



MILLENNIUM JOURNALS
New Horizons for Academic Research

Millennium Journal of English Literature, Linguistics and Translation

Journal homepage: <https://milljournals.org/es-journal/>

Plagiarism in Medical Sciences' Publications in Iran: The Extent, Reasons, and Preventative Measures

Mohammad Reza Esfandiari

Department of Foreign Languages, Shiraz Branch, Islamic Azad University, Iran

Seyyed Samad Sajjadi

English language Department, School of Allied Medical Sciences, Shahid Beheshti University of Medical Sciences, Iran

Asma Siyahi

Department of Foreign Languages, Shiraz Branch, Islamic Azad University, Iran

Forough Rahimi*

English language Department, School of Allied Medical Sciences, Shahid Beheshti University of Medical Sciences, Iran

<https://doi.org/10.47340/mjellt.v1i1.2.2020>

Abstract

The main purpose of this study is to analyze the main reasons behind plagiarism in medically-oriented articles and to determine its range. The study was conducted in two phases. The first phase tackled the frequency of its occurrence in publications of medically-oriented universities. To this end, a total of 23 ISI-indexed and 74 SCOPUS-indexed journals, with medically-oriented topics, were randomly selected from the portal of the Iranian Ministry of Health and Medical Education. The selected journals were published within the last 5 years. Then, in the next step, two articles were randomly selected from each journal amounting to 194 articles. The selected articles were then checked by *TURNITIN plagiarism detector software* to specify their similarity index with three familiar sources: the internet, publications, and students' papers. The results indicated the similarity index of 66.09 and 67.89 for the ISI and SCOPUS indexed journals respectively. The study, additionally, went further to delineate the researchers' perceptions of plagiarism, intended for preventative purposes and subsequent preventative measures. Therefore, eight researchers, with 15 to 30 years of publication experience, were asked to take part in a semi-structured interview. Based on their assertions, insufficient language skills, lack of robust research ideas and skills, pressure for promotion or graduation, ineffective punitive measures, insufficient funding, and leakage of research ideas through collaborative clinical practice were the main reasons for committing plagiarism. The study proceeded with some remedial suggestions.

Keywords: plagiarism, academic writing, medical sciences' publications

* Corresponding Author

1. Introduction

Academic writing is a complicated process requiring the author to be highly accurate and reliable. Researchers and authors of academic reports usually work under certain constraints which will impose various pressures that can affect the quality of their academic writings negatively. This may lead to violations of standard academic writing practice.

Plagiarism, which is the act of using other people's works without appropriate acknowledgment, is becoming ever increasing among academia. Observing ethical considerations in research writings is of great importance. The available body of literature on academic research misconduct highlights a three-fold classification, namely citation violations, authorship violations, and fraud which encompasses fabrication, falsification, and plagiarism (Abbasiyan, et. al., 2018).

The academic writings of scholars and researchers must follow the basic rules adhering to ethical considerations of the originality of presented ideas and findings in all fields of studies, particularly in medically-oriented research studies. This fact signifies the conduct of various studies on the topic at hand. The main objectives of the present study were to clarify this issue and investigate the extent of this academic misconduct in medical sciences publications and also the researchers' perceptions of plagiarism for remedial purposes and subsequent preventative measures in an Iranian educational context. More specifically, it aimed to investigate the reasons why some Iranian researchers working at medical universities plagiarize, and what measures can be taken by administrators to avoid plagiarism. The authors were trying to determine the magnitude of the problem in Iran with focused attention on medically-oriented research at universities of medical sciences.

The findings of the present study will help the academic society to be aware of the reasons why researchers commit plagiarism and to take remedial steps to minimize to eliminate this practice in future research works.

2. Review of Literature

Plagiarism relates to utilizing other people's writing or ideas without appropriate acknowledgement or citation (Devlin and Gray, 2007; Bakhtiari et. al., 2014). Different researchers have addressed the issue of plagiarism differently. Some studies pointed that students are usually encountered with time-related constraints which may lead to plagiarism in their academic writings (Abdolmohammadi and Baker, 2007; Baird, 1980; Bennett, 2005; Comas-Forgas and Sureda-Negre, 2010; Franklyn-Stokes and Newstead, 1995; Larkham and Manns, 2002; Newstead et al., 1996; Silverman, 2002). Franklin-Stokes and Newstead (1995) conducted a study to determine the main reasons why students in the UK plagiarize. They concluded that such factors as time pressure, tendency to increase the mark, fear of failure, and laziness are the main reasons. Delvin and Gray (2007) investigated different reasons for plagiarism based on the opinions of Australian university students which revealed such factors as institutional admission criteria, students' understanding of plagiarism, poor academic skills, and some teaching and learning, personality, and external factors. Park (2003) examined plagiarism's literature and concluded that misunderstanding of scholarship and referencing requirements, efficiency gain, student personal values, negative student attitudes toward the class or teachers, and low chance of being caught or effectively punished are the main reasons for committing plagiarism.

The available literature also revealed some studies conducted in the context of Iran. These studies have mainly investigated the perceptions and reasons for committing plagiarism by students, learners, or lecturers of different majors in Iran. Jafari Sani and Ferasat (2013) conducted a study examining the language learners' basic motivations behind doing plagiarism which indicated that laziness, a tendency for obtaining better grades, time pressure related to assignments' deadlines, and lecturers' indifference and students' poor knowledge of referencing are the main factors. Rezanejad and Rezaei (2013) mentioned that students resort to plagiarism due to its convenience and their poor language knowledge.

Riasati and Rahimi's (2013) maintained that insufficient knowledge about plagiarism, inadequate research skills, and language incompetence are accounted for plagiarism in an Iranian context. Amiri and Razmjoo (2016) asserted that students commit plagiarism because of teachers' low sensitivity towards plagiarism and also students' poor writing ability. Khoshsaligheh, Mehdizadkhani, and Keyvan (2017) also maintained that the results of their study conformed to previous studies emphasizing a need to consider an alarming level of careless negligence towards issues in research publishing ethics and poor familiarity with the notion by students. Other researchers emphasized that more in-depth examinations and investigations are required for plagiarism behavior (Evans, 2000; Yusof, 2009).

In line with previous studies, the present study sought answers to the following research questions:

1. To what extent do medically-oriented ISI-indexed and SCOPUS-indexed articles authored by Iranian researchers from 2010 to 2016 demonstrate plagiarism?
2. What are the perceptions of Iranian scholars in medical academic settings about plagiarism?
3. What are the main reasons demonstrated by Iranian scholars in medical academic settings about plagiarism?
4. What preventative measures can be taken to minimize plagiarism in academic reports?

3. Method

3.1. Participants

Eight experienced researchers were selected based on availability or their willingness to take part in a semi-structured interview. These researchers had teaching and publishing experience in medical fields for 15 to 30 years with a substantial number of publications in their field of study.

3.2. Instrument

The sample selected from the population was comprised of Iranian scholars' articles published in ISI and SCOPUS indexed journals from 2010 to 2016. A total number of 97 specialized English journals (23 ISI-indexed and 74 SCOPUS-indexed journals) of medical sciences related majors were selected based on stratified random sampling with indexing types (ISI or SCOPUS) being the strata. The articles were selected based on the information provided by the Commission for Research and Technology Portal (<http://journalportal.research.ac.ir>). A list of papers was created for each journal, then through a table of random numbers, two papers published from 2010 to 2016 were randomly selected from each journal amounting to a total of 194 articles. The sample size was determined based on Krejcie and Morgan's (1970) table for

determining sample size for a given population which justified a sample of 194 for a population of 400 with the confidence of 95% and an error margin of 5.0%.

Also, a semi-structured interview in the finalized form, which contained six main questions about the researchers' definition of plagiarism, was used in the present study.

3.3. Procedures

This study adopted a sequential mixed-method design since it encompassed first quantitative data through the software's report and then qualitative data obtained through semi-structured interviews. The first phase of the study incorporated collecting numeric data reporting the extent of plagiarism provided by plagiarism detector software in the selected sample through frequencies. The second phase represented the perceptions of the participants of the study about the concept of plagiarism and the ways through which it can be minimized via some semi-structured interviews. The findings of these phases were reported by axial codes manifesting the basic themes that emerged from the interviews.

3.4. Data Analysis

To analyze the percentage of plagiarism, the articles were checked by TURNITIN plagiarism detector software. The results provided by the software output were used to answer the first research question of the study.

The second phase of the study delineated the perceptions of Iranian researchers and scholars about the main reasons for committing plagiarism in academic writings, intending to propose some preventative measures. The data obtained from the study were tabulated and presented in the form of a table and two figures.

4. Results and Discussion

The total sample of 194 articles (46 ISI-indexed and 148 SCOPUS-indexed articles) was checked by TURNITIN plagiarism detector software. The reports determined the similarity index of these articles with 3 main sources including the internet sources, publications, and student papers (students' mini-projects or short scale research practices undertaken by the students which are available online).

The findings determined the similarity index of 66.09 for ISI-indexed articles. The similarity of these articles attributed to the internet sources and publications were determined 56.52 and 48.19 respectively. The percentage for the similarity to student papers was 15.09 which is far less than the other two sources.

As for the SCOPUS-indexed articles, the findings determined the similarity index of 67.89. The similarity of these articles attributed to the internet sources and publications was determined 62.47 and 24.85 respectively. The percentage for the similarity to student papers was 12.72 which is far less than the other two sources.

The results of the similarity index are tabulated in Table 1 as follows:

Table 1*Similarity index of ISI and SCOPUS-Indexed Articles*

source	similarity index	Internet sources	publications	student papers
ISI	66.09	56.52	48.19	15.09
SCOPUS	67.89	62.47	24.85	12.72

Figure 1 has depicted the difference of similarity indices of these two main sources of articles via a pie chart. It shows that the similarity indices of these two main sources of articles are relatively close and the comparison does not indicate a statistically significant difference. This implies that there is no relationship between committing plagiarism and journals' indexing.

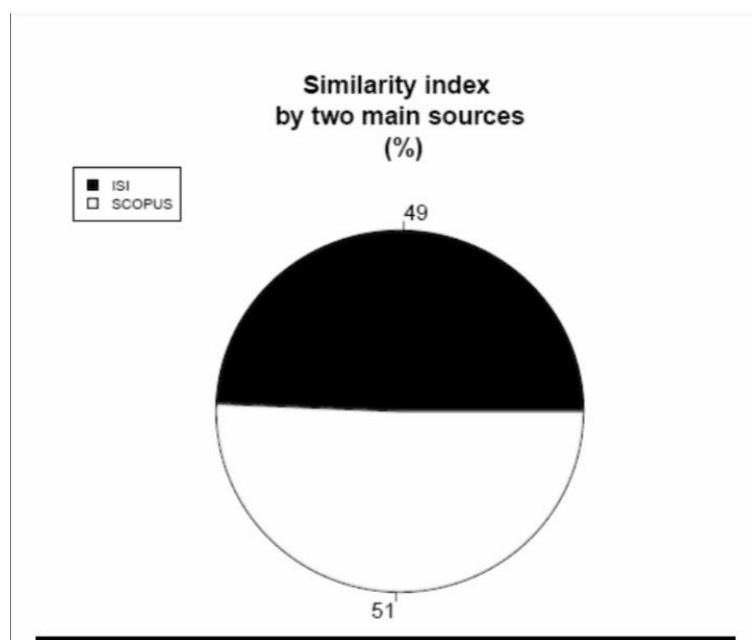
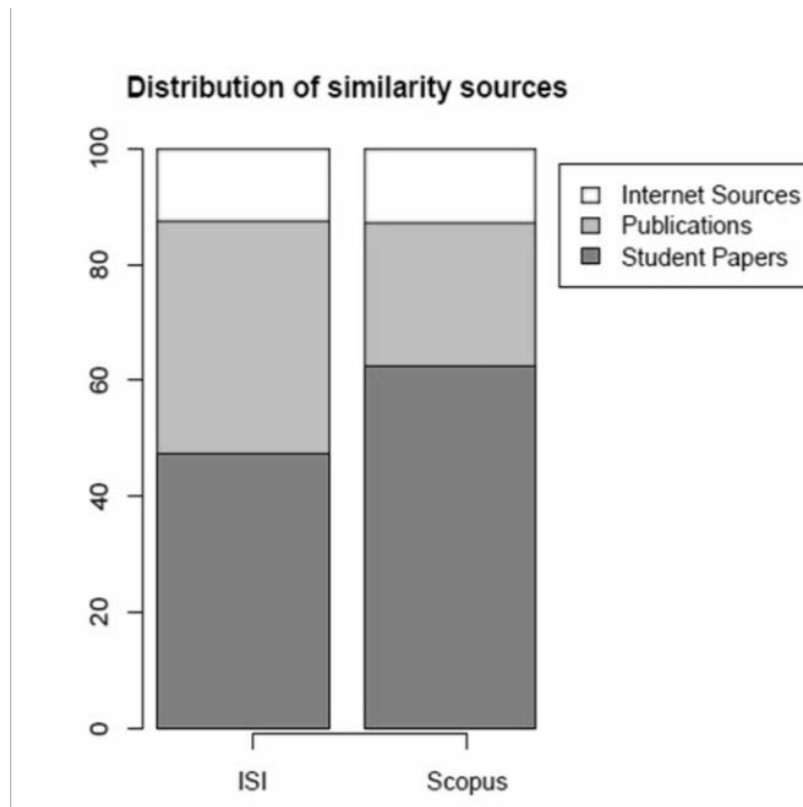
Figure 1*Comparison of similarity indices by two main sources*

Figure 2 demonstrates the similarity index of the two main sources of articles with three main sources, namely *the internet sources, publications, and student papers* via a bar graph. As illustrated below, the similarity indices of the two main sources of articles with the internet sources are rather close and do not represent a significant difference. However, the similarity index with publications for ISI-indexed articles (45% to 85%) is greater than that of SCOPUS-indexed articles (60% to 80%). The similarity indices with student papers are 60% and 45% for SCOPUS and ISI-indexed articles respectively.

Figure 2*Similarity Index With Three Main Sources*

To securitize the perceptions of Iranian researchers and scholars about plagiarism and the main reasons behind this academic misconduct, semi-structured interviews were conducted. The objective of this phase of the study was to delineate the motivations and reasons for writers' academic articles for plagiarizing in order to propose someone measure for minimizing this practice in academic publications. To this end, eight experienced researchers were selected based on availability to participate in a semi-structured interview. The participants were assistant, associate, or professors affiliated to Shahid Beheshti University of Medical Sciences in Tehran, Iran, ranging from 46 to 63 years of age. All the participants majored in medical sciences fields, including Medicinal Pharmacy, Nursing, Pharmacy, Nutrition, Social Medicine, Midwifery, Industrial Pharmacy, and Medicine. They have been teaching and publishing articles for 15 to 30 years with a substantial number of published articles or books. In order to determine the interview, the researchers reviewed the available literature on the topic and examined the instruments utilized. After examining these studies, the researchers came up with some ideas to be followed as the main themes of the interview. In addition, three academic experts were consulted to determine the questions of the interview. The finalized content contained six main questions about the researchers' definition of plagiarism with concrete examples, how they get familiar with this concept, their realization of the act of plagiarism and also their sensitivity towards this academic misconduct, the main reasons for committing plagiarism by students and researchers in academic settings, the main sources referred to by researchers and students when plagiarizing, and their suggestions for any preventative measure to minimize plagiarism in academic publications.

The audio-recorded interviews were transcribed and codified by the researchers to elucidate the main themes addressing the second and third research questions. The results revealed the following outcomes:

All the researchers had a consensus on the definition of plagiarism as follows:

- Unacknowledged or unauthorized use of other people's ideas, data, or writings
- Merging other people's data with your data without permission or stating
- Violating scholarship or referencing requirements, norms or standards

The participants declared the following channels through which they were acquainted with the concept of plagiarism:

- Via the internet, media, and news
- Via instructions received by their affiliated institutes or universities
- Through experiences accumulated by working as journals' reviewer or editor
- Via research approval council sessions' increased sensitivity towards plagiarism

The participants also reflected upon their realization of the act of plagiarism and also their sensitivity towards this academic misconduct as:

- Any copied material without appropriate citation
- Leaked ideas pursued by others
- Any attempt to subtly merge other researchers' data with your own
- The degree of sensitivity among university professors is higher as compared to student researchers
- Any footprint of plagiarism in any shape must be strictly prohibited

The researchers participated in the interview mentioned the following main reasons for committing plagiarism by students and researchers in academic settings:

- Insufficient or poor English writing ability
- Lack of robust research idea and skills
- The existing pressure applied by universities or institutes for the promotion of professors or the graduation of students
- The financial unaffordability of universities and institutes to fund research projects
- Insufficient knowledge about plagiarism and avoidance strategies

The participants mentioned the following main sources for researchers and students to refer to when plagiarizing:

- The internet and online databases
- Untracked published articles, books, thesis and dissertations

The interview results revealed these suggestions as a preventative measure to minimize plagiarism in academic publications:

- Providing required training and education about plagiarism via workshops or classes
- Strict punitive measures such as education suspension for students and promotion deferment for professors

- Equipping universities, institutions and research centers with specialized plagiarism detector software
- Providing English academic research writing classes to improve English language skills

5. Conclusion

One objective of this study was to determine the extent of plagiarism by reporting the frequency of its occurrence in publications of medically-oriented universities. The results specified the similarity index of the selected sample with three familiar sources: the internet, publications, and students' papers. The findings indicated a similarity index of 66.09 and 67.89 for the ISI and SCOPUS indexed journals, respectively. The next phase of this study was delineating the researchers' perceptions of plagiarism, intended for subsequent preventative measures. The reflections of the participants revealed that insufficient language skills, lack of robust research ideas and skills, pressure for promotion or graduation, ineffective punitive measures, insufficient funding, and leakage of research ideas through collaborative clinical practice were the main reasons for committing plagiarism. The findings of this study approved those of previous research considering poor language skills, pressure, and lack of effective punitive measures. The findings also correlates with the findings of previous studies by revealing that in medically-oriented settings, insufficient funding and leakage of research ideas through collaborative clinical practice could be regarded as a serious act of plagiarism or academic misconduct.

Based on these assertions, it is recommended that universities and institutions hold some classes or workshops to educate their affiliated students or instructors on plagiarism. Also, universities, institutions, and research centers must get equipped with specialized plagiarism detector software so that researchers can get their writings checked before publication. This can contribute to minimizing unintentional plagiarism which may occur due to lack of competence in this area. Besides, establishing strict punitive measures such as education suspension for students or promotion deferment for professors can be debilitating actions. In his paper, Stein (2007) gave a comprehensive overview of the plagiarism detection approaches which can be preventative for institutes, students, and practitioners. Wager (2011) believed that journals and institutions need good policies and procedures since journals are responsible for what they publish and that cooperation between institutions and journals are needed to ensure that unreliable publications are retracted. The phenomenon of retraction has received much attention both from researchers and the media and many studies have considered working on the topic of retractions (Steen, 2011). Providing English academic research writing classes can also contribute to minimizing plagiarism in academic publications. Additionally, awareness and consciousness-raising programs are needed to increase the students' and instructors' sensitiveness towards plagiarism.

Acknowledgments

The authors would like to express their gratitude to the experienced researchers, assistant, associate, or professors affiliated to Shahid Beheshti University of Medical Sciences in Tehran, Iran who contributed to the work as the participants of the study.

References

- [1] Abbasiyan, Z., Shekofteh, M., Afshar, E., Ghasemi, E., & Rahimi, F. (2018). Do the editors-in-chief of Iranian medical journals have a good knowledge, attitude, and practice of plagiarism? *Journal of Paramedical Sciences*, 9(3), 16-22.

- [2] Abdolmohammadi, M., and Baker, C. (2007). The relationship between moral reasoning and plagiarism in accounting courses: A replication study. *Issues in Accounting Education*, 22(1), 45-55.
- [3] Amiri, F., & Razmjoo, S. A. (2016). On Iranian EFL undergraduate students' perceptions of plagiarism. *Journal of Academic Ethics*, 14(2), 115–131.
- [4] Baird, J. (1980). Current trends in college cheating, *Psychology in the Schools*, 17(4), 515-522.
- [5] Bakhtiyari, K., Salehi, H., Embi, M.A., Shakiba, M., Zavvari, A., and Shahbazi-Moghadam M, (2014). Ethical and unethical methods of plagiarism prevention in academic writing. *International Education Studies*, 7(7), 52-62.
- [6] Bennett, R. (2005). Factors associated with student plagiarism in a post-1992 university. *Assessment & Evaluation in Higher Education*, 30(2), 137- 162.
- [7] Comas-Forgas, R., and Sureda-Negre, J. (2010). Academic plagiarism: Explanatory factors from students perspective. *Journal of Academic Ethics*, 8(3), 217-232.
- [8] Devlin, M., and Gray K. (2007). In their own words: A qualitative study of the reasons Australian university students plagiarize. *Higher Education Research and Development*, 26(2), 181-198.
- [9] Evans, J.A. (2000). The new plagiarism in higher education: From selection to reflection interactions. *Interactions Journal*, 4(2), Article 2.
https://warwick.ac.uk/fac/cross_fac/academic-development/resource-copy/interactions/issues/issue11/evans
- [10] Franklyn-Stokes, A., and Newstead, Stephen E. (1995). Individual differences in student cheating. *Journal of Educational Psychology*, 88(2), 229-241.
- [11] Jafari Sani, H., & Ferasat, M. (2013). *A study on the reasons behind cyber plagiarism among nursing students at Mashhad University of Medical Sciences* [Paper presentation]. The First International Congress and the Sixth National Conference on E-learning in Medical Sciences, Shiraz, Iran.
- [12] Khoshsaligheh, M., Mehdizadkhani, M. & Keyvan, S. (2017). The severity of types of Violations of research ethics: Perception of Iranian master's students of translation. *J Acad Ethics*, 15, 125–140.
- [13] Krejcie, R.V., and Morgan, D.W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30, 607-610.
- [14] Larkham, P., and Manns, S. (2002). Plagiarism and its treatment in higher education. *Journal of Further & Higher Education*, 26(4), 339-349.
- [15] Newstead, S. E., Franklyn-Stokes, A., & Armstead, P. (1996). Individual differences in student cheating. *Journal of Educational Psychology*, 88(2), 229–241. <https://doi.org/10.1037/0022-0663.88.2.229>
- [16] Park, C. (2003). In other (people's) words: Plagiarism by university students - literature and lessons. *Assessment and Evaluation in Higher Education*, 28, 471-488.

- [17] Rezanejad, A., & Rezaei, S. (2013). Academic dishonesty at universities: The case of plagiarism among Iranian language students. *Journal of Academic Ethics*, 11(4), 275–295.
- [18] Riasati, M. J., & Rahimi, F. (2013). Why do Iranian postgraduate students plagiarize? A qualitative investigation. *Middle-East Journal of Scientific Research*, 14(3), 309–317.
- [19] Silverman, G. (2002, July 15). It's a bird, it's a plane, it's plagiarism buster! *Newsweek*, 140 (12).
<http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=6927768&site=ehost-live>
- [20] Steen R. G. (2011). Retractions in the scientific literature: is the incidence of research fraud increasing? *Journal of medical ethics*, 37(4), 249–253.
<https://doi.org/10.1136/jme.2010.040923>
- [21] Stein, B. (2007). Principles of hash-based text retrieval. In Clarke, C, et al, (Ed.), *30th Annual International ACM SIGIR Conference*, (pp.527–534). ACM.
- [22] Yusof, D. (2009). A different perspective on plagiarism. *The Internet TESL Journal*, 15(2).
- [23] Wager E. (2011). Coping with scientific misconduct. *BMJ*, 343, d6586.
<https://doi.org/10.1136/bmj.d6586>