

Insufficient Awareness of the Norms and Conventions of English Research Discourse in Some Iraqi Medical Journal: An Approach to Improve the Quality of Publications

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Abstract:

Background: The authors and editorial boards of the biomedical journal are both in charge of polishing the published articles' scientific content and proofreading.

Purpose: This study sought to evaluate the proofreading of 100 articles published in Iraqi biomedical journals, which are deficient in native English-speaking proofreaders..

Method: The study was carried out in the College of Mass Media at the University of Baghdad. 100 full-length original research and review articles from Iraq published between January 1 and March 31 in journals of medicine, dentistry, and pharmacy were included. Among them are the 50 articles submitted to 15 medical journals, the 25 articles submitted to 5 dental journals, and the 25 articles submitted to 3 pharmacy journals. To determine the precise number and kind of errors, the manuscripts were quantitatively examined by two independent researchers who both held postgraduate certificates in the English language. The manuscripts were then rechecked using three online English language checker programs. .

Results: In medical journals, there were fewer grammatical, typographical, and punctuation errors per word. Compared to articles published in medical journals, the number of sentences that needed to be rewritten using more precise language was significantly higher in articles published in dental and pharmacy journals. Additionally,

more typing, punctuation, word choice, and grammar mistakes are all significantly correlated with more grammatical mistakes. In 97 articles, plagiarism was found in varying percentages.

Implication: The findings of this study are useful for editorials in scholarly journals and academic researchers. The establishment of a proofreading service in each journal and extensive English language instruction for non-Anglophone speakers can both help to lower these errors and improve the quality of the article.

Keywords: (Non-Anglophone speakers; biomedical Journals; typing and grammar errors, proof editing services).

Introduction

One of the key determining factors in deciding whether to accept or reject submitted articles is the quality of the manuscript publication (Barron, 2006; Coates et al., 2002). Researchers who do not speak English as their first language often struggle with writing and editing biomedical manuscripts, which can lead to manuscript rejection. Some journals advised authors to seek editing services to rewrite, rephrase, or correct any typographical or grammatical errors, as well as to occasionally enhance the scientific content (Lanzo, 2014). In 50 articles that Iranian health researchers who are not native English speakers submitted to five health journals, Amiri et al., 2021 found statistically significant high frequencies of grammatical and punctuation errors. These mistakes are a result of a lack of understanding of the English language's grammatical, structural, and lexical components (Rivera, 2017). Spelling errors are reported in 61 out of 93 predatory journals, which publish the submitted articles without scholarly peer review (Shamseer et al., 2017; Moher et al., 2015), so sometimes the journal is to blame for the high frequencies of grammar and typing errors. On the other hand, according to Dal-Ré et al. (2020), 22% of biomedical articles that are categorized as retracted articles were the result of editing mistakes made by authors who are not native English speakers (Spanish) or the journals. The paragraph size, shifting verb tenses, improper article use, differences in British and American English spelling, incorrect capitalization, writing in the first or third person, improper use of idiomatic or non-committal phrasing, sentence structure and word order, and verb form were among the common errors that many authors noted in the articles submitted by non-native English speakers (Shikino et al.). In Iraq, graduate and postgraduate studies in medicine, dentistry, and pharmacy are in English. Therefore, we anticipate that academics working in these fields will be able to publish their work in English. Additionally, a number of academic journals have been

established by the medical, dental, and pharmacy colleges or their associations. These journals publish in English and have received approval from the Ministry of Higher Education and Scientific Research. In light of this, the study's justification is that non-native English speakers, despite having studied the English language, made some linguistic mistakes when writing their articles, which they then submitted to journals without having them edited. The purpose of this study is to evaluate the frequency of grammatical mistakes in 100 articles published in Iraqi biomedical journals, which lack native English-speaking proofreaders.

Methods

Design

The study covered 100 full-length original research papers and reviews that were published in Iraq between January 1st and March 31st in journals for medicine, dentistry, and pharmacy.

Participants

These include 50 articles sent to 15 medical journals, 25 articles sent to 5 dental journals, and 25 articles sent to 3 pharmacy journals. The journals are chosen based on their peer-reviewed, open access, and online submission policies as well as their scientific approval by the Iraqi Ministry of High Education and Scientific Research. The Heinrich-Heine-Universität Düsseldorf (Germany) developed GPower software version 3.1 was used to calculate the sample size. Both Windows and Mac OS X users can download this program for free from the Internet. A type I error (error probability of 0.05) and a type II error (1-error or the power) of 0.95 were adjusted to demonstrate the distinction between independent variables and correlations between variables.

Instruments

The University of Baghdad's College of Mass Media gave its approval to the study's protocol and design. To determine the precise number and kind of errors, the obtained manuscripts were quantitatively examined by two independent researchers who both held postgraduate certificates in the English language. The manuscripts were then double-checked using three

online English language checker programs. Tables, figures, and references were not included in the analysis.

Each published article is evaluated based on the following factors: the word count and character count; the number of authors; the affiliation of authors with foreign nations; the Scopus or Clarivate analytics indexing of journals; references indexed with digital object identifiers (DOI); and the presence of plagiarism. Grammar, typing, punctuation, conciseness, readability, word choice, and other writing issues were all evaluated as part of the typing assessment.

Procedure

Each article was examined for grammar mistakes such as the use of contracted forms, the use of adverbs at the end of sentences, the use of collocations or its disciplines, the use of lengthy word strings or even entire sentences from other articles (plagiarism), long, complicated, and difficult to understand sentences, the presence of repetitions of words, hidden verbs, and others.

Statistical analysis

Numbers, percentages, minimum-and-maximum values, and the mean \pm SE are used to represent the results. Leven's statistics, one-way ANOVA, the post hoc Tukey test for multiple comparisons, and the Spearman's correlation test were used to analyze the data. The data were analyzed using a social sciences statistical package (SPSS-IBM Corporation, SPSS for Windows, Version 24; Chicago: SPSS Inc.). A significant level is a p-value of 0.05 or lower.

Results

Table 1 shows the characteristics of the published manuscripts. The articles, which were published in the journals of pharmacy and dentistry, had word counts ranging from 952 to 4,812 words. The average word count of manuscripts that were published in pharmacy journals was significantly higher than the same average in medical journals. The mean character count in pharmacy journal manuscripts is significantly higher than the corresponding mean character count in manuscripts published in dental or medical journals. Furthermore,

compared to manuscripts published in journals for medicine and dentistry, the number of references in manuscripts published in journals for pharmacy is noticeably higher (Table 1). Foreign authors submitted four out of every 25 articles to journals of pharmacy, which is more than they did to journals of medicine or dentistry. The biomedical journal contained a wide range of grammatical errors, which in pharmacy journals averaged 70 errors (Table 2). Grammar errors were more frequently encountered than typing errors and punctuation errors. In comparison to journals of medicine or dentistry, the frequency of grammar and typing errors per article is higher in journals of pharmacy. Figure 1 displays the average number of spelling, grammar, and punctuation errors per word, which demonstrates that errors are less common in medical journals. In articles published in dental and pharmacy journals as opposed to medical journals, the mean-SE value of sentences that needed to be rephrased with more effective words was significantly higher (17.0 ± 2.0 and 18.0 ± 2.0 versus 10.0 ± 1.0 , respectively). In articles published in journals of pharmacy and dentistry as opposed to medical journals, word choice and other issues are discussed more frequently.

According to the words, characters, and references cited in the articles, Table 3 shows a significant correlation between the number of writing errors and mistakes and the length of the articles. Additionally, more typing, punctuation, best words, and word choice errors are strongly correlated with more grammar mistakes. Three articles, two of which were published in dental journals and the other in medical journals, did not show plagiarism despite the fact that plagiarism was found in 97 articles in varying percentages. Seven medical articles and one dental article followed the rule of adding digital identifier objects to the references, even though this rule was not consistently announced in every issue of a particular journal.

Discussion

The analysis of 100 manuscripts published in Iraqi biomedical journals revealed variable and significant errors in article writing, according to the study's findings. There are some flaws in the peer-reviewed policy of the journals, as evidenced by the fact that none of the 97 articles that were found to contain plagiarism were retracted (Bradshaw and Payne, 2021; Gupta et al., 2021). The length of the article was significantly correlated with the number of grammatical and typing errors, showing that the authors had not properly organized their article and that the publishers had not used effective editor services (Yakhontova, 2020). Grammar and typing errors are primarily caused by linguistic issues brought on by inadequate English proficiency, according to Yakhontova (2020). Grammar, typing, and punctuation errors all significantly positively

correlated with the number of references, which suggests the authors are ignorant of the complex cited models. While the publishers should guide the authors on citations and references, it is the authors' responsibility to choose pertinent references (Gasparyan et al., 2015). By following the International Committee of Medical Journal Editors' (ICMJE) guidelines for citation and ethical references, this issue can be avoided (O'Sullivan et al., 2021). The analysis of the articles showed that while every article is readable, there are significant errors in many sentences' word choice and conciseness, and additional writing problems are required to produce enough coherent text. This study highlights several important points. First, compared to dentistry or pharmacy journals, medical journals are less likely to contain publication errors. Such mistakes are also documented in medical journals released in nations where English is the primary language (Brakenhoff et al., 2018). The evidence that some articles' researchers are foreigners who do not speak English, however, links publishing errors to non-Anglophone researchers. In Iraq, English is used as a second language. It has been noted that substance, textual, and discourse errors were the most frequently made mistakes by Arabic-speaking English learners. Third, plagiarism—which is frequently found in publications related to medicine and dentistry—was found in 97 published articles, which undoubtedly contributed to the publication's poor quality. Fourth, this study included recent articles that appeared in 2021–2022, demonstrating that the journals' editorial boards are aware of the standards for publishing biomedical research.

Conclusion

We come to the conclusion that these errors are the result of both the editorial staff of each journal and the authors of each manuscript. These errors can be reduced with the help of thorough English courses for non-Anglophone speakers and the implementation of proofreading services in each journal.

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Table 1: Characteristics of medical, dental, and pharmacy journal articles published in Iraq

Variables	Medicine (n=50)	Dentistry (n=25)	Pharmacy (n=25)	Leven's statistics (p)	ANOVA F-value(p)	Multiple comparison (p)
Number of journals	15	5	3			
Number of word per article	964-3,736	1,008-	952-3,970	1.985 (0.143)	3.6 (0.031)	*0.907; +0.026; †0.139
Min-Max	2,306±77	4,812	2,743±156			
Mean ± SE		2,376±159				
Number of Characters per article	5,437-	5,462-	5,841-	1.941 (0.149)	5.9 (0.004)	*0.846; +0.003; †0.043
Min-Max	19,516	27,673	23,631			
Mean ± SE	12,587±406	13,049±906	15,695±891			
Number of references per article	10-77	9-43	20-74	6.077 (0.003)	12.3 (<0.001)	*0.763; †<0.001; ‡0.001
Min-Max	26.6±1.7	28.8±1.6	42.0±3.5			
Mean ± SE						
Number of authors per article	1-5	1-4	1-6	3.750 (0.027)	1.0 (0.357)	*0.593; +0.778; ‡0.329
Min-Max	2.38±0.17	2.12±0.16	2.56±0.11			
Mean ± SE						
Number of article with foreigner authors	2 (4%)	2 (8%)	4 (16%)			
Number of journal with DOI services	2 (4%)	1 (4%)	0 (0)			

Number of journals indexed in Scopus	0	0	1
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The data were analysed using an analysis of variance-one way with a *post hoc* Tukey test, and Levene's statistics were used to determine whether the data were homogeneous. Comparisons between medical and dental publications are indicated by the symbols *, medical and pharmacy publications by †, and dental and pharmacy services by ‡.

Table 2: English-language related errors

Variables	Medicine (n=50)	Dentistry (n=25)	Pharmacy (n=25)	Leven's statistics (p)	ANOVA F-value(p)	Multiple comparison (p)
Grammar						
Min-Max	2-163	8-136	7-203			
Mean ± SE	47.0±6.0	63.0±7.0	70.0±10.0			
				1.578 (0.212)	2.84 (0.064)	*0.272; †0.073; ‡0.831
Spell						
Min-Max	0-229.0	1.0-87	3.0-117.0			
Mean ± SE	24.0±7.0	26.0±4	30.0±5.0			
				0.881 (0.418)	0.25 (0.778)	*0.968; †0.758; ‡0.914
Punctuation						
Min-Max	0-94.0	1.0-98.0	12-107			
Mean ± SE	28.0±3.0	41.0±5.0	46.0±5.0			
				0.129 (0.880)	5.47 (0.006)	*0.062; †0.009; ‡0.804
Conciseness						
Min-Max	0.0-34	1.0-39.0	4.0-31.0			
Mean ± SE	10.0±1.0	17.0±2.0	18.0±2.0			
				0.743 (0.478)	13.66 (<0.001)	*<0.001; †<0.001; ‡0.919
Word choice						
Min-Max	0.0-10.0	0.0-10.0	0.0-10.0			
Mean ± SE	2.4±0.4	2.5±0.5	2.7±0.5			
				0.491 (0.613)	0.11 (0.899)	*0.998; †0.894; ‡0.940
Additional issue						
Min-Max	1.0-75	6.0-95.0	5-124			
Mean ± SE	30.0±3.0	51.0±4.0	61.0±5.0			
				0.123 (0.885)	19.23 (<0.001)	*<0.001; †<0.001; ‡0.270

The data were analysed using an analysis of variance-one way with a *post hoc* Tukey test, and Levene's statistics were used to determine whether the data were homogeneous. Comparisons between medical and dental publications are indicated by the symbols *, medical and pharmacy publications by †, and dental and pharmacy services by ‡.

Table 3: The inter-relationship between typing and grammatical mistakes in the manuscripts published in biomedical journals

Word	Charc.	Ref.	Gram .	Spell.	Punct.	Concis.	Choice	Add.
Word	0.985* (<0.001)	0.554 *	0.253 *	0.312 *	0.333* (0.001)	.454* (<0.001)	0.322* (0.001)	.339* (0.001)
Char.	0.985* (<0.001)	0.576 *	0.256 *	0.346 *	0.337* (0.001)	.501* (<0.001)	0.325* (0.001)	0.365 *
Ref.	0.554* (<0.001)	0.576* (<0.001)	0.235 *	0.351 *	0.266* (0.008)	0.332* (0.001)	0.088 (0.382)	0.298 *
Gramm ar	0.253* (0.011)	0.256* (0.010)	0.235 *	0.675 **	0.777* *	.524** (<0.001)	0.015 (0.085)	0.528 *
Spelling	0.312* (0.002)	0.346* (<0.001)	0.351 *	0.675 *	0.609* *	0.472* (<0.001)	0.027 (0.789)	0.520 *
Punct.	0.333* (0.001)	0.337* (0.001)	0.266 **	0.777 *	0.609 *	0.613** (<0.001)	-0.016 (0.878)	0.566 *
Concis	0.454* (<0.001)	0.501* (<0.001)	0.332 **	0.524 *	0.472 *	0.613* (<0.001)	0.208* (0.038)	0.675 *
Choice	0.322* (0.001)	0.325* (0.001)	0.088 (0.382)	0.015 (0.885)	0.027 (0.789)	-0.016 (0.878)	0.208* (0.038)	0.135 (0.183)
Add.	0.339* (0.001)	0.365* (<0.001)	0.298 *	0.528 *	0.520 *	0.566* *	.135 (0.183)	

1)	1)	(0.00 3)	(<0.0 01)	(<0.0 01)	(<0.00 1)	1))	
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The results are expressed as Spearman's correlation factor (probability). *denotes significant. Each variable indicates the number of words (word), characters (char.), references (Ref.), grammar errors (Grammar), typing errors (Spelling), punctuation mistakes (Punct.), effective words mistakes (Conscis), mistakes in the word choice (Choice) and the required additional issues (Add.)

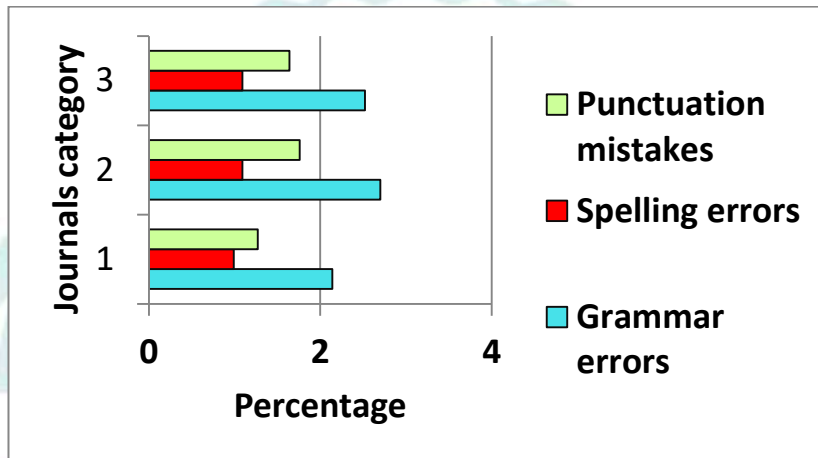


Figure 1: Percentage of articles published in journals for medicine (1), dentistry (2), and pharmacy (3) that contain writing errors. The outcomes represented the calculated mean value of the amount of errors per article's word count.