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How do medical students rate their learning experience at the gynecological oncology multidisciplinary team meeting? A comparison of attendance in-person and online due to COVID-19 exigency

Amina Javaid, Noreen Gleeson, Alecksandra Sobota, Yulia Shahabuddin

ABSTRACT

Aims: Multidisciplinary clinical team meetings (MDTm) are a key component of best practice in Gynecological Oncology. The forum is used to establish the diagnosis and plan optimum and evidence-based treatment pathways. Traditionally the MDTm is included in the undergraduate medical students' weekly timetable but its value to students has not been previously assessed. The COVID-19 pandemic resulted in a shift from in person (IPA) at MDTm to an entirely online attendance (OLA). We sought to evaluate the student experience.

Methods: This online anonymized survey of the student experience of MDTm straddled two academic years to allow comparison of the student experience of in person and remote attendance.

Results: Clinical exposure to patients discussed at MDTm was severely restricted by the COVID-19 pandemic. The ratings of the overall education value of MDTm, the clinical discussion, and histopathology components were similar in both groups. There was a trend toward a higher rating for the radiology and treatment planning components by students OLA than the IPA. The student free text suggestions were constructive.

Conclusion: Medical students find the MDTm in Gynecology Oncology useful and are not compromised by the move to a remote online platform except for their direct access to patients.

Keywords: COVID-19 exigency, Gynecological cancer, Medical students, Multidisciplinary team meetings, Remote learning

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INTRODUCTION

Multidisciplinary team meetings (MDTm) are the basic component of best practice in Gynecological Oncology. The core clinical MDTm consists of the expert gynecological, medical, radiation oncology teams, specialist histopathologists, and radiologists. The forum is used to establish the diagnosis and plan the treatment pathway and is essential for best clinical management of women with gynecological cancer [1, 2]. A substantial number of patients discussed at MDTm experience changes in their referred diagnostic reports and their management is determined according to that revision. Systematic review has reported that patients discussed at

MDTm were more likely to receive accurate and complete preoperative staging and treatment [3]. Review after surgical staging is standard of care in order to decide on adjuvant treatments and follow-up surveillance.

The MDTm is a valued forum for postgraduate medical education. Doctors in specialty training can see first-hand the impact of quality patient assessment, diagnosis and staging, initial and post-staging management plans, rates of treatment, shortening of time to treatment after diagnosis, better survival, and adherence to clinical guidelines [2, 4]. Although the educational value of MDTm has not assessed previously for undergraduates we have traditionally included MDTm in the medical students' clinical timetable. The conference is held at the start of their week with the gynecological oncology team at the Trinity St James's Cancer Institute. They listen to discussion of between 25 and 30 cancer cases. Time constraints at MDTm mean students are not invited to ask questions during that forum but they can ask questions of their tutors after the meeting. Historically, the students would have encountered some of the patients whose cases were discussed at MDTm during their clinical attachment at outpatient clinics, on the wards, or in the operating theatres. Face-to-face meetings were also the students' opportunity to meet the multidisciplinary team. The value to medical students of attending MDTm in person has not been assessed before.

The arrival of the COVID-19 pandemic resulted in a shift from in person attendance at MDTm to an exclusively remote forum. Fortunately, information communication technologies (ICT) that enhanced the MDTm experience substantially were already in place [5, 6]. The medical students moved to online attendance with us. Hospital staff access a numbered list with the clinical case identities and summaries on the hospital electronic platform. For the students numbered anonymized summaries were provided online by their tutor.

We undertook this survey of student satisfaction across the academic years 2019–2021 in order to seek feedback on the students' evaluation of MDTm as an educational component of their curriculum and to measure the impact of the compulsory move to the online remote forum.

MATERIALS AND METHODS

A sampling plan was devised by the research team. A written survey, delivered electronically via the digital survey platform Survey Monkey, was chosen. The population of interest was all fourth-year medical students who had been invited to attend a single gynecology oncology MDTm during their clinical attachment of seven weeks in Obstetrics & Gynecology. A written questionnaire was developed by the research team and pilot tested within the gynecological oncology department. An online survey was then created on the Survey Monkey online platform. This was sent to the lead specialty clinical lecturer and the director of undergraduate teaching & learning at the University and once approved it was disseminated by email to the cohort of students who had completed their obstetrics and gynecology rotation between October 2019 and January 2021. The hyperlink with access to the online survey remained active for two months. Respondents completed the survey anonymously and the results were collected and stored in the Survey Monkey online platform.

The survey consisted of 12 questions looking at various aspects of students' engagement in MDT (Addendum 1). Five questions exploring students' attitudes toward participation in the MDT were rated on a Likert scale ranging from 0 to 100. The last question was open-ended requiring a text response. Following closure of the survey, the data were exported to Excel and checked for completeness. Missing data were coded as such and excluded from the final analysis on a case-by-case basis. The final data set was uploaded to SPSS and analyzed. Descriptive statistics were calculated for all quantitative variables. Comparative statistics were calculated using non-parametric tests including χ^2 and Mann–Whitney U. For the single text response (question 12) thematic analysis was used [7, 8] applying the technique of familiarization with data collected, generation of initial codes, and reviewing, defining, and naming themes. Respondents were categorized as non-attendees, in-person attendees (IPA), and online attendees (OLA) at MDT. Responses from attendees were analyzed.

RESULTS

We sent this survey to 214 students and 100 students responded giving a response rate of 46.7%. Ninety-five had attended MDTm. Those attending weeks 2, 3, and 4 of their seven week rotation were more likely to respond, but 37.5% could not recall which week they had attended. Fifty-eight could recall their attendance was on week 1–2 (32.6%), 3 (20.6%), 4 (22.4%), 5 (12.1%), 6 (8.4%), and 7 (3.4%). Out of 95 students who attended MDTm, 24 (25%) attended in person (IPA) while 71 (75%) attended online (OLA).

Anonymized patient case summaries made available on entry to MDTm were used by 11 (46%) of IPA and 43 (60.6%) OLA students ($\chi^2 = 1.59$, $p = 0.2$). Fifteen (62.5%) IPA students and one (1.4%) OLA student encountered at least one patient discussed at MDTm during their clinical attachment in the Division of Gynecological Oncology.

The responses from 94 students asked to "rate the overall educational value of MDTm" ranged from 0 to 100 on a Likert scale and yielded a median of 50, IPA 61.5, and OLA 46.5 ($U = 646$, $p = 0.09$). Asked whether they would want to attend gynecological oncology MDTm again 54.2% of 24 IPA and 52.1% of 71 OLAs answered yes ($\chi^2 = 0.03$, $p = 0.86$).

Looking at the component elements of MDTm yielded the following.

Asked "how much did you learn from the clinicians' presentation of cases" the overall median from 95 responses was 51 (range 2–100) with IPA at 58 and OLA at 50 (U = 716.5, p = 0.25).

Asked "how much did you learn from the radiology component" the overall median from 94 responses was 50.5 (range 0–100) with IPA at 40 and OLA at 53 (U = 817.5, p = 0.85).

Asked "how much did you learn from the histopathology component" the overall median from 94 responses was 40 (range 0–100) with IPA at 40 and OLA at 40 (U = 817, p = 0.84).

Asked "how much did you learn from the discussion on treatment and patient management" the overall median from 94 responses was 63 (range 3–100) with IPA at 71 and OLA at 60 (U = 617, p = 0.14).

Invitations for suggestions to enhance their learning experience resulted in 51 (53.7%) responses.

Qualitative analysis yielded the following common themes in descending numerical order: the cases were too complex [went over my head/need better understanding of disease processes prior/need to attend at least one clinic prior/first day gyne-oncology rotation inappropriate] (n=18), the need for improved/more detailed clinical summaries before or at the meeting (n=11), case discussions too short/pace too fast (n=7), need time for student discussion and invitation for student feedback (n=7), discussion of select cases with tutors after MDT (n=5), valuable/great learning/really enjoyable/appreciate complexity (n=5), good to meet the team (n=4), more pointer demonstration of anatomy and lesions in radiology (n=2), suggestions regarding histopathology (none).

DISCUSSION

As educators we are compelled to continuously analyze and enhance student learning programmes and never more than at this time when the COVID-19 pandemic has resulted in major challenges especially in clinical teaching [9]. Multidisciplinary team meetings (MDTm) are an integral part of clinical management and we had historically included our weekly 90-minute gynecological oncology meeting into the undergraduate clinical teaching programme between weeks 2 and 7 of their programme. Attendance on week 1 was introduced when teaching moved online. The survey response rate of half the student cohort compares favorably to published surveys [10]. Ninety-five of the 100 student respondents had attended MDTm. Respondents were more likely to have attended on weeks 1–4 (20.6–32.6%), than in the later weeks of their rotation (3.4–12.1%). Students may be less likely to attend in the later weeks of the rotation either because they are prioritizing their time to study for the end of rotation examinations or their colleagues who attend in the earlier weeks are giving them less than positive feedback.

Out of 95 students who attended MDTm, the majority attended online. The conference is held at 08.00 hours on Monday morning so the convenience of logging on from home is evident. However, the groups were sequential as remote access was only available from March 2020 triggered by the exigencies of the COVID-19 pandemic. We acknowledge that the more recent cohort would be more likely to have replied to the survey. We would expect that accessing the anonymized case summaries would be a useful pointer to the level of student engagement at MDTm. It is disappointing that less than half of the students attending in person accessed the summaries. There was a trend toward more students online accessing these clinical summaries and this suggests a higher level of engagement or at the very least that remote access did not disenfranchise the students. We would suggest that remote access should remain an option for students if in person MDTm is ever reinstituted.

More than half the students attending in person subsequently had a clinical encounter with a patient who had been discussed at MDTm compared to negligible exposure for those online attendees. The reduction in student clinical exposure due to the COVID-19 crisis is likely to have contributed to this as many of the patients triaged at MDTm would be seen in clinics or admitted for surgery in the ensuing days in pre-Covid times. For now, many of the cancer surgeries take place outside of the Cancer Institute. The students are therefore less likely to enjoy actual engagement in the full cancer treatment pathway. Their clinical tutors will have to develop alternative strategies to demonstrate the impact of MDTm on the patient outcomes.

The students' evaluation of the MDTm's overall educational value gave a median value of 50 on a Likert scale ranging from 0 to 100. However, over half replied that they would want to attend gynecological oncology MDTm again, and that, and a similar number responding in text to the suggestions box implies a good level of student engagement. Looking at the component elements of MDTm learning from the clinicians' presentation of cases was rated at 61.5 by in person attendees compared to 46.5 for online attendees. Though not statistically significant that trend might have been influenced by subsequent clinical encounters with the patients whose cases had been discussed at MDTm. Many clinical encounters are replaced by video or teleconferencing and surgeries are occurring in other hospitals due to restricted access at the Cancer Institute during the COVID-19 pandemic [11]. Students' direct access to patients is compromised.

Students rated the histopathology component lowest with a median value of 40 and that rating was similar for in person and online attendees. Time constraints at MDTm result in demonstration of few other than the extraordinary cases of histopathology but there is always substantial discussion of tumor morphology and increasingly immunohistochemistry as well. That no free text suggestions on that component emerged suggests that the students' expectation of MDTm education in

histopathology is low and/or we fail to impress on them that it has a key influence on the decision making by the MDT. Student engagement with this key element of MDT needs to be encouraged.

By comparison, all radiology is demonstrated and that is often multimodality imaging with computed tomography (CT), magnetic resonance imaging (MRI), and positron emission tomography (PET) scans. The educational value of radiology was rated at a median of 40 by those attending in person and 53 for those online. Therefore, viewing remotely through screen share did not compromise the learning experience in radiology. Furthermore, students' free text suggestions in relation to this section suggest their level of engagement with radiology is good.

Treatment planning and patient management rated highest in educational value at median 63. Pleasingly, that suggests a high level of intellectual engagement and understanding of the central purpose of MDTm as the forward planning of cancer patient care. The trend toward a higher rating by those attending in person was probably influenced by their subsequent clinical encounters.

That a majority would want to attend MDTm again and a substantial number took the time to give us suggestions for improvement reassures us that MDTm is a useful educational forum for our students. They were forthcoming in their criticism and suggestions on how we could improve their learning experience in their free text replies. There were several emerging themes. Just 10% described it as a great or valuable learning opportunity and enjoyed the demonstration of complexity but that demonstrates the potential for the enabled student. An introduction with overview of histopathology and individual lectures on each gynecological cancer site are available on the college's e-learning platform. Many may not have previewed the online material because a strong emerging theme in their commentary related to feeling that they were out of their depth and/or that the pace of MDTm was too fast. Postponing their assigned MDTm to the week after their clinical attachment in gynecological oncology might ameliorate this, but traditionally we felt the MDTm would awaken their interest at the start of the week. Clinical case summaries could be made available some days before the meeting and assignment of individual virtual case(s) to each student before MDTm might enhance their engagement. In an MDTm that discusses at least 25 cases in ninety minutes it would be difficult to accede to the request for student discussion during the meeting but discussion of selected cases after MDTm with tutors could improve the student experience.

CONCLUSION

COVID-19 restrictions have had a major impact on the patient pathway at our Cancer Institute. Many clinical encounters are replaced by video or teleconferencing. Surgeries are occurring off site in most cases. Fortunately, the MDTm processes remain robust and highest quality of delivery of MDTm is now more essential than ever. The clinical teachers need to transcend the challenge of remote delivery and loss of actual patient contact in student clinical teaching. We propose some tangible changes to enhance student engagement including improved clinical summaries, demonstration of the nuances of histopathology, assignment of virtual MDTm cases to individual students and follow-up discussion with their gynecological oncology tutors. These proposals are in line with the emerging recommendations to expand team based/problem-based learning to cope with the challenges during and beyond this COVID-19 pandemic.

APPENDIX 1: SURVEY QUESTIONS

1. Did you avail of the opportunity to attend MDT?
2. In which week of your Obstetrics & Gynecology rotation did you attend the Gynecological Oncology MDT at St James's Hospital?
3. Did you refer to the numbered list of patient summaries at the MDT?
4. Did you attend the MDT in person or online? In Person, Online
5. Did you encounter any patient whose case was discussed at MDT during your subsequent clinical attachment in wards, theatre or OPD?
6. On a scale of 0–100 how useful/educational did you find the Gynecological Oncology MDT?
7. On a scale of 0–100 how much did you learn from the Clinicians' presentation of cases?
8. On a scale of 0–100 how much did you learn from the Histopathology component?
9. On a scale of 0–100 how much did you learn from the Radiology component?
10. On a scale of 0–100 how much did you learn from the Discussion on Treatment Planning?
11. If you had the opportunity would you have wanted to attend MDT again during your rotation in Obstetrics & Gynecology?
12. What could we do to enhance the student learning experience at Gynecological Oncology MDT? Free text answer

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Data Availability
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