

## **THE RISE IN THE INCIDENCE OF THYROID CANCER: A SYSTEMATIC REVIEW AND COMPARATIVE ANALYSIS OF GLOBAL TRENDS**

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**Background/Purpose:** This study aims to determine global trends in incidence rates of thyroid cancer and compare them to trends in the USA.

**Methods:** A comprehensive literature search was performed using Pubmed, identifying a total of 11 studies from 8382 results, representing 10 countries in Europe and the Americas that contained data on incidence, and size or stage of thyroid cancer yearly (Range 1978-2009). Using the Joinpoint Regression program, best fit models were selected to estimate annual percentage rate change (APC) per country. This data was then compared to the USA thyroid cancer incidence rates from the Surveillance, Epidemiology and End Results database.

**Results:** We found a marked increase in the incidence of thyroid cancer in the United States and globally over the time period studied. All of the eight countries containing tumor size data descriptively showed an APC increase in smaller-sized tumors (<10mm) over time and a smaller or insignificant increase in larger-sized tumors. The four countries with stage data were also descriptively and statistically consistent with higher rates in Stage I and lower or insignificant rates in higher stages. The USA data, however, clearly showed increases in both smaller and larger-sized tumors and similarly, higher and lower-staged tumors.

**Discussion & Conclusion:** Thyroid cancer incidence rates are increasing among most populations across the world; however, tumor size and staging trends are inconsistent between USA and the other countries. The cause of this increase in incidence may reflect a true rise in thyroid cancer or merely an over-diagnostic effect.