

Re: Article titled “COVID-19 and thyroid disease: an infodemiological pilot study”

Responses to Reviewers’/Editors’ comments

Reviewer #1

[1]. *There is excessive use of parentheses i.e. (), throughout the manuscript. These are not encouraged in academic writing, and rather clauses should be utilized for the same purpose.*

In the revised version of the manuscript we avoided the use of parentheses.

[2]. *Abstract has unexplained abbreviations, which need rectification.*

In the revised version of the manuscript abbreviations are used sparingly, and when doing so this was done only after the abbreviation having been explained.

[3]. *Methods section should be expanded and divided into subheadings (e.g. data collection, inclusion & exclusion criteria, statistical analysis). Please refer to prior publications utilizing GTs.*

In the revised version of the manuscript we have split the Methods section in two parts.

[4]. *Figure captions have unexpanded abbreviations, which need rectification. Each figure caption should be standalone.*

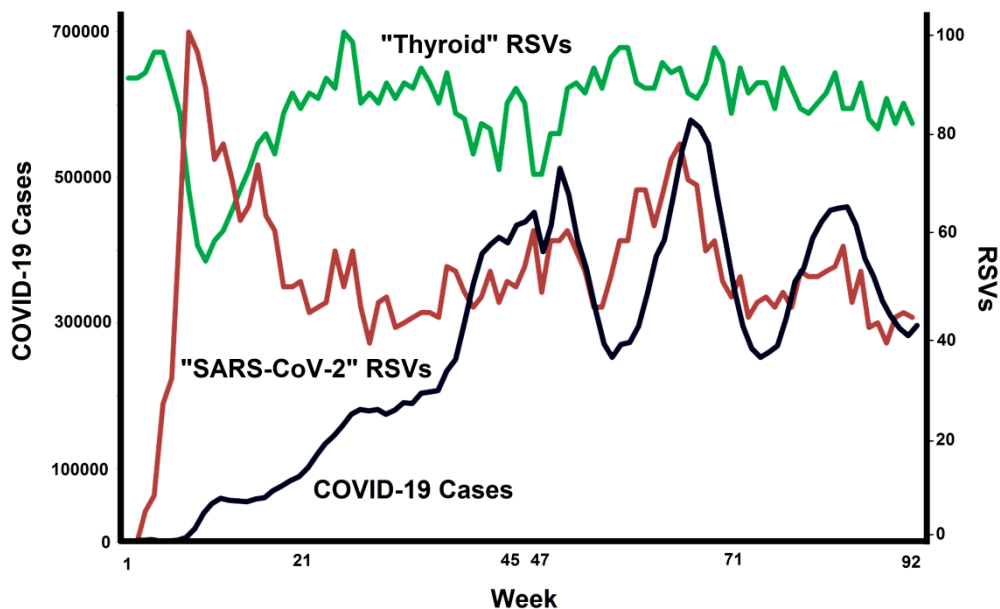
In the revised version there is a single figure and the abbreviations in it are used sparingly and after having been explained.

[5]. *It is possible to have figures 2 and 4 merged into a large graph with dual y-axes. This would be more useful to the reader in drawing the correlation.*

In the revised version there is a single combined figure. The graph for fatigue has been eliminated – please see below.

“Figure 1.

Time series plot of selected study data: worldwide COVID-19 weekly cases and Google Trends relative search volumes (RSVs) for “SARS-CoV-2” and “Thyroid” during the study period. Note the differences in magnitude, particularly during the second half of the study period.



”

[6]. *Why has fatigue been taken as a search term? 'Fatigue' is a highly non-specific symptom, occurring in a wide variety of diseases and conditions, not just thyroid disease, but also in long COVID (a major confounding factor). Kindly justify within manuscript or rectify.*

Following the Reviewer's suggestion, the data, the analysis and the graph for "fatigue" have been eliminated in the revised version of the manuscript.

Reviewer #2

[1].The frequency of vocabulary is related to the public's attention to the vocabulary, which cannot directly reflect the epidemiological characteristics of the diseases involved in the vocabulary.

We thank the Reviewer for the comment. We have embedded it in the Discussion as follows:

"Google Trends provides a powerful measure of public interest in a topic, being a proxy of internet searches for it. The frequency of internet searches for disease terms may not reflect directly the epidemiological characteristics of a given disease, which is related and/or described by such search terms. Media coverage may skew subsequent internet searches. Nevertheless, the frequency of internet queries for various diseases' symptoms are correlated to a degree with physician visits for these diseases".

[2].Why only choose the words listed in the methodology.

The search terms were chosen because of their ubiquity and uniformity in lay and medical terms. This has been added in the revised text.

[3].What's the point of doing this research? It needs to be clarified in the introduction.

We have added the following in the Introduction in the revised version of the manuscript: "Since the use of Google Trends to study a wide range of medical topics is becoming more widespread

and the available research on Covid-19-related thyroid disease is conflicting, with this work we aimed to look at the issue of Covid-19-related thyroid disease from a different angle, namely that of digital epidemiology, since the latter may be a useful adjunct to classical epidemiology.”

Editorial Comments

The manuscript reflects the actual disease epidemiology through Google trend (GT) search, and the covid-19 case itself is associated with (obvious) thyroid disease. The view of the manuscript may be correct, but I think it may be lagging behind, and the relevant reports can be searched. The abbreviation appearing for the first time must have a full name, which is not easy for readers to understand.

In the revised version of the manuscript we cited additional newer references. Abbreviations are now used sparingly throughout the text; when used they are properly explained at their initial appearance.