

ANNOTATION

of the dissertation work of doctoral student Zhaksylyk Alikhan Altynkhanuly on the topic "Retraction of scientific publications in the field of public health: analysis of problems and ways to solve them," submitted for the degree of doctor of philosophy (PhD) on the specialty 6D110200 «Public health»

Relevance of the study

The scientific research process requires a rigorous methodology that includes formulating hypotheses, conducting experiments, documenting them, and analyzing the results. However, even though all stages of research are maintained, inaccuracies and errors may be found in published articles [Rahman H., Ankier S., 2020]. The retraction method is used to prevent misleading readers and to ensure the ethics of scientific publishing [Kleinert S., 2009]. This process reports severe violations of ethical standards in published materials, which can be caused by unintentional authors' errors and misunderstanding of scientific principles [Decullier E., Maisonneuve H., 2018]. The retraction initiator can be the author, journal editorial board, publisher, or public inquiry. Focusing on retraction issues in the medical field emphasizes the importance of continuous monitoring and analysis of retraction data. Incorrect findings and irregularities in medical publications can lead to malpractice and unfavorable outcomes [Gupta L., Gasparyan A. Y., 2020]. Understanding the causes of retraction in different countries, including Kazakhstan, is essential to improving scientific research quality and ensuring the ethics of scientific publications.

Thus, the retraction of scientific publications remains relevant against the backdrop of the steady development of health science and practice. Rapid progress in health care necessitates constantly updating knowledge and methods based on relevant and reliable research. However, insufficient control of the ethics and quality of scientific publications can have severe consequences for the scientific community and practical health care. The number of withdrawn publications has increased, but the reasons for this trend still require in-depth investigation. Given the problem's relevance, this study focused on conducting a comprehensive analysis of the causes of the retraction of scientific publications in the healthcare field and developing recommendations to prevent such cases.

Purpose of the study

Comprehensive analysis of the problems of retracted scientific publications in the field of health and recommendations for their solution

Objectives of the study

1. Conducting a global analysis of the retraction of scientific publications related to ethical misconduct in health care;
2. To give a comparative characterization of scientific publications retracted in Kazakhstan;
3. Research in the field of public health and analyze the leading causes of publication ethics violations;

4. To assess the quality of social media in the context of dissemination of reliable and ethical scientific information in the field of health care (using YouTube channel as an example);

5. Development of proposals to improve the ethics of the ecosystem at the academic level in the health care field.

Materials and methods of research

Study materials:

Data from Retraction Watch, SJR, Altmetric (AAS), MEDLINE, PubMed, Scopus, Web of Science, and the Directory of Open Access Journals (DOAJ) and social media platforms.

Research Methods:

-Information-analytical (for the world 177, for the Republic of Kazakhstan for all specialties 92, including health care 13 publications) and bibliographic analysis (160 publications);

-Cross-sectional descriptive analysis (92 withdrawn publications) ;

-Method for categorizing retractions (by ten categories);

-Exploratory research (137 videos);

-Quality and reliability assessment method (Global Quality Scale (GQS) and DISCERN tool);

-Statistical methods (Microsoft Excel as number (n), percent (%), and median (minimum-maximum), Statistical Package for the Social Sciences version 20.0 (SPSS Inc., Chicago, IL, USA)).

Object of study

The study aims to retrace scientific publications and YouTube videos in the healthcare industry.

The subject of the study

The study focuses on the processes and mechanisms of retraction of scientific publications in the healthcare field, as well as ethical violations that lead to the need to retract scientific papers. Particular attention is paid to analyzing the Kazakhstani experience in the context of international standards, including the study of social and institutional factors affecting scientific integrity and the quality of publications.

Provisions for defense

- Comprehensive analysis of the causes of retraction of scientific publications in health care by scientific organizations and strengthened control allow for the identification and prevention of the required basic scientific ethical violations.

The editorial boards of Kazakhstan publications are not compliant with international standards of research ethics, which indicates the need to improve the methodology of scientific research and increase the level of competence of researchers.

The developed recommendations to improve scientific research's ethical standards strengthen Kazakhstani scientists' authority in the international scientific

arena, significantly reducing retraction and enhancing the quality of scientific publications.

Results

The results were presented in a series of articles:

1. "Analysis of Retracted Publications in Medical Literature Due to Ethical Violations" (Journal of Korean Medical Science, Republic of Korea; Q1 by Journal Citation Reports (Clarivate Analytics); third author);

2. "Characteristics of Retracted Publications From Kazakhstan: An Analysis Using the Retraction Watch Database" (Journal of Korean Medical Science, Republic of Korea; Q1 according to Journal Citation Reports (Clarivate Analytics); second author);

3. "Research Integrity: Where We Are and Where We Are Heading" (Journal of Korean Medical Science, Republic of Korea; Q1 according to Journal Citation Reports (Clarivate Analytics); first author);

4. "YouTube as a Source of Information on Public Health Ethics" ("Journal of Korean Medical Science," Republic of Korea; Q1 according to Journal Citation Reports (Clarivate Analytics); first author);

5. "Analysis of Retraction Watch database on retracted medical articles from Kazakhstan" ("Journal of Health Development", Republic of Kazakhstan; the journal is included in the list of publications recommended by the Quality Assurance Committee in the field of Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan to publish the main results of scientific activity; first author);

The fifth research task was carried out by developing methodological recommendations for preventing retractions at the academic level in health care. "Analysis of the reasons for violations of ethical norms leading to retractions. Recommendations for improving the ethics of scientific research" were received. In addition, a letter was obtained from the Committee for Quality Assurance in the Field of Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan recommending the active use of the results of this research in their practical activities to the scientists of the Republic of Kazakhstan and higher educational institutions.

Theoretical significance of the study

The study's theoretical significance lies in systematically addressing ethical issues and their retraction in scientific publications and in providing new approaches to improving ethical standards at the level of research practice and academic institutions. The findings deepen the understanding of the leading causes of ethical misconduct in the scientific field and contribute to the development of scientific ethics and quality management of scientific publications.

Practical significance of the study

The study's practical significance lies in the development of ethical standards in health care and recommendations aimed at improving the quality of scientific

publications. The results obtained can be used by scientific institutions, universities, and scientists to prevent retraction, which will help increase Kazakhstani scientists' confidence in research in the international arena.

In addition, the study can serve as a basis for creating effective internal quality control systems for scientific publications, which help reduce the likelihood of ethical violations and improve the overall level of scientific integrity in academia.

Scientific novelty of the study:

- For the first time in the world, a systematic analysis of retraction publications in health care related to violations of ethical norms was conducted.

- For the first time, a comprehensive analysis of the retraction of publications of Kazakhstani authors on all specialties and the healthcare industry based on the Retraction Watch database was conducted.

- Social network platforms were evaluated for their role as a source of information on healthcare ethics and the reliability of the data they presented.

- For the first time, recommendations on preventing causes of ethical violations leading to retraction and improving research ethics, which are important for researchers in counteracting ethical destructive actions and negative consequences that they may cause, were developed.

Personal contribution of the doctoral student

The doctoral student conducted a literature review of current databases, including the Retraction Watch database, on the problem of retraction of scientific publications. The author also analyzed the findings and made the research results and related conclusions. Together with scientific advisors, several publications on the topic of the dissertation research were written and published; in three of the five publications, the doctoral student is the first author. Based on the study results, methodological recommendations for preventing retractions at the academic level were improved.

Conclusions

1. A global analysis of scientific publication retractions in the health field showed the top three countries in terms of retraction rates: China (26.5%), the USA (14.1%), and South Korea (12.9%). A large number of retractions were found in the subjects of Immunology (15.2%), Neurology (12.9%), and Oncology (11.8%).

2. The number of retracted scientific articles from Kazakhstan started to increase in 2017. The comparative analysis of the retraction of scientific publications in Kazakhstan showed that the most significant number of co-authors is in the RF, which is 26% of the total number of publications. The number of retractions in the healthcare field in the Republic of Kazakhstan amounted to 10.07% of the number of retractions for all industries. The retraction time is 2.65 times less than the global value, which indicates a more thorough verification of Kazakhstani articles and increases the relevance of the research work.

3. During the analysis of the main reasons for research ethics violations, the main reasons for the retraction of publications worldwide, i.e., "ethical approval

issues" - 65, "questionable data" - 51, "informed consent issues" - 45, were reflected in the articles. In addition, all specialties of the Republic of Kazakhstan revealed "false reviews" - 38, "plagiarism" - 25, "repetition" - 14 publications, including in the direction of health "verification by the journal" - 7, "author issues and disagreements" - 7, "false reviews" - 6.

4. An analysis of social media using the YouTube channel as an example showed that quality control of social media content is the basis for ensuring reliable and ethical health information and that more attention should be paid to content provided by governmental organizations and academic institutions.

5. Recommendations for improving the ethics of the ecosystem in health care were developed for scientists and at the institutional level (methodological recommendations, author's certificates, acts of implementation).

Approbation of the work

The main results of the doctoral students work are presented at the forum of the Committee for Quality Assurance in the Field of Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan «Quality Assurance in the field of higher education: status and prospects of development» (January 29, 2024, Astana) and organized by the Council for Science at the N. Nazarbayev Foundation and JSC "South Kazakhstan Medical Academy" at the X International Scientific Conference of Young Scientists and Students "prospects of development of biology, medicine and pharmacy" (December 7-8, 2023, Shymkent, Kazakhstan).

Published works on the subject of dissertation work

The materials of the dissertation work have been published in 8 scientific and methodological papers, of which 3 articles and 1 review have been published in publications included in the first quartile of the impact factor according to the Journal Citation Reports of Clarivate Analytics (in two articles, the doctoral student is the first author), 1 article has been published in a journal recommended by the Committee for Quality Assurance in Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan, 2 publication published at an international conference and forum and 1 methodological guide «analysis of the causes of ethical violations leading to Retractions. Recommendations for improving the ethics of scientific research».