

## **Role of Orthodontic Journals in Evidence-Based Orthodontics: a Special Perspective**

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### **Abstract**

The objective of this short communication article was to highlight the role of orthodontic journals in evidence-based Orthodontics by a summary of literature retrieved from preliminary search of PubMed. There were seven studies on analyses of orthodontic journals found; on impact factor, contribution of evidence to Cochrane collaboration, quality of abstracts, compliance with declaration of Helsinki, quantity of clinical trials, quality of clinical trials, types of articles and authorship trends. The commonly analyzed orthodontic journals were American Journal of Orthodontics and Dentofacial Orthopedics, Angle Orthodontist, European Journal of Orthodontics, British Journal of Orthodontics, Journal of Orthodontics, and Orthodontics and Craniofacial Research.

**Keywords:** Evidence-Based Dentistry; Publication Trend; Evidence Analysis; Research Trend; Evidence-Based Orthodontics.

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### *Impact Factor*

Eliades and Athanasiou [1] explained that language, citations, nature of published articles, and scientific domain were important parameters that influence orthodontic journals' impact factor and online/print circulation.

### *Cochrane Evidence*

Fleming et al [2] assessed and compared the methodological quality of Cochrane and non-Cochrane systematic reviews (SRs) published in leading orthodontic journals and the Cochrane

Database of Systematic Reviews (CDSR) using AMSTAR and compared the prevalence of meta-analysis in both review types. The authors studied five orthodontic journals (American Journal of Orthodontics and Dentofacial Orthopedics, Angle Orthodontist, European Journal of Orthodontics, Journal of Orthodontics and Orthodontics and Craniofacial Research) and the Cochrane Database of Systematic Reviews, and found 109 SRs in the five journals and of these, only 26 (23.9%) were in the CDSR. The AMSTAR score was higher for reviews in Cochrane than for those in the journals.

### *Quality of Abstracts*

Fleming et al [3] investigated the quality of reporting of abstracts of randomized controlled trials published in four orthodontic journals (American Journal of Orthodontics and Dentofacial Orthopedics, the Angle Orthodontist, the European Journal of Orthodontics, and the Journal of Orthodontics) and found 117 abstracts of randomized controlled trials. The mean overall reporting quality score for abstracts using CONSORT checklist was 60.2%. Most abstracts demonstrated clear reporting of interventions, objectives, and number of participants randomized;

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while insufficient reporting of randomization procedures, allocation concealment, blinding, and failure to report confidence intervals and harms were present in all four journals. None of them reported registrations of randomized controlled trials and sources of funding.

#### *Compliance with Declaration of Helsinki*

Harrison[4] assessed the agreement of published reports of orthodontic clinical trials with the requirements of the Declaration of Helsinki by studying three orthodontic journals (The American Journal of Orthodontics and Dentofacial Orthopedics, Journal of Orthodontics and European Journal of Orthodontics) and found 155 papers, of which 85 were reports of randomized controlled trials (RCTs) and 70 of controlled clinical trials (CCTs). Only 16.1% of the trial reports stated that ethical approval had been obtained and a quarter indicated that informed consent had been obtained.

#### *Quantity of Clinical Trials*

Harrison [5] assessed the sufficiency of evidence from orthodontic clinical trials in three orthodontic journals (The American Journal of Orthodontics and Dentofacial Orthopedics, British Journal of Orthodontics, and European Journal Orthodontics) and found 155 trial reports which evaluated the following interventions frequently: bonding materials (21.9%), growth modification treatments (21.3%), and oral hygiene procedures (9.0%).

#### *Quality of Clinical Trials*

Harrison [6] assessed the quality of reporting of orthodontic clinical trials in three orthodontic journals (The American Journal of Orthodontics and Dentofacial Orthopedics, the British Journal of Orthodontics and European Journal of Orthodontics) and identified 155 trial reports of which only 4 were adequately concealed, 85 were described as being randomized, 10 as double-blind, and 44 gave a description of withdrawals and drop-outs. Appropriate randomization and blinding was noted in 78 reports and 57 reports respectively. Only one trial had a low risk of bias, 17 trials had moderate risk, and 137 had a high risk of bias.

#### *Types of Articles and Authorship*

Kanavakis et al [7] analyzed the types of articles and their authorship characteristics in the 3 orthodontic journals with impact factors (American

Journal of Orthodontics and Dentofacial Orthopedics, Angle Orthodontist, and European Journal of Orthodontics) and found 3004 articles of which research articles were more in third journal and case reports were more in other two journals. An increasing trend towards multiple authorship was noted in all three journals, with more contributions of articles from the United States and Canada to the AJODO and the AO than to the EJO which had more than 70% of the content from Europe.

There were seven studies on analyses of orthodontic journals found; on impact factor, contribution of evidence to Cochrane collaboration, quality of abstracts, compliance with declaration of Helsinki, quantity of clinical trials, quality of clinical trials, types of articles and authorship trends. The commonly analyzed orthodontic journals were American Journal of Orthodontics and Dentofacial Orthopedics, Angle Orthodontist, European Journal of Orthodontics, British Journal of Orthodontics, Journal of Orthodontics, and Orthodontics and Craniofacial Research.

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