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ORIGINAL RESEARCH

Assessing the Publicity and Reach of Peer-Led Online Medical Teaching: A Single-Event Evaluation

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Purpose: The COVID-19 pandemic caused significant disruption to higher education, including medical studies. Online learner support became urgently necessary, and peer-support of learning was needed to supplement formal teaching. This study evaluates the impact and delivery media of OSCEeasy, a student-led initiative supporting formal teaching across institutional and national boundaries.

Methods: A survey was created on Google Forms and disseminated via the Zoom chat function to all the participants at the end of our event titled, “The Cardiology Station”.

Results: A large proportion (99.5%) of the students have a Facebook account and (98.7%) use it to keep track of medical events ($p=0.45$ for comparison). However, a very small proportion of use their other social media to keep up with medical events ($p<0.0001$ for comparison).

Conclusion: It is evident from our results, that most of our participants used Facebook to keep track of medical events. The use of their other social media platforms (Instagram, etc) to keep track of medical events was limited. Thus, it is important for any organisation, such as ours, who conduct online events to evaluate which platform is most suitable for them to use to publicise their events.

Keywords: clinical assessment, online, student perception, medical education, social media

Plain Language Summary

The authors of this study evaluated the use of social media to publicise medical events. A form was sent through during an OSCE (Objective Structured Clinical Examinations) revision session, named “The Cardiology Station.”

The attendees were asked what social media platform they used to find out about the session, as well as what platform they use to keep track of medical events. The results of the study show that Facebook was the most used social media platform to keep track of medical events amongst this cohort.

This information is essential for any new medical organization, looking to start a new revision series, conferences, or any type of event, as it shows that they should focus their advertising and education posts on Facebook initially, before evaluating what platform best suits their participants.

Background

The COVID-19 pandemic has led to arguably the largest level of disruption, uncertainty, and volatility in recent years.¹ The resultant lock-downs to control the spread of the pandemic necessitated a modification in the working environment for many professions, and diversified dissemination techniques for formal education. The use of online platforms to conduct educational activities increased during the pandemic, which was further facilitated by the development of virtual collaborative platforms.² This shift online has had serious implications for public institutions, especially medical schools. The rapid onset of the COVID-19 pandemic required a sudden shift online, with many students and faculty unprepared

for this change. As a result, both stakeholder groups found the shift online to be challenging conferencing software and asynchronous learning activities.

Medical education was not spared from the online transition.⁴ The introduction of methods of teaching and delivering medical education through online or blended methods was introduced widely over this period. In many cases, these media have been adopted in curricula that made limited use of blended learning previously. In-person lectures have been delivered online via conferencing platforms such as Zoom, Blackboard Collaborate, Google Classroom, and Microsoft Teams, building on previous experiences identifying these platforms as excellent ways of engaging medical students.⁵ Although relatively easy to operate, these online delivery platforms often proved to be challenging to transition, due to the unfamiliarity of faculty and students with the platforms, widespread lack of high-speed internet connection, and lack of in-person interaction between participants.^{6–8} Unfamiliarity with the platforms was a particular issue for those stakeholders who previously were averse to the use of online tools, and “technophobia” was reported as a limiting factor for engagement.⁹ In addition, access to reliable hardware, and to learning environments conducive to effective study, were challenges, and “digital poverty” was highlighted as another challenge to effective engagement with learning in the online space.

The use of social media in medical education, although not a new concept, was a pedagogy that was exploited over the COVID-19 pandemic.¹⁰ The use of platforms such as Facebook, Twitter, Instagram, LinkedIn, solely, or in concomitance, was an approach many organisations have implemented to advertise their events to the diverse populous of medical students.¹¹ Due to the variety of platforms available to promote these events, medical students have needed to sign up for accounts in various platforms to keep track of events that they would be interested in attending.

This diversity of media channels potentially enforces a huge burden on medical students who wish to attend useful and enriching online teaching sessions. Aside from being an added stress to the already demanding nature of being a medical student, managing multiple social media accounts may also increase susceptibility to professionalism incidents.¹²

The aim of this study was to evaluate the impact of having multiple social media accounts on medical students’ attendance of online teaching. The study identified which social media platforms were most frequently used to stay updated on events and evaluated the impact of managing these accounts.

Since the spring of 2020, we have presented a series of online student-led Objective Structured Clinical Examination (OSCE) revision sessions (“OSCEeasy”). In order to broaden the impact of these sessions to students outside of our own institution, we publicised the sessions on various social media platforms. Thus, we decided to evaluate what platform medical students who attended our first revision session use to keep up with medical events, their perception on maintaining these social media accounts, and whether the concept of having a centralised platform for advertising all medical events is a tool to allow students to keep up to date with the various events.

Online teaching and events are here to stay, as there are numerous benefits.¹³ Therefore, the use of social media to publicise such events will increase. Thus, this data would not only help us improve the way we publicise future events but could be a good reference to all organisations who are planning to publicise their events using social media. Furthermore, this study also helps us quantify the social media burden which medical students around the world endure.

Methods

Teaching Session Delivered

An OSCE teaching session, which covered the examination of the heart, was delivered over a virtual platform (Zoom Webinar). The session had an audience of 500 participants, which was our webinar capacity. We publicised the events on our Facebook, Instagram, and Twitter accounts, about 2 weeks before the event.

Questionnaire Design and Dissemination

We designed a survey on Google Forms, which contained a mix of both free-text options as well as five-point Likert scales to determine participants’ views or experiences. There was a section at the end of the form in which the students

could voice any other opinions they have on the topic of which social media platforms should be used to publicise medical events as well as whether they feel overwhelmed by the number of events advertised on various platforms. We also had one open-ended question regarding perceptions on centralizing medical events onto a single platform such as Linktree. This was analysed using thematic analysis. These questions are shown in [Appendix 1](#).

The initial questionnaire assessing the data on social media and their influence on medical education was provided with the feedback forms. No identifiable data were collected in the primary research questionnaire to prevent any data matching. We tabulated our session demographic with the secondary feedback form where participants filled in the Universities/colleges that they are currently attached to.

Ethical Considerations

This study was an evaluation of the way we publicised our teaching events and helped us understand which social media platforms we need to focus on. According to advice obtained from the NHS Health Research Authority's online decision tool, the study did not require formal ethics committee approval. Students were informed on the questionnaire that through completion, they were consenting for use of their anonymised data in future publications. The feedback form for the session and this questionnaire were paired and sent together. The slides for the session were made available to all those that completed the feedback form.

Statistical Analysis

Summary statistics were displayed as appropriate for baseline characteristics. Shapiro-Wilks test was used to test for the normalcy of data distribution. A Pearson's Chi-Squared test which is a two-sample test for equality of proportions with continuity correction was utilised to determine differences in proportions among groups. A p-value threshold of <0.05 was considered significant. To analyse free-text responses, we utilised both a mixed inductive and deductive thematic analysis (TA) and word cloud. For TA, we identified concepts directed by the data and our pre-existing concepts/hypotheses of what the data will describe. All statistical analysis was conducted on R statistical programming (version 4.0.2) using the "tidyverse" and "rms" packages. Word cloud analysis was conducted using the "wordcloud2" package.

Results

Cohort Demographics

Of 500 attendees at the OSCEeasy session, 395 survey responses were obtained. Respondent ages ranged from 18 to 26 years, with the average age of the respondents being 22. We received responses from students across the world, the majority being from UK universities ([Table 1](#)).

A significant proportion of the respondents (99.5%) reported having a Facebook account, with a large number also owning an Instagram account (80.8%). Survey responses revealed that most Facebook users (98.7%) utilized the application to keep track of medical events ($p=0.45$ for comparison). However, a significantly lower proportion of respondents who identified as Instagram (34.4%) and Twitter (4.30%) users, used the applications to keep up to date with medical events ($p<0.0001$ for both) ([Table 2](#)).

The Likert data ([Table 3](#)) showed that most respondents believed that social media has significant benefits such as connecting medical students from across the world to enable effective sharing of knowledge and resources. In fact, Facebook was deemed to be the best medium to disseminate information about medical education events [Median 5, IQR: 4–5] and that it enables the sharing of knowledge between medical students and professionals around the world [Median 5, IQR: 4–5]. Furthermore, the respondents strongly agreed that the advantages of advertising medical events on social media platforms greatly outweighed the disadvantages [Median 4, IQR: 4–5].

The responses shown in [Table 4](#) strongly suggest that a large proportion of respondents believed that it was necessary to operate multiple social media accounts to stay up to date with ongoing online medical events [Median 4 IQR: 3–4]. In addition to this, some users felt somewhat overwhelmed by the number of accounts they are required to maintain, while others did not think it was a significant issue [median: 3, IQR: 2–4]. However, despite the burden of having to operate multiple social media accounts, they believed that the benefits of maintaining these accounts outweighed the disadvantages

Table 1 Countries and the Institutions from Which the Responses Were Received. The results show that responses were received from 16 different countries

Country	Number of Institutions	Number of Responses	Percentage of Responses/%
Wales	2	113	33.14
England	24	144	42.22
Scotland	5	14	4.11
Northern Ireland	1	8	2.35
Poland	3	12	3.52
Belgium	1	1	0.29
Sri Lanka	1	1	0.29
Ireland	3	3	0.88
Lithuania	2	3	0.88
Sweden	1	1	0.29
Malta	1	22	6.45
Bulgaria	4	12	3.52
Austria	1	1	0.29
Hungary	1	1	0.29
Cyprus	1	2	0.59
Mauritius	1	1	0.29
Did not specify	N/A	2	0.59
Total	52	341	100

Table 2 Percentage of the Respondents Who Had an Account on the Social Media and the Percentage of Those That Used It to Keep Track of Medical Events

Social Media	Percentage of Students Who Have an Account (%)	Percentage of Those That Have an Account, Who Use it to Keep Track of Medical Events (%)	P value
Facebook	99.5	98.7	0.45
Instagram	80.8	34.4	<0.0001
Twitter	35.2	4.30	<0.0001

towards themselves [median: 4, IQR: 3–4] (Table 4). The students generally felt that if all the events were consolidated onto a single platform, it would greatly increase their ability to keep track of the various events [Median: 4 IQR: 3–5].

Thematic analysis of the free-text boxes showed that the centralisation of events would be beneficial (67% of the responses). This was followed by the theme of unfamiliarity in the use of platforms such as link tree (16% of the responses) and the difficulty in introducing a new platform (14% of the responses). All the themes and their prevalence are shown in Table 5. As shown by the Word cloud in Figure 1, the idea of using centralised platforms to publicise medical education events was perceived to be beneficial and useful.

Table 3 Likert (1 = Strongly Disagree – 5 = Strongly Agree) Questions, and the Median and Interquartile Range of the Responses Pearson's Chi-Squared Test with Continuity Correction Utilised to Determine Differences in Proportions Among Groups (Between Columns 2 and 3)

Statement: to What Extent Do You Agree With the Following Statement:	Median Value	Interquartile Range
Facebook is the most useful social media platform to stay up to date with events related to medicine.	5	4–5
Social media has enabled medics around the world to share information and knowledge.	5	4–5
The beneficial aspects of advertising medical events on social media, greatly outweighs the disadvantages	4	4–5

Table 4 Likert (1= Strongly Disagree – 5 Strongly Agree) Question and the Median and the Interquartile Range of the Question

Statement: to What Extent Do You Agree With the Following Statement	Median Value	Interquartile Range
It is compulsory to operate multiple social media accounts across various platforms, in order to identify courses, revision sessions, conferences and other events related to the field of medicine?	4	3–4
I feel overwhelmed with the number of social media accounts which you maintain to keep up with medical events	3	2–4
The benefits of maintaining multiple social media accounts to stay up to date with all the medicine related events, greatly outweighs the disadvantages	4	3–4

Table 5 Analysis of Common Themes of Perceptions on Utilizing a Centralised Platform for Medical Education Events

Theme	Number of Individuals	Percentage of Individuals (%)
Difficult in garnering users of a central platform	26	14.05
Unfamiliar with use of the platform/unknown concept	29	15.68
Centralisation of all events beneficial	124	67.03
An overwhelming number of events if were on one platform	2	1.08
Neutral	4	2.16
Total	185	

Discussion

The results of the survey show that the use of various social media platforms amongst our respondents is very high with the most used platform being Facebook. Facebook was also noted to be the most popular platform for the respondents to keep track of medical events. In contrast, Instagram use amongst them too was high, but very few used it to keep up to date with medical events. This lack of use of certain platforms, eg, Instagram, Twitter, LinkedIn, to keep up to date with medical events could have multiple implications on organisations trying to promote medical events. One such implication for our experience with OSCEeasy is that we do not have to focus on publicising our events on multiple platforms; instead, we should focus on promoting on a single platform which is most suitable for the target audience – in our case Facebook. However, this is solely based on the attendees of our first session, and thus may vary from session to session, region to region as well as audience age group.¹⁴

Based on similar literature, the results obtained from this investigation did not align with our expectations. Twitter blogs and YouTube videos seemed to have the highest engagement, with Facebook being used more for exploratory and personal purposes rather than educational.¹⁵ However, due to the paucity of data based on the means of publicity via social media in the medical field, it was difficult to hypothesise which social media platform would be favoured.

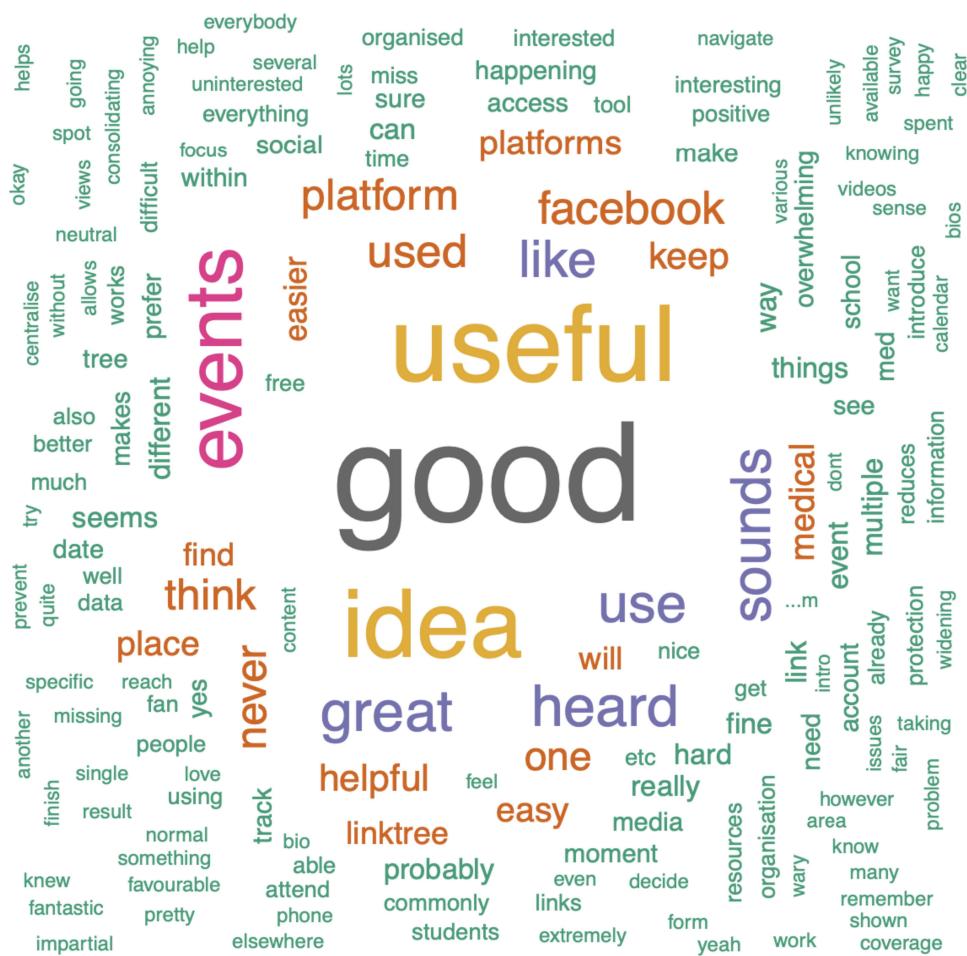


Figure 1 Wordcloud showing the perceptions of individuals on the use of centralized platforms to publicise medical education events.

It is clear that the respondents of our survey believe that the use of social media to promote medical events has several advantages, which outweigh its disadvantages. The COVID-19 induced lockdown resulted in the use of virtual tools to deliver medical teachings and conferences.³ Facebook and other forms of social media not only made the promotion of such events possible but also enabled these events to have a global audience. This breadth of coverage enables such events to have large and diverse participants, but also means that medical students and healthcare professionals from around the world now can access quality research and teachings from the comfort of their homes. Furthermore, social media platforms such as Facebook are useful for the dissemination of research to enable better sharing of knowledge across a wide diversity of potential users.¹⁶

However, the use of multiple social media platforms to promote events results in individuals having to keep track of medical events across various platforms. This was highlighted by the results of the survey, in which most respondents believed it to be necessary to operate accounts on multiple platforms. This multiplicity has resulted in most of our respondents feeling overwhelmed, as having to keep track of the events over multiple platforms is quite tedious. In addition, social media use has been linked to increased stress levels and burden amongst the general population, during the COVID-19 pandemic.¹⁷ Despite this, the findings of Ansari and Khan in 2000 suggested that the majority of students believe that social media has not only enabled sharing of various events to a wider audience possible but has linked the global medical community such that knowledge and research are now easily shared across borders.¹⁸

As shown in our thematic analysis, most individuals believe that centralizing all medical education events onto a single platform would ease the burden of having to keep up with many social media platforms and provide them with quick access to events. This is especially true if the platform is easier to use than existing social media. Furthermore, they

believed it would save time and enable individuals to preferentially choose which event they want to attend if there are multiple events taking place simultaneously. However, it is essential that the centralised platform is easy to use,¹⁹ with no added cost and this centralized platform can be linked to other social media that individuals are already familiar with such as Facebook or Instagram.

Some factors in this investigation were limiting and should be acknowledged. When collecting the results, a cross-sectional approach was taken to maximise the sample size and avoid duplicating responses. However, a longitudinal study design may have enhanced the reliability of the results as differences over time could be noted. For instance, according to our results, Facebook is currently the most accessible and convenient platform to use; however, this can change according to trends and newer updates in the future. These changes have not been accounted for in our study as we have based our data on a single event from a single society.

It is also important to note that quite a few responses highlighted that a platform such as Facebook, which is widely used should be the platform where all medical events are publicised, rather than introducing a different platform which needs to garner an audience and where the users need to familiarise themselves with using it before it can serve its purpose.

Conclusion

It is evident from our survey results that the respondents preferred the use of a commonly used social media to be the primary mode of event publicity. In our case, Facebook was the platform of choice. The results further indicate that even though there are medical students who have accounts using Instagram, Twitter, LinkedIn, etc, the percentage of them who use these platforms to keep up to date with medical events is limited. The survey results showed that the students did feel overwhelmed to some extent due to the need to operate multiple social media accounts. However, they strongly felt that the benefits of the use of social media for this purpose greatly outweigh the disadvantages.

To reduce the number of different platforms used to publicise events, the use of a single platform, which is commonly used by the target audience, should be the primary mode of publicity. However, it is important to note that this data is only based on the attendees of our session, thus may defer from the scenario in different countries or demographics. Thus it is best for medical organisations to disseminate a survey like ours to gather the information relevant for their audience.

Disclosure

The authors report no conflicts of interest in relation to this work.

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