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MAPPING OF CAUSES AND TIME TO RETRACTION FROM SCIENTIFIC JOURNALS INDEXED IN PUBMED

https://doi.org/10.21452/procpc_05

Dissertação apresentada como parte dos requisitos para certificação no CSE Publication Certificate Program

São Paulo (SP)
2020

Mapping of causes and time to retraction from scientific journals indexed in PubMed[i]

Objective: To analyze the speed and causes of retraction of articles from scientific journals in the biology area, indexed in the PubMed Portal.

Hypothesis: Scientific journals with higher impact factors would present shorter time to retraction. This hypothesis was based on the idea of overvaluation of the Impact Factor (IF) index by the academic community: researchers, graduate students and librarians, as well as editors involved in the publication of scientific articles. We considered that journals with higher IF have agility to shorten time to retraction because they have better information technology infrastructure and skilled editorial staff.

Method: The search for biology journals in PubMed was carried out on September 7, 2018 and retrieved 316 titles. The choice of MEDLINE was motivated by the combination of two reasons: it is a worldwide database in the field of biomedical sciences and has been used by researchers at the Biological Institute for many years. Thus, after application of the MEDLINE database filter, 148 titles were retrieved. From this subset, we created a search strategy to retrieve the articles. The title, abstract and hyperlink of 140 represented articles were retrieved and distributed in 49 titles of scientific journals. The Journal Citation Reports® (JCR) survey identified 37 journals with an IF and 12 journals with no IF.

Results: There is heterogeneity in the retraction policy of the journals presented in this result. Retraction time ranged from the same day of publication to 184 months. The detailing of the association between IF and retraction time was categorized into three IF ranges:

In the higher IF values, three journal articles with IF = 13,843 had a retraction time between 24 and 45 months, motivated by the non-reproducibility of the results of the research and the lack of knowledge or error in the research methodology.

Six articles with IF = 12,353 showed a retraction time interval between the same day and up to 62 months. The causes of this retraction were the authorship dispute, the lack of authorization for submission, the publication of images, the duplication of figures and data, the manipulation of images, figures, data and not a clarification of technical issues raised by the Ethics Committee.

Four articles with IF = 9,251 had a retraction time between 3 and 48 months, whose causes were fabrication/manipulation of images and figures, non-reproducibility of the results of the research, the lack of knowledge or error in the research methodology and data that generated incorrect conclusions.

In the intermediate IF values, nine articles with IF = 3,234 and retraction time between the same day and up to 112 months were retrieved. The reasons were plagiarism, duplication of data and figures, manipulation of figures, erroneous identification of the sample, conclusions not based on the results, mention of retraction without details of causes and non-localized retraction.

One article with IF = 3,179 presented a retraction time of 9 months. The causes of retraction were textual discrepancy and inaccuracy in material and methods and inadequate presentation of data.

Eight articles had IF = 3,098 and retraction time between 4 and 52 months. The causes were plagiarism, non-reproducibility of results, the duplication of part of the results of another article, the violation of the originality rule, the error in identifying

components, the lack of relevant citations, and the lack of reliability in the information provided by the author.

In the lower IF values, one article with IF = 0.401 was not localized.

Two articles with IF = 0.546 had a retraction time of 27 and 28 months, but without access to the full text.

An article with IF = 0.784 did not report retraction time. The causes were the lack of authorization for publication and data already published in another journal article.

Conclusions: The findings do not confirm the initial hypothesis. We found that 75.5% of the 148 journals in the biology area indexed in MEDLINE with retracted articles have Impact Factor®. The journals with lower IF values showed greater difficulty to access the full text and the information that motivated the retraction, but we did not find evidence of an association between the time of retraction greater than the journals with lower Impact Factor®. Major and minor retraction times, errors and misconduct were present in the journals of all levels of IF. Based on these findings, we conclude that the retraction should not be seen as negative, but rather as a tool that promotes good practices and scientific integrity.

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