

Evaluating the Effectiveness of a Virtual Core Surgical Training Interview Preparation Course Programme

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Abstract

Introduction: In the United Kingdom (UK), entry into the core surgical training (CST) programme remains a competitive process. In view of the COVID-19 pandemic, there has been an increased use of online platforms to ensure educational needs are met despite the cancellations of face-to-face courses and conferences. We developed a one-day intensive virtual CST interview preparation course and assessed the effectiveness of the course.

Method: The one-day CST interview preparation course was held virtually via Microsoft teams in November 2020 for doctors interested in applying for the core surgical training programme. The course content was developed and delivered by core surgical trainees. All attendees were asked to complete the feedback immediately following the course.

Results: One hundred and ninety-eight candidates attended the course. Over 98% of the attendees found the course to be ‘excellent’ with regards to usefulness of the course and over 99% of the attendees found the course to be ‘highly relevant’. A two-tailed paired T-test showed a statistically significant difference between pre- and post-course level of confidence for the CST interview. Over 85% of attendees preferred the course to be delivered virtually.

Conclusion: Our service evaluation of the CST interview preparation course has shown that using online platforms like Microsoft Teams for teaching can be highly effective. In view of the COVID-19 pandemic, the use of online platforms for teaching can be integrated into delivery of the surgical curriculum.

Introduction

In the United Kingdom (UK), core surgical training is a 2-year training job where trainees rotate through a range of surgical specialties. Some of these surgical specialties are themed towards one particular specialty/sub-specialty [1]. It is widely recognised that fewer doctors enter specialty training immediately following successful completion of foundation training [2]. According to the latest UK Foundation Programme career destinations report, only 37.7% of FY2s immediately took up a specialty post in 2018 compared to 50.4% in 2016 and this number is gradually declining [2]. A recent survey looked at the reasons why UK foundation doctors are choosing not to go straight into specialty training; one of the common recurring themes included career uncertainty and lack of support [3]. Majority from the survey expressed that there was lack of support, mentoring and guidance for specialty applications. They also expressed that there was a lack of flexibility during foundation training for opportunities to improve their curriculum vitae with reference to specialty training [3].

Due to the current pandemic caused by COVID-19, there has been cancellation of face-to-face surgical courses and conferences across the world [4]. Due to this, use of online platforms has been adapted to ensure the educational needs of surgeons are being met. It is vital to continue to share information and keep trainees updated with information to minimise the impact and disruptions to surgical training within the UK and worldwide.

Online videoconferencing platforms including Microsoft teams and Zoom have been used regularly by professional bodies for conferences and courses [5]. These platforms have helped facilitate discussions within a large group of trainees. Additionally, social media is also used to advertise and reach a broader audience to promote education, training and events. For example, the four surgical Royal Colleges in the UK and Ireland have used twitter to broadcast messages regarding their events and reach broader audience.

In view of the COVID-19 pandemic and the increasing use and reliance of technology for courses and conferences within surgical training, we developed a virtual CST interview preparation course. Our course, The Core Surgical Training (CST) Interview Preparation course was developed to help prospective CST applicants with information and tips on all three stations in the 2021 CST interview including portfolio, clinical and management stations. The aim of this study was to evaluate the effectiveness of such a course.

Methods

The CST interview preparation course was a one-day intensive course run virtually via Microsoft teams in November 2020 for final year medical students, foundation doctors and trust grade doctors interested in applying for the CST programme in the UK. This course was advertised through social media platforms including Facebook groups and emails. The emails were sent by the Health Education England Deaneries and were distributed to the respective foundation trainees within the deanery. As this course was held virtually via Microsoft teams, we were able to open the course to a large group of audience. The course was delivered by current core surgical trainees in the first and second year of their programme. The content was developed by the CST doctors themselves who were delivering their respective session. The content was then peer-reviewed and validated for suitability and appropriateness by the three course organisers. The course organisers had recently attended the CST interview themselves. The course content was delivered mainly in the form of lectures (see Appendix 1).

Following the course, all attendees were asked to complete feedback immediately using google forms. The questions in the feedback form aimed to gauge the attendees’ confidence, level of preparedness and knowledge of the CST interview prior to attending the course. Alongside, there were also questions aimed at assessing attendees’ confidence and knowledge post-course. This was assessed using a 5-point Likert scale [6], ranging from not very confident / very unprepared (scale 1) to very confident / very prepared (scale 5). Additionally, questions were included in the feedback form to assess the effectiveness and use of virtual methods to deliver the course. Appendix 2 shows the feedback form that was used to assess the effectiveness of the CST interview preparation course. Following the course, a survey was sent to all attendees at the course to gauge how many of the attendees had applied for core surgical training. Overall, 16 responses were received from the survey. From the 16 responses, 13 (81.3%) had applied to core surgical training that year. Nine of the 13 who had applied to core surgical training, obtained an interview for the CST 2021 national recruitment. Nine were successful at the interview and 7 managed to obtain an offer for the 2021 CST recruitment.

Results

Two hundred and fifty candidates registered for the event. The places were offered on a first-come first-serve basis and was delivered free of charge. One hundred and ninety-eight attendees (79.2%) were present at the CST interview preparation course held in November 2020. All 198 attendees completed the post-course feedback form. Over 98% of the attendees found the course to be 'excellent' and 'very good' with regards to usefulness of the course and 99% of the attendees found the course 'highly relevant' or 'relevant'. In terms of overall organisation of the course, 152 (77%) of the attendees rated the organisation as 'excellent' and 43 (22%) rated the organisation as 'very good'.

A two-tailed paired T-test was performed to assess the statistical difference between pre and post course level of confidence and preparedness amongst attendees. A paired T-test showed that there was a statistically significant difference between pre- and post-course level of confidence for the CST interview ($T= 9.99, P<0.0001$), demonstrating nearly a 10-fold increase in level of confidence and preparedness for the CST interview after attending our interview preparation course. Results of the pre- and post-course tests are shown in the graph below (Figure 1). Additionally, 158 attendees (approximately 80%) found the use of Microsoft teams to access the course to be 'very easy', with over 85% of attendees preferring the course to be delivered virtually.

Overall, 16 responses were received from the survey that was sent post the 2021 national CST recruitment. From the 16 responses, 13 (81.3%) had applied to core surgical training that year. Eight of the 13 who had applied to core surgical training, obtained an interview. Nine were successful at the interview and 7 managed to successfully obtain an offer for the 2021 CST recruitment.

Discussion

Covid-19 Pandemic has led to the use of online platforms to continue delivering medical education virtually. A recent cross-sectional study done in 2020, looking at the use of webinars for educating trainees on CST selection also reported over 55% of the attendees declared preference of a webinar over face-to-face tutorial [7]. In our study notes that over 85% of the attendees preferred the course to be delivered virtually over traditional face-to-face delivery. One of the most important reasons for preferring virtual delivery over traditional courses was the ease of accessibility. Usage of virtual platforms grants immediate access to the webinar via smartphones or laptops with internet connection, and thereby offers flexibility and convenience. In addition, there is also reduction of other expenses including cost of transport to and from a particular venue and cost of accommodation for attendees. There is a reduction of cost for the organisers of the course including cost of venue hire, catering of food and refreshments to faculty members and attendees.

It is important to note the increased use of technology in current medical education. Current generation medical students are constantly

exposed to technology throughout their education and hence might prefer the use of webinars as well as virtual methods of teaching over face-to-face due to the convenience and familiarity it offers [8]. Most importantly, online webinars and virtual delivery gives the opportunity for the teaching sessions to be recorded. The recording allows attendees to access the course content at a later date if required and helps them consolidate their learning if necessary. It is also important to note the challenges current CST applicants face with the lack of support/mentoring and lack of flexibility during foundation training to attend in person conferences, etc. In view of this, online platforms are highly valuable for continuing to deliver high quality medical education.

One of the major disadvantages of using virtual delivery includes difficulty in engaging. In face-to-face teaching or seminars, you are able to see people's physical presence which may encourage engagement and observe the level of attendee engagement including being able to assess non-verbal signs. It also enables questions from the attendees and vice versa; which is an easier and immediate method of gauging the effectiveness of your seminar. With virtual delivery of webinars, attendees are able to easily turn off their microphone and camera, and thereby it is very easy for them to become disengaged from the session. Additionally, with the sessions being recorded, attendees are reassured that they will be able to access the content at a later date if necessary and hence easier for them to remain disengaged. It is important to note that there are ways to help improve audience participation. This includes chat box comments, polls and use of break out rooms for smaller group sessions. The smaller groupwork sessions would enable the attendees to keep their microphone and camera on without creating significant disturbance to the call which will enhance audience engagement.

Although the effectiveness of virtual delivery can be seen with our CST interview preparation course, it is important to be aware of the limitations of our service evaluation. First limitation concerns the sample size from a single webinar. The effectiveness could be better measured from a series of webinars which will help provide additional data on the effectiveness of the use of online platforms for teaching. Additionally, a pre-course questionnaire testing the attendees' knowledge of the CST interview format and their level of preparedness will help gather more data. This will enable us to perform a more detailed statistical analysis to determine whether the course made the trainees feel significantly more prepared. It would also help provide a better statistical analysis for analysing the improvement in the attendees' knowledge post-course.

Conclusion

In view of the COVID-19 pandemic, there have been several cancellations of face-to-face surgical courses and conferences across the world. This has resulted in the use of online platforms for virtual delivery of content to ensure educational needs of surgeons are continuously met. Our service evaluation of the CST interview preparation course has shown that using online platforms like Microsoft Teams allows a large group of audience to attend the course with minimal expenses. It also provides the opportunity for attendees to access the course content at a later date should they wish to. Although not a replacement for formal face-to-face training, use of online platforms for teaching can be integrated into delivering the surgical curriculum.

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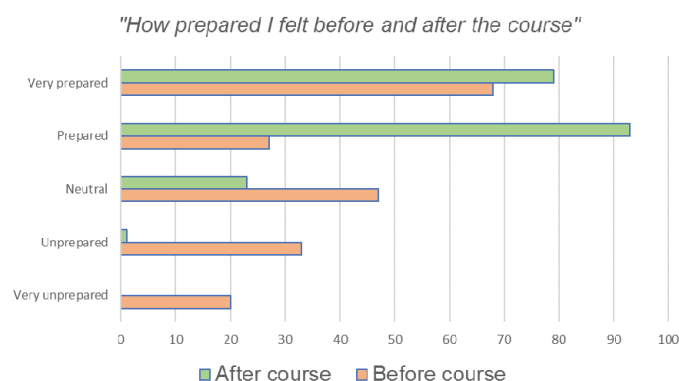


Figure 1: Results of the pre- and post-course tests.

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Appendix 1: Course programme put weblink into paper.



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Core Surgery Interview Preparation Course 2020

Course Programme

Saturday 21st November 2020

On Microsoft™ Teams

Course Timetable	
09:00 – 09:15	Introduction
09:15 – 09:30	Application process and Timeline
09:30 – 10:30	Portfolio Station Preparation
10:30 – 10:45	Break
10:45 – 12:45	Clinical Station Preparation
12:45 – 13:45	Lunch
13:45 – 14:45	Management Station Preparation
14:45 – 15:30	Generic Tips, Q&A and Feedback

Appendix 2: Feedback form.**Feedback Form:**

	Talk 1 – Application process & Timeline	Talk 2 – Portfolio Preparation	Talk 3 – Generic Tips by TPD
Rate overall quality of presentation	Scale 1-5	Scale 1-5	Scale 1-5
Rate overall relevance of presentation	Scale 1-5	Scale 1-5	Scale 1-5
Rate usefulness of the topic	Scale 1-5	Scale 1-5	Scale 1-5
Rate presenter's coverage and knowledge	Scale 1-5	Scale 1-5	Scale 1-5
Any other Comments	Comments	Comments	Comments

	Clinical Scenario 1	Clinical Scenario 2	Clinical Scenario 3	Clinical Scenario 4
Rate overall quality of presentation	Scale 1-5	Scale 1-5	Scale 1-5	Scale 1-5
Rate overall relevance of presentation	Scale 1-5	Scale 1-5	Scale 1-5	Scale 1-5
Rate usefulness of the topic	Scale 1-5	Scale 1-5	Scale 1-5	Scale 1-5
Rate presenter's coverage and knowledge	Scale 1-5	Scale 1-5	Scale 1-5	Scale 1-5
Any other Comments	Comments	Comments	Comments	Comments

	Management Scenario 1	Management Scenario 2	Management Scenario 3	Management Scenario 4
Rate overall quality of presentation	Scale 1-5	Scale 1-5	Scale 1-5	Scale 1-5
Rate overall relevance of presentation	Scale 1-5	Scale 1-5	Scale 1-5	Scale 1-5
Rate usefulness of the topic	Scale 1-5	Scale 1-5	Scale 1-5	Scale 1-5
Rate presenter's coverage and knowledge	Scale 1-5	Scale 1-5	Scale 1-5	Scale 1-5
Any other Comments	Comments	Comments	Comments	Comments

	Likert Scale 1-5 1- Highly disagree/very unprepared 5- Highly agree/very prepared
Rate overall organisation of course	Scale 1-5
Rate overall relevance of course	Scale 1-5
Ease of access to course via Microsoft Teams	Scale 1-5
Was the Course pitched at right level?	Scale 1-5
How prepared you felt for interview prior to attending this course?	Scale 1-5
How prepared do you feel for interview after attending this course?	Scale 1-5
Do you prefer this course to be delivered virtually?	Scale 1-5
Did you feel you had sufficient time to ask questions for each session?	Scale 1-5
Any other Comments	Comments