

Consultation at surgical outpatient department and undergraduate medical education: A pilot study

Our undergraduate training produces general physicians, who are the backbone of rural health services. They provide care to a large section of society and manage different outpatient departments (OPDs). They need consultancy skills for these services. As independent consultancy is not allowed during the undergraduate training, we planned a pilot study to assess the results during the period of internship when students are authorized to practice under direct supervision. We also wanted to explore the feasibility of similar large-scale studies.

We divided the skill of OPD management into five areas of competency, namely history taking, examination, writing and planning, discussing management and global score and prepared an objective structured clinical examination-based checklist to find areas of weakness. After that, we conducted a single-centre cross-sectional pilot study on students who had completed at least 2 weeks of surgical internship posting. We conducted the study on cases that included sebaceous cyst, hydrocoele, acid peptic diseases, filarial lymphoedema, epididymo-orchitis and haemorrhoids. Each intern was evaluated twice on different cases, and every examination was scored by two independent experts. The scores in different competency domains were tabulated and analysed.

We evaluated 11 interns on 22 cases. Two cases were excluded from analysis as these were not suitable for undergraduate evaluation. A total of 40 scored evaluation sheets were analysed. The average score in discussing the management plan was 24%, and this was badly affecting the overall score (Fig.1). The students performed badly even in simple cases for which adequate training was given in the undergraduate days. It was clear that due to difficulty in formulating and discussing the management plan, the consultancy skill was difficult for young doctors. Therefore, we decided to stop the pilot study.

The discussion of a management plan with patients and their attendants is a complex skill. It requires analysis and synthesis of knowledge, which is a higher-order cognitive function. It is more complicated than medical interviewing, which requires comprehension and application of knowledge. For a good discussion, the active participation of all stakeholders is essential. The practitioner should explain the disease and its possible course. They should discuss the possible interventions and their drawbacks. It is crucial to listen to the patient's concerns and show appropriate empathy. Maguire *et al.* described these issues after analysing the consultation skills of 40 doctors, 4 to 6 years after the completion of their graduation. They concluded that the participant-doctors gave little importance to aetiology, future tests and prognosis in their discussion and were bad at providing information.¹

Adult learning is a complex process and consists of four distinct stages. The learning is not complete till the individuals practice the skill themselves.² In our case, we usually do not allow our undergraduate students to formulate the management plan and discuss it with patients during the OPD postings. This lack of opportunity deprives the students of the experience required for learning. Recently, Newcomb *et al.* tried to train undergraduate students on communication skills during the Covid-19 pandemic. They organized telecommunication sessions and used role-play for different clinical scenarios to expose the students to the art and science of clinical communication. The students found these sessions interactive and encouraging.³

For training on consultancy skills, we need the involvement of senior students in patient care beyond history taking, clinical examination and discussion of science at the clinics. We need to work on teaching modules that encourage students to learn communication on patient care at a place away from clinics. After these training modules, the students should participate in supervised clinical discussions with the patients. This will enable them to learn the art

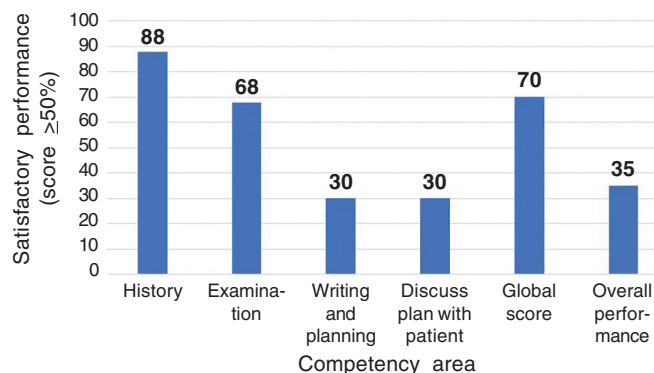


FIG 1. The interns performed poorly in discussing the management plan and the overall score was 47%

of rapport building resulting in better patient compliance and fewer workplace conflicts.

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Climbing the SAMR ladder: Utilizing audio messages for teaching pathology to postgraduates

The Covid-19 pandemic has forced postgraduate medical teaching to shift online. However, due to issues of internet connectivity, it is difficult to reach all students by using virtual meeting tools and conference calls. WhatsApp and Telegram apps are ideal in such situations since they do not require high bandwidth connections and work well even with intermittent connectivity.¹ For medical specialties

such as Pathology, which require visual pattern recognition, it is convenient to share histopathology and cytology slide images on WhatsApp as a teaching aid. These images can be accompanied by annotations of the features highlighted in the images.^{2,3} However, this approach can become monotonous and boring since it lacks the human connect provided by the teacher's presence and voice.

To simulate a real class scenario, the voice recording feature of WhatsApp can be used to record the teacher's voice. The recording of the slide description can follow the image on WhatsApp group chat. Similarly, a PowerPoint slide image can be followed by a voice-over by the presenter. The students can hear the recordings any number of times till the concept is understood by them. In a postgraduate near-peer mentoring programme, audio recordings of the mentor can be beneficial for both the mentor and the mentee. For the mentee, it will provide the much-needed human connect provided by the teacher's voice. For the mentor, recording one's own voice can be a good method of revision.

We tried using this method of instruction for teaching the newly inducted postgraduate students of pathology by online near-peer mentoring programme. A WhatsApp group named 'Pathology 1st Year' was created, which included 12 first-year postgraduate students as mentees, one third-year and two second-year postgraduate students as mentors, and one senior resident and one faculty as supervisors. The mentors posted one case per day for 4 days in a week. For the first month, the mentors posted annotated case images followed by the written description of the features and case discussion. For comparison during the next one month, the annotated case images were followed by audio recordings of the descriptions and discussion on the topic. The students were encouraged to ask questions in a written or audio format. The teaching was mostly done by mentors with supervisors pitching in with clarifications whenever needed. One virtual online class was held every week on the Google Meet platform by the faculty to supplement the WhatsApp-based teaching. The authors feel that using WhatsApp alone without any face-to-face contact between the teacher and students would make the entire exercise boring.

A total of 32 cases were discussed (26 histopathology and 6 cytology) over a period of 8 weeks. The cases were equally divided between the two months: one month without audio recordings and one month with audio recordings. No pre-test evaluation was done. At the end of the course, a quiz was used to evaluate the students.

A feedback form was circulated among the participants and their responses were tabulated (Table I). The student feedback was favourable and they supported the idea of using audio recording in conjunction with a written text for the purpose of teaching. Only one student faced some problems in downloading and playing the audio clips. Of the 12 students surveyed, 5 (41.7%) students did not consider the use of audio recordings to be superior to written words, while 7 (58.3%) found audio to be superior. For a small sample size, this difference of one response is not significant. It highlights that almost an equal number of students have an auditory and visual/visual-auditory combined type of learning style. Hence, a combined approach would cater to both learning styles. This explains why 11 of 12 students (91.7%) favoured the use of audio recordings in addition to written words for WhatsApp teaching (Table I).

Lately, the SAMR model of technology integration for educational purposes has gained recognition. The SAMR ladder consists of substitution augmentation modification and redefinition as four steps of technology integration.⁴ The use of WhatsApp for teaching substitutes the conventional classroom teaching while audio recordings augment the effectiveness of this teaching method.

However, critics of SAMR point out that it is not a ladder to be climbed and redefinition cannot be the ultimate goal of technology integration. While SAMR can be useful to encourage innovation, technology can only be as good or bad as the purpose for which it is to be used.

TABLE I. Feedback from the students regarding the utility of audio recordings in WhatsApp messenger for teaching pathology

Questions asked	Student response (%)
<i>Were the audio recordings useful for understanding the concepts?</i>	
No	0
Yes, somewhat	16.7
Yes, very much	83.3
<i>Did you face any network or device-related issues while using the audio recordings?</i>	
No	91.7
Yes	8.3
<i>Do you agree that voice messages add a human touch to the WhatsApp teaching?</i>	
No	8.3
Yes	91.7
<i>What should be the ideal length of the audio recording so that it is easily understood by the students? (minutes)</i>	
1	8.3
2	33.3
5	58.4
>5	0
<i>Did you use headphones to listen to the audio recordings?</i>	
No	8.3
Yes	91.7
<i>Did you listen to the audio recording again after the WhatsApp teaching session?</i>	
No	8.3
Yes	91.7
<i>Are audio recordings superior to written words for the purpose of WhatsApp teaching?</i>	
Yes	58.3
No	41.7
<i>Do you support the use of audio recordings in addition to written text for WhatsApp teaching?</i>	
Yes	91.7
No	8.3

WhatsApp offers several advantages over other online platforms for teaching. It is free, students and teachers are familiar with this chat application, there is end-to-end encryption, images can be easily enlarged through the Android touch screen facility, chat facility is available, there is no lag in transmission, wide bandwidth is not necessary. Several WhatsApp alternatives such as Telegram are also available for download, which can provide similar user experience. However, most chat applications have an inherent weakness. They can only provide video conference call facility for a limited number of participants. So for better teacher-student communication, video conferencing applications such as Google Meet or Zoom need to be used in tandem with chat applications. Alternatively, whenever possible, small group discussions can be done in the offline mode.

Another advantage of using applications such as WhatsApp is their 'click and share' feature. Most of the images of histopathology and cytopathology cases were taken using smartphone cameras and were shared immediately after annotating them to mark specific features.

The WhatsApp Web feature allows users to view and download images on their desktops and laptops. This is useful in identifying subtle features often missed on the small smartphone screen.

To conclude, the audio messages in conjunction with pictures can be an effective alternative to virtual classes taken on videotelephony applications such as Zoom and Google Meet, especially at locations

where internet speeds are suboptimal. This is particularly useful for specialties such as Pathology, Radiology and Dermatology, to name a few, which rely on visual pattern recognition to make a diagnosis. Similarly, PowerPoint presentations can be shared with voice-over, in the form of audio recordings.

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