



Preprint of Obstetrics and Gynecology Articles During and After the COVID-19 Pandemic

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Abstract

In this report, a brief historical overview of preprints focuses on the impact of the COVID-19 pandemic on the distribution of preprints in obstetrics and gynecology, and the benefits and drawbacks of preprints are described. Preprints are manuscripts that are published before peer review. They are widely available even though they are recent in biomedical science. The COVID-19 pandemic enhanced the number of preprints prominently. It is known that 5% of all preprint articles issued during the pandemic were in obstetrics and gynecology. Some benefits include the increased pace of being available and the exposure rate. Also, it provides an opportunity to check for plagiarism and prevent malpractice earlier. Challenges to the distribution of preprints also exist, such as the potential lack of quality, premature data, and the possibility of misguiding normal people. Given the high importance of data release in obstetrics and gynecology, both the authors and the publishers should regulate strict yet rational guidelines before letting the information become widely accessible.

Keywords: Preprints, Peer-Review, Obstetrics and Gynecology, COVID-19

1. Background

A preprint is a non-peer-reviewed version of a study or report that is indexed by special preprint servers. The preprints are accessible for free. As they are still finding their place within the scientific world, the COVID-19 pandemic highlighted the importance of preprints and revolutionized data sharing in science forever. The COVID-19 pandemic necessitated the urgent need for research on new drugs, preferred management, vaccines, and new variants of this virus. In the context of an active pandemic, the peer-review and publication process proved too slow, and many researchers shared their articles as preprints (1).

Preprint servers are more than 30 years old. However, they are somehow new in the field of biomedical science. BioRxiv, which focuses on biology, and medRxiv, which focuses on medicine and related health sciences, were founded in 2013 and 2019, respectively (2). In the first four months of the pandemic, 19,389 studies about COVID-19 have been shared, among which a third of them were preprinted (3) and with a meticulous investigation of the studies issued regarding the efficacy of Remdesivir, dexamethasone, and hydroxychloroquine as treatment options for COVID-19, the consequences of extreme focus on study

results without proper identification of the limitations and adequate review are explicit (4).

While this translates into rapid research production and share, it can also be harmful if the research conduction quality is low. Currently, medRxiv preprints are indexed by popular websites, including Google Scholar, PubMed, Crossref, Semantic Scholar, and Europe PubMed Central. Similarly, bioRxiv preprints are indexed by Google Scholar, Crossref, Meta, and Microsoft Academic Search.

Similar to other areas of medicine, there has been an increase in preprint papers in obstetrics and gynecology (Ob/Gyn) with the COVID-19 pandemic. Information about COVID-19 and its possible effects on Ob/GYN practice is still emerging. Currently, nearly 35000 articles are shared on medicine, of which nearly 350 (1%) are in obstetrics and gynecology. In addition, of the nearly 12500 preprinted articles in the Lancet, nearly 620 are obstetrics and gynecology related (nearly 5% of all articles).

On the other hand, one study found that roughly 70% of articles published by four major peer-reviewed journals contained citations from preprinted papers (5). Whereas, by manually reviewing the obstetrics and gynecology preprints on the medRxiv, we found 108 of them

from the total of 310 preprints were published (~35%). This highlights the dangers of non-peer-reviewed, possibly misleading information becoming incorporated into medical guidelines and possibly endangering patients.

An appropriate safeguard is demanded in confront of the rapidly and extensively disseminated data in preprints of obstetrics and gynecology, as the diagnostics and interventions in pregnancy are highly consequential. In medical practice, obstetrics and gynecologists should preferably consider the outcomes of preprints whenever there are no other alternatives in the standard of care. Meanwhile, patients should be aware that these articles are not peer-reviewed and be informed of the potential risks. Also, all conversations between the doctor and the patient should be documented properly.

Due to the special concerns in pregnancy for the mother and the fetus, we believe more scrutiny is required in openly sharing Ob/Gyn papers on preprint servers. To our knowledge, no data highlight this risk, and no readily available resource highlights false information shared as preprints. Therefore, we would like to echo the need for reviewing the benefits and limitations of preprints in the field of Ob/Gyn and the need for resources highlighting withdrawn and false information, particularly on topics that may have been established in clinical medical practice.

We would also like to encourage education and increase awareness of identifying non-peer-reviewed preprinted articles at all levels, particularly for medical students who are often involved in research and may feel time-pressured to become published.

2. Benefits of Preprints

Publishing in peer-reviewed journals can be tedious and time-consuming. Preprints can facilitate the revision process and help authors prepare their works for submission by allowing peer feedback (4). Preprinting may increase exposure and citation and provide an opportunity for academic collaboration and promotion of young researchers. It is reported that the release of preprints before the peer-reviewed publications led to receiving more citations. They may increase authors' enthusiasm and reduce predatory publishing. Additionally, preprints can increase transparency and the chance of reporting negative outcomes and controversies. Authors may receive a DOI, a link to ORCID, and a chance to receive grants and awards. It provides an opportunity for plagiarism checks and gaining early credit. It may also provide an opportunity for sharing hypotheses and early detection of scientific misconduct (1).

3. Limitations of Preprints

The disadvantages of preprints can be listed as follows: they are not peer-reviewed, they may lack quality (there are controversial debates about this), and rushing to post low-quality research (1). They might represent premature data which might be harmful if applied to patients, especially during pregnancy when both the mother and the fetus are threatened. Concerns about the media coverage not presenting the inherent uncertainty of preprints (6), concerns about double citation (the preprint may also be cited after publishing it as a peer-reviewed article), absence of ethical and statistical guidelines, lack of respect for Committee on Publication Ethics (COPE) or International Committee of Medical Journal Editors (ICMJE), violation of intellectual property regulations in some countries, a possible threat to health in some cases, information overload, the Ingelfinger rule which is a strategy discouraging the dissemination of research reports before publishing them in peer-reviewed journals.

Preprints are well utilized and extensively published in the physical sciences; however, we should pay attention that preprints in clinical research are fundamentally different from the physical sciences. It is undeniable that since patients often search the internet for information about health issues, clinical research claims that being excessively available while being unsubstantiated may lead to misinformation and misguiding of people (7).

Obstetrics and gynecologic conditions are not exempt from this reality. Since most people encounter female-health-related problems numerous times in their lives, it is highly probable that by not interpreting the outcomes of preprinted articles properly, patients might be led in the wrong direction.

Preprints might be the endpoint for some authors as they might decide to skip the scrutiny of peer review. Authors will receive a permanent digital object identifier (DOI) by uploading their reports. DOI allows preprints to be immediately searchable and citable. This could lead to a flood of low-quality publications.

Currently, MedRxiv's policy is that preprints cannot be removed unless, in rare cases, there are legal reasons to do so. However, authors can mark their report as "withdrawn" if their findings or conclusions are proven wrong or if they find a fundamental error in their manuscript. The original manuscript will still be accessible via the info/history tab; however, a "withdrawn" watermark will be added to the PDF of the posted manuscript. Reviewing medicine preprints in Ob/Gyn revealed that only one out of 310 preprint papers was withdrawn due to the authors not seeking permission from the concerned authorities before submitting it as a preprint (8).

One proposed suggestion is that preprints no longer get a permanent DOI but have a limited shelf life with a DOI link that expires in 12 months. A year should give authors enough time to complete their peer review process and possibly receive a few rejections. After journal submission, the DOI link can be extended.

4. Conclusions

The tendency to share the findings as fast as possible might be persistent by the authors even after COVID-19. However, it is important to remember that releasing any health-related data before being evaluated by expert editors strictly may have several consequences, especially when discussing maternal and neonatal health. While many guidelines have been conducted to reduce the potential harms of preprint manuscripts, authors and publishers should be entirely informed to avoid the growth of misinformation, which may lead to malpractice.

Footnotes

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