

#RheumJC: Impact of Invited Authors on a Twitter Based Rheumatology Journal Club

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Abstract #1145

Background/Purpose: Twitter is an increasingly popular platform for discussion and engagement among healthcare professionals. #RheumJC is a Twitter-based international rheumatology journal club which occurs approximately once a month. One novel aspect of #RheumJC has been to include principal authors of the discussed manuscripts, whenever possible. Here we describe participant analysis and survey results from the past 18 months of this initiative with a focus on how the presence of authors has impacted the journal club and participants.

Methods: A #RheumJC development team was created to help define the structure and moderate the online discussions. Prior to each journal club, principal authors of the selected manuscripts were invited to participate. A total of 10 different online journal clubs were conducted between January 29th, 2015 and June 2nd, 2016, each consisting of two “live” one hour chats, as well as a full 24 hrs to allow for asynchronous participation. In 4 of the 10 journal clubs, principal authors of the chosen manuscripts participated in the online discussion. An analysis of all the sessions was performed to assess participant demographics and participation rates. A follow up survey was conducted after the 10th journal club to both #RheumJC participants as well as the invited authors to assess metrics of satisfaction and identify additional strengths or barriers.

Results: In total, 433 individuals from 36 different countries participated in at least one #RheumJC session. For the 4 journal clubs during which principal authors were present, compared to sessions without an author present, there were a significantly greater number of participants (46 ± 11.5 vs 26 ± 13.3 respectively, $p=0.039$) and tweets (462 ± 103.5 vs 306 ± 111.0 , $p=0.048$) suggesting the presence of principal authors was a popular feature. 35 individuals from 11 different countries responded to a survey and indicated they had participated or followed along in at least one journal club session. The majority (88%) indicated they were either satisfied or very satisfied with the #RheumJC initiative. Additionally, 37.5% of respondents indicated that their participation in #RheumJC had influenced practice decision making. When asked which sessions resulted in practice changes, 71% of the responses highlighted sessions where authors were available as discussants. Of interest, 7% of respondents indicated they had joined Twitter solely because of #RheumJC, and another 37% stated that #RheumJC had increased their use of Twitter as a tool for medical education. A survey of the invited authors revealed that they found their experience very rewarding and all of them indicated that they would be highly likely to participate again.

Conclusion: #RheumJC is a novel and popular approach to the traditional medical journal club. The involvement of manuscript authors has proven to be a particularly well received aspect of this initiative. The inclusion of authors in the discussion increases user engagement and possibly can influence practice decision making by journal club participants. We encourage authors to participate in this novel educational activity to potentially broaden the impact of their research.

Background/Purpose

Twitter is a social networking and microblogging service and has become an increasingly popular platform for discussion and engagement amongst healthcare professionals^{1,2}. #RheumJC is a Twitter-based international rheumatology journal club which occurs approximately once a month³. One novel aspect of #RheumJC has been to include principal authors of the discussed manuscripts. Here we describe participant analysis and survey results from the past 18 months of this initiative with a focus on how the presence of authors has impacted the journal club and participants.

Methods

- A #RheumJC development team was created to help define the structure and moderate the online discussions.
- A twitter account (@RheumJC), a companion website (<http://rheumjc.com>) and a #RheumJC mailing list were created.
- All manuscripts discussed were made available online for free by respective journals for anywhere from 48 hours to one week prior to each session.
- Prior to each journal club, principal authors of the selected manuscripts were invited to participate.
- A total of 13 different online journal clubs were conducted between January 29th, 2015 and October 27th, 2016, each consisting of two “live” one hour chats, as well as a full 24 hrs to allow for asynchronous participation.
- In 6 of the 13 journal clubs, principal authors of the chosen manuscripts participated in at least one of the two live sessions which were held for each journal club.
- An analysis of all the sessions was performed to assess participant demographics and participation rates (individual live sessions as well as the entire 20 month observation period).
- Numbers of participants and tweet volume were analyzed between those sessions with and without an author present: differences were calculated using unpaired t-test.
- A follow up survey was conducted after the 10th journal club to both #RheumJC participants as well as the invited authors to assess metrics of satisfaction and identify additional strengths or barriers.

Results

- Since the inaugural session of #RheumJC in January, 2015:
 - 440 unique individuals/ accounts have tweeted with the hashtag #RheumJC (a measure of individual participation).
 - Participant accounts identified to 36 different countries (Figure 2).
 - 5,365 tweets with the hashtag #RheumJC
 - 6,675,915 impressions (a measure of exposure - the total number of times tweets about #RheumJC were delivered to Twitter streams)
 - @RheumJC twitter account followed by 1627 individuals/ accounts
 - RheumJC mailing list followed by 195 accounts with consistent growth since its inception (Figure 1).

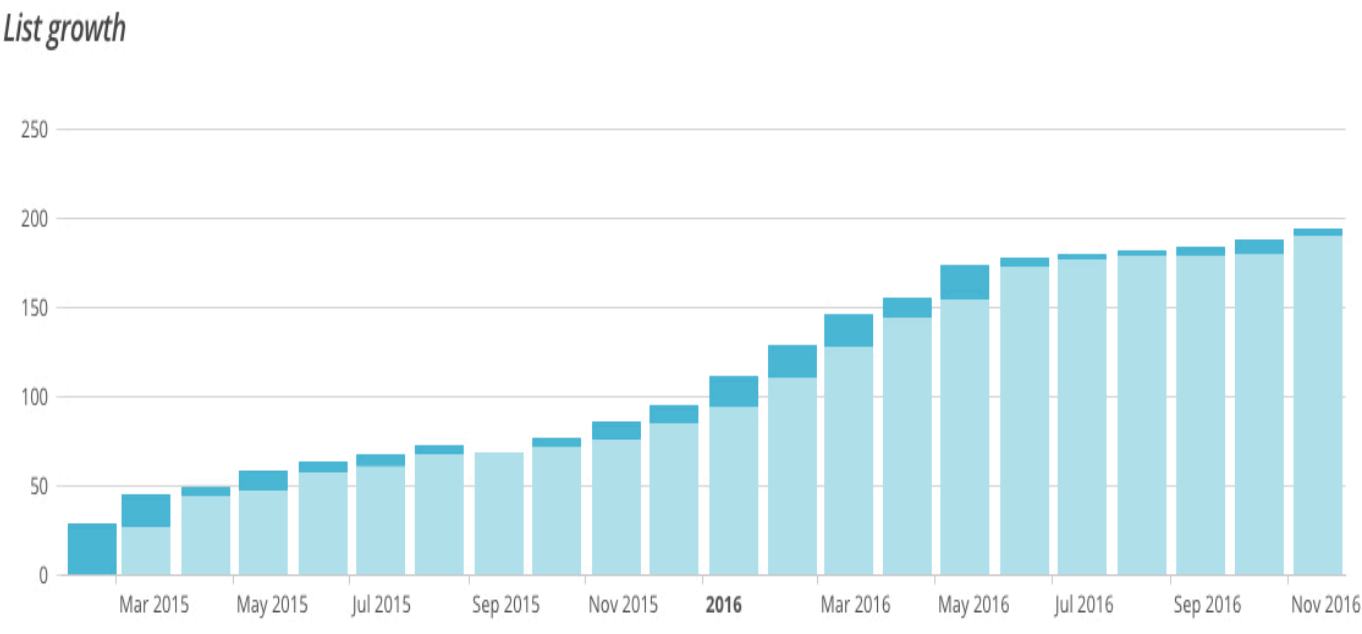


Figure 1: Expansion of RheumJC mailing list followers



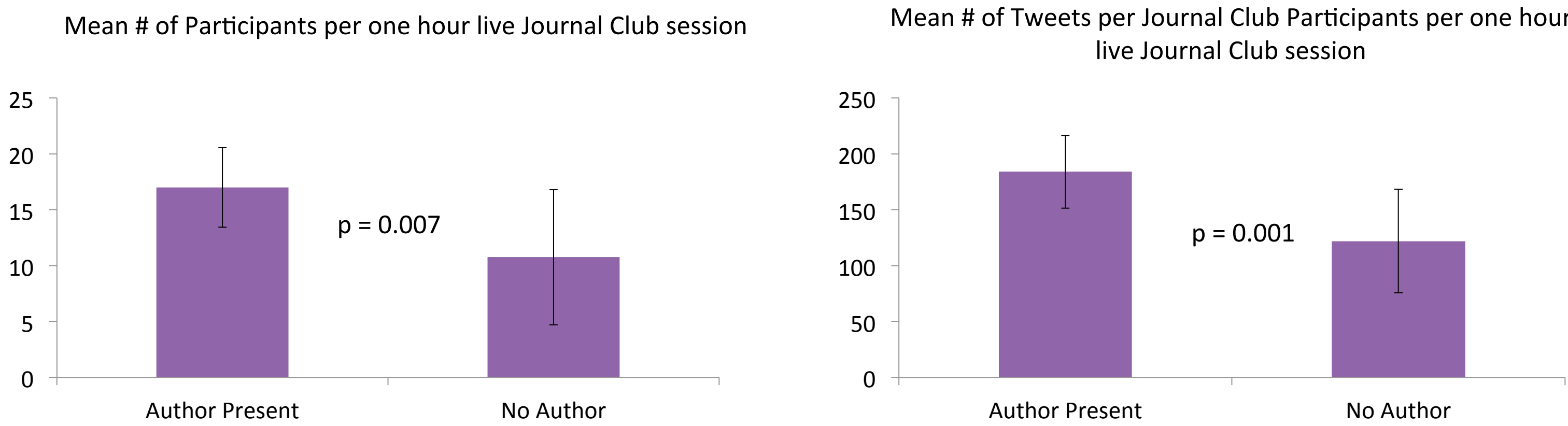
Figure 2: Map of location of #RheumJC participants

- 26 live Journal Clubs sessions (13 total unique Journal Clubs)
- 10 live Journal Club sessions with author participation
- Individual manuscripts and participation rates are listed in table 1
- Mean number of participants in sessions with an author present was 17 (SD±3.6), and without an author was 10.75 (SD±6.1), $p=0.007$
- Mean number of tweets in sessions with an author present was 184 (SD±32.6), and without an author was 122 (SD±46.4), $p=0.001$

Date	Article	Session	Participants	tweets
1/25/2015	Tacrolimus versus mycophenolate mofetil for induction therapy of lupus nephritis: a randomised controlled trial and long-term follow-up – Mok CC, et al. Ann Rheum Dis. 2016 Jan	JC1a	21	188
		JC1b	25	195
3/3/2015	Rituximab for the treatment of relapses in antineutrophil cytoplasmic antibody-associated vasculitis – Milosavlsky EM, et al. Arthritis Rheumatol. 2014 Nov	JC2a	23	182
		JC2b	17	240
4/2/2015	Proceedings from the American College of Rheumatology Reproductive Health Summit: the management of fertility, pregnancy, and lactation in women with autoimmune and systemic inflammatory diseases – Kavanaugh A, Cush JJ, et al. Arthritis Care Res (Hoboken). 2015 Mar	JC3a	22	208
		JC3b	13	211
5/7/2015	Disease activity guided dose reduction and withdrawal of adalimumab or etanercept compared with usual care in rheumatoid arthritis – van Herwaarden N, et al. BMJ. 2015 Apr 9	JC4a	12	129
		JC4b	15	224
7/23/2015	A phase III randomised, double-blind, parallel-group study comparing SBA with etanercept reference product in patients with active rheumatoid arthritis despite methotrexate therapy – Emery P, et al. Ann Rheum Dis. 2015 Jul 6	JC5a	17	165
		JC5b	13	158
1/28/2016	Response to belimumab among patients with systemic lupus erythematosus in clinical practice settings: 24-month results from the OBSERVE study in the USA – Collins CE, et al. Lupus Sci Med. 2016 Jan 11	JC6a	18	135
		JC6b	14	139
2/25/2016	Prevalence and distribution of VZV in temporal arteries of patients with giant cell arteritis – Lavi E, Gilden D, Nagel M, White T, Grose C. Neurology. 2015 Nov 24	JC7a	17	201
		JC7b	16	182
3/31/2016	Hand to Mouth: A Systematic Review and Meta-Analysis of the Association between Rheumatoid Arthritis and Periodontitis – Fuggle, NR, et al. Front Immunol. 2016 Mar 2	JC8a	7	72
		JC8b	8	118
5/5/2016	Secukinumab Inhibition of Interleukin-17A in Patients with Psoriatic Arthritis – Mease PJ, et al. N Engl J Med. 2015 Oct	JC9a	10	97
		JC9b	6	97
6/2/2016	Safety and efficacy of subcutaneous tocilizumab in adults with systemic sclerosis (faSScinate): a phase 2, randomised, controlled trial – Khanna D, et al. Lancet. 2016 Jun 25	JC10a	8	76
		JC10b	6	94
6/30/2016	Rheumatoid arthritis: Missed opportunities in the 2015 ACR guideline for RA treatment - van Vollenhoven. Nat Rev Rheum. 2016 Jan 14	JC11a	8	106
		JC11b	7	134
9/29/2016	Inflammatory arthritis and sicca syndrome induced by nivolumab and ipilimumab - Cappelli LC, et al. Ann Rheum Dis. 2016, Jun 15	JC12a	12	167
		JC12b	5	67
10/27/2016	Non-TNF-Targeted Biologic vs a Second Anti-TNF Drug to Treat Rheumatoid Arthritis in Patients With Insufficient Response to a First Anti-TNF Drug: A Randomized Clinical Trial - Gottenberg JE, et al. JAMA. 2016 Sept 20	JC13a	18	175
		JC13b	4	104

Table 1: List of manuscripts. Shaded rows indicate author participated in the live discussion

Effect of Author Participation



Survey Results

- 37 individuals from 12 different countries responded to a follow up survey and indicated they had participated or followed along in at least one journal club session.
- 53 % of respondents had participated in at least 3 or more sessions (Figure 3).
- 35% of participants stated that they had incorporated knowledge from one of the sessions into their clinical practice (Figure 4). Examples were given.
- When asked which sessions resulted in practice changes, 71% of the responses highlighted sessions where authors were available as discussants.
- A survey of the invited authors revealed that they found their experience very rewarding and all of them indicated that they would be highly likely to participate again.

How many different #RheumJC sessions have you participated in?

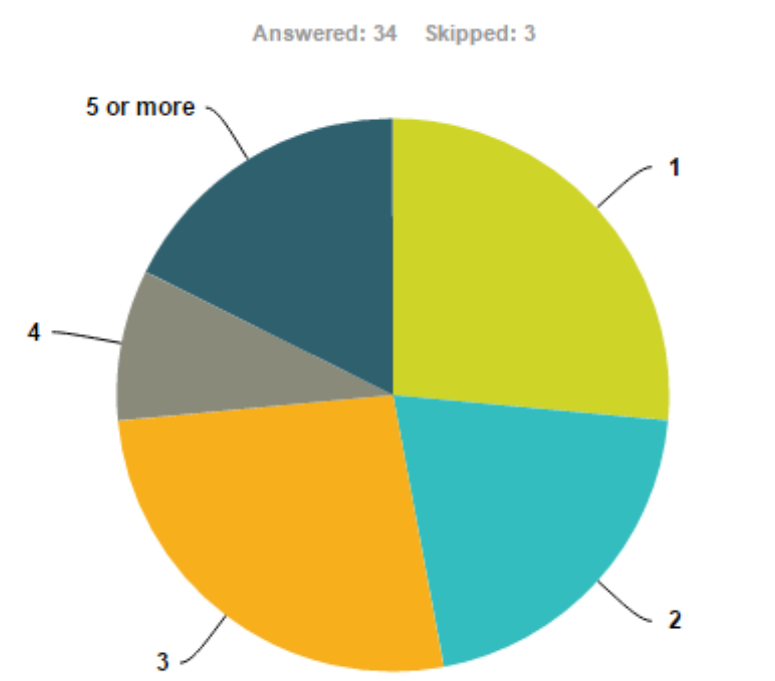


Figure 3

Have you ever used the knowledge acquired from #RheumJC to make decisions in your clinical practice?

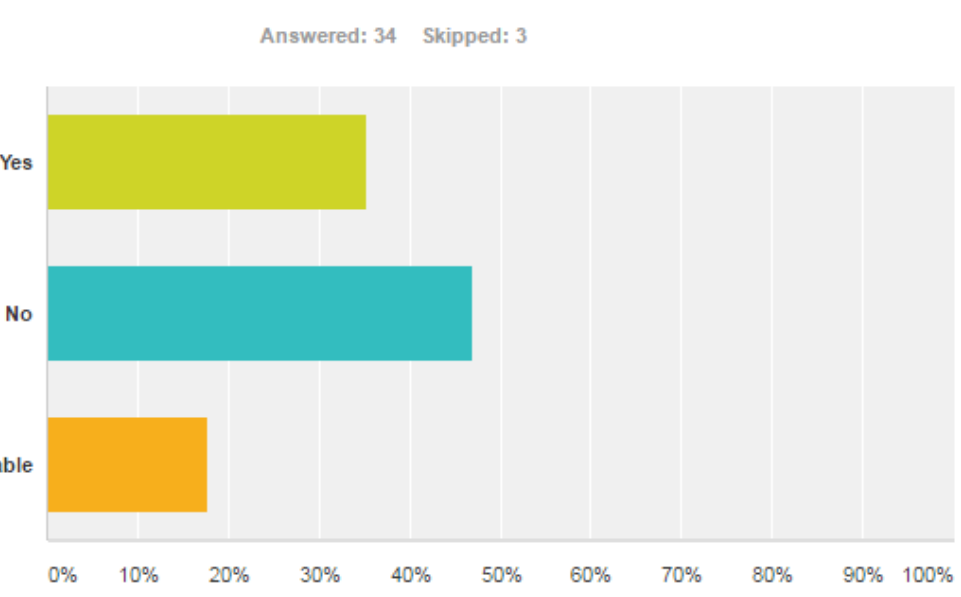


Figure 4

Sample Comments

- “I have considered using varicella tests in some of my GCA patients. Also, more willing to use Cellcept for scleroderma lung.”
- “After the paper on Varicella Zoster virus (VZV) & GCA I have changed my view on corticoids + antiviral therapy”
- “Cited an article covered when discussing benlysta treat with a pt.”
- “I have considered using antiviral against VZV for GCA after a discussion with the first author of a paper discussed on #RheumJC. I didn't have to as my patient got better. But I am keeping it as a potential tool in the near future.”

- During the live sessions, 41% of the survey respondents indicated that they have observed only and not participated in the conversation (Figure 5), suggesting that the recorded number of #RheumJC participants may be an underestimation of the actual number of individuals following the chats.

Have you ever Tweeted during a “live” session of #RheumJC or have you only observed the conversation?

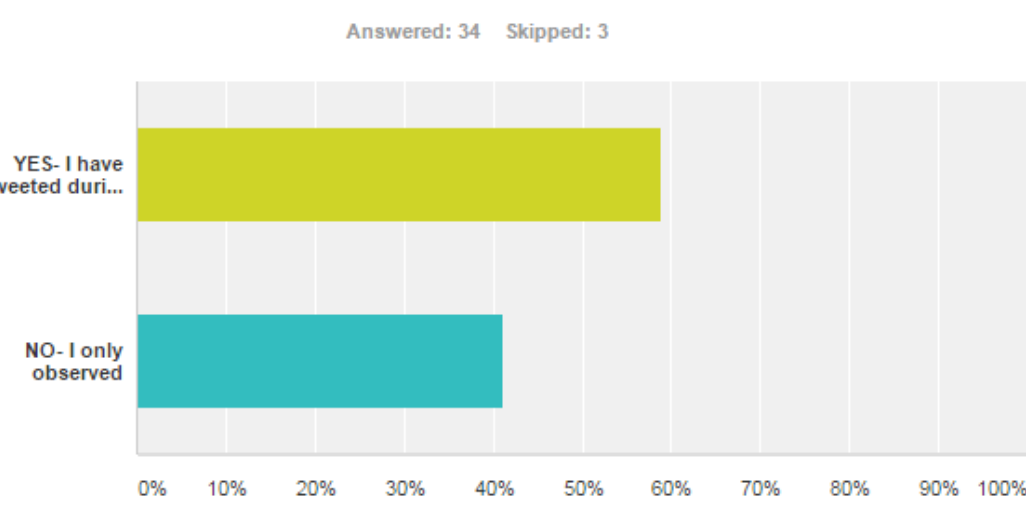


Figure 5

Conclusions

#RheumJC is a novel and popular approach to the traditional medical journal club. The involvement of manuscript authors has proven to be a particularly well received aspect of this initiative. The inclusion of authors in the discussion increases user engagement and possibly can influence practice decision making by journal club participants. We encourage authors to participate in this novel educational activity to potentially broaden the impact of their research.

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