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Accessibility to student publication in dental journals in the world

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Scientific research and publication play an important role during the training of dentists, but one of the most outstanding barriers is the authorship conditions of the journals. **Aim:** The objective of the study was to determine the accessibility to student publication in dental journals in the world. **Methods:** A retrospective study was carried out. 208 journals indexed in *Scimago Journal & Country Rank* that met inclusion and exclusion criteria were included. The instructions for the authors were reviewed, an email was subsequently sent to the journal contact and articles with student affiliation were searched in the database of each journal. For the analysis of the descriptive statistical data of frequencies and percentage, the IBM SPPS Statistics Standard Edition 22 program was used. **Results:** 208 journals were included, 77.67% accepted the student publication without condition. The United States, United Kingdom and India were the countries with the highest number of journals with student participation. Likewise, the journals of Q4 (85.70%), Q3 (85.40%) and Basic Sciences (100%), Dental Education (100%), Endodontic (100%), Geriatrics and Gerontology (100%) and Public Dental Health (100%), mostly accepted student authorship. **Conclusion:** It is concluded that 167 (77.67%) of the dental journals accept the publication of dental students without condition, being more frequent in journals positioned in Q4 (85.70%). Also, journals with thematic areas on Basic Sciences, Dental Education, Endodontic, Geriatrics and Gerontology and Public Dental Health.

Keywords: Dentistry. Students, dental. Research report. School dentistry. Research.

Introduction

Research plays a crucial role in professional training in Dentistry. It is clear that better patient care is the result of technical advances made possible by research[1].

There is a clear recommendation to incorporate biomedical research training into undergraduate studies. In addition to the primary focus of the research, it can also be a valuable tool in dental education to prepare the next generation of leaders in oral health care[2].

Scientific publication is the main means of transmitting evidence-based information to dentists and health professionals, especially if they are carried out in journals indexed to prestigious databases[3]. It also constitutes the most significant contribution that can be made to the academic community from undergraduate, as well as allowing the visibility of research at this level.

It is a necessary good to promote the publication from undergraduate Dentistry, however, even student participation within them is low, and among the causes, we find lack of time, little information, lack of academic incentives, few opportunities to integrate a research team, greater encouragement to the training of professionals dedicated to care activities, among the main ones[4,5].

Rejection of undergraduate authors may be due the lack of knowledge of the student's editorial itinerary added the prejudice towards them, for this reason some journals consider it necessary to condition the co-authorship with a professional, in addition to this there is a low number of citations of articles executed by undergraduate students in high-impact journals, thus limiting its usefulness[6].

Currently, there are no studies that evaluate dental student's disqualification as authors of scientific publications. Therefore, the objective of the study was to determine the accessibility of student publication in dental journals in the world, indexed to Scopus through *Scimago Journal & Country Rank*.

Materials and Methods

Study design

An observational, descriptive, retrospective study was carried out.

Analysis unit

The unit of analysis was the dental journals indexed to Scopus, in its 2020 edition.

Process

The *Scimago Journal & Country Rank* (SJR) website (https://www.scimagojr.com) was accessed to find out about the journals included in the subject area of «dentistry», under «all subject categories», in «all regions/countries» and type «journals». Subsequently, a first selection was made where non-current (discontinued) journals, without access to their website, were excluded, journals not classified in a quartile.

The journals were classified according to the following categories: accepts student publication, accepts student publication with conditions, accept with or without condition,

does not accept student publications, does not specify[7]. The research had three phases: First the «instructions for authors» or «guidelines for authors» journal's section was reviewed, then the collection form was completed according to the established categories, if the journal did not specified whether or not to accept manuscripts with students as authors, a second phase was accessed, where an email was sent to the journal's contact, a period of one month for a response was stablished. the collection form was simultaneously completed, and last, in the third phase, the journals that did not respond to the email were included, in which a manual search was carried out in the «archives» section, data base revision, in order to find an article that includes a student as author.

This search was carried out up to three years old (2018-2020), recording the findings in a separate category.

The analysis variables were: country of the journal, quartile, subject area of the journal.

Statistic Analysis

An information collection template prepared for this purpose was used. The data obtained was collected in a database (MS Excel, Microsoft Corp., USA, 2018). The statistical program IBM SPPS Statistics Standard Edition 22 was used, with which the descriptive statistical analysis was performed through frequencies and percentages.

Results

208 journals were included, distributed in 33 countries that met the inclusion and exclusion criteria of the study. In the first phase of the study, no data was collected on student accessibility since none required it; in the second stage after sending the emails, a response was obtained from 62 journals, and in the third phase it was verified that 121 journals presented articles with student affiliation. (Figure 1)

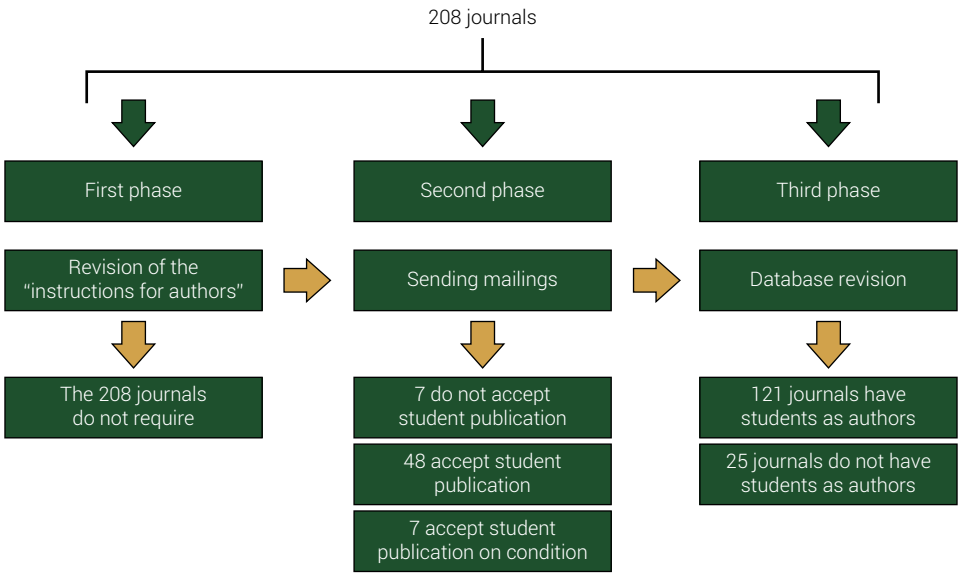

Figure 1. Flowchart of the selection and evaluation process of selected journals.

The countries with the highest percentage of journals that accept the student as an author without any conditions were Canada (100%) and Chile (100%) in America, Bulgaria (100%), Croatia (100%), Italy (100%), Poland (100%), Denmark (100%), Sweden (100%), Russia Federation (100%) on the European continent, South Korea (100%), China (100%), United Arab Emirates in Asia, and Australia in Oceania. It should be noted that the United States, United Kingdom and India were the countries with the highest number of journals with student participation. In contrast, Japan (44.44%) and Egypt (50.00%) are the countries with the highest percentage of journals that do not accept student affiliation. (Table 1)

Table 1. Accessibility of student publication in dental journals of the world indexed to SJR, according to the country of the journal.

Continent	Country of journal	Journals that accept	Journals that acccept conditional	Journals that accept with or without condition	Journals that do not accept	Journals that don't need it
		n (%)	n (%)	n (%)	n (%)	n (%)
America (n=5)	United States	36 (73.40)	2 (4.08)	38 (77.48)	0	11 (22.44)
	Canada	2 (100)	0	2 (100)	0	0
	Brasil	7 (70.00)	0	7 (70.00)	2 (20.00)	1 (10.00)
	Chile	1 (100)	0	1(100)	0	0
	Cuba	0	1 (100)	1 (100)	0	0
Europe (n=14)	United Kingdom	34 (87.18)	1 (2.56)	35 (89.74)	0	4 (10.26)
	Bulgaria	1 (100)	0	1 (100)	0	0
	Croatia	2 (100)	0	2 (100)	0	0
	Denmark	3 (100)	0	3 (100)	0	0
	France	2 (66.60)	0	2 (66.60)	0	1 (33.40)
	Germany	5 (55.50)	1 (11.10)	6 (66.60)	0	3 (33.40)
	Italy	5 (100)	0	5 (100)	0	0
	Netherlands	8 (80.00)	1 (10.00)	9 (90.00)	0	1 (10.00)
	Poland	4 (10.00)	0	4 (100)	0	0
	Rusian Federation	1 (100)	0	1 (100)	0	0
	Serbia	0	0	0	0	1 (100)
	Spain	5 (83.30)	1 (16.70)	6 (100)	0	0
	Sweden	1 (100)	0	1 (100)	0	0
	Switzerland	4 (66.60)	0	4 (66.60)	1 (16.70)	1 (16.70)

Continue

Continuation

Asia (n=11)	Turkey	4 (80.00)	1 (20.00)	5 (100)	0	0
	India	15 (88.24)	0	15 (88.24)	0	2 (11.76)
	Iran	4 (80.00)	0	4 (80.00)	0	1 (20.00)
	Japan	8 (44.40)	0	8 (44.40)	1 (5.50)	9 (50.00)
	Malasya	1 (100)	0	0	0	0
	Saudi Arabia	1 (100)	0	1 (100)	0	0
	Singapoure	1 (100)	0	1 (100)	0	0
	South Korea	5 (100)	0	5 (100)	0	0
	Taiwan	1 (100)	0	1 (100)	0	0
	United Arab Emirates	1 (100)	0	1 (100)	0	0
	China	1 (100)	0	1 (100)	0	0
Oceania (n=2)	Australia	1 (100)	0	1 (100)	0	0
	New Zealand	2 (66.60)	0	2 (66.60)	1 (33.40)	0
Africa (n=1)	Egypt	1 (50)	0	1 (50)	0	0
	Total	167 (77.67)	8 (3.72)	175 (81.39)	5 (2.32)	35 (16.28)

Regarding the quartile of the journals, it was evidenced that those classified in Q1 were the ones that most frequently did not accept the student publication (24.10%), followed by Q2 (16.70%), Q4 (10.40%) and Q3 (8.30%). (Figure 2)

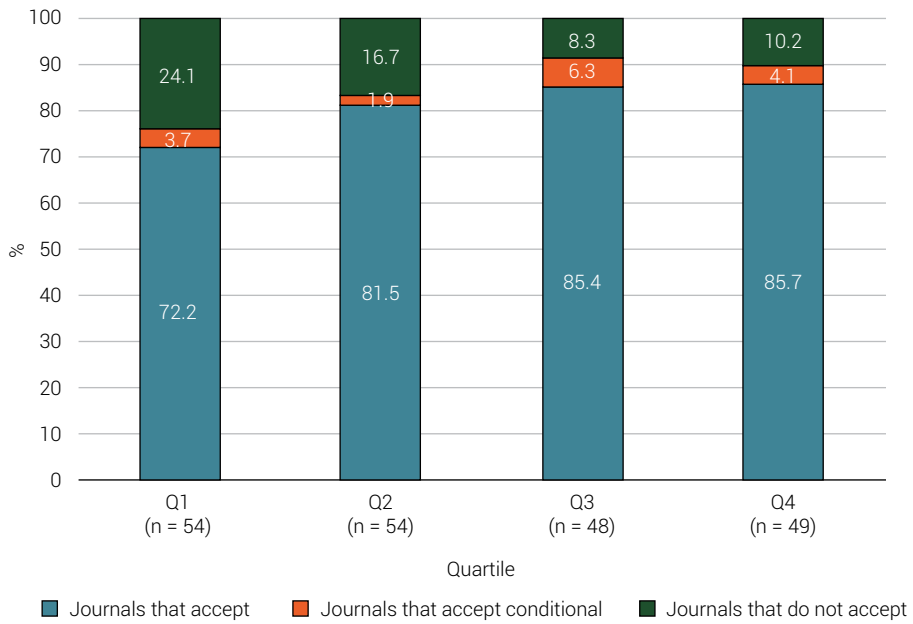

Figure 2. Accessibility of student publication, according to quartile in dental journals in the world indexed to SJR.

The subject areas of dental journals that fully accept the student as an author are Basic Sciences (100%), Dental Education (100%), Endodontic (100%), Geriatrics and Gerontology (100%) and Public Dental Health (100%), followed by areas such as Oral Rehabilitation (88.90%), Implantology (87.50%), compared to journals that did not accept student publication such as Oral Radiology (33.30%), Pediatric Dentistry (28.60%). (Figure 3)

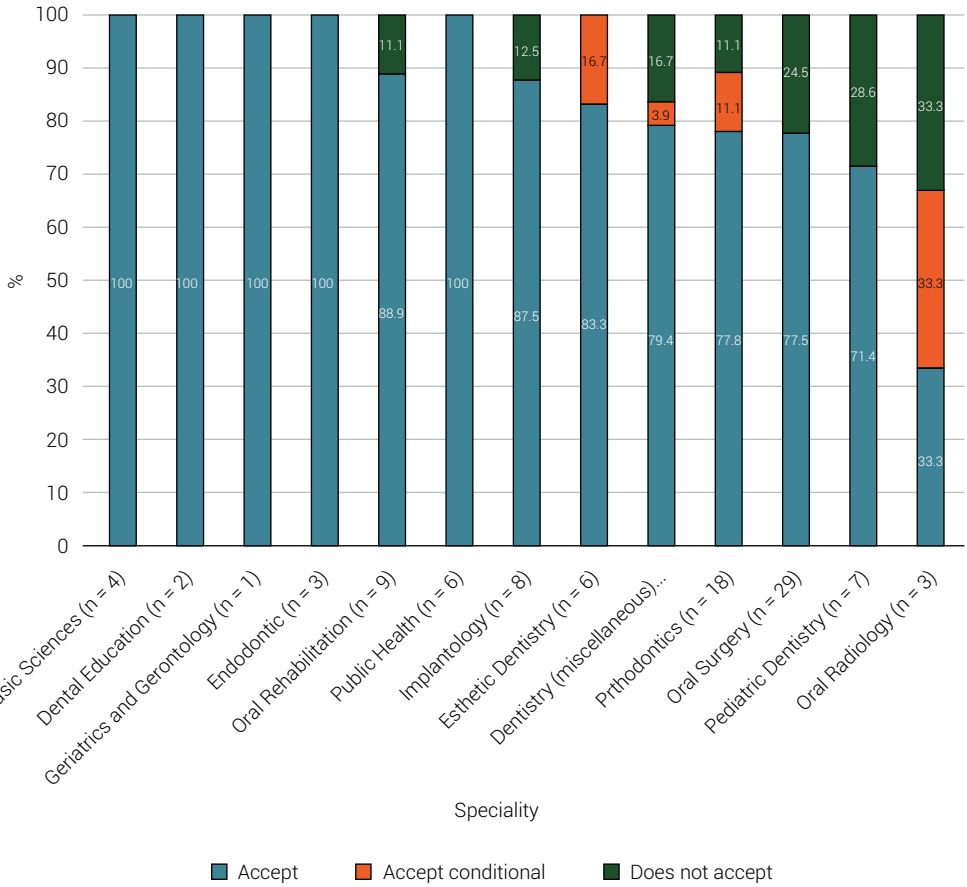

Figure 3. Accessibility of student publication, according to subject area of dental journals in the world indexed to SJR.

Discussion

The study of the forms of production and the channels of dissemination of scientific knowledge are important to understand the forms of socialization and the advancement of disciplines and their academic communities; as is also the case in dentistry. In this context, scientific journals play a very important role since they are directly related to the advancement of research and professional training; however, the global participation of student researchers and publications from regions such as Latin America and their contribution to the advancement of science have traditionally been modest, justified by various factors in accordance with *Delgado's* research[8]. One of

these factors is the limitation in terms of authorship and affiliation, not allowing student publications in some journals, which means a barrier for the development of knowledge and research, triggering a greater number of rejections, frustration of the authors and overload in the editorial management of the journals, agreeing at the Latin American level with *Aquino-Canchari et al*.[9] and *Alzate-Granados et al*.[10]; which could be avoided if it were included in detail in the instructions for authors.

From 208 journals distributed in 33 countries, the first phase of the study was not possible to collect data on student accessibility since none required this information, thus giving us an indicator of the lack of information and precision in the instructions and limitations for journal authors, being a limiting factor for the submission and publication of articles by the student group, a claim that is supported by *Toro-Huamanchumo et al.* [7].

Additionally, it was verified that only 121 journals presented articles with student affiliation indexed to SJR in the world; there being for 2010, only in the Latindex directory around 17 600 journals, of which some 15 500 were active; from this point the question arises: And why is the accessibility of student publication in the journals worldwide so scarce?, and despite the fact that the journals have grown in number and quality in recent years since electronic journals were included, information that is corroborated by *Delgado*[8]. In the systematic review by *Pulgar et al*.[11], worldwide, they state that the number of authors per publication increased and co-authorship was related to funding, author productivity, promotion requirements for university publications, and increased of the competition for scientific research grants which would demonstrate that student collaboration can improve clinical and administrative relationships with other specialties.

In relation to the quartile of the journals, it was evidenced that those classified in Q1 were the ones that most frequently did not accept the student publication (28.10%), followed by Q2 (16.70%), Q4 (10.40%) and Q3 (8.30%), data that fall in contradiction with that reported by *Toro-Huamanchumo et al.*[7] who state as interesting data that more than half of the journals allow student publication, whether conditioned or not; however, the data from our research show the opposite, leading us to analyze possible research biases. Reconsidering that perhaps the real problem centers on the descriptions and indications of the journals which are not sufficiently clear, or the lack of research initiative on the part of the students, or the high standards for the positioning of the journal, among others; leading to a very low number of citations of scientific articles with student authorship in high impact journals, which limits their usefulness and impact; information that was described by *Aquino-Canchari et al*.[9]

Dental journals that fully accept the students as author are Basic Sciences (100%), Dental Education (100%), Endodontic (100%), Geriatric and Gerontology (100%) and Public Dental Health (100%), followed by areas such as Oral Rehabilitation (88.9%), Implantology (87.50%), data that were corroborated by *Alarcon et al.*[12] who highlight the scientific productivity measured according to specialties, having a multidisciplinary predominance in General Dentistry and as it progresses in the specialization, fewer publications; that would explain the acceptance of student authorship; in comparison to journals that did not accept them such as Oral Radiology (33.30%), Pediatric Dentistry (28.60%), whose reason can be understood by the fact that they

are official publications of medical societies and that only accept contributions from specialists, However, *Toro-Huamanchumo et al.*[7] affirm that it should not be ruled out allowing the publication of students as co-authors, since currently some medical schools really emphasize the incorporation of the scientific method in clinical practice and the basic education of their students, which provides a adequate level of knowledge that is positively reflected in the scientific research process.

In addition, the student author must show greater interest in research and publication, looking for journals that enhance their initiatives and, on the other hand, the journals must evaluate the student contribution in the field of health sciences since in the near future they will be the professionals specialists who will contribute to the scientific production of the institutions and countries.

This study only included dental journals indexed to SJR, not including other journals indexed to other prestigious bases. Another limitation was the low response of the contact correspondence, which could modify the appreciation of the journal's editorial team regarding the inclusion of the student as an author, in addition, limiting the results to a second source of information by reviewing the published articles in every journal.

It is concluded that 167 (77.67%) of the dental journals accept the publication of dental students without condition, being more frequent in journals positioned in Q4 (81.50%) and Q3 (85.40%). Also, the journals with thematic areas on Basic Sciences, Dental Education, Geriatrics and Gerontology and Endodontic. For a conditional publication, the main requirement was that the research article have as one of the authors a doctor or graduate professional.

Interest conflict

The authors declare no conflict of interest.

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The authors did not receive any sponsoring to carry out this article.

Data availability

Datasets related to this article will be available upon request to the corresponding author.

Authors contribution

CRAC: conceptualization, methodology, formal analysis, funding acquisition, investigation, validation, visualization, writing original draft, review & editing.

AJOM: data curation, formal analysis, investigation, visualization, writing original draft, review & editing.

LASI: data curation, investigation, visualization, writing original draft, review & editing.

KMHC: investigation, validation, visualization, writing original draft, review & editing.

All authors actively participated in the discussion of the manuscript's findings, and have revised and approved the final version of the manuscript.

References

1. Bertolami CN. The role and importance of research and scholarship in dental education and practice. J Dent Educ. 2002 Aug;66(8):918-24.
2. Elangovan S. Importance and implications of research experience in undergraduate dental curriculum. Indian J Dent Res. 2019 May-Jun;30(3):329-30. doi: 10.4103/ijdr.IJDR_568_19. PMID: 31397401.
3. Asnake M. The importance of scientific publication in the development of public health. Cien Saude Colet. 2015 Jul;20(7):1972-3. doi: 10.1590/1413-81232015207.08562015.
4. Gutiérrez C, Mayta P. [Publication from undergraduate in Latin America: Importance, limitations and alternative solutions]. CIMEL. 2003 [cited 2021 Nov 5];8(1):54-60. Available from: https://www.redalyc.org/pdf/717/71780110.pdf. Spanish.
5. Sanchez-Duque JA, Gómez-Gonzáles JF, Rodríguez-Morales AJ. [Undergraduate publication in Latin America: Difficulties and associated factors among medical students]. Inv Ed Med. 2017;6(22):104-8. Spanish. doi: 10.1016/j.riem.2016.07.003.
6. Huamaní C, Chávez-Solis P, Mayta-Tristán P. [Students Contribution to scientific papers publication in Scielo-Peru´s indexed medical journals, 1997 – 2005]. An Fac Med. 2008;69(1):42-5. Spanish.
7. Toro-Huamanchumo CJ, Landa-Hernández F, Arce-Villalobos LR, Ruiz-Pingo D, Díaz-Vélez C. [Accessibility of student publication in health science's journals indexed in SciELO]. FEM. 2015;18(5):319-23. Spanish. doi :10.4321/S2014-98322015000600005.
8. Delgado JE. [Iberic-american and colombian open access scientific dental journals]. Rev Fac Odontol Univ Antioq. 2014;26(1):126-51. Spanish.
9. Aquino-Canchari C. Villanueva-Zuñiga LM, Alvarez-Vilchez ML, López-Orihuela KE, Chavez-Bendezu C. [Accessibility analysis of student publication in medical journals in Latin America]. Educ Med. 2021 Jul-Aug;22(4):215-21. Spanish. doi: 10.1016/j.edumed.2021.03.002.
10. Alzate-Granados JP, Caicedo-Roa M, Saboya-Romero DM, Pulido JC, Gaitán-Duarte HG. [Participation of undergraduate medicine students in medical and academic Colombian journals indexed in Publindex, categories A1 and A2, in the period 2009-2012: a systematic review of the literature]. Rev Fac Med. 2014;62(1):9-15. Spanish. doi: 10.15446/revfacmed.v62n1.43657.
11. Pulgar R, Jiménez-Fernández I, Jiménez-Contreras E, Torres-Salinas D, Lucena-Martín C. Trends in World Dental Research: an overview of the last three decades using the Web of Science. Clin Oral Investig. 2013 Sep;17(7):1773-83. doi: 10.1007/s00784-012-0862-6.
12. Alarcón M, Aquino C, Quintanilla C, Raymundo L, Álvarez L. [Evidence Based Dentistry: The 82 Highest Impact Journals]. Int J Odontoestomatol. 2015;9(1):43-52. Spanish. doi: 10.4067/S0718-381X2015000100007.