hashimoto Thyroiditis[Title/Abstract] OR Chronic Lymphocytic Thyroiditis[Title/Abstract] OR Lymphocytic Thyroiditis, Chronic[Title/Abstract] OR Thyroiditis, Chronic Lymphocytic[Title/Abstract] OR Hashimoto's Disease[Title/Abstract] OR Disease, Hashimoto's[Title/Abstract] OR Autoimmune thyroiditis[Title/Abstract].
Studies were included if the number of participants (study population and/or cases and controls, depending on the study design) was clearly described and duplicate studies were excluded.

Source of evidence screening and selection The search was limited to articles published between January 1965 and October 2024, only articles in English were considered. In order to reduce selection bias, each article was scrutinized using the JBI Critical Appraisal Checklist independently by two authors. Studies were included if the number of participants (study population and/or cases and controls, depending on the study design) was clearly described and duplicate studies were excluded. A total of 59 studies were identified, the vast majority of them used a cross–sectional design, using different methods of disease assessment.

Data management In order to reduce selection bias, each article was scrutinized according to the JBI Critical Appraisal Checklist [12]. The identification and selection of studies were carried out by two authors. Data were extracted using a standardized template the extraction was performed using a predefined data form created in Excel, and in cases where discrepancies arose in the extracted data, they collaboratively conducted a second round of extraction to validate the accuracy of the information.

Reporting results / Analysis of the evidence The following data were retrieved: authors, year of publication, country (income group), number of cases and population evaluated, study design (sample source), sample type (test method) and, prevalence of HT (95% CI). No statistical analysis or meta-analysis was performed due to the high heterogeneity observed among studies. However, we conducted a descriptive analysis to summarize key study characteristics.

Presentation of the results 7 Tables, 2 figures.

Language restriction English.

Country(ies) involved Colombia.

Other relevant information None

Keywords Hashimoto's thyroiditis; prevalence; autoimmunity; thyroid peroxidase; thyroglobulin.

Dissemination plans Target Journal Q1 or Q2.

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