

What's "Trend"ing in Orthodontic literature?

2016 marks the commencement of the 6th volume of "APOS Trends in Orthodontics". Its been a momentous journey, that we have deeply cherished. This editorial focuses on the bigger picture: The orthodontic publishing arena, as it exists today! What are we reading, and what is getting published in journals worldwide? The number of orthodontic residency programs are increasing globally; and so are the numbers of orthodontic journals. "More", definitely denotes greater material to peruse; however, does it also imply meaningful and relevant information? This question does open up a Pandora's box. Analyses of a lot published data points to a large proportion of published research lacking methodological rigor, to be reliable enough for answering clinical questions.^[1]

Hence, it is important to understand the intrinsic characteristics of a publication, i.e., topic, origin, basic or applied research, authorship demographics, constituent components of affiliation, and other variables.^[2] In light of increasing interest in evidence-based orthodontics, the availability of high-quality evidence is another important factor.^[3,4]

There have been a few studies investigating orthodontic journals from 1993 onward that have aimed to analyze the types of articles and their authorship characteristics in three orthodontic journals – American Journal of Orthodontics and Dentofacial Orthopedics (AJODO), the Angle Orthodontist (AO), and European Journal of Orthodontics (EJO). However none of these studies have focused on the topics that these articles have addressed.^[5,6]

To understand the "trends" that are influencing editorial decisions and the publications that are being accepted currently, we evaluated four orthodontic journals: AJODO, AO, Journal of Clinical Orthodontics (JCO), and the EJO.

To establish a set of comparable data, the method adopted by Kanavakis *et al.*^[4] was followed, and the journals with highest impact factors in Orthodontics, for the last 3 years were selected, i.e., AJODO, EJO, and AO. The fourth journal selected was JCO due to its popularity and high readership numbers. The impact factors for the first three journals are given in Table 1. The impact factor of a journal for a particular year is defined as the number of citations from that journal from the previous 2 years divided by the total number of articles published in those 2 years. Journals



are assigned an impact factor in Journal Citation Reports, published by Thomson Reuters.^[7]

The online web edition of the journals was assessed. The examination of the association of the parameters: "type of article," "main affiliation," "origin," and "keywords" across journals was performed. There were in all five reviewers who decided on the specific "topic" category to which the article should belong. Each article was categorized in only 1 topic group and not more. In the case of a difference of opinion on the topic category, the article was to be categorized by a vote amongst the panel of reviewers.

In all, there were 1962 articles evaluated, (combined in all the four journals) with 692 articles published in AJODO, 543 in AO, 256 in JCO, and 435 in EJO, from August 2012 to August 2015. These articles were divided under 45 different topics. The complete data is presented in Tables 2 and 3.

We considered each journal individually and the top 10 topics which each of these journals published in the 3 year span, was also evaluated. The complete data for AJODO is presented in Table 4, for AO in Table 5, for EJO in Table 6, and JCO in Table 7. At this point, we would like to clarify that this evaluation is a collation of information, and has not been subjected to statistical evaluation for effects and correlations.

Table 1: Orthodontic journals with their impact factor from 2012 to 2014 according to Journal Citation Reports, Thomson Reuters

Title	2014	2013	2012
American Journal of Orthodontics and Dentofacial Orthopedics	1.382	1.437	1.458
European Journal of Orthodontics	1.483	1.390	1.078
Angle Orthodontist	1.225	1.277	1.184

Table 2: Number of articles published between August 2012 and August 2015

Journal	AJODO	Angle Orthodontist	EJO	JCO	Total
Number of articles between August 2012 and August 2015	692	543	435	256	1962

AJODO – American Journal of Orthodontics and Dentofacial Orthopedics; EJO – European Journal of Orthodontics; JCO – Journal of Clinical Orthodontics

Table 3: Topic wise assessment of articles published between August 2012 and August 2015 in the given journals

Topic	AJODO	Angle Orthodontist	JCO	EJO
CBCT	56	32	1	11
Research + training	9	3	0	13
Social media	2	4	2	3
Retention	11	6	5	11
3D diagnosis/digital model	23	13	12	19
TAD'S/plates	52	43	27	26
Bonding	16	24	10	14
Molecular research	26	20	0	16
Root resorption	13	6	2	6
Surgical	35	25	8	10
Statistics/indices	11	3	0	5
Practice management	2	0	13	0
Growth modification	13	23	8	15
Malocclusion	22	22	3	16
Bracket	13	21	8	23
Expansion	21	17	6	8
FEM	11	4	0	8
Force vector	9	6	0	5
Adjunct appliances	10	13	36	8
Anomalies	24	12	5	13
Acceleration	15	3	4	2
Anchorage	14	9	14	4
Mechanics	13	4	9	4
Patient perception	18	18	1	18
Interdisciplinary	15	2	6	1
TMJ/TMD	12	8	3	5
Airway	19	20	0	12
Lasers	4	6	1	1
Bone	21	12	1	8
Esthetics/soft tissue	16	26	3	17
Archwire	7	18	4	11
Impactions	24	8	15	7
CLCP	18	8	0	12
Autotransplant	12	2	3	2
Enamel/pulp	7	4	2	6
Craniofacial growth	15	5	0	16
Lateral cephalograms/OPG	13	21	0	14
Arch width	13	5	0	6
Rx outcome	17	12	15	22
Invisible	6	8	26	7
Oral hygiene	8	8	1	5
White spot	5	6	0	3
Periods	13	12	2	10
Debilitating disease	5	2	0	1
Mastication/muscles	3	7	0	11

AJODO – American Journal of Orthodontics and Dentofacial Orthopedics; EJO – European Journal of Orthodontics; JCO – Journal of Clinical Orthodontics; TAD – Temporary anchorage devices; CBCT – Cone beam computed tomography; 3D – Three-dimensional; TMD – Temporomandibular disorders; TMJ – Temporomandibular joint; OPG – Orthopantomogram; CLCP – Cleft lip and palate; FEM – Finite element method

The top 10 article topics combined, after collating all 4 journals were also evaluated. This did throw up some interesting results. We do admit that the focus areas of all the four journals are different; hence collating this information is only for an indication of "trends."

Table 4: Top 10 topic wise assessment of articles published between August 2012 and August 2015 in American Journal of Orthodontics and Dentofacial Orthopedics

Topic	Number of articles
CBCT	56
TAD'S/miniplates	52
Surgical	35
Molecular	26
Impactions	24
Anomalies	24
3D diagnosis	23
Bone	21
Expansion	21
Airway	19

TAD – Temporary anchorage devices; CBCT – Cone beam computed tomography; 3D – Three-dimensional

Table 5: Top 10 topic wise assessment of articles published between August 2012 and August 2015 in Angle Orthodontist

Topic	Number of articles
TAD'S/miniplates	43
CBCT	32
Brackets	31
Esthetics	26
Surgical	25
Bonding	24
Growth modification	23
Malocclusion	22
Lateral cephalograms	21
Molecular	20

TAD – Temporary anchorage devices; CBCT – Cone beam computed tomography

Table 6: Top 10 topic wise assessment of articles published between August 2012 and August 2015 in European Journal of Orthodontics

Topic	Number of articles
TAD'S/miniplates	26
Brackets	23
Rx outcome	22
3D diagnosis	19
Patient perception	18
Esthetics	17
Malocclusion	16
Craniofacial growth	16
Growth modification	15
Lateral cephalograms	14

TAD – Temporary anchorage devices; CBCT – Cone beam computed tomography; 3D – Three-dimensional

Table 7: Top 10 topic wise assessment of articles published between August 2012 and August 2015 in Journal of Clinical Orthodontics

Topic	Number of articles
Adjuncts	36
TAD'S/miniplates	27
Invisible	26
Rx outcome	15
Impactions	15
Anchorage	14
Practice management	13
3D diagnosis	12
Bonding	10
Mechanics	9

TAD – Temporary anchorage devices; CBCT – Cone beam computed tomography; 3D – Three-dimensional

Articles on TAD's and miniplates were on the top spot with approximately 150 articles published across the four journals (AJODO published around 52 followed by AO with around 43 articles and EJO and JCO with around 26 articles).

The second most published topic was Cone Beam Computed Tomography. (CBCT), with approximately 100 articles out of which more than half of them were published in the AJODO. The interesting information here was that only one article related to CBCT was published in the JCO.

The next two topics with almost the same number of articles published were "Surgical orthodontics" and "Type of brackets and their treatment effects." As far as surgical orthodontics is concerned, two-third of the total published articles were in AJODO and AO, with very few in JCO and EJO. For articles published on the "Type of Brackets and their treatment effects", almost two-third were in EJO and AO with very few in AJODO and JCO.

The complete data for the top topics published are presented in Table 8.

It is important to understand that topics such as temporary anchorage devices, CBCT, surgical orthodontics were more accepted in AJODO, AO, and EJO. AJODO also gave a lot of importance to topics like molecular research and studies on expansion, airway, and anomalies, which were not a part of top ten topics published in other journals. AO still accepted articles on lateral cephalograms, bonding, bonding materials, and brackets systems. EJO and AO both accepted a lot of articles on esthetic and soft tissue considerations as well as growth modification which was not the case with AJODO. EJO accepted articles on three-dimensional diagnosis

Table 8: Top 10 topic wise assessment of articles published between August 2012 and August 2015 in all four journals combined

Topic	Number of articles
TAD'S/miniplates	148
CBCT	100
Surgical	78
Brackets	75
Adjuncts	67
3D diagnosis	67
Rx outcome	66
Bonding	64
Malocclusion	63
Molecular	62

TAD – Temporary anchorage devices; CBCT – Cone beam computed tomography; 3D – Three-dimensional

and digital models, craniofacial growth, and patient perceptions as well.

JCO accepted more articles on adjuncts, innovative appliances and also on Invisible Orthodontic appliances. We also came across some interesting facts, such as in the last 3 years approximately 25 articles were published on how to conduct orthodontic research and training in AJODO, EJO, and AO. There were publications related to social media in all the four journals in the recent years. JCO alone had 15 articles published on practice management in this time span.

This study could ascertain notable differences between all the four journals with respect to the type and topics they publish. Our collation is aimed to give us a broad insight on what are the current "trends" in orthodontic publication, and these are of course, subject to critical appraisal and detailed analysis. The Editorial Team thanks the readers of APOS Trends for their unstinted support to the journal, over the years. We, reiterate our commitment to be a true reflection of "trends" in Orthodontics across the globe, in the coming years too!



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