

# Effect of COVID-19 on Research: The Peer-review Process and Ethical Issues must not be Neglected

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The coronavirus outbreak quickly became a pandemic and continues to spread. The coronavirus disease 2019 (COVID-19) has harmed all societies; one of the most affected areas is health. Two important subsets, which will have long-term adverse effects, are medical education and research (1,2). This article seeks to highlight the importance of ethical issues and a full peer review in COVID-19 related research, and along with this, other research issues are listed. It intends to remind the problems and disadvantages that the pandemic has caused to education and research in the field of medical sciences for finding suitable solutions.

First, the pandemic has created problems in medical education around the world. Suspension of attendance in clinical departments and postponement of examinations and consequent loss of the opportunity to find work or study to achieve academic degrees are above the most important cases (2). Second, due to the focus of budgets on COVID-19 related topics and more difficult transmissions for studies, several studies with topics other than COVID-19 and studies requiring transmission have encountered problems. It has had an impact on several researchers by reducing funding. It has a worse effect on research other than COVID-19, as it reduces these studies and consequently delays the current path of scientific progress (1). COVID-19 may affect the results of studies on other diseases as a result of factors such as lifestyle changes, worsening blood glucose in diabetics, and the progression of kidney failure (3). Third, the peer review process seems to have been disrupted during this period. Numerous articles with low sample size and low-quality methodology are presented to journals, and journals and reviewers, due to the urgency of the issue, are more accessible and faster in publishing these articles than other articles and compared to the past. It has involved even the most reputable journals, and some articles and conclusions published in these journals have been retracted (4). Fourth, COVID-19 has a wide range, and even when patients with “moderate” severity are studied, it should be considered that the word moderate in this disease also includes a broad spectrum (5). Therefore,

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it seems incorrect to draw conclusions from a study with a small sample size - even if it has a high-quality methodology - and to use that result in the treatment of all patients.

This article does not condone the publication of articles and reports that have a low sample size. Also, it does not imply that articles with different conclusions are problematic. In this article, the importance of a complete and accurate peer review is discussed. Publishing articles that have different results can produce more appropriate hypotheses and ultimately treatment guidelines. For example, Remdesivir was not as effective in COVID-19 in China as it was in the United States. By juxtaposing the two studies, the researchers hypothesized the involvement of genetic factors in this effect, and finally, they confirmed it (6).

Despite the urgency and importance of research related to this disease - given the mortality and burden it has imposed on societies - the completeness of the peer review process should not be underestimated, and ethical issues should not be overlooked. Because of the re-assortment of viruses and the subsequent emergence of new subtypes of viruses, pandemics are inevitable with current science and knowledge (1). So today's research is used for both today and tomorrow.

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