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Teaching telehealth consultation skills

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Teaching telehealth consultation skills

Abstract

Background Although teleconsultations have been used for many years in Australia, there has been a recent increase following new government incentives. There is a paucity of literature on enabling medical students to acquire the relevant skills. With a focus on equipping students for practice in rural and remote areas, our medical school has developed an innovative clinical skills lesson to prepare our students for their rural practice placements. Methods This lesson was delivered to all students in their third year of training in small groups to enable interactive learning. The objectives of the lesson were to familiarise students with: the various methods of conducting teleconsultations currently in use; the legal and ethical considerations; the technical and procedural issues; and the barriers and benefits for patients and doctors. Students rotated through four different stations over 2 hours and the lesson was evaluated using a student survey. Results Medical students self-reported statistically significant improvements in understanding the issues and procedures, and in confidence in conducting a telehealth consultation. Discussion Analysis of the results and student comments demonstrated that students recognise the value of telemedicine learning, and benefit from formal teaching on all aspects of telemedicine, including technology, ethics and protocols. Interestingly, the students found the opportunity to discuss areas such as the ethics of, and barriers to, the use of teleconsultations to be the most challenging and helpful of all of the stations.

Disciplines

Medicine and Health Sciences | Social and Behavioral Sciences

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Teaching Telehealth Consultation Skills

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Summary

Background: Although teleconsultations have been used for many years in Australia, there has been a recent increase following new government incentives. There is a paucity of literature on enabling medical students to acquire the relevant skills. With a focus on equipping students for practice in rural and remote areas, our medical school has developed an innovative Clinical Skills lesson to prepare our students for their rural practice placements.

Methods: This lesson was delivered to all students in small groups to enable interactive learning and yet also cover this broad subject adequately. The objectives of the lesson were to familiarise students with: the various methods of conducting teleconsultations currently in use; the legal and ethical considerations; the technical and procedural issues; and the barriers and benefits for patients and doctors. Students rotated through four different stations over two hours and the lesson was evaluated using a student survey.

Results: It was encouraging to note the significant improvement in both understanding of the issues and procedures and in their confidence in conducting a telehealth consultation, as rated by the students themselves.

Discussion: Analysis of the results and student comments demonstrated that educators cannot make assumptions regarding the competence of our next generation of doctors with regard to videoconference technical and consultation skills. Interestingly, the students found the opportunity to discuss areas such as the ethics of, and barriers to, the use of teleconsultations, to be the most challenging and helpful of all the stations.

Background

Although telehealth consultations have been part of the Australian medical landscape for over a decade, there has been a recent surge of interest due to the introduction of new national government initiatives [1]. Our medical school aims to graduate medical practitioners who have the capacity to practice anywhere but particularly in rural and remote communities. Senior students are located for 12mths in rural and regional community placements. As teleconsults become an increasing part of Australian healthcare delivery we felt our students needed an introductory lesson on teleconsultation skills prior to their rural placement.

Noting the paucity of literature on teaching this subject, we developed a new lesson to introduce the students to this specialised form of consultation. Our Clinical Skills lessons are designed to be both interactive and practical. The lesson was evaluated and student feedback sought via a survey.

Methods

As always in crowded medical curricula, finding time and space for an extra lesson is difficult [2]. This two hour lesson was delivered to all students in the cohort and aimed to build on the students existing knowledge and skills in patient consultation and 'tele technology'. The Royal Australian College of General Practitioners (RACGP) has developed guidelines on teleconsulting and these 'gold standard' guidelines were used as the basis for the standards taught in this lesson [3].

The objectives of the lesson were to familiarise students with:

(i)   the various types and uses of teleconsultations

(ii)   the legal, ethical and financial considerations

(iii)   the technical and procedural issues

(iv)   the problems and benefits for patients and doctors

After a brief introduction, the students rotated through four 20min interactive stations in groups of 10. They were given an Activity Guide to work through, containing instructions and objectives for each station, and questions to answer on the activities at each station. Academics were available to facilitate each station. A student study guide with background information had been provided online ahead of time as pre reading for the students.

<u>Station 1</u> The focus in this station was on the practical skills of using the technical equipment to establish a video conference (VC) connection between two sites. Students also had the opportunity to experiment with lighting and sound equipment, a range of 'backgrounds', video cameras and microphones.

(Insert image Station 1 here)

Station 1- Establishing a connection

<u>Station 2</u> In this station, the students had the opportunity to use teleconference equipment to role play telehealth consultations from both 'sides' of the consult. Scripted scenarios using geriatric and dermatological cases clearly demonstrated the benefits of being able to communicate with a distant consultant.

(Insert image Station 2 here)

Station 2 – Role playing a Telehealth Consultation

<u>Station 3</u> For station 3 a psychiatric telehealth consultation (using staff and actors) had been filmed and the students were able to view this. The focus was on both teaching correct teleconference etiquette as well as giving the students an opportunity to critically evaluate this form of consult.

(Insert image Station 3 here)

Station 3 – Viewing a teleconsultation

<u>Station 4</u> This last station was designed to encourage the students to think through some of the ethical dilemmas, barriers, pitfalls, advantages and disadvantages of this

form of consultation. It was run as a group discussion, facilitated by senior medical staff with rural

experience.

(Insert image Station 4 here)

Station 4 – Discussing the ethics and dilemmas

The students also had the opportunity throughout the lesson to view a range of forms and documentation designed for use in telehealth consultations in the 'live' setting such as: Videoconference (VC) Practice Booking Checklists, VC Practice Logbooks, VC Patient Information pamphlets, and Patient and Clinician Evaluation Forms. The lesson was evaluated using a student survey. Completion of the survey was entirely voluntary and anonymous. Ethics permission was granted by the University of Wollongong / Illawarra Shoalhaven Local Health District - Human Research Ethics Committee in Jan 2013.

Results

59 of 71 students completed the survey. The first part of the survey asked students to rate their understanding of the issues and procedures, and their confidence in conducting a telehealth consultation, prior to and after the lesson. A five point Likert scale was used where 1 = Low and 5 = High. The scores of 1, 2 and 3 were regarded as negative and were given a nominal value of 0; the scores of 4 and 5 were regarded as positive responses and were given a nominal value of 1. Chi-squared test was performed and showed a statistically significant difference between the nominal scores given before and after the lesson.

(Insert Table 1 here)

The second part of the survey asked students to rate each station using 'positive' words: Useful, Informative and Interesting; or 'negative' words: Useless, Irrelevant and Boring.

(Insert Table 2 here)

The final part of the survey invited students to comment on stations and the lesson as a whole.

Station 1 The comments on this station reflected students' familiarity or otherwise with technical equipment. While some (5) students commented that they "*already knew all about the technical aspects",* others (8) said they found learning about the equipment the most helpful aspect of the lesson.

Station 2 10 of the students commented that they found the role play very helpful. Tutors supervising this station noted that while students seemed to really enjoy and engage in this activity, many of them still struggled with unfamiliarity with both the equipment and the process despite a couple of students commenting that: *"we all know how to use Skype".*

Station 3 Students stated that they found the demonstration of the etiquette of a telehealth consultation very informative and that it was particularly helpful to see the use in the rural setting. Others also found this station helpful as an introduction to the whole topic. *"Station 3 was a most helpful demonstration of video consultation and etiquette to provide a framework of a good telehealth session". "Station 3 was the only one that illuminated the overall process…"*

Station 4 Significantly most students rated this as the most useful station as they admitted to not having previously ever thought through the medico legal and ethical issues of this form of communication before. Many students said that the most helpful part of the whole lesson was *"discussing the ethical implications and pitfalls".*

Discussion

It is encouraging to note the significant improvement in both understanding of the issues and procedures and in their confidence in conducting a telehealth consultation, as rated by the students themselves.

With the current generation of medical students being so familiar with telecommunication it was a surprise to see the number of students who said that Station 1 covered new ground for them. It is a warning to medical educators not to assume technical competence when introducing this field of skills acquisition. It was also interesting to note the many students who commented that Station 4 was the most helpful and interesting as it challenged their thinking on the problems with such areas as the ethics of teleconsultations. Our future doctors are so immersed in the use of these types of communication that they have had little cause to think through the potential pitfalls and how to avoid or deal with them.

Due to the range of material and equipment required for this lesson, it did involve a significant amount of preparation time for staff and advanced organisation to borrow/hire extra equipment. Many students appreciated the staff effort in developing and delivering this lesson: *"That was great, thanks!" "Excellent introduction to telehealth." "Good effort by skills staff – clear that thought and effort went into the lesson."*

Developing new lesson material and up skilling staff as well as students is a constant challenge for any clinical skills unit in a modern medical school. The results of the evaluation challenged the prior conceptions and assumptions of teaching staff (both academic and technical) just as the lesson itself challenged many of the students with both its content and application to medical practice.

Tables

Table 1 – Summary of positive nominal scores given by students in response to questions re conducting telehealth consultations prior to and after the lesson			
	Number of positive responses prior to the lesson (n=59)	Number of positive responses after the lesson (n=59)	P-value
Understanding of the issues and procedures for telehealth consultations	7 (11.9%)	44 (74.6%)	0.000[a]
Confidence in conducting / participating in a telehealth consultation	6 (10.2%)	41 (69.5%)	0.000[a]
Overall value of this Clinical Skills Lesson	-	27 (45.8%)	

[a] Chi-squared test

Table 2 – Summary of positive and negative scores by students rating each station								
Station	Useful	Useless	Informative	Irrelevant	Interesting	Boring	Positive	Negative
1 (n=56)	11	9	23	2	6	5	40 (71.4%)	16 (28.6%)
2 (n=55)	19	4	11	6	13	2	43 (78.2%)	12 (21.8%)
3 (n=57)	14	3	18	8	7	7	39 (68.4%)	18 (31.6%)
4 (n=54)	13	3	22	0	13	3	48 (88.9%)	6 (11.1%)

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