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SPECIAL ARTICLE

Scientific writing and editing: style "*do*" not matter, content barely does

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Abstract
The exponential growth of researchers and scientific journals (mostly in English) that blossomed after World War II has inevitably led to a multitude of specialized jargons and to lower standards of scientific prose. To counteract these trends, most publishers warn potential authors about the need of correct style and writing and offer guidance on available editing resources; yet, poor quality manuscripts are common and may even appear as articles in reputable journals. I shall refer here to four English language papers (including one coauthored by myself) that were written by Spanish-speaking scientists and which were published, in spite of their defects, in three journals from three top scientific publishers. I have addressed these shortcomings in three Letters to the Editor submitted to the respective journals with different outcomes: acceptance followed by rescission, withdrawal, and rejection. I am fully aware of the hurdles that non-native English writers need to overcome in order to attain a suitable English style; however, before and beyond the language used, the crucial tools that a scientist needs (whether author, reviewer, or editor) are logical thought and rigorous scientific knowledge. I hope that the aforementioned suboptimal papers are a reminder that the editorial process in journals from such respected publishers as Elsevier, Springer-Verlag, and Nature Publishing Group is not infallible.

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PALABRAS CLAVE
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Escritura y edición científica: el estilo "tá de más", el contenido apenas importa

Resumen
El crecimiento exponencial de investigadores y de revistas científicas (en su mayor parte en inglés), que florecieron después de la Segunda Guerra Mundial ha llevado inevitablemente a una multitud de argots especializados y una disminución de los estándares de la prosa científica. Para contrarrestar estas tendencias, la mayoría de los editores advierten a los potenciales autores acerca de la necesidad de corregir el estilo y la escritura, y ofrecen consejos a cerca de los recursos de edición disponibles. Sin embargo, nos encontramos comúnmente con manuscritos de mala calidad y que puede aparecer como artículos en revistas de buena reputación. Aquí, me referiré a cuatro manuscritos en idioma inglés (incluyendo uno en el cual soy co-autor) que fueron escritos por científicos hispanohablantes y que fueron publicados, a pesar de sus defectos, en tres revistas de tres editoriales científicas de gran reputación. Yo he mencionado estas fallas en tres Cartas al Editor, enviadas a las respectivas revistas con diferentes resultados: aceptación seguida de cancelación, retiro y rechazo. Tengo plena conciencia de los obstáculos que los escritores cuya lengua nativa no es el inglés tenemos para llegar a alcanzar un estilo adecuado en este idioma. Sin embargo, antes y más allá tienen del idioma que se use, las herramientas cruciales que necesita un científico (ya sea autor, revisor o editor) son un pensamiento lógico y un riguroso conocimiento científico. Espero que los subóptimos manuscritos antes mencionados, sean un aviso de que el proceso editorial, en revistas de tan respetadas casas editoriales como Elsevier, Springer-Verlag y Nature Publishing Group, no es infalible.

The scientific writing in our journals exerts a corrupting influence on young scientists—on their writing, their reading, and their thinking. F.P. Woodford, 1967

Introduction

The exponential growth of researchers and scientific journals (mostly in English) that blossomed after World War II has inevitably led to a multitude of specialized jargons and to lower standards of scientific prose.[1-6] In his 1955 warning paper,[7] Baker said "*one hesitates to direct attention to this subject [clarity and directness in scientific writing] lest one be accused of setting oneself up as a stylist*". Similar views have been held by other expert writers. Woodford[8] concluded that "*bad scientific writing… is often the outward and visible form of an inward confusion of thought*" whereas Day[2] emphasized the dictum that the "*the best English is that which gives the sense in the fewest short words*"; yet, poor quality articles are rather common and may even appear in reputable journals. To counteract these trends, most publishers warn potential authors of the need of proper writing and offer guidance to available resources.

I shall refer here to four papers (including one coauthored by myself) written in English by Spanish-speaking scientists and which were published, in spite of their poor scientific rigor and faulty language, in three journals from three top scientific publishers. I have addressed such shortcomings in Letters to the Editor (LE) submitted to the respective journals with the outcomes pointed out below (the original manuscripts and editorial correspondence are available upon request).

Paper A (remarks included in an accepted then rejected LE)

In our 2009 report of a 47,XXX/45,X/46,XX patient published in *Fertility and Sterility* [9] there is a noticeable contradiction. Such a logical flaw concerns the occurrence of müllerian malformations in 47,XXX women and is worded as follows: in the introduction we assert that "*Renal and müllerian derivatives malformations have been described occasionally (3,4)*" whereas in the discussion we say that "*…müllerian malformations,,, are rather common in patients with Turner Syndrome with a structural abnormality of the X or Y (8), in 47,XXX females (9), and even in 45,X/47,XXX patients (10)*".[9] The former statement appears to be the correct one as it is consistent with the textbook assertion that prospective studies do not sustain the association of müllerian malformations with the 47,XXX condition.[10] Moreover, the article by Sybert[11] cited by us (reference four in our paper) to document the first statement is a review of 97 Turner syndrome patients with mosaicism for a 47,XXX clone but said nothing about müllerian anomalies. Two

further out of context citations are included in our discussion assertion quoted above. The former reference eight has no bearing on Y-chromosome abnormalities,[12] while the former reference nine only suggests a causal role of the XXX aneuploidy in the urogenital adysplasia sequence.[13] Lastly, our report did not add any new knowledge to cytogenetic entities singled out since 1959.

Outcome

On November 17, 2010, I submitted (with the appropriate *"conflict of interest disclosure"*) a LE in *Fertility and Sterility*, which was immediately accepted. Yet, some days later, I received a rescission notice arguing that *"…rather than become involved in any sort of intramural dispute between authors, it is in the best interest of the journal to rescind our acceptance of your letter for publication*".

Papers B and C (remarks included in a submitted then withdrawn LE)

Gøtzsche et al[14] have emphasized that *"letters to the editor… may alert readers to limitations that have been overlooked by the authors, peer reviewers, and editors*". Here, I make some remarks on two brief reports about systemic lupus erythematosus (SLE) in Mexican patients published in *Rheumatology International*:[15,16]

1. Since the population sample in the second paper[16] seemingly is a subset of the subjects studied in the first report[15] and given the complementary approaches, it would have been better to present all data in one article. Moreover, the authors' failure to cross-reference highlights an implicit salami-science strategy.
2. It is uncertain whether informed consent was obtained as both papers lack the required statement.
3. The one hundred fifty-three words discussion of the first report[15] is unsubstantial and disregards the polymorphism's functional significance. Moreover, the study's aim of exploring the susceptibility to SLE or its clinical manifestations conferred by the allele V (176) conflicts with the fact that the *"F158 allele is a risk factor for the development of lupus nephritis*" (reference four cited therein) and with the final *non sequitur* sentence that the allele V (176) is not a protective factor.
4. In the second paper,[16] the percentage of patients with SLE activity referred to as "15 (44.1%)" diverges from the expected 37.5% (15/40). It is not the reader who has to infer that 44.1% reflects the concealed proportion of 15/34 (six patients disappeared).
5. Some paragraphs of the first report[15] such as the first two in material and methods and the third one in results have a faulty syntax and punctuation. There are also some concordance errors, missing words, and awkward constructs; e.g., the opening paragraph and the phrase *"controls matched by a range of age and gender"* in that report.
6. Regardless of whether the numerous authors (14 and nine) fulfill the criteria for responsible authorship or reflect dubious authorship practices,[17] they did a suboptimal job.

Outcome

On September 17, 2010, I submitted a LE to *Rheumatology International* but three weeks later (before an editorial decision was made), I decided to withdraw it due to fear of retaliation.

Paper D (remarks in a rejected LE)

Even if the author guidelines Even if the author guidelines of *The Pharmacogenomics Journal* strongly encourage non-native English writers to have their manuscripts corrected by either a proficient colleague or an English language editing service, this journal has published an article rich in language pitfalls.[18] For instance, the verbiage and redundancy of the whole paper are well illustrated by the introductory assertion *"methotrexate is the most commonly used disease modifying antirheumatic drug prescribed for AR*". There are nonsensical sentences such as *"heterozygosity for both polymorphisms have [sic] been related not only with reduced activity of the enzyme, but also with major concentration of total hcy in plasma and levels low of folate as homozygous patients for allele-mutated 677T"* (second paragraph in introduction) or *"some groups have reported association between MTHFR-C677T polymorphism and toxicity to MTX in Dutch and Japanese population for one or the other allele"* (note the ambiguity and lack of references in this sentence from the first paragraph in the discussion), and even logical flaws (does the 1298CC genotype protect against "efficacy"? first paragraph in discussion). In addition, there are at least six subject-verb or noun-pronoun disagreements.

Aside from these and other stylistic blemishes, the paper's design has the fatal flaw of failing to mention treatment duration; were the cases and controls treated for similar or different periods? In fact, most data gathered through the "structured questionnaire" were simply not included.

Outcome

On December 16, 2010, I received a rejection letter regarding my LE submitted one month before to *The Pharmacogenomics Journal*.

Comments

Although my coauthorship in Paper A does not fulfill the International Committee of Medical Journal Editors' authorship criteria (given my meager revision of the paper's contents), I assume now my public responsibility for the shortcomings in our report. Yet, it is clear that

our blatant mistakes, regardless of their scientific irrelevance, are no worse than the poor pre-publication peer review. Sadly, it seems that such an indulgent review is not an isolated fact in *Fertility and Sterility* as inferred from the sizeable proportion of missing references in the report of a 45,X male.[19] Further, I assert that the disagreement with other co-authors on how to amend our own mistakes is overwhelmed by the serious flaws in our report. In any case, the point is not if my colleagues are upset but the moral and academic responsibility common to all research's actors (authors, referees, editors, administrators, readers, etc) to keep the record straight. Otherwise, we have to concur with the old saying highlighted by Day:[2] "*A scientific paper is not designed to be read. It is designed to be published*".

I recognize my susceptibility to the "*Mohammed Ali effect*"[20] and that questionable research practices are rather common and play a "*useful and irreplaceable role*".[21] Yet, they must be prevented through training in the responsible conduct of research[22-24] and by the example set by (good and bad) mentors.[25] Based on comparable personal experiences,[26] I anticipate that the colleagues here alluded to will attempt to dismiss these criticisms – even with *ad hominem* arguments – instead of offering rational explanations. The blemishes here remarked also illustrate the questionable communication practices highlighted by Roland[27] which are consistent with her conclusion that the "*majority of researchers felt rather comfortable with the usual scientific style*".

According to the Committee on Publication Ethics' code of conduct for editors[28] these gatekeepers should, among other duties, "ensure the quality of published material, retract fraudulent or erroneous articles, publish cogent criticisms from readers, and stand for decisions to publish papers unless serious problems are found". So, the first case (Paper A) here described further emphasizes the disadvantageous position of authors vis à vis editors and reviewers.[26,29,30]

Although the authors of all four papers here commented on are primarily responsible for the quality of the published material, the co-responsibility of the respective reviewers cannot be overlooked. Once thought as the guarantor of academic quality, pre-publication peer review appears to be declining and its proclaimed rigor vanishing.[30-32] Even if this trend can be related to the exponential growth of scientists and scientific publications, all of us involved in the publishing game must attempt to improve or at least preserve the quality and rigor inherent to science itself.

Obviously, I'm fully aware of the hurdles that non-native English writers have to overcome in order to attain a suitable English style.[5] Yet, before and beyond the language used, the crucial tools for a scientist (whether author, reviewer, or editor) are logical thought and rigorous knowledge. I hope that the aforementioned suboptimal papers remind us that the editorial process in journals from such respected publishers as Elsevier, Springer-Verlag, and Nature Publishing Group is not infallible.

Conflict of interest disclosure

I declare to have academic links with several authors of the reports here commented on. Actually, I have been their instructor on matters such as scientific writing and publication ethics.

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