

## ROLE OF SOCIAL MEDIA IN MEDICAL EDUCATION

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### ABSTRACT

Social Media has become a revolution. More than half of the world's population use social media. Covid 19 pandemic increased the use of social media for medical education. Different online platforms using Web 2.0 technology has come up with innovative ideas for medical education. An enhanced online presence has the potential to make positive contributions to professional development, education and collaborations, potentially opening doors to academic opportunities. Journal clubs have evolved from traditional classroom based to online platforms such as twitter. Tutorials have become tweetorials. Academic achievements from impact factor-based publication have now become alternative metrics score (Altmetrics). Here, in this article we discuss different aspect of social media to enhance education, research and clinical practice in modern medicine.

### KEYWORDS

Medical education; Social media; Twitter

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## INTRODUCTION

Social media (SoMe), as defined by Britannica's encyclopedia, is "communications on internet (such as on websites for social networking and microblogging) through which users share information, ideas, personal messages, and other content (such as videos)".<sup>1</sup> Since, the introduction of iPhone in 2007, social networking platforms have been a part of life. The earlier web technology-based platforms are now available on touch of a finger. Social media has revolutionized the world.<sup>2</sup>

Medical education has shifted from traditional classroom approach to internet web technology-based classes. Learners prefer virtual classes and different web-based platforms over traditional teaching. To make learning more interactive different applications of social media are preferred nowadays in medical education. This article will highlight the role of SoMe in medical education.

### Social media in medical education

Within the broad category of Web-based learning, educational platforms typically exist along a spectrum, varying in degree to which users connect and collectively create content. Although many e-learning, mobile and Web-based educational tools adhere to conventional, didactic models for knowledge transmission and dissemination, social media is user-generated and collaborative, introducing a new dimension of participatory learning.<sup>3</sup> Moreover, connectivism is a new educational theory born out of technology enhanced learning.<sup>4</sup> As educators, it is no longer a question of whether SoMe has educational applications, rather we should be asking how best to utilize SoMe in field of Medical education. Key benefits of SoMe in the field of medical education is e-professionalism of healthcare professionals, professional education and training, and patient education and health promotion.<sup>5</sup> SoMe has played a major role in continuing medical education during the Covid 19 pandemic.<sup>6,7</sup>

### Utilization of social media

Social media includes an array of digital communication platforms, including but not limited to commonly used platforms such as Facebook, WhatsApp, Instagram, Twitter, YouTube, TikTok, LinkedIn, Quora, Discord etc. which facilitate the creation and sharing of information and ideas on levels ranging from a peer-to-peer basis to a broader scale. These platforms are built upon the principles of Web 2.0 technologies and have emerged as essential tools in healthcare, medical education, and research.<sup>5</sup> These platforms are used on a daily and even hourly basis as a modality to rapidly and effectively communicate, educate and learn. Some medical specialties have quickly adopted and embraced social media. The specialties that have a high rate of use have also catalyzed implementation of social media into medical education and residency program curriculum, and used it as a modality to recruit physicians.<sup>8</sup> Case-based discussion, SoMe journal clubs, poll-based quizzing and smaller peer communities of practice, tweetorials, blogs etc. are different modalities which can be utilized for learning. Existing studies suggest that instant messaging services such as WeChat and WhatsApp are most likely to provide intensive dialogue to facilitate learning. Perhaps unsurprisingly, students who engage more with SoMe comments perform best in objective assessments.<sup>9,10</sup> To utilize SoMe at its fullest; the materials posted need evaluation for their accuracy and conciseness. It should be more engaging to users. Moreover, choosing right platform, the

amount and quality of the information shared should be ensured for optimal benefit.<sup>11</sup>

### Tweetorials

Tweetorial is coined from Tweeter + Tutorial. It is a collection of threaded tweets aimed at teaching users who engage with them. These threads teach key concepts, tell stories via a narrative approach, supplement and critically appraise new research, and highlight educational best practices.<sup>12,13</sup> Tweetorials may include polling questions so that viewers can test themselves; pictures, videos, and short animated illustrations that are especially helpful to visual learners; and links to primary resources for additional, self-directed learning. Moreover, with more than 126 million daily users, Twitter offers a rich medical community for peer review, feedback, and discussion. The platform allows students to interact directly with professors, temporarily flattening hierarchies and opening channels for communication that are unavailable in conventional medical education formats.<sup>14</sup> Example of Tweetorial is given in figure 1.

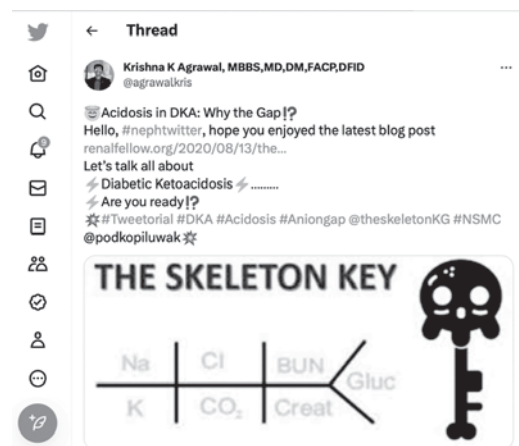


Figure 1. Example of a tweetorial

### From Osler to Twitter: Journal clubs

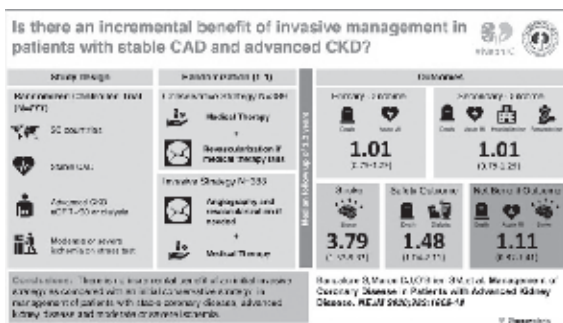
Father of Modern Medicine, Sir William Osler, used to organize Journal clubs at McGill university in 1875 and since then Journal club has evolved as a forum for continued medical education. Journal clubs have been designed to teach critical appraisal skills to physicians-in-training and almost 85% of Residency programs have journal clubs.<sup>15</sup> With the Free Open Access Medical Education (FOAMed), journal clubs have become more interactive and conducted online on social media platforms like twitter. One such example is #NephJC. It is conducted on Twitter, where the host discusses the paper which is chosen beforehand. Participants are informed regarding the upcoming paper, they have a summary, visual abstract. It is done at fixed time and has three editions viz. Asia, Europe and US. Authors of the paper also participate in the discussion if available.<sup>16</sup>

### Blogs, Podcasts and Visual Abstract

Blogs are web pages run by an individual or a group where written content can be posted in intervals on a particular topic. Content is displayed in reverse chronological order and can range from the authors perspective to case reports, reviews of journal articles as well as society conference material. Different websites such as www.wordpress.com; www.nsmc.blog provide free resources.<sup>17,18</sup> For auditory

learners, and those looking for a convenient way to learn, podcasts offer a way to listen to downloadable content during a commute or at the gym. Most FOAMED resources, including a myriad of medical podcasts, can be subscribed to, providing listeners with a notification when new content is available. One such example is the curious clinicians.<sup>19,20</sup>

Currently, visual abstracts (VA) have become an integral part of most of the Journals worldwide. Authors are required to submit VA along with the article if accepted for publication. There are VA editors who help in the making. Example of VA is shown in Figure 2. SoMe platforms like Nephrology Social Media collective (NSMC) provide an opportunity to learn the skills of becoming SoMe savvy.<sup>18</sup>



**Figure 2.** Example of Visual Abstract prepared for #NephJC

### Digital scholarship and career advancement

Career advancement in modern medicine is dependent on the output given in clinical practice, research, and education. In early 2016, the Mayo Clinic Academic Appointments and Promotions Committee began including digital and social media scholarship among the criteria considered in review of proposals for academic advancement. In medical field, FOAMED has promoted fast, focused, and immense dissemination of scientific information. The technical requirements and costs of publishing in blogs or social networks are relatively minimal and the medium allows for rapid distribution. As a response to the traditional impact-based system, a new set of tools has emerged. The core concept of alternative metrics is that the impact of science is measured not only by how many scholars cite the work but also by how many times the work is actually seen, read, and discussed in the news, magazines, and journals; shared via social media; downloaded and bookmarked; and overall how the work affects society inside and outside of academic circles. The greatest challenges and limitations for promotion and tenure committees entail assessing the quality and the impact of scholarly work using social media.<sup>19,21</sup>

### How to get engaged on social media

First, one has to choose the right platform based on the desired goal and content. Then choose the target audience. Adjustment based on the privacy policy of the platform should be adhered to. Have a separate business and personal SoMe account. Now go on building your brand. This will be achieved by being professional and considerate. Share content produced by others and make your profile a public reflection. The content that is created should be posted with appropriate hashtags. It should have high quality media such as photos, videos, algorithms etc. patient confidentiality should be maintained. Take part in networking by joining

twitter chats, being part of SoMe teams of various conferences, make yourself visible to the SoMe community. One need to be balanced also. Don't post when emotionally charged. Follow key opinion leaders and experts and finally create a social media scholarship portfolio.

### The dark side of social media

Besides privacy issues of SoMe platforms in general, medical education through social media has other issues also. One among them is the superficial nature of learning it facilitates. While SoMe may be beneficial in providing content, users risk learning inaccurate information. The limited ability to regulate the credentials of 'the educator' adds to this. SoMe can also present a hostile environment for educators who are afforded little protection over their content. Intellectual property infringement is a growing problem and most platforms' terms of service require users to grant permission to use, modify, distribute and copy their material. The rise of online bullying, trolls and fake news are of increasing concern.<sup>22</sup> Medicine has a truth problem. In the era of social media and heavily politicized science, "truth" is increasingly crowdsourced: if enough people like, share, or choose to believe something, others will accept it as true.<sup>23</sup>

It is said that social media is the place where all the information is. It is the place where all the misinformation is. One has to choose wisely.

## CONCLUSION

Medical education will be dominated by the use of SoMe. Whatever platform one is using, future will continue to be dominated by applications that allow for a global conversation. With an understanding of its basics and potential pitfalls, medical educators of all levels must learn to harness the power of social media for education, collaboration, conversation and self-expression

## REFERENCES

1. Social media | Definition, History, Examples, & Facts | Britannica [Internet]. [cited 2023 Jul 9]. Available from: <https://www.britannica.com/topic/social-media>.
2. On this day in history, Jan. 9, 2007, Steve Jobs introduces Apple iPhone at Macworld in San Francisco [Internet]. [cited 2023 Jul 9]. Available from: <https://www.nypost.com/2023/01/09/on-this-day-in-history-jan-9-2007-steve-jobs-introduces-apple-iphone-at-macworld-in-san-francisco/>.
3. Davis WM, Ho K, Last J. Advancing social media in medical education. *CMAJ*. 2015;187(8):549–50.
4. Cheston CC, Flickinger TE, Chisolm MS. Social media use in medical education: A systematic review. *Academic Medicine*. 2013;88(6):893–901.
5. Jeyaraman M, Ramasubramanian S, Kumar S, Jeyaraman N, Selvaraj P, Nallakumarasamy A, et al. Multifaceted role of social media in healthcare: opportunities, challenges, and the need for quality control. *Cureus*. 2023;15(5).

6. Karumanchi AB, Sharma S, Sai S, Dulipala P. Social media in medical education. *Journal of Dr. NTR University of Health Sciences*. 2022;11(4):362-365.
7. Singh R, Subedi M, Pant S, Rai P, Gupta KK, Pachya AT, et al. Perception towards online teaching-learning in medical education among medical students during COVID-19 outbreak in Nepal: A Descriptive Cross-sectional Study. *J Nepal Med Assoc*. 2021;59(234):128.
8. Saenger AK, Berkwits M, Carley S, Haymond S, Ennis-O'connor M, Sherbino J, et al. The power of social media in Medicine and Medical Education: Opportunities, Risks, and Rewards. *Clin Che*. 2018 Sep;64(9):1284-1290.
9. Guckian J, Utukuri M, Asif A, Burton O, Adeyoju J, Oumeziane A, et al. Social media in undergraduate medical education: A systematic review. *Med Educ*. 2021;55(11):1227-1241.
10. Sutherland S, Jalali A. Social media as an open-learning resource in medical education: current perspectives. *Adv Med Educ Pract*. 2017;8:369-75.
11. Nisar S, Alshanberi AM, Hafez Mousa A, Said M El, Hassan F, Rehman A, et al. Cross-sectional study on trend of social media use by undergraduate medical students; a comparison between medical students and educators. *Annals of Medicine and Surgery*. 2022;81:104420.
12. Breu AC, Abrams HR, Manning KD, Cooper AZ. Tweetorials for Medical Educators. *J Grad Med Educ*. 2021;13(5):723.
13. Breu AC, Cooper AZ. Tweetorials: Digital scholarship deserving of inclusion in promotion portfolios. 2022;44(4):450-2.
14. Breu AC. Why Is a Cow? Curiosity, Tweetorials, and the Return to Why. *New England Journal of Medicine*. 2019;381(12):1097-8.
15. Linzer M. The journal club and medical education: over one hundred years of unrecorded history. *Postgrad Med J*. 1987;63(740):475.
16. NephJC [Internet]. Available from: <http://www.neph-jc.com/>.
17. Sparks MA, O'Seaghdha CM, Sethi SK, Jhaveri KD. Embracing the Internet as a means of enhancing medical education in nephrology. *Am J Kidney Dis*. 2011;58(4):512-8.
18. NSMC Internship [Internet]. Available from: <https://www.nsmc.blog/>.
19. Dave NN, Sparks MA, Farouk SS. An introduction and guide to becoming a social media savvy nephrologist. *Nephrology Dialysis Transplantation*. 2021;37(1):14-20.
20. The Curious Clinicians – A Medical Podcast that asks “Why”? Available from: <https://curiousclinicians.com/>. Cabrera D, Vartabedian BS, Spinner RJ, Jordan BL, Aase
21. LA, Timimi FK. More than likes and tweets: creating social media portfolios for academic promotion and tenure. *J Grad Med Educ*. 2017;9(4):421-5.
22. D'souza F, Shah S, Oki O, Scrivens L, Guckian J. Social media: medical education's double-edged sword. *Future Healthc J*. 2021;8(2):e307.
23. Baron RJ, Ejnes YD. Physicians spreading misinformation on social media — do right and wrong answers still exist in medicine? *New England Journal of Medicine*. 2022;387(1):1-3.