SCOPE OF PAPERS PUBLISHED IN THE *EAST AFRICAN ORTHOPAEDIC JOURNAL*

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ABSTRACT

Background: The *East African Orthopaedic Journal* since inception in 2007 has received and published papers in all specialties of trauma and orthopaedic surgery.
Objective: To determine the specialty distribution and source of papers published in the journal.
Methods: A retrospective bibliographic review of original clinical and experimental studies published in the journal.
Results: A total of 185 papers met the inclusion criteria. Adult trauma and spine constituted the majority of papers published at 18.9% and 17.3% respectively, while the least were in hand and wrist, foot and ankle and pelvis and acetabulum at 2.7%, 2.7% and 1.6% respectively. Most of the papers were from Kenyan public university teaching hospitals and public universities.
Conclusion: Most of the articles published in the journal were in adult trauma, spine and basic sciences, with most of them being from public university teaching hospitals and articles from Kenya formed the majority of the articles.

Keywords: Orthopaedics, Journal, Specialty, Conflict of interest

INTRODUCTION

Publication of research works forms one of the ways in which medical knowledge is disseminated (1). Published papers also form an important part of a country's and institution's scientific research output, and are an important assessment tool in worldwide university rankings (2). The *East African Orthopaedic Journal,* the official journal of the Kenya Orthopaedic Association, has been in publication since 2007. It is an open access journal, published biannually and receives manuscripts in all specialties of orthopaedic and trauma surgery and related basic sciences (3). Being an open access journal, it's research is freely available to the public worldwide, enhancing global exchange of knowledge, enhancing access to reliable medical information and helping improve health quality (4). Having been in existence for the last fifteen years, this study sought to determine the scope and source of papers published in the journal.

Objectives: Primary objective was to determine the distribution of articles published in the *East African Orthopaedic Journal* by specialty. Secondary objectives were to determine the author's institution, country of origin and presence of a conflict-of-interest statement.

MATERIALS AND METHODS

Study design: This was a retrospective bibliometric analysis of all original scientific papers published by the *East African Orthopaedic Journal* since its inception to December 2022.

Inclusion criteria: All original articles, either clinical or experimental, were included in the analysis.

Exclusion criteria: Other types of publications such as reviews and letters to the editor were excluded from the analysis.

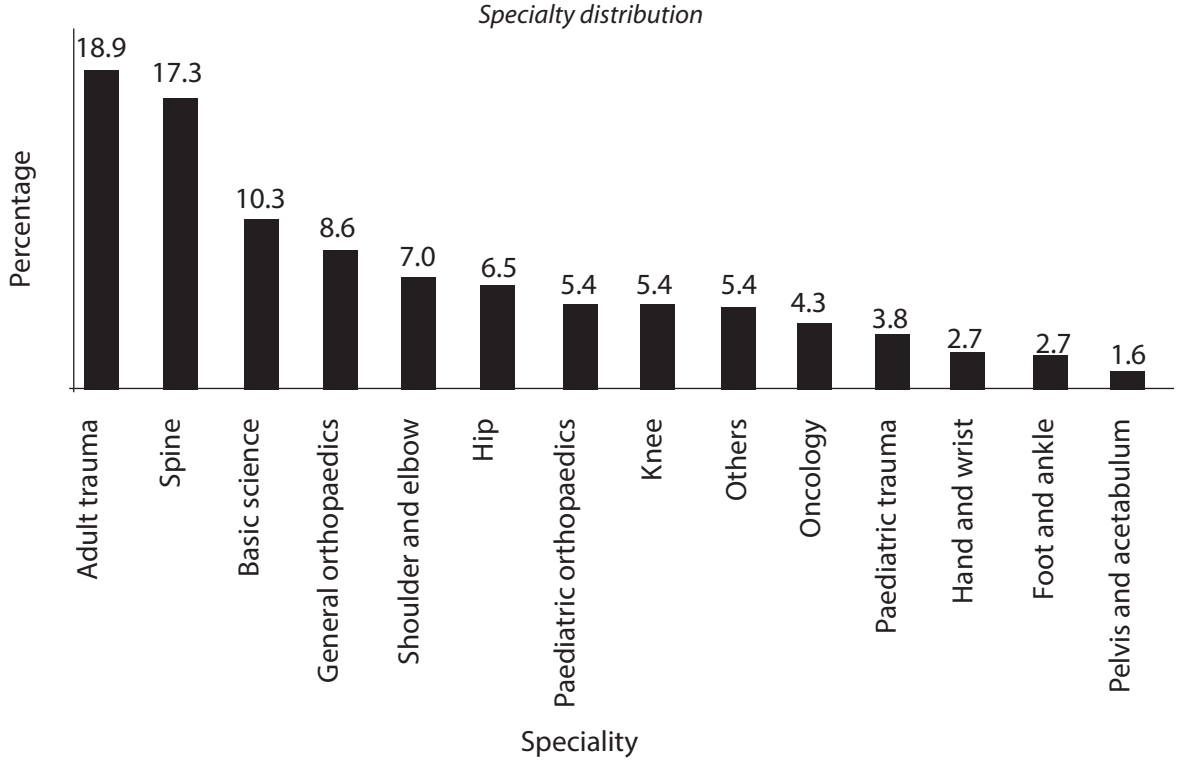
Data collection: Articles were reviewed and assigned to eleven orthopaedic specialty categories as follows: basic science, foot and ankle, general orthopaedics, hand and wrist, hip, knee, oncology, paediatrics, shoulder and elbow, spine and trauma. Other data extracted included country of origin of the paper, institution whether academic or non-academic, public or private practice, declaration of conflicts of interest and source of funding for the study. Qualitative and quantitative data was extracted from the studies and inserted in a Microsoft® Word® data abstraction form. A reference management software (Zotero®) was used to keep track of references.

Analysis: Data was entered into and analyzed using the Statistical Package for Social Sciences (SPSS®) version 22.0 (IBM Corp., Armonk, NY, USA).

RESULTS

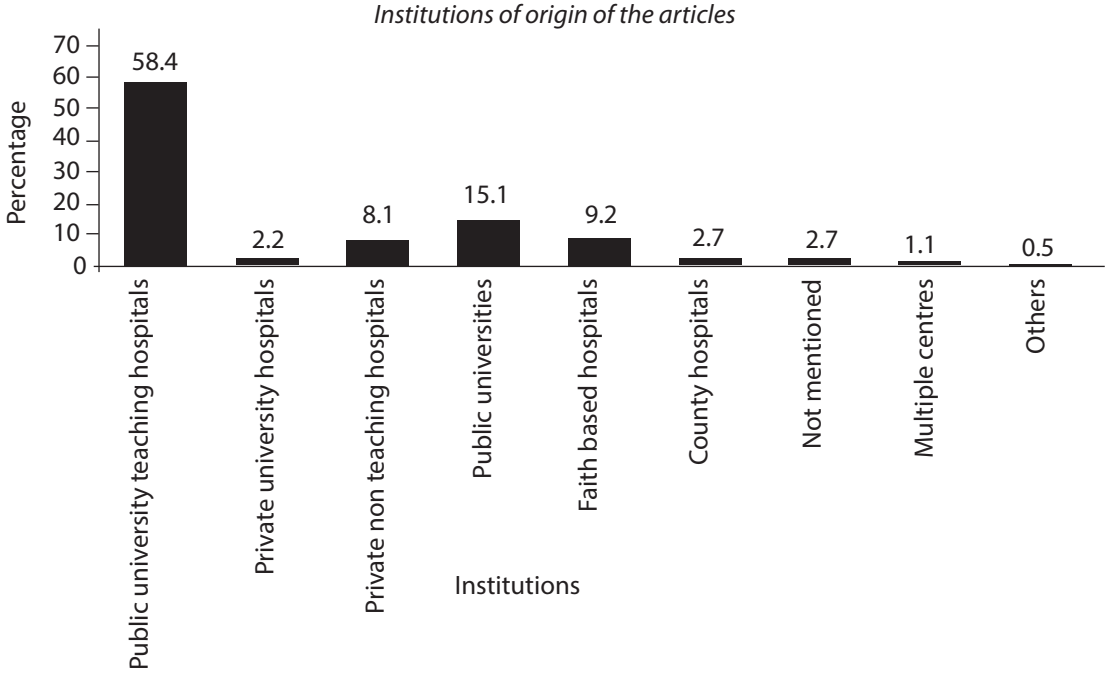
A total of one hundred and eighty five articles met the inclusion criteria. Adult trauma and spine contributed the greatest number of articles, contributing 18.9% and 17.3% respectively. Basic sciences contributed 10.3%, with both hand and wrist and foot and ankle contributing 2.7%. Pelvis and acetabulum articles contributed the least at 1.6% (Figure 1).

Figure 1
Specialty distribution



Most of the articles were from public university affiliated teaching hospitals, contributing 58.4% of the papers. This was followed by public universities contributing 15.1%. Faith-based hospitals contributed 9.2% with, private non-teaching hospitals and private university hospitals contributing 8.1% and 2.2% respectively. County hospitals contributed 2.7%, with no mention of the study setting in 2.7%. Only 1.1% of the studies were multi-centered (Figure 2).

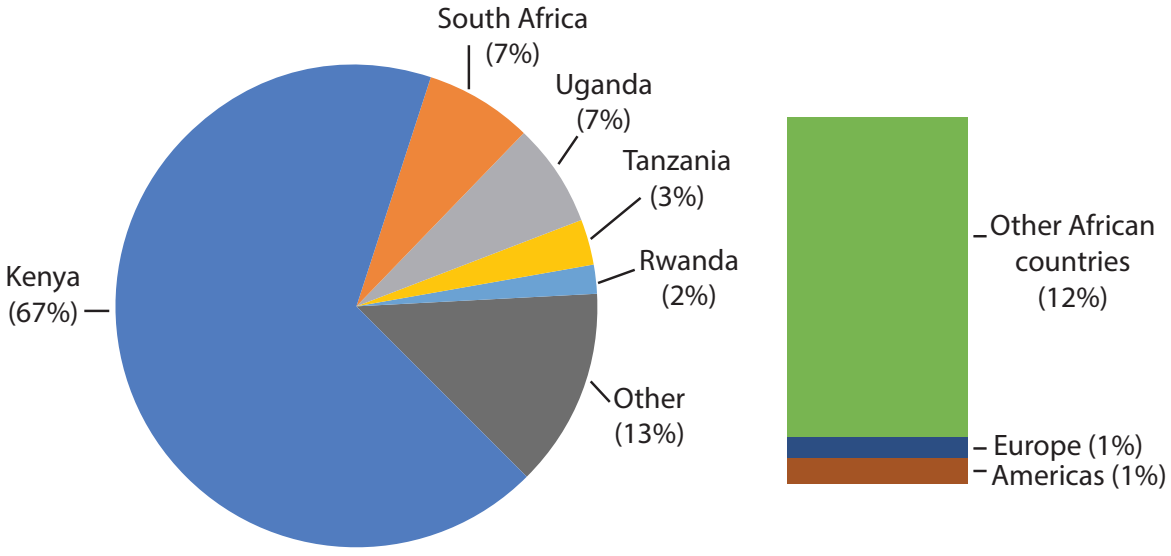
Figure 2
Institutions of origin of the articles



No mention of funding or conflict of interest was found in 80% of the papers, with 18.9% mentioning no conflict of interest or funding. Only 1.1% of the studies were mentioned as funded.

Articles from Kenya contributed the majority of the papers, at 67%. Papers from South Africa and Uganda both contributed 7%. Tanzania and Rwanda contributed 3% and 2% respectively. Other African countries contributed 12%. Europe and the Americas contributed 1% each (Figure 3).

Figure 3
Country of origin



DISCUSSION

In the present study, studies on adult trauma formed the majority of the papers, at 18.9%. This is not surprising, with the country bearing a heavy burden of road accidents, as indeed many lower- and middle-income countries. According to the World Health Organization (WHO), whilst these countries have only 54% of the world's vehicular population, 90% of fatalities on the roads occur there (5). In Kenya, the numbers of road accidents, fatalities and injuries continue to rise every year (6).Previous local studies have borne this fact out, showing that most admissions to orthopaedic and surgical wards were mainly due to road traffic accidents (7–9). The prevalence and effects of trauma on the adult population may thus be responsible for the significant contribution of papers on adult trauma. A study on orthopaedic publications from Egypt also showed that trauma contributed the highest number of publications, contributing 22% over a five year period (2). This finding is however different from the findings of a study from Indonesia, which showed that orthopaedic oncology, spine and knee contributed the largest number of articles, despite the trauma burden (1). Studies from the west however, paint a different picture. Holzer *et al.* (10) reviewed articles published in the *Journal of Bone and Joint Surgery* American and British volumes in one year, and found that hip, knee and trauma accounted for 19.16%, 13.75% and 13.33% respectively. In the present study, spine articles contributed 17.3%. This could be due to the burden of spine disorders, with studies showing that low back pain is one of the most common musculoskeletal disorders in Africa and also locally (11–15).

Basic science publications contributed 10.3% of the papers in the current study. This is close to the findings in the study by Said *et al* (2) from Egypt and Djaja *et al* (1) from Indonesia, where basic science publications contributed 11% and 12.7% respectively. All the other categories contributed less than 10% , with articles on pelvis and acetabulum contributing the least at 1.6%. This could be due to the fact that this is still a developing specialty in this region. Some studies have also shown that the pelvis and acetabulum do not bear the greatest burden of injuries compared to other anatomical sites in cases of road traffic accidents (16).

Public university teaching hospitals contributed majority of the papers published, contributing almost 60%. This is certainly not surprising, as it is that these institutions are heavily engaged in education, and research output is a necessity for both faculty development and it is an essential component of postgraduate training. This finding is similarly found in other parts of the world. In their study Holzer *et al.* (10) found that 83% of papers published in the *Journal of Bone and Joint Surgery* American and British volumes in one year originated from academic institutions. A similar finding was reported by Djaja *et al* (1) who found that 74.6% of Indonesian authors who published over a decade were affiliated to university hospitals. It is significant to note that only 1.1% of the papers were multi-centered, indicating a negligible amount of cross-hospital/institutional collaboration research. This suggests a possible area for future hospital and institutional research partnerships and collaboration.

Based on the geographic distribution of the articles, 65.9% of the papers came from Kenya. This could be due to the fact that the journal is domiciled in Kenya, being a publication of the Kenya Orthopaedic Association. Articles from Africa formed the bulk of the papers published, at more than 96%, with most of those being from countries in East, Central and Southern Africa. Europe and the Americas contributed a total of less than 2% of the articles, perhaps due to the presence in those continents, of historically older, and more established journals, with some being dedicated for specific sub specialties of orthopaedic surgery, thus potentially missing out articles from such subspecialties (10). The wide representation of many countries is testimony to the journal's continued growth, and its contribution to globalization and dissemination of research.

Most of the articles (80%) in the current review did not mention any conflict of interest or whether there was funding received for the study. Relationships between researchers and industry do exist, and are associated with benefits like enhancing research productivity. However, these relationships are also fraught with risk, like withholding of negative results, reluctance to share data and may influence professional judgement (17). To enhance credibility and integrity of the published work, disclosures of potential conflicts of interest are now routine in many journals, with such conflicts being either real, potential or perceived (18).

In the current study, only 1.1% of the articles were mentioned as being funded. Whilst it is possible that some funded research was not mentioned, this is much lower than what was reported in the study by Holzer *et al.* (10), who found that 47.15% and 13.24% of the articles

published in the *JBJS-A* and *JBJS-Br* respectively were funded. This could be due to difference in total research funding between these countries, which has been shown to be related to research output (19).

CONCLUSION

This was a retrospective bibliographic review of original articles published in the *East African Orthopaedic Journal* from inception to December 2022, showing that most of the articles published were in adult trauma, spine and basic sciences. Most of the articles were from public university teaching hospitals and articles from Kenya formed the majority of the articles. Most of the articles did not mention any conflicts of interest.

RECOMMENDATION

Declaration of conflicts of interest could be an area worthwhile pursuing by the editorial team of the journal, to require that such interests are declared by authors, to safeguard integrity and credibility.

LIMITATIONS

This being a retrospective analysis, it is possible that some of the data required may have missed inclusion by the original authors of the studies included. Some of the articles may also have spanned across more than one specialty.

Funding statement: No funding was received for this study.

Conflict of interest: None of the authors have any conflict of interest to declare.

REFERENCES

1. Djaja, Y.P., Prasetia, R., Santoso, A., Rahyussalim, A., *et al.* A decade of evolution in Indonesian orthopedic publication: A bibliographic report. *J Clin Orthop Trauma.* 20202; **15**:110–116.
2. Said, H.G., El-Radi, M.A., Hassanein, M.Y., *et al.* Orthopaedic publications from Egypt in the last five years: a bibliometric report. *Int Orthop.* 2018; **42**(11):2507–11.
3. About the Journal | *East African Orthopaedic Journal* [Internet]. [cited 2023 Jun 14]. Available from: https://www.ajol.info/index.php/eaoj/about
4. Grouse, L. Open access medical publications. *J Thorac Dis.* 2014; **6**(6):E133–136.
5. WHO | Regional Office for Africa [Internet]. 2023 [cited 2023 Jul 11]. Road Safety. Available from: https://www.afro.who.int/health-topics/road-safety
6. 2022-Economic-Survey1.pdf [Internet]. [cited 2023 Jul 11]. Available from: https://www.knbs.or.ke/wp-content/uploads/2022/05/2022-Economic-Survey1.pdf
7. Masiira-Mukasa, N. and Ombito, B.R. Surgical admissions to the Rift Valley Provincial General Hospital, Kenya. *East Afr Med J.* 2002; **79**(7):373–378.
8. Omondi, M.P., Mwangi, J.C., Sitati, F.C., *et al.* Patterns of orthopedic and trauma admissions to a tertiary teaching and referral health facility in Kenya: Chart review. *PLOS Glob Public Health.* 2023; **3**(5):e0001425.
9. Ogendi, J.O.K. and Ayisi, J.G. Causes of injuries resulting in a visit to the emergency department of a Provincial General Hospital, Nyanza, western Kenya. *Afr Health Sci.* 2011; **11**(2):255–261.
10. Holzer, L.A. and Holzer, G. Analysis of scientific articles published in two general orthopaedic journals. *Acta Ortop Bras.* 2013; **21**(5):281–284.
11. Tesfaye, A.H., Abere, G., Mekonnen, T.H., Jara, A.G., *et al.* A systematic review and meta-analysis of low back pain and its associated factors among school teachers in Africa. *BMC Musculoskelet Disord.* 2023; **24**(1):499.
12. Elias, H.E., Downing, R. and Mwangi, A. Low back pain among primary school teachers in rural Kenya: Prevalence and contributing factors. *Afr J Prim Health Care Fam Med.* 2019; **11**(1):7.
13. Diallo, S.Y.K., Mweu, M.M., Mbuya, S.O., *et al.* Prevalence and risk factors for low back pain among university teaching staff in Nairobi, Kenya: a cross-sectional study. *F1000Research.* 2019; **8**:808.
14. Mutiso, V.M. and Amayo, E. The prevalence of low back pain among employees of a paediatric hospital in Nairobi. *Inj Prev.* 2010; **16**(Suppl 1):A268–A268.
15. Louw, Q.A., Morris, L.D. and Grimmer-Somers, K. The prevalence of low back pain in Africa: a systematic review. *BMC Musculoskelet Disord.* 2007; **8**:105.
16. Cholo, W., Odero, W. and Ogendi, J. The burden of motorcycle crash injuries on the public health system in Kisumu City, Kenya. *Glob Health Sci Pract* [Internet]. 2023 Feb 28 [cited 2023 Jul 22]; **11**(1). Available from: https://www.ghspjournal.org/content/11/1/e2200197

17. Lo, B. and Field, M.J, Institute of Medicine (US) Committee on Conflict of Interest in Medical Research E. Summary. In: Conflict of Interest in Medical Research, Education, and Practice [Internet]. National Academies Press (US); 2009 [cited 2023 Aug 5]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK22926/
18. Fontanarosa, P. and Bauchner, H. Conflict of interest and medical journals. *JAMA*. 2017; **317**(17):1768–71.
19. Man, J.P., Weinkauf, J.G., Tsang, M., *et al*. Why do some countries publish more than others? An international comparison of research funding, English proficiency and publication output in highly ranked general medical journals. *Eur J Epidemiol*. 2004; **19**(8):811–817.