

Scope of Twitter Application in Facilitating the Delivery of Medical Education: A Systematic Review

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Abstract

The process of delivery of medical education has always been a complex one, considering the amount of knowledge, skills, and other essential attributes that need to be developed during the training period. The purpose of the current review was to explore the role of Twitter in medical education and the areas in which it can help to augment the learning process. An extensive search of all materials related to the topic was carried out on the PubMed and Google Scholar search engines, and a total of 39 articles were selected based on their suitability with the current review objectives and analyzed. The review of literature was done by a single investigator and thus there were no duplicate articles. Keywords used in the search include social media, Twitter, and medical education in the title alone only. Twitter plays a crucial role in ensuring the active engagement of students by promoting academic conversations. To conclude, Twitter provides a platform for rapid and easy sharing of information on a global scale and thus encourages collaborative learning. Amid the emergence of the COVID-19 pandemic and in order to satisfy the learning needs of medical students and practicing physicians, Twitter is an innovative option. The need of the hour is to encourage and explore the utility of Twitter in different settings and use the same as an added tool for the attainment of learning outcomes.

Keywords: Medical education, social media, Twitter

INTRODUCTION

The process of delivery of medical education has always been a complex one, considering the amount of knowledge, skills, and other essential attributes that need to be developed during the training period to eventually produce a competent medical graduate.^[1,2] It becomes quite obvious that as we are targeting different learning domains, it is not a possibility to employ a single set of teaching–learning methods.^[1–3] Further, considering that the learners of today are different from the earlier period, especially in terms of their involvement with information technology and other applications, we also have to bring about a change in our practices.^[4,5] In fact, this becomes an indispensable need, as all the medical students are adult learners and they do not learn only within the classroom settings, but beyond, and that too at the time of their convenience.^[2–4] The purpose of the current review was to

explore the role of Twitter in medical education and the areas in which it can help to augment the learning process.

MATERIALS AND METHODS

An extensive search of all materials related to the topic was carried out on the PubMed and Google Scholar search engines. Relevant research articles focussing on the use of social media and Twitter in medical education published in the period 2007–2021 were

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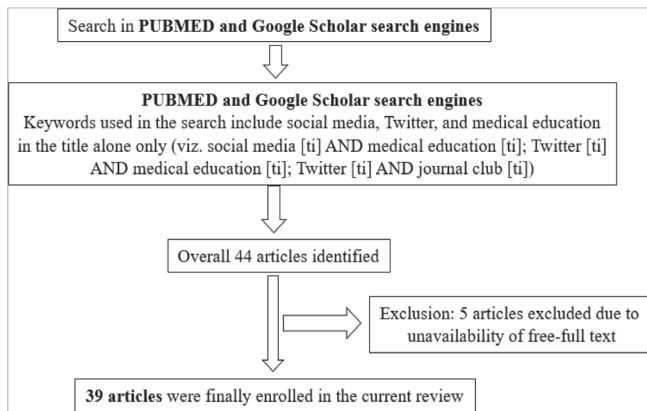


Figure 1: Flowchart for selection of research articles

included in the review. The review of literature was done by a single investigator and thus there were no duplicate articles. A total of 44 studies similar to the current study objectives were identified initially, of which 5 were excluded due to the unavailability of the complete version of the articles. Overall, 39 articles were selected based on their suitability with the current review objectives and analyzed. Keywords used in the search include social media, Twitter, and medical education in the title only (viz., social media [ti] AND medical education [ti]; Twitter [ti] AND medical education [ti]; Twitter [ti] AND journal club [ti]). The articles published in only the English language were included in the review [Figure 1]. The collected information is presented under the following subheadings, namely, Social media and medical education, Twitter and medical education, Medical education and patient care using Twitter during COVID-19 pandemic, Twitter and continuous medical education (CME), Twitter-enabled journal clubs and academic programs, Applications of Twitter in medical education, and Potential limitations of Twitter and the proposed solutions.

SOCIAL MEDIA AND MEDICAL EDUCATION

Social media has gradually become an inseparable part of people from all walks of life, and the same stands true even for medical students.^[6] The introduction of social media has revolutionized the ways in which people communicate with each other on a day-to-day basis, and the involvement of the internet has played a significant role in creating a digital environment wherein people communicate, interact, and share content with each other.^[6,7] Acknowledging the popularity of social media among youths, different medical institutions have come forward with innovative ways to facilitate and expedite learning among medical students.^[7-9] In fact, conclusive evidence is available to suggest that the employment of Facebook, YouTube, Twitter, WhatsApp, Instagram, and so on has helped teachers in improving the engagement of students and the learning outcomes.^[8-17]

TWITTER AND MEDICAL EDUCATION

Twitter is one of the social networking options that enables users to share short messages (tweets) and convey their ideas to an open-ended group.^[12] This application has provided a platform for people to connect virtually by exchanging a small piece of information (viz., less than or equal to 144 characters).^[12] Since the time of its launch, the number of users has grown exponentially and it can prove to be an effective mode of communication.^[18] As Twitter enables sharing of ideas, it has all the potential to merge social networking with medical education.^[19] At this stage, the utility of Twitter in the medical curriculum is showing an upward trend, but a lot still needs to be done.^[19,20] In many settings, the use of Twitter in the field of medical education has been restricted to actively engaging students in real time, but the utility in terms of attainment of learning outcomes needs further exploration.^[18-20]

MEDICAL EDUCATION AND PATIENT CARE USING TWITTER DURING COVID-19 PANDEMIC

The emergence of the coronavirus disease (COVID-19) pandemic jeopardized all sectors, and the same happened with medical education as well.^[21,22] The medical colleges were temporarily closed and the process of delivery of medical education got shifted to the online mode. Soon it was realized that the extent of student engagement was quite variable when compared with the offline teaching-learning sessions.^[21] Under these challenging situations wherein it was an uphill task to sustain the quality of medical education, the employment of Twitter emerged as one of the innovative educational methods.^[12] Owing to the asynchronous nature, universal presence, and no costs involved, the medium can be utilized to create awareness or discuss clinical cases with a wide population of medical students.^[21,23]

The findings of a study revealed that the media of Twitter was used to spread information pertaining to cardiovascular diseases and to promote research and academic activities.^[24] In fact, a network was established among the cardiologists distributed across the globe with the purpose to share educational content at any time or place.^[24] In these testing times of COVID-19, it is crucial to provide clinicians with the recent information at the earliest to enable the delivery of quality assured healthcare services to the patients. Twitter provides a platform to share the findings of the study in the form of a summary and thus avoiding an overload of information and hence can be extremely useful in busy clinical settings.^[21-24]

TWITTER AND CONTINUOUS MEDICAL EDUCATION (CME)

The merits of online learning are already known, but the need of the hour is to use social media applications for

upgrading the knowledge of clinicians and ensuring the goal of being a lifelong learner.^[25] As almost 50% of the practicing doctors are using Twitter, it will be ideal to employ the app for the sake of organizing CME sessions and thereby enable mainstreaming of remote teaching–learning applications.^[25-27] As such, applications envisage asynchronous learning, the users can engage with the shared information at their time of convenience. Further, as everyone can voice their opinion, the entire process becomes democratic, wherein both teachers and students or even practicing clinicians can share their views and everyone can learn in a collaborative fashion.^[25-28]

TWITTER-ENABLED JOURNAL CLUBS AND ACADEMIC PROGRAMS

Critical appraisal of a scientific research article predominantly during the post-graduation period has been acknowledged as an integral part of the curriculum.^[29] However, the conduct of journal clubs using the Twitter platform is a novel innovation, wherein people from different parts of the world and with varied expertise can interact with each other to explore the clinical and scientific positives in a research article in real time.^[29-32] The learning which happens during these sessions is quite different when compared with the passive information which a student imbibes during traditional face-to-face teaching–learning sessions.^[30,31] The magnitude and impact of the COVID-19 pandemic were so much that a number of academic sessions were cancelled.^[33] Once again, Twitter can act as a platform for the conduct of a wide range of academic programs (viz., conferences, webinars, etc.), which enables the timely release and sharing of essential information promptly.^[34-36]

APPLICATIONS OF TWITTER IN MEDICAL EDUCATION

Apart from the aforementioned merits, Twitter plays a crucial role in ensuring the active engagement of students by promoting academic conversations.^[36,37] In order to encourage the participation of students in class, teachers can display live chats happening on their Twitter accounts during the lecture sessions. As the discussion continues, the students can post their queries and their queries can also be sorted out there itself.^[38] Moreover, the teachers can provide real-time feedback to the students and the overall learning process becomes enriched.^[39] Further, we can also use the application to generate authentic contextual scenarios that will help the students to understand practical relevance.^[19,38] In addition, the application can also be employed to encourage reflection among medical students and thereby facilitate deep learning. In fact, a group can also be created in Twitter to promote self-directed learning and peer-induced learning on informal settings. Evidence is available to suggest that Twitter is being employed for the conduct of informal quiz and poll sessions and a number of students are benefited.^[38]

POTENTIAL LIMITATIONS OF TWITTER AND THE PROPOSED SOLUTIONS

Even though many merits have been associated with Twitter, it has its own challenges, which need to be effectively sorted out for the wide-scale application.^[18] Concerns have been raised about the overall privacy, the professionalism which the medical students demonstrate while using the application, and the safety of learners.^[18] These challenges can be taken care of by establishing ground rules while the account is created and advising the students to strictly adhere to them.^[18,25] The confidentiality issue can be taken care of by not disclosing the identifying attributes of the patients. In addition, as the overall effectiveness of the Twitter is yet to be proven in terms of improving the learning outcomes, there is a significant need to conduct research activities for the promotion of Twitter in different settings.^[25,37]

CONCLUSION

To conclude, Twitter provides a platform for rapid and easy sharing of information on a global scale and thus encourages collaborative learning. Amid the emergence of the COVID-19 pandemic and in order to satisfy the learning needs of medical students and practicing physicians, Twitter is an innovative option. The need of the hour is to encourage and explore the utility of Twitter in different settings and use the same as an added tool for the attainment of learning outcomes.

Ethical approval

Not applicable.

Authors' contribution

SRS contributed in the conception or design of the work, drafting of the work, approval of the final version of the manuscript, and agreed for all aspects of the work. PSS contributed in the literature review, revision of the manuscript for important intellectual content, approval of the final version of the manuscript, and agreed for all aspects of the work.

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Conflicts of interest

There are no conflicts of interest.

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