

September xx, 2024

Dr. Enrique Schisterman

Editor-in-Chief

*American Journal of Epidemiology*

Dear Dr. Enrique Schisterman,

We are pleased to submit our paper entitled " Childhood and adolescent factors and thyroid cancer incidence in adult women in the Sister Study cohort " for your consideration as an Original Study in the *American Journal of Epidemiology*. We believe that this research provides novel insights into the etiology of thyroid cancer, focusing on the potential association between early-life exposures and the development of this disease.

Thyroid cancer is the fifth most common cancer among women worldwide, yet its causes remain largely unknown. The fact that it is often diagnosed at a younger age compared to other adult cancers suggests that early-life factors could play an important role in thyroid cancer development.

In this study, we analyzed data from 47,913 cancer-free women participating in the U.S. nationwide Sister Study cohort. Our paper investigated associations of self-reported childhood and adolescent factors and risk of differentiated thyroid cancer incidence later in life. Using Cox regression models, our study identified a higher incidence among women who were taller or heavier than their peers during childhood and adolescence, and among those who reported ever not having enough to eat during childhood. On the other hand, we observed a lower incidence in women who grew up in households with higher educational levels. Additionally, we identified potential modifying effects of baseline BMI on the association for weight relative to peers during teen years. These associations remained significant even after adjusting for established and suspected thyroid cancer risk factors.

As one of the first studies to explore the associations between early-life exposures and thyroid cancer incidence and to highlight the potential influence of growth-related factors, we believe our manuscript will be of significant interest to the readers of the *American Journal of Epidemiology*.

We confirm that this manuscript is original and not under consideration elsewhere. The final draft has been reviewed and approved by all contributing authors. We appreciate your consideration of our submission and look forward to hearing from you.

Sincerely,

Tran Thi-Van-Trinh, PhD (on behalf of all authors)

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