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Dental Articles Shared the Most in Twittersphere in 2020

According to the digital 2020 reports, "More than 4.5 billion people now use the internet, while social media users have passed the 3.8 billion mark. Nearly 60 percent of the world's population is already online, and the latest trends suggest that more than half of the world's total population will use social media by the middle of this year."[1] In this internet milieu, burgeoning dissemination of research findings in Twittersphere has consequently launched the development of new terms such as twitter science stars[2] and the Kardashian index[3] into scientific terminology. Previous reports revealed Twitter as the most popular social media in dental sciences.[4-6] In this study, we aimed to analyze dental articles receiving the most Twitter mentions in 2020.

On May 4, 2021, the Altmetric database (Altmetric LLP, London, UK) searched for all research outputs within the 1105 dentistry subject areas (Fields of Research [FoR] classification) published between January 1, 2020 and December 31, 2020. A total of 3225 articles were discovered with Twitter mentions and 17,840 total tweets. Tweets were mainly from the US (13.4%), UK (12.4%), and Japan (4.2%). The @periopaoli had the most number of mentions (672), followed by @Covid19DentRes (424 mentions) and @mwade69 (202 mentions). The article entitled "High expression of ACE2 receptor of 2019-nCoV on the epithelial cells of oral mucosa" was the most shared article.[7,8]

The top 10% articles with the most Twitter mentions (399 articles) were analyzed with 31.22 average numbers of Twitter mentions and a mode of 7. Further data analysis utilizing Welch independent samples *t*-test showed open access articles ($n = 256$) significantly received more Twitter mentions than non-open access articles ($n = 142$, $P = 0.006$, 95% confidence interval [CI]: −29.260 to −4.836). Twitter mentions moderately correlated with the number of citations (Pearson $r = 0.67$, 95% CI: 0.72 to 0.62, $P < 0.001$).[8] Additional analysis was completed with bibliometric data of 342 articles extracted from the Web of Science and analyzed by VOSviewer software (Centre for Science and Technology Studies, Leiden University). Author keyword co-occurrence analysis showed periodontitis was the hottest topic [Figure 1]. Co-authorship network analysis showed Mark Robertson and Janet E. Clarkson fulfill connecting roles between four clusters [Figure 2]. Perhaps not unsurprising, co-citation network analysis showed the *Journal of Dental Research* exerted the most influence in the network [Figure 3]. Among institutions, the Newcastle University exerted the most influence in the network.[8]

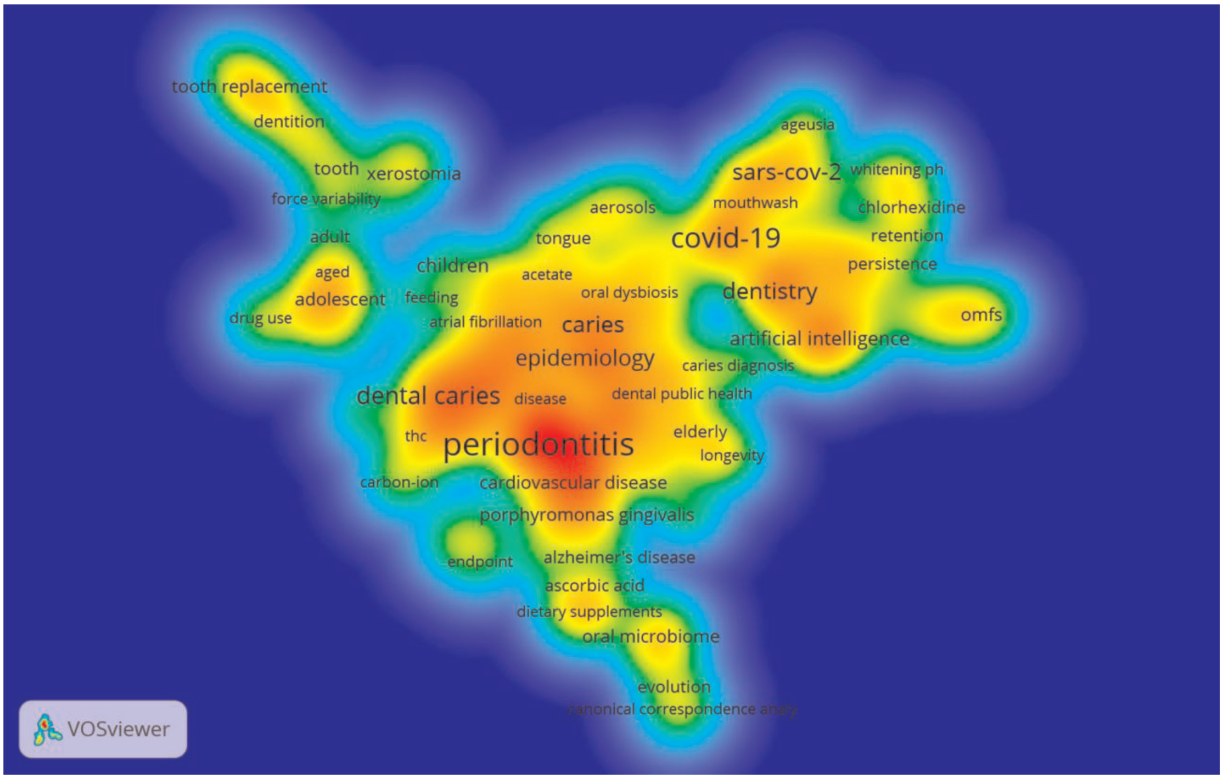

Figure 1: Hot topics among dental articles shared the most in Twittersphere in 2020

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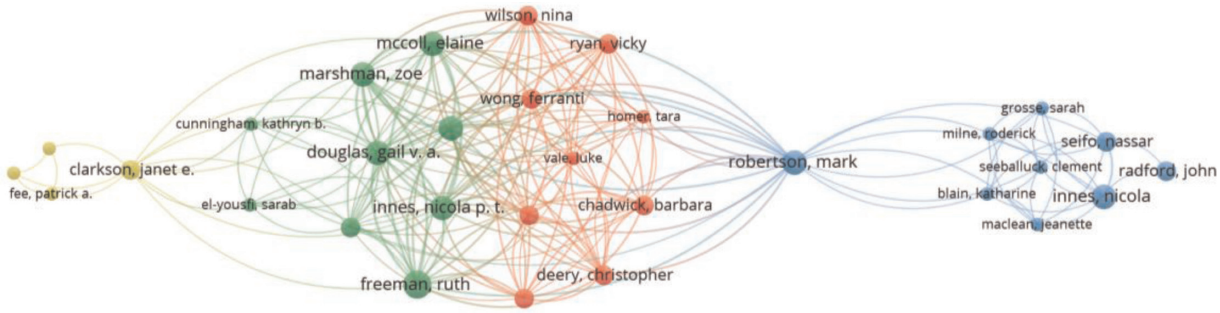

Figure 2: Co-authorship network analysis among dental articles shared the most in Twittersphere in 2020

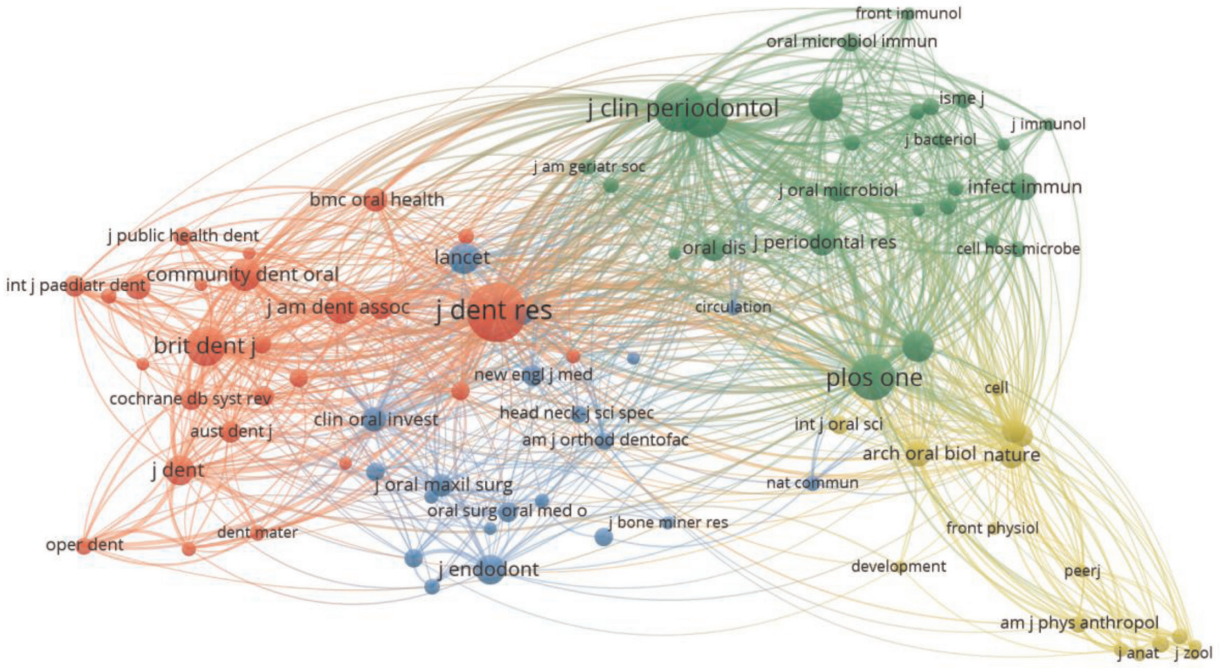

Figure 3: Co-citation network analysis among dental articles shared the most in Twittersphere in 2020

Amid the 2020-2021 pandemic and in comparison with previous reports,[9] coronavirus disease (COVID-19) related keywords expectedly emerged as hot topics. The emergence of artificial intelligence among hot topics is intriguing, something not previously observed among similar previous dental bibliometric reports.[10,11] Another interesting point was the existence of nondental journal citations such as PLOS ONE in the co-citation network. Of more interest, the number of Twitter mentions moderately correlated with citations in this report. This finding contrasts somewhat with previous results of a large-scale meta-analysis reporting weak correlation between Altmetric score and citations.[12]

Dental researchers and educators should take note of and leverage Twitter as an effective tool for dissemination of trusted dental knowledge to dental practitioners and members of public. For an exemplar of an academic Twitter account, consider @MayoClinic with more the 2 million followers and 54,800 Tweets.[13]

A word of caution, however, is needed. Despite several advantages of usage of Twitter for dissemination of academic information in cyberspace, dental researchers must avoid overusing Twitter and becoming a "Kardashian scientist."

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Conflicts of interest

There are no conflicts of interest.

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