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Short Report

Using Social Media as a Dynamic Supplement to Traditional Teaching

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EKG: Electrocardiogram

HIPAA: Health Insurance Portability and Accountability Act

ABSTRACT

Covid-19 pandemic brought many changes in our lives and lead us to find new ways of didactic teaching. Social distancing has forced us to create new methods of learning. Social media use is pervasive. It is not just a means to connect with others, engage with news content, share information, and provide entertainment; it is also a platform to learn. The use of social media in medical education has increased with trainees, practitioners, and educators adopting these communication tools to facilitate learning, practice improvement, and knowledge translation [1]. Resident doctors at a University-affiliated hospital started a project of interpreting EKG using "WhatsApp" to provide an on-demand and dynamic platform to residents where they can ask questions about EKGs and collaborate to learn from peers and experts. The experience revealed that residents could participate in this learning exercise at their leisure while not constrained by their patient-care requirements. While social media cannot replace traditional teaching, it can be used as a supplemental tool to empower the students to get the skills they need to succeed. Such experiments are successful with Twitter, YouTube and other platforms also. In recent times COVID forced us to use distance learning using Zoom, WebEx or similar platforms.

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Introduction

Use of Social media is ubiquitous [2]. The onset of the novel coronavirus disease (2019), more commonly known as COVID-19, has drastically changed the world. With local business closed, public parks shut down, and social distancing enforced, daily life as many have known it has changed [3]. COVID-19 has had an especially drastic impact on the educational system. All over the world, schools of all levels have canceled in-person classes, including primary, secondary, and tertiary schools, affecting the learning environments of over 1.5 billion students [4]. These closures have increased the importance of implementing new educational technologies and utilizing digital learning [4].

Prior to the COVID-19 outbreak, various educational technology platforms such as Khan Academy, Coursera, and Codecademy, have

been utilized for online learning. In 2019, a white paper published by Metari stated that 18.66 Billion USD were invested in education technology, and the overall market for online education is projected to reach \$350 Billion by 2025 [5]. Since the onset of COVID-19, language apps, such as Duolingo, virtual tutoring such as 51Talk, video conferencing tools such as Zoom or WebEx, or online learning software, such as Google Classroom, Canvas, and Blackboard have significantly increased in usage.

Online learning touts multiple benefits. One of the most cited benefits is the flexibility of a learning schedule conferred by an online platform [6]. Many platforms also allow students to re-watch pre-recorded videos and play them at speed that fits their learning style, conferring personalization to the students study plan [7]. Additionally, online-learning has been shown to be equally as effective, if not more, than

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traditional, in person, learning. Studies done by Wong *et al.* and Srivastava *et al.* show that online learning does not diminish the effectiveness of learning for students [6].

For these reasons, many medical schools have begun to integrate many forms of online learning in their curriculum. For example, a study by Aziz and Lee describes the implementation of an online anatomy course created for the Texas Tech University Health Sciences Center School of Medicine. Aziz and Lee found that final exam scores were comparable between medical students who took the online course versus those who were involved in the traditional course. Students enjoyed the flexibility and interactive nature of the course and perceived the value of the online modules to be very high.

We are presenting our interactions with digital learning and propose the integration of social media platforms into an online learning curriculum, a proposition made even more timely under efforts to “social distance” during the COVID-19 pandemic. A very high number of physicians use some social media platforms, and healthcare professionals continue to assess its utility for medical education purposes [8-14]. Social media is a new space for academic medicine that has enormous possibilities for research, education, clinical care, and dissemination of health care science.

New York-Presbyterian Brooklyn Methodist Hospital started using “WhatsApp” for teaching EKG using “WhatsApp” for internal medicine residents with the goal to provide opportunities for teaching or learning without the barriers of time, place, and mentor. Through this on-demand and dynamic platform, our residents could ask questions without having to wait for the EKG lecture series, engage more actively with content, and learn from a broader audience. This platform has been in use since February 24, 2014 while ensuring patient information was protected to stay compliant with HIPAA policies and guidelines.

Manual chat analysis showed that resident asked questions and discussed the following:

- Etiology of posted EKG findings
- Interpretation of individual EKGs
- Probable diagnoses
- Guidelines for management

The Cardiologist posted EKGs, gave his feedback, and explained EKG findings to the residents. He/she explained etiology, thought process leading up to diagnosis, differential diagnosis, gave tips not to miss the less likely diagnoses, and asked questions to group members. Questions would be open-ended or multiple choices and helped guide the discussion. He/she also gave positive feedback to the residents for posting EKGs to the group and for pointing out exciting findings on EKGs He/she also arranged for in-person classes whenever he/she or any resident felt that intense discussion on an EKG would be beneficial to the residents. Several more attending started similar chat for question of the day, board review etc.

Discussion

We used social media (“WhatsApp”) as a supplement to traditional curricula. It is an inexpensive, easy, accessible, and a rather simple educational supplement. It is a flexible platform that facilitates a brief or extended educational experience, depending on the level of engagement [15]. The teaching interactions happened throughout the day, including outside of regular teaching sessions such as morning reports, noon conferences, and grand rounds. Active participation, such as commenting on posts or starting conversations, strengthened the potential for learning.

Different types of social media such as WhatsApp, Facebook, Twitter, and more have been used as an educational tool and tested in medical education [16-21]. The dynamic nature of social media allows users to access educational content from anywhere and at any time and increases the interaction among users [2]. These advantages are of particular importance for residents’ education with strict duty hour rules. Because of duty hour restrictions, residents have limited time to participate in onsite lectures and educational conferences while maintaining adequate patient care. The Duke Cardiology Fellowship Program has already developed a group-chat through the WhatsApp platform to enrich an emerging framework for fellowship education and lifelong learning.

The keys to a successful mobile app clinical education program will need to include meaningful faculty engagement and trainee participation, diverse and challenging cases, faculty oversight, and a code of conduct [22].

In (Table 1), we have summarized the differences between the uses of traditional methods vs. social media as an educational tool.

Table 1: How social media is reshaping medical education.

Teaching	Traditional	Social Media	Online Platform
Leader Type	Teacher-led	Learner leads	Could be both
Curriculum content	Personalized by Teacher	Personalized but Choice	Can be structured
Teaching Person	Professor/Teacher	Any Group Member	Expert/ coordinator
Participation of Learner	Passive	Active or Passive	Distractions possible
Interaction	One-Way, distraction or lack of attention Possible	Multi-Way, Engaging, Personalized	Chat or conversation
Teaching/Learning Moments	Can be missed often	Not Missed	Recording available
Time	Designated Time	Any Time	Designated time
Follows Format	Basic to Advance	On-Demand	Possible
Fear to ask questions	Present	Absent	Less, also less initiative
Content for revision	Maybe Available	Always Available	If recorded

Conclusion

In this pandemic, distant learning is possible in many ways. Social media offers a powerful solution to the limitations of traditional teaching methods. Many different WhatsApp groups were formed ranging from resolution of IT (Information technology) related issues to solving daily questions among the residents. A dynamic, and on-demand nature of social media can supplement current medical school education curriculums and can be an effective strategy for improving residents' education. However, it requires an active participation from the administrator, participants, and thought-provoking posts to keep up the interest. Online platforms became a necessity and used by schools, colleges, residency programs and almost all organizations for better communication with social distancing. It has filled the gap of in person learning to some extent. It has a learning curve on participant, speaker, leadership and involves cost also.

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Conflicts of Interest

None.

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