

The why, what, and how of publishing a manuscript: A blend of art and science

Publishing a manuscript is an intricate process that blends the realms of art and science. It involves combining the curiosity to ask questions and the creativity to suggest innovative answers with the rigor and methodology of scientific research. As we embark on this exciting journey of sharing our work with the scientific community, it is crucial to understand the specific why, what, and how of publishing our results. This editorial aims to provide insight into the publishing process, highlighting key concepts that can aid aspiring authors to successfully publish a scientific manuscript.

Why is it important to publish in a peer-reviewed journal? Publishing is the most important way of disseminating research results and an essential part of the scientific method. It allows researchers and medical professionals to contribute to the advancement of medical knowledge with the ultimate goal of improving patient care and outcomes. Once results are published, they can be freely used by other researchers to further extend knowledge. In essence, it is the foundation of evidence-based medicine.^[1] In addition, publishing offers an opportunity for professional growth, fosters collaborations, and is critical for academic survival.^[2,3] Publishing not only holds immense value, but it is also a great responsibility and should be taken seriously ensuring the highest quality standards as our contributions to the literature can eventually influence healthcare practices and policy with the potential to affect a large number of patients.^[4]

The What in the publishing process is deciding which information is relevant for publication. The first step is to come up with an idea that is worth exploring. Ideally, should be novel and relevant. As most discoveries are, it may be triggered by an observation. Essentially, from the patient to the journal. Albert Einstein said: "the important thing is not to stop questioning. Curiosity has its own reason for existing."^[5] Indeed, curiosity and innovation are two key elements in approaching a research question. It is critical to know and review the most current literature to avoid repeating work that has been done before and to support the feasibility and necessity of the planned study.^[3] Some researchers can be discouraged by non-confirmatory results and decide against their publication; however, negative results that prove a null hypothesis are essential to science and absolutely worth publishing. The publication of negative results can lead to a reduction in the duplication of effort by researchers, an acceleration of scientific progress, and an improvement in the design of future studies. It also contributes to transparency and honesty reducing bias in the publication process.^[6] In addition, the dissemination of negative results allows for these findings to be discussed, they may reveal fundamental flaws in commonly used methods or treatments and may even lead to a paradigm shift.^[7] Most peer-reviewed journals should be interested in publishing good executed studies with negative results. Ultimately, a high-impact paper, which is what every author should strive for, is one that has the potential to change practice or significantly extend knowledge. Therefore, when considering a research question or whether results are worth publishing, it is important

to ensure that it represents new and useful information to avoid cluttering the literature with irrelevant or inconsequential work and wasting resources.^[8]

The How of publishing a scientific manuscript in the medical field follows a systematic process that requires attention to detail and adherence to established practices. I think it can be separated into two major components, both equally important: The first one is the execution of the study, and the second one encompasses from the preparation of the manuscript to journal acceptance. A detailed description on how to prepare a scientific manuscript is beyond the scope of this editorial, but for those interested, I suggest the series by Kotz and Cals published in the *Journal of Clinical Epidemiology* as an excellent resource.^[9-19] Below I highlight a few important points and common avoidable mistakes that authors may find useful when navigating this process.

1. A good study should have a well-formulated hypothesis that is meaningful and can be tested, with an appropriate study design and minimal protocol deviations. Defining clear outcome measures is also very important. Do not try to bend the hypothesis according to the results. Inadequate controls or sample size will likely result in rejection.
2. The manuscript should tell a story that is clear, concise, and focused. Should be grammatically correct and easy to understand. Many manuscripts are rejected on the basis of poor grammar, spelling, or scientific writing even when the research may have actual merit.^[8] Extra time and effort should be directed to the design of tables and figures.^[15] This is a key element of the manuscript that helps present the data to the reader. Consider professional editing services when applicable.
3. Failure to cite previous relevant publications is a common but easily avoidable mistake.^[16]
4. A poor statistical analysis including inadequate power to accept the negative hypothesis, or failure to correct for multiple variables can easily lead to rejection. Consulting with a statistician can be extremely helpful.
5. The abstract is the last piece to be written. It is important to take into consideration that this may be the only part of the paper most readers will actually read; therefore, it should be accurate and convey all the most important information.^[10]
6. Instructions for authors for each specific journal should be followed carefully. A large number of manuscripts are returned to the authors without review due to formatting issues that do not adjust to the journal's guidelines.^[8]
7. Most reviewer's comments are aimed at improving the manuscript. They should be addressed carefully and with an open mind. A detailed and respectful point-by-point response should be given.^[20] As a rule, I recommend complying with most reviewer's suggestions and giving a clear scientific argument to justify not accepting a suggestion only if the authors truly think would harm the paper.
8. The review process relies on the time and expertise of colleagues. I encourage all authors to get involved as reviewers. Editors often have difficulty securing reviewers for the large number of manuscripts submitted, but timely peer reviews are essential to the process and avoid unnecessarily delays in publishing. It is also an amazing source of learning that can help improve the reviewer's own research work and writing. I believe that all authors that would like to see their own work in print have the responsibility to contribute as reviewers.

The idea is to get it right the first time by submitting the best possible version to the most appropriate journal as likelihood of getting published will decrease with prior rejections.^[8,17] However, one should not be discouraged by a rejection, as they are not always based solely on the merit of the study. In addition, a lot can be learned from the reviewer's and editor's comments that can help improve the manuscript for a future submission.

In essence, publishing a scientific manuscript in the medical field and specifically in ophthalmology requires a delicate blend of art and science. By combining creativity and expression with rigorous scientific methodology, we can all contribute to the advancement of knowledge, evidence-based practices and improve patient outcomes. Understanding the why, what, and how of publishing in ophthalmology enables researchers and clinicians to effectively navigate the publication process and have a meaningful impact on the field. Through our published work, we can play a vital role in shaping the future of healthcare and promoting the well-being of individuals and communities with ocular disease.

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