Original Article

Scarcity of Publications from Arab Countries in One of the Q1 Orthopedic Journals, Is It Us or the Journal?

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Abstract

Objective: Through the journey of getting our research article published, we thought about submitting it to the Bone and Joint Journal as one of the Q1 orthopedic journals, but before doing so, we thought about the chances of being rejected. Hence, we decided to find out how often research articles have been published from our geographical area (Arab countries). The aim of this study was to detect the contribution of Arab countries' research work in this journal. **Methods:** We examined all the publications by this journal over 5 years starting from January 2014 to December 2018, to find how many publications came from the Arab countries. **Results:** We found that among the examined 1161 articles, only 6 articles had an author or more from an Arab country. However, only one article was totally from an Arab country, and the remaining five had an author affiliated to an Arabic institution. **Conclusions:** There is an obvious deficiency of publications coming from Arab countries in the Bone and Joint journal as an example of the Q1 orthopedic journals. We believe that a strategy for improving the research quality as well as quantity coming from our area should be discussed and adopted by national orthopedic associations.

Keywords: Arab countries, Middle East, orthopedics journals, publications, research, the bone and joint journal

Introduction

After finishing one of our research articles, we went through the same usual discussion, where we are going to submit our article? How to shorten the cycle of submission, revision, or rejection, and resubmitting again? We thought it is better first to study the trend of acceptance of a research article originating from an Arab country in the journal we had selected to submit our work.

Using SCImago Journal Rank (SJR) (https://www.scimagojr.com/aboutus.php) as a measure of scientific influence of orthopedic journals considering both the number of citations received by a journal and the importance of the journals where such citations came from, journals were classified into four quartiles (Q1 to Q4) according to journal ranking within a specific subdiscipline. Thus, a first quartile journal (i.e., Q1) has an SJR in the top 25% of journals for at least one of its classified subdisciplines.

To the best of our knowledge, no bibliometric study was done to analyze the orthopedic research output from Arab countries apart from one study done by Baeesa *et al*.[1] to evaluate only the spine surgery-related research. Although country-specific bibliometric analysis of orthopedic publication rates has been performed by some countries such as China, Ireland, Australia, and Turkey,[2-5] such country-based study from the Arab world was only done in Egypt.[6]

Hence, we started tracing articles published by the Bone and Joint Journal from January 2014 to December 2018 (as an example of multidisciplinary Q1 journals), to find what is the likelihood of an article coming from an Arab country to be published in a Q1 orthopedic journal with a high impact factor.

Materials and Methods

First, we did an evaluation of the overall Arab countries' contributions to the international orthopedic research

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community by examining the SCImago database for country ranking (all regions) (https://www.scimagojr.com/countryrank.php? area = 2700andcategory = 2732) in orthopedics and sports medicine discipline between 1996 and 2018.

Then, our attention was directed to a total of 1177 manuscripts published in the Bone and Joint Journal between January 2014 and December 2018, which were examined for the affiliation of the contributing authors. The analysis was done independently by two blinded investigators. Sixteen papers were excluded due to inadequate data on the authors' affiliations, this left 1161 manuscripts available for analysis. The journal papers were categorized into twelve disciplines, which were examined separately. The affiliations were divided into eight different categories; Asia, Africa, Europe, North America, South America, Australia, New Zealand, and multigeographic (authors from different areas contributing to the same study). The number of papers published by each geographical category in the different disciplines was recorded, and the trend of publications over these 5 years was also investigated with special concern paid for detecting contributions from Arab countries.

Results

After examining the SCImago database regarding country ranking, we did find that overall publications from a total of 186 countries were 472331 articles, with the USA coming in the

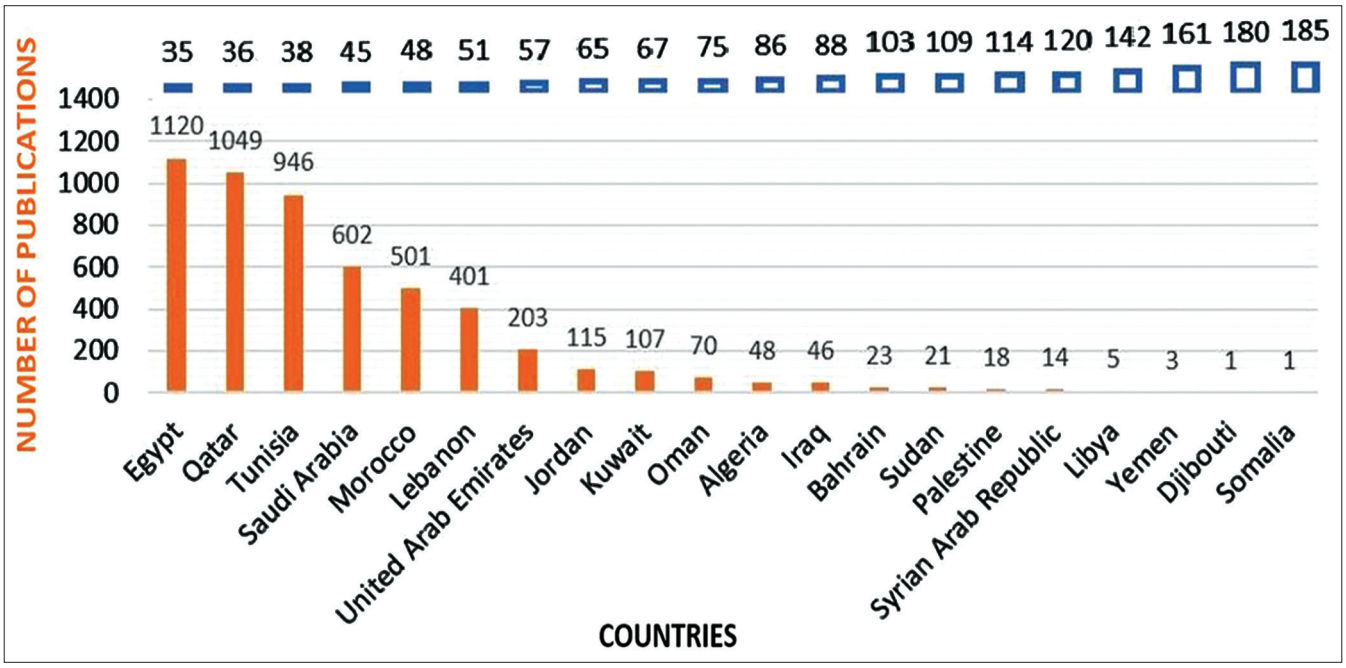

Figure 1: Number of orthopedic publications and international ranking of Arab countries between 1996 and 2018 according to SCImago database

Table 1: Publications data from January 2014 to December 2018 of the bone and joint journal according to region and topic

	Africa	Asia	Europe	North America	South America	Australia	New Zealand	Multi-geographic†	Incomplete data	Total
Children's orthopedics	1*[7]	14	47	3	3	1	0	9	0	78
Foot and ankle	0	15	43	6	0	3	0	11*[8]	0	78
General orthopedics	0	2	40	10	0	2	0	4*[9]	1	59
Hip	0	27	134	73	1	7	5	46	4	297
Knee	0	23	92	43	0	4	3	25*[10,11]	4	194
Oncology	0	21	36	3	0	0	0	14	2	76
Research	0	3	21	8	0	3	1	6	0	42
Shoulder and elbow	0	14	50	18	1	0	0	12	2	97
Spine	2	30	37	9	0	1	0	11	0	90
Trauma	1	10	66	17	0	4	1	19*[12]	3	121
Upper limb	0	3	7	1	0	0	0	0	0	11
Wrist and hand	0	9	17	4	0	2	0	2	0	34
Total	4	171	590	195	5	27	10	159	16	1177

†At least one author is affiliated to an institution from a different geographic area, *Including papers which have at least one author affiliated to an Arab institution. Egypt;[7,12] Saudi Arabia;[8,10] Sudan;[9] Qatar[11]

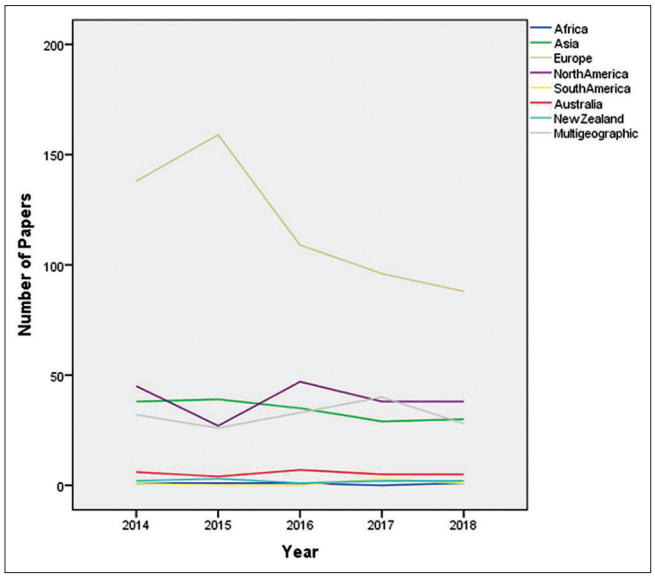

Figure 2: Line graph showing the number and trend of publications from different geographical areas

first place contributing with 29.9% of the overall publications. From 22 Arab countries, only 20 countries were mentioned in the list (Comoros and Mauritania did not contribute with any publications). The total publications from Arab countries in the same period (1996–2018) was 5294 representing 1.12% of the overall worldwide publications [Figure 1].

Analysis of 1161 scientific papers published by the Bone and Joint Journal revealed that European countries accounted for almost half of the publications among all geographic areas [Figure 2]. On the other hand, the contribution from the Arab countries in this period was only six articles (considering the nationality of the institution or a contributing author), constituting about 0.5% of articles published throughout these 5 years [Table 1]. More surprisingly, that only one article in children's orthopedics was exclusively from an Arabic institution (Cairo, Egypt);[7] all authors were affiliated to the same institution. The remaining five articles had only one author per article from an Arab country and the rest of the authors were from either a European or North American institution. An article in the foot and ankle section had its corresponding author from Saudi Arabia (SA), while the rest of the authors were from Austria.[8] A general orthopedic article from Sudan had one of the authors affiliated with an institution in the United Kingdom (UK).[9] Two articles in the knee section; one from Canada with one of the authors affiliated to an institution in SA,[10] the other article from the UK with one author affiliated to an institution in Qatar.[11] The last article was published in the Trauma section with the corresponding author from Egypt, and the rest of the authors were from Germany.[12]

Analysis of the trend of publications across the same period showed no increase in the number of African articles accepted for publication in the journal. On the contrary, countries from Europe, North America, and Asia showed fluctuations in their patterns of publication while being the predominant geographic areas.

Discussion

Scientific productivity of a certain country as well as investigating its state of publications, journals, and contributions from different authors or institutions can be evaluated using bibliometric analyses,[13] results of such studies will determine the research strength of a certain nation.[14]

The Bone and Joint Journal is one of the most prestigious orthopedic journals worldwide with an impact factor of 4.301 (according to the official journal website on October 2019).[15] It has shown academic excellence in the field of orthopedic research for the last 70 years. To understand the requirements for a research paper to be accepted for publications in such an influential journal, our research team traced publications by the journal over 5 years. The results demonstrated that the European and North American affiliations collectively published nearly 68% (this is without counting what they shared as part of the multigeographic areas) of all articles and confirmed their overwhelming dominance of publications during the study period, while Arab countries made a little contribution (only 0.5%) in the same period.

A recent study by El Rassi *et al*.[16] evaluating Arab countries' medical (not only orthopedic) research productivity between 2007 and 2016 demonstrated that Arab countries produced 189 papers per one million people. This was nearly one-fourth the production for the rest of the world. They concluded that Arab countries' medical research production is still "lagging behind" other countries. Nevertheless, they noticed an increase in research activity over the past few years. They pointed out that regional conflicts, brain drain, lack of funding, and deficiency of research infrastructure were considered as major contributors to the Arab countries' medical research production deficiency.[16,17]

Hohmann *et al*.[18] studied populations size and gross domestic product as factors contributing to the publication rate in the top 15 orthopedic journals. They concluded that five countries (neither Arab nor African) were responsible for 60% of the research output in orthopedic surgery between 2010 and 2014 when restricted to the 15 highest-ranked journals specific to the field.

Baeesa *et al*.[1] evaluated spine surgery research production from Arab countries from January 2000 to June 2015 and compared it to the international spine surgery literature, as well as determined the level of evidence (LOE) of these publications. They found that 434 publications came from 18 countries with Egypt representing the highest rate (26%). However, 56% of all publications were level IV studies, mostly case series and reports. They noted that the publications from 2009 to 2015 nearly doubled when compared to the period from 2000 to 2008. However, there was no improvement in the quality of published research. They recommended the conduction of a higher LOE studies from spine surgeons in the Arab countries.

Said *et al*.[6] reviewed the Egyptian trend of orthopedic publications for a period of 5 years starting from 2013 using the SCImago database, 481 publications were eligible for the study (published in 159 journals) of which 129 (26.8%) were published in 2017. They did find that 56.54% were published in Q1 and Q2 journal. However, they did not mention in detail how much was in the Q1 journals. However, we did notice that of the publications they included in the study, only 10 (2.07%) were published in the top 10 Q1 journals (according to SJR).

In 2015, Gürbüz *et al*.[2] did a bibliometric analysis of Turkish orthopedic publication between 1980 and 2013; they did find that Turkey ranked 14th when counting the overall article production compared to the rest of the world, while the USA came in the first place. However, when reevaluating based on the number of publications per million, Turkey came in the 26th place while Switzerland ranked first. Of the top 30 publishing countries mentioned in their study, unfortunately, there was no Arabic country. The authors found a dramatic increase in orthopedic publications by 65.7% when comparing the number published between 2000 and 2010 to what had been published before 2000. They attributed this massive improvement to the increased number of educational institutions and easier access to studies through more widespread Internet use.

In this study, only one article from the 6 published in the Bone and Joint Journal had exclusively being produced and affiliated to Arab institutions and local authors, where the remaining 5 publications included more than one author with international affiliations.

El Rassi *et al*.[16] found that international collaboration in medical research in the 10 most productive Arabic institutions ranged from 42% to 79%. They noticed that papers involving such collaborations had more citations by nearly a 3-fold increase than those without. However, they found that a minor percentage from these papers (involving collaboration with foreign institution and published in a high-impact journals) having an author from a local institution as a leading author. This fact raised a concern whether the institutions from Arab countries offered affiliations for international researchers only for the sake of improving research productivity.

Daruwalla *et al*.[19] studied potential factors contributing to the publication rate of presentations from their local Singapore Orthopedic Association annual scientific meeting. They found that both podium and international presenters were found to have significantly higher publication rates than poster and local presenters.

A systematic review done by Obuku *et al*.[20] on the determinants of productivity or use of postgraduate students' research in low- and middle-income countries suggested that younger students were more likely to publish, and cohort studies were more likely to be published.

We contacted the journal Editor-in-chief of the Bone and Joint Journal to enquire about this obvious deficiency of Arab countries' scientific contribution to his journal, and this was his reply: *"Dear Dr., Thank you for your letter. The answer to your query is very simple and straightforward and relates to research methodology and the soundness and originality of the research undertaken. All peer reviewers are blinded, and therefore, the country or origin is not necessarily clear to them - each piece of work is evaluated on its merit rather than its source. The reality is that we receive and publish papers from all over the world but the key decision as to whether a paper is published is based on the soundness of this methodology, its relevance and translatability into clinical practice and its applicability to our readership. Should high-quality studies from Arab countries be submitted, they will, of course, be considered; and should any of you wish to attend the reviewers course then you are more than welcome to register as you will then have a clear idea of how we look at papers and assess them."* This reply clearly stated that the problem is mainly coming from shortage and bad-quality research work coming from our countries and not an issue of just rejection based on discrimination.

To find a solution for this problem, we looked at Latin America's experience to deal with their deficiency in scientific research after they found that they had the smallest number and the lowest quality of spine-related scientific publications in the Medline database in 12 years. In the same time, about 96% of the surveyed surgeons had the motivation, interest, and the will to perform scientific research despite the lack of knowledge, poor economy, and deficient research experience.[21] The improvement plan depended mainly on creating a curriculum based on competency, included four main constituents: plan for research education, practicing research, support both professional and technical issues, and finally, evaluation.[22] This success experience can be transferred to our countries.

More appealing solutions were offered as well by Falavigna and Khoshhal,[14] such as offering better opportunities for research training, encouraging joint scientific activities and international collaboration to exchange experiences as well as improving research quality and visibility, make the best use of the qualified and accredited research centers, and stimulate multicenter research projects.

Limitations

The major deficiency in this study is that it is only examining one journal, which may limit the generalization of the results without evaluating other high-ranking orthopedic journals.

Conclusions

Although it is a study of only one of the orthopedic Q1 journals, it pointed out the scarcity and deficiency of publications coming from Arab countries in such high-ranked journals and demonstrated several contributing factors.

Recommendations

1. Improving orthopedic research productivity from Arab countries starts by understanding its status and

deficiencies; so, a more advanced bibliometric analysis of orthopedic publications from Arab countries should be carried out evaluating more journals on a wider scale
2. Collaboration between national orthopedic associations and institutions to put a strategy for improving the research quality as well as quantity coming from our area aiming at the production of higher level multicenter studies
3. Encouraging young surgeons to be involved in scientific research as early as possible in their careers with emphasis on the importance of learning the basics and doing research for their own development as well as for their institutions and countries' healthcare improvement.

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Conflicts of interest
There are no conflicts of interest.

Authors' contribution
AAK carried out the study conception and design. AMA carried out data acquisition, and both authors carried out data analysis (independently). AAK and AMA carried out drafting of manuscript. AAK wrote the final draft and critical revision. Both authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

References
1. Baeesa SS, Maghrabi Y, Msaddi AK, Assaker R. Quality of spine surgery research from the Arab countries: A systematic review and bibliometric analysis. Biomed Res Int 2017;2017:7560236.
2. Gürbüz Y, Süğün TS, Özaksar K. A bibliometric analysis of orthopedic publications originating from Turkey. Acta Orthop Traumatol Turc 2015;49:57-66.
3. Sun J, Guo Y, Scarlat MM, Lv G, Yang XG, Hu YC. Bibliometric study of the orthopaedic publications from China. Int Orthop 2018;42:461-8.
4. Kennedy C, O Sullivan P, Bilal M, Walsh A. Ireland's contribution to orthopaedic literature: A bibliometric analysis. Surgeon 2013;11:267-71.
5. Hohmann E, Glatt V, Tetsworth K. Orthopaedic research in Australia: A bibliographic analysis of the publication rates in the top 15 journals. ANZ J Surg 2017;87:709-13.
6. Said HG, El-Radi MA, Hassanein MY, Said GZ. Orthopaedic publications from Egypt in the last five years: A bibliometric report. Int Orthop 2018;42:2507-11.
7. Abdelazeem AH, Beder FK, Abdel Karim MM, Abdelazeem H, Abdel-Ghani H. The anatomical reduction of a moderate or severe stable slipped capital femoral epiphysis by modified Dunn subcapital osteotomy using the Ganz approach: Functional and radiological outcomes. Bone Joint J 2016;98-B: 1283-8.
8. Chraim M, Krenn S, Alrabai HM, Trnka HJ, Bock P. Mid-term follow-up of patients with hindfoot arthrodesis with retrograde compression intramedullary nail in Charcot neuroarthropathy of the hindfoot. Bone Joint J 2018;100-B: 190-6.
9. Fahal AH, Shaheen S, Jones DH. The orthopaedic aspects of mycetoma. Bone Joint J 2014;96-B: 420-5.
10. d'Entremont AG, McCormack RG, Horlick SG, Stone TB, Manzary MM, Wilson DR. Effect of opening-wedge high tibial osteotomy on the three-dimensional kinematics of the knee. Bone Joint J 2014;96-B: 1214-21.
11. McDonald DA, Deakin AH, Ellis BM, Robb Y, Howe TE, Kinninmonth AW, *et al.* The technique of delivery of peri-operative analgesia does not affect the rehabilitation or outcomes following total knee arthroplasty. Bone Joint J 2016;98-B: 1189-96.
12. Kenawey M, Krettek C, Addosooki A, Salama W, Liodakis E. Unstable paediatric pelvic injuries: The patho-anatomical patterns of pelvic ring failure and the role of avulsion of the iliac apophysis. Bone Joint J 2015;97-B: 696-704.
13. Ajuied A, Back D, Smith C, Davies AJ, Wong F, Earnshaw PH. Publication trends in knee surgery: A review of the last 16 years. J Arthroplasty 2013;28:751-8.
14. Falavigna A, Khoshhal KI. Research education: Is it an option or necessity? J Musculoskelet Surg Res 2019;3:239.
15. Available from: https://online.boneandjoint.org.uk/journal/bjj. [Last accessed on 2019 Oct 02].
16. El Rassi R, Meho LI, Nahlawi A, Salameh JS, Bazarbachi A, Akl EA. Medical research productivity in the Arab countries: 2007-2016 bibliometric analysis. J Glob Health 2018;8:020411.
17. El-Azami-El-Idrissi M, Lakhdar-Idrissi M, Ouldim K, Bono W, Amarti-Riffi A, Hida M, *et al.* Improving medical research in the Arab world. Lancet 2013;382:2066-7.
18. Hohmann E, Glatt V, Tetsworth K. Worldwide orthopaedic research activity 2010-2014: Publication rates in the top 15 orthopaedic journals related to population size and gross domestic product. World J Orthop 2017;8:514-23.
19. Daruwalla ZJ, Huq SS, Wong KL, Nee PY, Murphy DP. "Publish or perish"-presentations at annual national orthopaedic meetings and their correlation with subsequent publication. J Orthop Surg Res 2015;10:58.
20. Obuku EA, Lavis JN, Kinengyere A, Ssenono R, Ocan M, Mafigiri DK, *et al.* A systematic review on academic research productivity of postgraduate students in low – and middle-income countries. Health Res Policy Syst 2018;16:86.
21. Falavigna A, Botelho RV, Teles AR, da Silva PG, Martins D, Guyot JP, *et al.* Twelve years of scientific production on Medline by Latin American spine surgeons. PLoS One 2014;9:e87945.
22. Falavigna A, Martins Filho DE, Avila JM, Guyot JP, Gonzáles AS, Riew DK. Strategy to increase research in Latin America: Project on education in research by AOSpine Latin America. Eur J Orthop Surg Traumatol 2015;25 Suppl 1:S13-20.