

Tentative Outline

Special Thematic Issue for the journal Coronaviruses

Title of the Thematic Issue: Potential Covid-19 related biases in medical research

Guest Editor: *Dr. Reza Rastmanesh, Dr. Luis Diambra, Dr. Venkataramana Kandi*

- **Scope of the Thematic Issue:**

The spread of COVID-19 has changed many aspects of people's lives, including individual social behavior, and healthcare procedures. It has also altered many physiological responses. As a result, it is possible that some medical studies may be influenced by one or more hidden biases brought about by Covid-19 pandemic. Some may be mediated directly or indirectly by patterns of face mask wearing or by the physiologic effects of Covid-19 itself. Face mask wearing has been reported to produce bias in studies of endocrinology, ophthalmology (particularly dry eye and related ocular diseases), sleep studies, cognitive studies (such as emotion-recognition accuracy research, etc.), and gender-bias studies, just to mention a few. It is possible that some other COVID-related biases remain unrecognized in medical research.

Keywords: Covid-19 induced Bias, Face mask induced bias, Clinical and paraclinical bias, Molecular mechanisms, Statistical methods

Sub-topics:

This Research Topic is aimed at discovering forms of unrecognized bias brought about by the Covid-19 pandemic and/or by face mask wearing. It is hoped that it will help to uncover COVID-19 related biases in the interpretation of clinical findings, methodological practices, registered clinical trials, cohort studies and comparative studies (pre and post Covid-19 pandemic).

This Research Topic would like to explore Covid-19 related bias in clinical and paraclinical articles focusing on but not limited to the following topics:

The sub-topics to be covered within the issue should be provided:

- Cross-sectional and explorative questionnaire studies regarding incidence/prevalence/severity of diseases affected by Covid-19 or face mask wearing, or altered mental status due to the Covid-19 pandemic. For instance, Covid-19 infection directly reduces salivation, leading to xerostomia in diabetic patients. Some researchers attribute this to diabetes duration and/or severity alone, ignoring the potential role of face mask-induced hyposalivation or direct damage of the Covid-19 virus to the salivary glands, thereby producing an explicit bias.
- Brain imaging techniques: Studies exploring medical image analysis from the perspective of the Covid-19 pandemic.
- COVID-19 pandemic detection bias in the areas of artificial intelligence and deep learning.
- Cognitive bias, health anxiety and attentional bias, gender bias, collider bias or publication bias.
- Statistical biases induced by Covid-19 and/or face mask wearing, such as ascertainment bias, selection bias, surveillance bias, sampling bias, minimization in disease frequency estimates etc.
- Prognostic/diagnostic/therapeutic and prophylactic biases brought about by Covid-19 and/or face mask wearing.
 - 1- Diagnostic bias in COVID-19 times
 - 2- Prognostic bias in COVID-19 times
 - 3- Therapeutic bias in COVID-19 times
 - 4- Prophylactic bias in COVID-19 times

Tentative titles of the articles and list of contributors:

- Covid-19 induced bias in medical research and statistical methods to treat such problems”
- Diagnostic bias in COVID-19 times
- Prognostic bias in COVID-19 times
- 3-Therapeutic bias in COVID-19 times
- 4-Prophylactic bias in COVID-19 times
- Underlying mechanisms of genetic and demographic bias differences in COVID-19 severity and mortality
- Cognitive bias in Covid-19 research
- COVID-19 pandemic detection bias in the areas of artificial intelligence and deep learning
- Bias in Brain imaging techniques in relation to the Covid-19 pandemic
- Facemask-induced bias during the Covid-19 research

Schedule:

- ✧ Thematic issue submission deadline: 30th September 2022

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