



## Issue 2

# Analysis of retracted articles by Jordanian authors: A Twenty-Year Analysis

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## High Yield Medical Reviews

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### Introduction

The aim of this study is to analyze retracted articles published by Jordanian authors in the period between 2001 to 2022.

### Method

This paper was done by using data from the Retraction Watch database filtered to include papers where one of the authors was affiliated to Jordan covering the period between 2001 to 2022.

### Results

The search yielded a total of 40 articles retracted with authors affiliated to Jordan for papers published from 2001 to 2022, as reported in the retraction watch database. The number of retractions in the last 5 years has been increasing. Regarding fields, medicine was the most common with 50% of retractions, followed by technology and engineering. The total number of authors in this research was 132, out of them 79 authors were from Jordan. Five authors had two retractions, while the rest had one retraction. Of the total retractions, 7(18%) were from the University of Jordan. Followed by Jordan University of Science and Technology (JUST) with 6 (15%) retractions. Regarding the reason for retraction, author and data-related disputes were the most common.

### Conclusion

retractions in articles published by Jordanian authors have been increasing throughout the last few years, with the highest researching universities having the highest number of retractions. Awareness about data and author-related reasons for retractions may lower retractions in Jordan.

## INTRODUCTION

Retraction is becoming more and more of a significant event in academic and scientific publishing. Although an uncommon occurrence, it is an increasing issue in science.

Retractions provide a clear glimpse into how science corrects itself.<sup>1</sup> However, it is debatable whether and to what extent one should view them as a barrier to scientific progress and a sign of deteriorating standards as opposed to a sign of integrity and ethics in the field.<sup>2</sup> Research literature has been influenced by increased publication activity, and the number of errors discovered in research publications has increased along with the growth of scientific literature. When transgressions and mistakes go unnoticed during the publishing process, journals can, in extreme cases, completely withdraw publications in an effort to clear the literature as much as possible of errors and inaccurate information.<sup>3</sup>

In the last several decades, Arab nations have seen a tremendous amount of activity in the development of public and private colleges as well as public and specialized research institutions based on patterns common in Western nations.<sup>4</sup> This has significantly enhanced the contribution of Arab countries to research publications. Over the past few years, an increase in Jordanian research production has been observed. Over a ten-year period, the overall number of publications per year climbed by almost 60% (from 2008 to 2017),<sup>5</sup> which helped the Arab world to increase its contributions to scientific publications and reduce the disparity between the area and the rest of the world. The rise of Jordanian research output has been accompanied by a rise in research errors, sometimes leading to publications being retracted,<sup>3</sup> which is the subject of this study's exploration.

## METHODS

This study used data from the Retraction Watch Database (RWD), an openly accessible database for retracted scientific publications. Established in August 2010, the RWD contains an up-to-date list of retracted papers ([retraction-watch.com](http://retraction-watch.com)). Our inclusion criteria were retractions from RWD in which one of the authors of the retracted publication was affiliated to a Jordanian institution. We performed the search on the 15th of December 2022. We searched RWD by inputting "Jordan" in the country field.

We reviewed each article retracted and its published retraction notice to extract the title, field, authors, affiliations, journal, publisher, and year of published paper and its retraction. We categorized the reason for retraction into the following categories: No data available, duplication, plagiarism, author-related reasons (e.g., author dispute), data-related reasons (e.g., data falsification fabrication), investigation related (e.g., errors in the methods), review related (e.g., fake peer review), or ethical (e.g. reasons related to ethical approvals). Articles freely accessed by readers are considered open-access articles.

## RESULTS

There was a total of 40 articles retracted with at least one author affiliated to Jordan for papers published in around 20 years period from 2001 to 2022, as reported in the RWD. The first article retracted was published in 2001 and was retracted in 2008. While the first retraction notice was in 2007 for an article published in 2005. The total number of authors in this research was 132, out of them 79 authors were from Jordan. Five authors had two retractions, while the rest had one retraction.

Retractions were most common in the field of medicine with 20 (50%) retractions, followed by technology with 11 retractions, engineering with 6 retractions, mathematics and public health and safety with the equivalent number of 5, and business with only 4.

The most common cause for retraction was concerns about plagiarism. The top reasons for retractions along with the median duration from publication to retraction were as follows:

- Eleven (27.5%) had plagiarism issues, the median duration of 15 (2.25-83.5) months
- Seven (17.5%) had concerns about peer review including fake peer review, median duration of 9 (2.5-5.5) months
- Five (12.5%) articles had author disputes, median duration of 9 (5.5-26.5) months
- Four (10%) had concerns related to article duplication, median duration of 27.5 (18.25-79.5) months
- Two (5%) articles had errors by journal or publisher, median duration of 4 (2.5-7) months

10 articles had limited data for the reasons behind the retraction.

When publishers were sorted, Elsevier came out on top with seven retractions (17.5%), followed by Hindawi with

six (15%) and IEEE, Wiley, SAGE Publications, Taylor & Francis, and Springer Nature with three apiece (7.5% each). The remaining 12 retractions (30%) included works from other publishers. Computational and Mathematical Methods in Medicine topped the list of journals with 3 (7.5%) retractions. The 2nd International Conference on Computer Engineering and Technology, Applied Bionics and Biomechanics, and The Proceedings of the Institution of Mechanical Engineers Part H: Journal of Engineering in Medicine, all of which had two retractions. The remaining 31 (77.5%) retractions were published in other journals, each had one retraction.

## DISCUSSION

It is important to analyze retractions, as they represent an extreme act of literature correction. This will provide prospective authors with feedback on improving their projects, avoiding the pitfalls of retracted articles.<sup>6</sup> In this article, we focused on the retracted papers published with at least one contributor affiliated with Jordan. We focused on analyzing the reasons behind such retraction to avoid that in the future. The search yielded a total of 40 retractions between 2007 and 2022.

A previous study showed that the frequency of retractions has increased dramatically in the past 20 years.<sup>7</sup> It's not clear if the reason behind the increasing number of retractions is increasing misconduct or increasing detection due to enhanced surveillance.<sup>8</sup> A previous study found that compromised peer review was the most common reason behind retraction in biomedical articles published by BioMed Central journals.<sup>9</sup> Peer review was the second most common reason in our study. Another reason for retraction is usually when there are errors in the article that cannot be easily fixed.<sup>10</sup> Moreover, when the results themselves cannot be replicated, this can be another reason for retraction, a reason that is most important for biomedical literature.<sup>11</sup> Author-related errors include breach of policy by the author, concerns or issues about authorship, forged authorship, lack of approval from the author, and objections by the author.<sup>11</sup> Data-related errors resulted from a lack of information and randomly generated content. Unfortunately, retraction notices take a long time to reach the target readers after the article is published and it remains a chronic problem.<sup>12</sup> The median time interval between publication and retraction in this study is 9 months.

One limitation in our study can be the unavailability of the reason behind retraction in the notice, which is relevant for 10 (25%) of our articles. The number of articles retracted with unavailable or limited data about the reason exceeded 50% in a prior study on the medical literature.<sup>11</sup> Retraction to the article should be taken seriously if there is inconclusive evidence of misconduct by the authors, or if there is evidence that the authors' institution will not mention the case if the findings are unreliable.<sup>12</sup>

## CONCLUSION

This study provided a comprehensive analysis of the reasons behind retractions for the article with authors affiliated with Jordan. The most common reason was plagiarism, followed by peer-review concern, and the third most common reason was author dispute. While the number of retractions was small, considering the volume of literature produced by Jordanian authors, we believe that authors should be aware of the reasons for retractions to avoid them in their projects.

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## CONFLICT OF INTEREST

None

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