

A review of open access clinical trials published in leading hybrid journals

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abstract

Objective: Many of the top-ranked journals in Thomson Reuters' Journal Citation Reports® (JCR) are specialty titles that offer an option to publish clinical trial studies (CTs) in open access (OA) format. Given the increase in OA content across STM publishing, we reviewed characteristics of OA CTs published in these journals within six therapeutic areas to determine whether and how this option is being adopted as a means of publishing CTs.

Research Design: We used the JCR to identify the top five journals ranked by Impact Factor and offering an OA option in oncology, cardiology, gastroenterology, psychiatry, dermatology, and rheumatology. Journals that do not generally publish CTs were excluded. We used PubMed to identify CTs published in 2013, and Web of Science™ for citation data.

Results: The most OA CTs were published in rheumatology (20.8% of CTs). The fewest OA CTs were published in dermatology (2.7%). Industry sponsored the plurality of OA CTs in all areas except oncology and psychiatry. The type of Creative Commons license used was inconsistent across therapeutic areas, though the use of the CC BY license was comparatively rare. The average number of citations for OA CTs was often higher than the journal's 2013 Immediacy Index.

Conclusion: Characteristics of OA CTs published in leading hybrid journals vary by therapeutic area and by journal within each area—sometimes significantly. As OA publishing continues to grow within STM, new trends may emerge within this group of journals and within these therapeutic areas.

Keywords: Journals, transparency, original research.

introduction

The significant growth of fully OA journals over the past few years has, to a certain extent, overshadowed that of subscription-based journals which now offer an OA option.

These hybrid journals are often very influential. Frequently, they are an author's first or second choice when submitting CT results for publication.

Many of the top journals as measured by Impact Factor in Thomson Reuter's JCR are hybrid journals.

Unlike either fully-OA or subscription-only journals, hybrid journals provide authors with a choice between publishing with an OA license or behind a pay wall.

We reviewed CTs published with an OA license in top-ranked hybrid journals across a selection of disciplines in order to gain a better understanding of this body of published work.

methods

We focused on six specialty areas for this study because of the large number of CTs they publish: oncology, cardiology, gastroenterology, psychiatry, rheumatology, and dermatology.

We used the JCR from Thomson Reuters to identify the top five hybrid journals by Impact Factor in each specialty area.

A journal is considered hybrid if it publishes OA articles in addition to content behind a pay wall. We used PubMed to determine (a) if a journal is hybrid and (b) if it publishes clinical trials. It is important to note that some journals make their articles freely available after a fixed period from the publication date. These are not considered OA articles because no Creative Commons license is used and no article processing charge (APC) is collected.

Non-hybrid journals were excluded from our study, as were journals that publish very few (5 or less) or no CTs.

For all 30 journals, we searched PubMed for CTs published from January to December 2013. The results were downloaded to a spreadsheet that we used to cross-reference the online issues of all journals.

The summarizing data shown in the table presented here was compiled after all OA studies were identified and reviewed according to the methods listed above.

conclusions

A relatively small number of CT papers (10.4%) were published with an OA license in the leading hybrid journals of these specialty areas in 2013. Characteristics of OA CTs vary by specialty area (at times significantly), and there is often a strong variance within each area at the journal level. As this study represents a single year of OA CT publishing in these journals, there is no attempt to draw any conclusions for the future. Neither do we attempt to address why some authors do not publish their CTs with an OA license, while others choose OA even when it is not required by the study sponsor. However, it would be interesting to perform this study annually to document any trends that may appear.

Considering the current push for increased transparency by the pharmaceutical industry, publishers and authors themselves, and the ongoing OA movement, we might expect the growth of OA CTs in coming years.

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journals	all trials	OA trials	% OA trials	industry			I, II, III, IV			CC BY			all OA cit.s	average cit.s per article	2013 Immediacy Index					
				government	academia/foundations	combination	combination	unlisted	CC BY-NC-SA	CC BY-NC-ND	publisher's own	OA license				citations/immediacy				
Oncology	461	40	9%																	
<i>Lancet Oncol</i>	99	19	19%	12	14	9	5	6	7	13	1	13	3	1	13	23	335	8	2.74	
<i>Leukemia</i>	47	7	15%	11	3	5		4	9	1	5	2	1	1	15		234	12	5.33	
<i>Clin Cancer Res</i>	91	4	4%	3	4	1		1	2	4			1		6		60	9	3.38	
<i>Int J Cancer</i>	49	2	4%	3		1		3		4					4		4	1	1.67	
<i>Ann Oncol</i>	175	8	5%	2				2		2					2		10	5	1.66	
				6		2		1	1	4		2			6		27	3	1.66	
Rheumatology	332	69	21%																	
<i>Ann Rheum Dis</i>	140	47	34%	43	7	7	12	14	19	2	2	38	1		52	1	15	165	2	1.50
<i>Arthritis Rheum</i>	40	4	10%	35	3	4	5	2	4	16	1	1	2		47		128	3	3.29	
<i>Rheumatology</i>	63	5	8%	2	1	1		1	1	2			1		3		29	7	1.68	
<i>Osteoarthritis Cartilage</i>	30	12	40%	3		1	1	1	1	1		3	1		4		0	0	1.08	
<i>Arthritis Care Res</i>	59	1	0%	2	3	2	5	1	1	10					12		8	1	0.82	
				1				1		1					1		0	0	0.63	
Cardiology	449	34	8%																	
<i>JACC</i>	193	6	3%	16	4	13	1	3	3	3	1	24	18		10	6	339	10	2.18	
<i>Eur Heart J</i>	82	10	12%	4	1	1		1	3	2		2			6		64	11	3.75	
<i>Heart</i>	66	12	18%	7		3		2	1	7					10		208	21	2.77	
<i>Eur J Heart Fail</i>	56	6	11%	1	1	9	1	1	1	10					12		34	3	1.74	
<i>JACC Cardiovasc Interv</i>	52	0	0%	4		2		1		5					6		33	6	1.40	
				-	-	-		-	-	-		-	-	-	-		0	0	1.27	
Psychiatry	191	15	8%																	
<i>Biol Psychiat</i>	34	1	3%	7	3	5		15					1	2	4	9	23	2	1.82	
<i>Brit J Psychiat</i>	34	4	12%	1				1		1					1		4	4	2.88	
<i>Neuropsychopharmacol</i>	37	6	16%	2	1	1		4		4					4		2	1	1.93	
<i>Psychother Psychosom</i>	26	1	4%	2	2	2		6		6			2		4		16	3	1.77	
<i>Psychoneuroendocrino</i>	60	3	5%	1				1		1					1		0	0	1.63	
				2		1		3		3					3		1	0	0.89	
Gastroenterology	230	26	11%																	
<i>Gut</i>	50	12	24%	14	5	5	2	1	3	3	2	1	16	14	5	7	196	8	3.05	
<i>Gastroenterology</i>	54	4	7%	6	3	3		1	1	2	1	7			12		121	10	4.41	
<i>Am J Gastroenterol</i>	39	6	15%	3		1	1	1	2	1	1	7			1		34	9	3.48	
<i>Hepatology</i>	56	4	7%	3	1	1	1	1	1	5			2		4		15	3	2.59	
<i>Clin Gastroenterol Hepatol</i>	31	0	0%	2		1	1	1	1	3			1		1		26	7	2.57	
				-	-	-		-	-	-		-	-	-	-		0	0	2.22	
Dermatology	148	4	3%																	
<i>J Am Acad Dermatol</i>	36	1	3%	4				1	1	1	1	1	1		4		9	2	1.14	
<i>Brit J Dermatol</i>	60	2	3%	1				1		1					1		2	2	0.90	
<i>Int Wound J</i>	12	1	8%	2				1		1					2		7	4	1.31	
<i>J Invest Dermatol</i>	13	0	0%	1				1		1					1		0	0	0.54	
<i>J Eur Acad Dermatol</i>	27	0	0%	-	-	-		-	-	-		-	-	-	-		0	0	2.21	
				-	-	-		-	-	-		-	-	-	-		0	0	0.73	
	1,811	188	10%																	1,067

results

A total of 1811 CT papers were identified across all six specialty areas. Of these, 188 (10.4%) were published OA, while the rest were published behind a pay wall.

Of the 188 OA CTs, 89 (47.3%) were sponsored by industry, 37 (19.7%) were supported by government grants, 37 (19.7%) were sponsored by academia/foundations, and 25 (13.3%) received support from a combination of two or three of these funders.

For papers in which we were able to identify trial phase, Phase III was the most common (48.1%), followed by Phase II (22.2%), Phase I (13.6%), and Phase IV (9.9%). We were unable to identify trial phase for 107 (56.9%) of the OA papers reviewed. A combination of phases (e.g. Phase III and IV) was listed by 6.2%.

Most studies were published under a CC BY-NC-SA "Share-alike" license (46.3%), while 33.0% published under the publisher's own version of an OA license, followed by the CC BY-NC-ND "no derivatives" license (18.1%). Only 2.7% of all studies were published under a CC BY license, the least restrictive OA license available.

Deeper analysis at the level of individual specialty area and journal showed that only 2.7% of CT papers in dermatology journals were published in OA format, while 20.8% of papers in rheumatology journals were published in OA format. With 47 OA studies among 140 CT papers, the *Annals of Rheumatic Diseases* published the most OA CTs, while the *Journal of the American College of Cardiology* published only 6 OA studies out of a total of 193 CT papers.

Citation data for all papers showed that in about half of all journals (16 out of 30), the average number of citations per OA article exceeded the journal's 2013 Immediacy Index.



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