Distance Learning: Can Telesupervision Facilitate GP Educator Supervision?

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ABBREVIATIONS
ES - Educational Supervisor
CS - Clinical Supervisor
CMC - Computer Mediated Communication

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What this paper adds:

Electronic media such as Skype can be used to facilitate supervision between a trainer and their trainee. This paper describes a GP educator telesupervision experience, in circumstances where face-to-face supervision with the trainee, was not feasible.
Frustrations with the technology are highlighted and useful IT tips for successful telesupervision are provided, for other professionals considering its use.

Abstract

Distance learning involving both time-synchronous (telephone) and asynchronous media (email, podcasts) has been used successfully in education and supervision of allied medical specialties over the years. However the poor social presence afforded by such electronic interfaces has, until recently, limited the application of distance learning to post- graduate medical education. High-quality real-time audio-visual communication software is now widely available and being used increasingly for social communication by more and more people. Could this technology be used to facilitate the educational development of remote learners? This paper offers the experience of senior GP Educators using remote, time-synchronous, audio- visual technology (namely Skype) to provide distance supervision to a peer educator.

Introduction

New challenges to delivery of education in the UK National Health Service are being driven by changing workforce demographics (Rimmer, 2015) and on-going fiscal austerity (Roberts, Marshall and Charlesworth, 2012). Large parts of the UK face net shortages of GPs (and, by extension, GP Educators) as many GPs approach retirement age in the next decade (Baird, 2016). Successful use of remote digital technology in a tele-health pilot in Kent (The Kings Fund, 2013) and positive feedback of the use of computer mediated e-supervision from allied health professionals (Carlin *et al.*, 2013) have confirmed that two-way video and voice enabled communication is a viable, practical and cost-effective option to meet the shortfall of time, budgets and suitably-trained accessible personnel in geographically challenged areas (Dudding and Justice, 2004). To further add to this knowledge base, the authors present their experiences of using Skype

(//.Skype.com, 2017) to provide educational supervision from a distance – known as 'telesupervision'.

Objectives

Remote technology has not yet been tested as a method of supervising medical educators. The purpose of this paper was:

- To reflect on the conduct of a remote telesupervision session in 'field conditions'
- To ascertain the feasibility of telesupervision as a triangulation tool in GP educator supervision
- To consider the ethical, legal and professional obligations of each party within this new realm of communication

Methods

This small-scale project took the form of an action research exercise, whereby 15 GP educators undertook a telesupervision training course followed by participatory telesupervision exercises within their own practices. The aim was to gain insight and enhanced experiences of providing supervision via Skype (//.Skype.com, 2017), via personal involvement and conduct of real-time supervision scenarios and to offer a portal for reflection. Three participants involved in each of the telesupervision exercises were:

1. The Clinical Supervisor (CS) - an experienced GP with the requisite qualifications in clinical supervision
2. The trainee (T) - a fully qualified doctor gaining experience in General Practice as part of their Foundation Year 2 Rotation
3. The Educational Supervisor (ES) - an experienced GP Educator with a Post Graduate Certificate in Education.

A ten-minute face-to-face tutorial was conducted between the CS and the trainee, which was viewed in real time using Skype (//.Skype.com, 2017), by the first author of this paper, who was acting as the Educational Supervisor (ES). The ES was geographically separated from the dyad (the pair) but had the ability to interact with the remote dyad throughout.

One-to-one tutorials are valuable learning sessions where a trainee can discuss a difficult clinical case and receive feedback in a safe, confidential setting and are proven to enhance learner competence (Miller, 1990). The remote ES was tasked with viewing the tutorial between the CS and his trainee with a focus on the CS and afterwards giving confidential feedback to the CS to facilitate the future development of the CS's supervisory skills. Evidence suggests that peer support in this manner has a positive impact on educator practice and confidence (Sneddon and MacVicar, 2016) and is recommended in the Guidance for Deaneries on the Standards for GP Speciality Training (RCGP, 2014). The tutorial gave context to the feedback making it more effective (Branch and Paranjape, 2002) by applying theoretical

knowledge to practical scenarios (Reason and Bradbury, 2001). Until now this has always been conducted in person, with the ES and CS viewing a recorded tutorial together and then the ES giving feedback for development to the CS. Telesupervision has not previously been applied in this setting.

Explanation of the Technology

The conversations between the dyad, and later between the CS and the remote ES, were recorded in audio-visual format using a licenced Skype (//.Skype.com, 2017) recording software package called SuperTinTin (www.superTinTin.com, 2017). The kit required is detailed in Annex 1 below.
Support in the form of one-to-one training and hands-on opportunities to try the IT kit / recording software is recommended when introducing new technologies (Markus, 1987) and this was provided, in advance, over two teaching days. In addition to expected stumbling blocks such as firewalls and complex passwords for software access, there were other unanticipated ones that needed more technology and repeated attempts to overcome. These frustrations have been recognised by other professionals using similar technologies (Wright and Griffiths, 2010) who recommend allocating time specifically for practice sessions prior to commencement of actual supervision.
A virtual tour of the respective teleconferencing rooms is recommended as it improves acquaintance with respective offices and can make distances seem less (Brandoff and Lombardi, 2012). It also allows both parties to identify potential confidentiality breaches. But the attendant practical difficulties on the day (Ethernet cable length and camera stability) had to be considered and as such the remote parties were verbally asked to check for open doors or windows where conversations may be overheard and to remove distractions such as telephones. Ideally such interactions should be without intervening tables or chairs (Hawkins and Shohet, 2012) but the need to rest the monitors on stable surfaces precluded this. Whether that produced a barrier is discussed later.
Valuable timesaving tips offered in the hands-on training day were incorporated on all three recording occasions (Annex 2).

'In the field'

Notwithstanding the help received during practice sessions, the author found the first two attempts to run telesupervision sessions in her workplace frustrating. The secure NHS N3 connection blocked the installation of SuperTinTin (www.SuperTinTin.com, 2017) and the downloading of Skype (//.Skype.com, 2017). As SuperTinTin (www.SuperTinTin.com, 2017) was compatible only with non-Mac computers, an additional one had to be sourced and two computers taken to the ES's own home to download Skype (//.Skype.com, 2017) and SuperTinTin (www.SuperTinTin.com, 2017). During the first telesupervision attempt, connectivity and bandwidth restrictions diminished the audio quality and the images were received piecemeal in un-natural 'frozen' frames, which led to confusion about whether the recording had stopped or was on-going. This was very distracting both to the dyad during the tutorial and the ES who was concentrating on the supervision. It was accepted that due to this technological failure, satisfactory three-way supervision had not been achieved and the recording quality was too poor to use for reflection and submission. The second session was scheduled four weeks later (due to the intervening Christmas holidays) but by this time the SuperTinTin (www.SuperTinTin.com, 2017) licence had expired and though the recording appeared to run smoothly with good visual and sound, it had not been saved. The session was repeated a third time once the updated version and new software licence was gained. With both computers plugged into Ethernet cables to circumvent the erratic Wi-Fi, the final attempt was successful both in transmitting and recording the tutorial and supervision sessions.

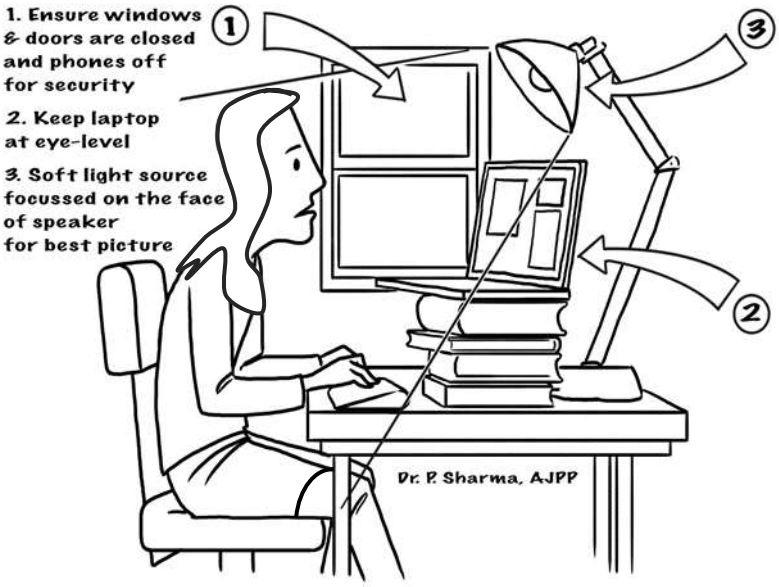
Results

Reflection on the conduct of the remote supervision

Prior experience of FaceTime (www.apple.com/mac/facetime, 2017) and Skype (//.Skype.com, 2017) for social conversations had given the ES some familiarity with computer mediated communication (CMC) but less acquainted users may display dismissive internal attitudes which can affect the

learner's uptake of the technology (Muilenburg and Berge, 2005). More exposure to the technology and a willingness to learn are therefore needed in both teacher and learner for the success of e-supervision (Rogers, 2000). In this experiment a good quality moving picture was essential in maintaining the social presence of the dyad and remote ES (Gunawardena, 1995) - an experience echoed by other users (Wright and Griffiths, 2010).
The positioning of the dyad was admittedly artificial given the limited field of view of the camera but this was acknowledged in advance and proximity violations were muted by necessity (Hall, 1969). The dyad was also aware of the need to face the camera as well as facing each other during conversation. This reduced their flexibility of posture and created a more artificial rigid positioning (Hawkins and Shohet, 2012) but this had also been discussed beforehand so did not hinder, thankfully, the interaction between them - proving how easily participants can adapt to CMC constraints if these are acknowledged beforehand (Gunawardena, 1995).
Eye contact was maintained throughout between the dyad and there was only one point of interruption from the ES when mentioning the time. The participants seemed to not notice the camera for most of the conversation and this was interpreted as a positive sign of being comfortable with the recording and the computer screen.

The supervision itself was easy to follow, courtesy of the high-resolution images transmitted via Skype (//.Skype.com, 2017). Alongside the verbal interaction between the trainee and supervisor, the ES could appreciate the supervisor's non-verbal immediacy behaviours in the form of mirrored posture and attentive listening with nods and appropriate facial expressions- all of which were instrumental in the trainee's engagement and overall positive learning experience (Gunawardena, 1995).



Reflection on giving feedback in a virtual environment
Giving feedback to peers can be difficult for reasons including lack of experience, social discomfort and problems with accuracy (Burgess and Mellis, 2015) and the Academy of Medical Educators recommends setting time aside to learn this skill itself. Feedback is easier to give if the feedback is solicited (Hewson and Little, 1998) and in this case, the initial consent process had established that giving feedback to the CS was the purpose and focus of the session. A good pre-existing relationship between the two parties also facilitates feedback-giving (McQueen *et al.*, 2016) which was again the case here as the CS was a colleague with whom the author works (Ruiz, Mintzer and Leipzig, 2006). Where this does not exist, initial meetings in person are recommended to build such a relationship (Wright and Griffiths, 2010) and time thus spent can mitigate against some of the limited social presence experienced in distance supervision especially when technical failures are encountered (Dudding, 2008). These meetings also facilitate the establishment of a clear contract between the two parties, clarifying their individual responsibilities and the overall purpose and goals of the new distant relationship. The commitment thus forged between learner and supervisor is central to the success of the whole endeavour (Brandoff and Lombardi, 2012).

One difficulty with Skype (//.Skype.com, 2017) technology is the conflict between maintaining eye contact with the camera (which is on top of the screen) versus maintaining eye contact with the screen image below. Trying to 'locate' the screen image near the camera can reduce some of this but cannot eliminate it - as others have also reported (Brandoff and Lombardi, 2012). Traditionally, eye contact is regarded as one of the most powerful ways of gathering feedback and a non-direct angle of gaze (at the screen) can impair either parties' experience of the interaction by violating an essential expectation (Argyle, 1972). Presently it requires one party to sacrifice their full view of the screen and focus their gaze on the camera in order that the other party perceive that direct eye contact is maintained.
The alternative, wherein both parties accept that focussing on the screen-images would give them constant direct visual contact with the other party but that party would appear to have a different gaze angle, may also be feasible but needs testing in future scenarios.

Ethical Considerations

The lack of conventions and rules around using technology for the specific purpose of telesupervision was recognised by all three participants. This 'policy vacuum' (Floridi, 2008) was approached pragmatically with the responsibility for ensuring ethical supervision resting with the ES given their leadership role in the exercise (Brandoff and Lombardi, 2012; Hawkins and Shohet, 2012).
The active ethical principles in telesupervision include:

i. Obtaining free and informed consent from the dyad, after clarifying the purpose of the recording
ii. Maintaining patient confidentiality during the tutorial
iii. Confirming safeguards for storage of the electronic data.

In addition to obtaining written consent before and after the recording session a verbal reminder of the purpose of the recording and reassurances around data protection repeated at the start and end of the recording helps to ensure full and informed consent is gained (Flory and Emanuel, 2004).
The trainee and supervisor must remain mindful of their responsibility for preserving confidentiality when discussing patients in the context of teaching and training (GMC, 2009) by anonymising patient data during the tutorial.
Alongside these considerations, the ES must also ensure that the welfare of the learner- the CS in this case-remains central (Brandoff and Lombardi, 2012) and prevent against conflicts of power, status, authority and transference within the triad which can undermine the CS's learning (Haliburn, 2013). Another danger in real and virtual relationships is that of collusion between the parties (Sneddon and MacVicar, 2016) and the ES in this case must clearly understand their obligation to act in case serious concerns are uncovered during the supervision, and make this explicit to the learner in the initial contract (Hawkins and Shohet, 2012).

Conclusions

Whether telesupervision is truly flexible can be debated because conducting it still requires a fixed time and place for both parties to be present simultaneously. The time spent travelling to conventional supervision sessions was paradoxically valued by some as 'thinking time' in preparation for the upcoming supervision which can be reduced if it involved switching from one screen to another (Wright and Griffiths, 2010).
New technologies have simulated social presence to ever-greater levels of satisfaction (Dudding and Justice, 2004) but the rigid positioning of participants and frequently experienced bandwidth problems can be frustrating and risk missing potentially vital cues (Tong and Walther, 2015). Nevertheless, one-to one feedback focussed on the needs of the individual learner and following the principles of andragogy (Bandura, 1986) can be facilitated through telesupervision, and with the right safeguards in place to protect learners and patients, telesupervision can be a positive experience for both ES and CS.

In summary, CMC may prove a useful tool to maintain support for GP educators within the present-day constraints of the NHS but challenges to its implementation must be expected, even with comprehensive planning and training. However these are not insurmountable, as shown in this experiment. Research looking at similar technology in teacher training found that effective management of change, organisation support for users and adequate incentives to motivate adoption of new technology were crucial to successful implementation (Brzycki and Dudt, 2005).

"Making judgements about (a new technology) soon after its launch is like saying Gareth Malone's choirs were hopeless after their first rehearsal"

Dick Vinegar, the Patient from hell, writing for the Guardian 3 Dec 2013

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Annex 1: Basic Resources needed for Successful Telesupervision

1. Private Room not near patient waiting room, or where conversations can be overheard. Neutral, well lit, background.
2. Phone(s) switched off or redirected.
3. Privacy notice on outside of door.
4. iPad (with charger) or Laptop/Desktop PC at one end of the remote location, plus
5. Laptop/Desktop PC of regulatory standards with antivirus software and password protection at the other location (Required for recording of conversation and storage on encrypted hard drive).
6. Charger for laptops
7. Headphones
8. Screen-mounted, wide-angled, web-cameras
9. Microphones
10. USB sticks
11. Ethernet cables x2

Annex 2: Top tips for Viewing or Recording Distance Consultations or Tutorials

1) **Lighting: focus a soft source of light on the face of the speaker. Avoid bright direct lights – they throw shadows. A brightly lit background will darken the speaker in the foreground.**

2) **Angle of camera: level both computers at chest height of the speakers (with the help of a few thick books) to avoid artificial 'upward' or 'downward' gazing.**

3) **Remove distracting background material to maintain the focus of the viewer.**

4) **Ensure doors and windows are closed to avoid interruptions and inadvertent breaches of confidentiality.**

5) **If you plan to record the session, obtain explicit written and verbal consent beforehand.**

6) **Check the recording quality with a test recording on the day.**

7) **Locate the window with the speaker's face near the camera to avoid 'looking away' when conversing.**

8) **Locate the window of the recording camera in a distant corner away from the screen image to prevent encroachment.**