

Exploring user perceptions of Surgical Tele-clinics during COVID-19- An Audit

ABSTRACT

Background and Aims:

To assess the user perceptions on efficiency and effectiveness of Tele-clinics during the COVID-19 pandemic.

Methods:

An audit collected feedback based on questionnaires from surgeons, patients and nurses, conducting / attending tele-clinics after 4 weeks of their initiation in the first surge of COVID-19 in the UK.

Results:

In this audit, 15 clinicians and 12 patients were opportunistically interviewed. 46% of the clinicians and 83% of the patients agreed that telephonic consultation was convenient, flexible and time-efficient. Two thirds of clinicians felt that it required less staffing and therefore was cost-effective. Majority of patients (80%) agreed that tele-clinics were efficient, were associated with less stress/ anxiety. Most (86%) surgeons agreed that tele-clinics were limited by the lack of access to a detailed physical examination. Almost half the responses from clinicians, were positive regarding the effectiveness in reaching a diagnosis/ planning management, with a recognition of the potential risk for under or over-investigation. Most (91.6%) patients were satisfied with the way their clinical consultation was addressed. Some patients would still prefer to meet their doctor face-to-face to discuss a final management plan.

Conclusions:

Our audit provides evidence that Tele-clinics offered an efficient, potentially environmental conscious, cost-effective alternative to physical outpatient clinics, both to clinicians and patients, with recognised limitations.

Keywords: Tele-clinics, Virtual clinics, COVID-19, clinicians, patients, nurses.

Meghana Taggars, Subba Rao

Kanchustambam

Royal Blackburn Hospital, East

Lancashire Hospital Trust, Blackburn

Meghana.t87@gmail.com

Cite as: Taggars, M.,

Kanchustambam, S.R. (2020)

Telephone clinics – a revisit during

COVID-19. *The Physician* Vol 6; Issue

3: epub 21.11.2020 DOI:

<https://doi.org/10.38192/1.6.3.5>

Article information

Submitted 26.09.2020

Revised 08.10.2020

Published 21.11.2020

Creative Commons Licence v4.0 (CC-BY-ND-4.0)

Introduction:

In 2009, the World Health Organisation (WHO), defined Telemedicine as,

“delivery of health services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for the diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities”.

This definition was adopted by the WHO after a study mentioned 104 different peer-reviewed definitions of telemedicine. Historically, the use of telemedicine can be traced back to 1900s, when telephone wires were used to transmit electrocardiograph data. In its modern form, telehealth is largely driven by its use to military and space technology sectors¹.

COVID-19 has introduced the term “Social Distancing” which along with lockdown rules, restricting travel forced us to adapt to a new way of living. For patients and clinicians, this might not be an ideal scenario. Tele-clinics or Virtual clinics (without physical contact) is one of the many modalities a clinician may need to adapt, in this unprecedented global crisis. Despite the widespread use of social media in daily life and possible benefits, the use of telephones to talk to patients, getting adequate history and the lack of physical examination is not only new but can be considered to be challenging². Based on the United Kingdom National Health Service (NHS) guidelines, our department initiated the tele-clinics without much training, since the outbreak of the Coronavirus pandemic. These Tele-clinics involved new as well as follow up patients. There have been various studies undertaken to explore the usefulness of telephonic clinics for follow-up; however level 1 evidence proving the effectiveness is still lacking.^{3,4} We

conducted a prospective audit in a teaching hospital in the West Midlands, United Kingdom.

Aims & Methods:

The aim of the audit was to assess the user perceptions of the effectiveness of tele-clinics compared retrospectively to traditional face-to-face clinics, based on clinicians and patients' feedback. Feedback data was collected using questionnaires, for clinicians (figure i) and patients (figure ii), based on a Likert scale,⁵ using binary questions. The audit was registered with the audit department at the local trust.

The questionnaires were distributed to clinicians (doctors and nurses) participating in the tele-clinics, opportunistically almost 4 weeks after they were conducted. Patients were then contacted via telephone, by the investigator.

Results:

Questionnaire data was collated from 15 clinicians (8 consultants and 7 registrars) and 12 patients.

Majority of patients (83%) reported overall satisfaction with the Tele-clinics. While just under half-of clinicians (<50%), reported their perception that the Tele-clinics were convenient, flexible and time-efficient. Two-thirds of clinicians felt that Tele-clinics required a lesser proportion of staff to run them, and so were cost-efficient (figure iii).

More than 80% of the patients agreed that the tele-clinics were more efficient. They reported feeling more relaxed taking the call being at home, with no anxiety about reaching on-time, looking for parking and waiting-room delays.

However, 16% of patients expressed feeling anxious, while waiting for the call.

Both patients and 86% of doctors expressed concerns about the lack of a physical examination, as part of the assessment, (figure iv), including the difficulty of assessing performance status over a phone.

Do these virtual clinics accelerate the process of overall management thus getting the endpoint (definitive treatment) early?

Half the responses obtained from the clinicians were positive, with a concern about the possibility of under or over investigating a patient.

'Getting an ultrasound, to confirm an inguinal hernia which can otherwise be diagnosed by physical examination', as stated in one of the responses.

Patient's perspective on the performance of Clinicians?

Most (91.6%) patients expressed satisfaction that their health concerns were satisfactorily addressed by the teleconsultation. They felt the Tele-clinics were time-efficient, convenient, offered flexibility. However, around a third of patients preferred to have met their doctor in a face-to-face clinic, before agreeing their final management plan (figure v).

Is there a place to continue these Tele-clinics once COVID-19 pandemic is over?

Almost 40% of clinicians expressed their willingness to continue while 20% were unsure (figure vi).

Over two-thirds of nurses felt it was less stressful to conduct Tele-clinics, as they did not have to offer the usual explanations for delays in the running of the clinics, or hear about the frustrations for lack of available parking and other similar matters of dissatisfaction. Therefore nurses had time to have natural breaks and finish on time. They felt this was an efficient use of time and resources.

Discussion:

The use of tele-clinics has been in vogue since the beginning of the 20th century, especially for follow-ups. In 2007, Jones et al. conducted a retrospective study to assess the effectiveness and usefulness of tele-clinics for follow up of paediatric patients after adenotonsillectomy⁶. This study reported no additional risk to patients as compared to face-to-face clinics and was also cost-effective.

Our audit demonstrated the patients' perspective on convenience associated with virtual clinics. Sutiono et al, in 2016, demonstrated the feasibility and effectiveness of nurse-led tele-clinics in a prospective study, for follow up after neurosurgical procedures⁷. In 2017, a prospective study demonstrated the feasibility of remote follow-up of patients using tele-clinics after radical treatment of lung cancer.⁸ Pre-operative clinics via telephone have been shown to be effective in reducing anxiety for patients and the frequency of unplanned procedure cancellations.⁹

Our audit demonstrated increased satisfaction from clinic nurses due to clinics running on time, the feasibility of having shift-breaks, finishing their duties on time, and reduced stress from not having to deal with patient complaints. Although limited, literature does state the role of nurses in conducting tele-clinics for follow up of patients in NHS¹⁰.

Clinician feedback suggested that training for an efficient and safe, telephone consultation, as well as skills for appropriate triage of patients to either tele-clinics or face-to-face clinics, would improve their efficiency and effectiveness. This can well be amalgamated with the Royal College of General Practitioners (RCGP) guidance.¹¹

Though the cost analysis per se was not done for the individual clinics, in this audit. The tariff for tele-clinics is different from face-to-face consultations. However, as the organisation (NHS Trust) had a block contract for the outpatient service, this would not affect the income. However, the service expenditure for running face-to-face clinics would be substantially higher compared to tele-clinics, therefore offering a cost-saving. It is cost-efficient to patients as they did not have to travel, pay for fuel, public-transport, pay to park. There would be a reduction in the carbon footprint for the service with its associated benefits from an environmental front. Hence environment friendly. However, the scientific evidence to prove its cost-effectiveness is still lacking.¹² There are models of remote working, where clinical staff, working from home, can access electronic records system and offer the same teleconsultation, offering additional benefits in reducing contact with colleagues and viral transmission in clinical areas.

Video-conferencing might offer some help to clinicians with a physical examination, and this is of proven benefit in dermatological consultations, including the use of remote monitoring with vital signs such as blood pressure, peak expiratory flow, heart rate, pulse oximetry and temperature. Video-conferencing has been established as a clinical tool among surgeons since 1962, when DeBakey demonstrated of open-heart surgical procedure, across several countries by satellite. Video-conferencing is also regularly in use for imparting surgical education and conducting multi-disciplinary team meetings.¹³ However, there are some concerns regarding confidentiality and potential for misadventure, as expressed by the recent guidance by the Royal College of General Practitioners (RCGP).¹¹ Our data demonstrates the use of tele-clinics for new cases, even with suspected cancer, as well as, follow up clinics. The main limitation of the audit was the small sample size. Despite the obvious advantages that Tele-clinics offered to both clinicians and patients, there can be some teething problems, while adopting a new system. Communication can be challenging and inefficient in some cases, eg. for breaking bad news and cancer consultations. Often in multi-ethnic populations, the needs for a translator or hearing impairment in

certain sub-sets of the clinic population can pose hurdles. There were also concerns related to the lack of a physical examination in establishing a diagnosis, thus increasing the possibility of unnecessary investigations or the possibility of missing a critical diagnosis (eg. occult cancer/ organomegaly etc)

Conclusion:

Telephonic consultations are convenient, offer flexibility, are less stressful and appear to be a satisfactory option for patients and clinicians. It can be used as an efficient tool to triage patients suitable for tele-clinics or face-to-face consultation. There are obvious advantages from cost, efficiency and benefits to the environment. The primary limitations are in the lack of a physical examination and the potential for either increased need for investigations or the theoretical possibility of missing a diagnosis. There are risks to confidentiality. With training, appropriate triaging, the addition of video consultations, vital signs monitoring and safety netting (for the potential for missed diagnosis), these clinics are likely to be here to stay. The rapid transformation of organisations across the globe to the adoption of tele-consultations in the face of the covid-19 pandemic has been truly remarkable. Further, large randomised trials are required to draw definitive conclusions.

References:

1. World Health Organisations, 2009. Telemedicine: opportunities and developments in Member States: report on the second global survey on eHealth 2009. Geneva, Switzerland: WHO press.
2. Car J, Sheikh A. Telephone consultations. *BMJ* 2003;326: 966-969.
3. Thompson-Coon J, Abdul-Rehman A, Whear R et al. Telephone consultations in place of face to face out-patient consultations for patients discharged from hospital following surgery: a systematic review. *BMC Health Services Research* 2013;13:128.
4. Newbould J, Abel G, Ball S et al. Evaluation of telephone first approach to demand management in English general practice: an observational study. *BMJ* 2017;358:j4197. <http://dx.doi.org/10.1136/bmj.j4197>.
5. Bertram D. Likert Scales. 2016. Retrieved June 08, 2020 from: <http://my.ilstu.edu/~eostewa/497/Likert%20topic-dane-likert.pdf>.
6. Jones D T, Yoon M J, Licameli G. Effectiveness of Postoperative follow-up telephone interviews for patients who underwent Adenotonsillectomy – A retrospective study. *Arch Otolaryngolog Head Neck Surg* 2007;133(11):1091-1095.

7. Sutiono A B, Faried A, McAllister S et al. The Bandung neurosurgery patient outcomes project, Indonesia (Part II): Patient pathways and feasibility and acceptability of telephone follow-up. *Int J Health Plann Mgmt* 2017. <https://doi.org/10.1002/hpm.2408> [Accessed 20 May 2020]
8. Mathew AS, Agarwal JP, Munshi A et al. A prospective study of telephonic contact and subsequent physical follow-up of radically treated lung cancer patients. *Indian J Cancer* 2017;54:241-252. <http://www.indiancancer.com/text.asp?2017/54/1/241/219599> [Accessed 22 May 2020]
9. Ireland S, Kent B. Telephone pre-operative assessment for adults: a comprehensive systematic review. *JBI Libr Syst Rev* 2012;10(25):1452-1503.
10. Casey RG, Powell L, Braithwaite M et al. Nurse-Led Phone Call Follow-Up Clinics Are Effective for Patients With Prostate Cancer. *J Patient Exp* 2017;4(3):114-120.
11. Royal College of General Practitioners, 2020. *Principles of safe video consulting in general practice during COVID-19*. London: National Health Service. <https://www.england.nhs.uk/coronavirus/publication/preparedness-letters-for-general-practice/> [Accessed 07 June 2020].
12. Hewitt H, Gafaranga J, McKinstry B. Comparison of face-to-face and telephone consultations in primary care: qualitative analysis. *Br J Gen Pract* 2010;DOI:10.3399/bjgp10X501831.
13. Augestad KM, Lindsetmo RO. Overcoming distance: video-conferencing as a clinical and educational tool among surgeons. *World J Surg* 2009;33(7):1356-1365.

Acknowledgements:

We would like to thank all the patients, nurses and practitioners who took part in the study.

Author Contributions:

M Taggarsi and SR Kanchustambam were substantially involved in the conception and design of this study, data analysis and interpretation, and in writing and revising the manuscript. M Taggarsi was substantially involved in running the literature searches, managing the databases and retrieving articles. Both authors have read and approved the final manuscript.

Declaration of conflicting interests: There are no conflicting interests with respect to the research, authorship, and publication of this article.

Funding Source: None with respect to the research, authorship, and publication of this article.

i. Pre-set questionnaire for clinicians

TELEPHONIC CONSULTATION IN SURGERY – AN AUDIT

Consultation done by: Consultant Registrar

Sub-specialty: Colorectal IPIB

Questionnaire:

1. Telephonic consultation is simple, convenient, flexible and less time consuming.

1 Strongly Agree 2 Agree 3 Neither 4 Disagree 5 Strongly Disagree

2. Telephonic consultation reduces requirement of support staff (example: chaperone).

1 Strongly Agree 2 Agree 3 Neither 4 Disagree 5 Strongly Disagree

3. Telephonic consultation is more cost effective.

1 Strongly Agree 2 Agree 3 Neither 4 Disagree 5 Strongly Disagree

4. Telephonic consultation improves patient accessibility (compliance), hence, reduces number of missed appointments.

1 Strongly Agree 2 Agree 3 Neither 4 Disagree 5 Strongly Disagree

5. Telephonic consultation poses a hindrance to a detailed patient history and physical findings.

1 Strongly Agree 2 Agree 3 Neither 4 Disagree 5 Strongly Disagree

6. Information is better perceived by the patient with telephonic consultation as compared to face-to-face consultation (eg: breaking bad news as in cancer, absence of visual cues and context).

1 Strongly Agree 2 Agree 3 Neither 4 Disagree 5 Strongly Disagree

7. Performance status (falty assessment) can be under/over evaluated in Telephonic consultation.

1 Strongly Agree 2 Agree 3 Neither 4 Disagree 5 Strongly Disagree

8. Telephonic consultation accelerates management pathway and shortens time to treatment.

1 Strongly Agree 2 Agree 3 Neither 4 Disagree 5 Strongly Disagree

9. Tendency to under or over-investigate increases, especially in benign cases (example: hernia) when consulted through a telephone call.

1 Strongly Agree 2 Agree 3 Neither 4 Disagree 5 Strongly Disagree

10. How was your overall experience with the practice of Telephonic consultation?

Good Satisfactory Bad

11. You would like to pursue it further even after COVID situation is under control.

1 Strongly Agree 2 Agree 3 Neither 4 Disagree 5 Strongly Disagree

12. What is your opinion on using video conference calls to consult?

13. Would you suggest any actions to improve upon telephonic system of consultation?

14. In your experience, what were the drawbacks in implementing telephonic system of consultation?

ii. Pre-set questionnaire for patients

TELEPHONIC CONSULTATION IN SURGERY – AN AUDIT

Consultation done by: Consultant Registrar

Sub-speciality: Colorectal HPB

Malignancy Benign

1. How was your overall experience with the practice of Telephonic consultation?

Good Satisfactory Bad

2. Is telephonic consultation more convenient than face to face consultation? Yes/No

Elaborate reasons -

3. Telephonic consultation provides more flexibility. Yes/No

4. Did the doctor address your ailment satisfactorily? Yes/No

5. Did telephonic consultation help reduce anxiety of visiting a hospital? Yes/ No

6. Was the management plan well-understood by you as compared to face-to-face consultation? Yes/No

7. Were you more at ease discussing your problems over the telephone call as compared to during a visit to clinic? Yes/No

8. Any problems encountered during the telephonic consultation? Yes/ No

Elaborate –

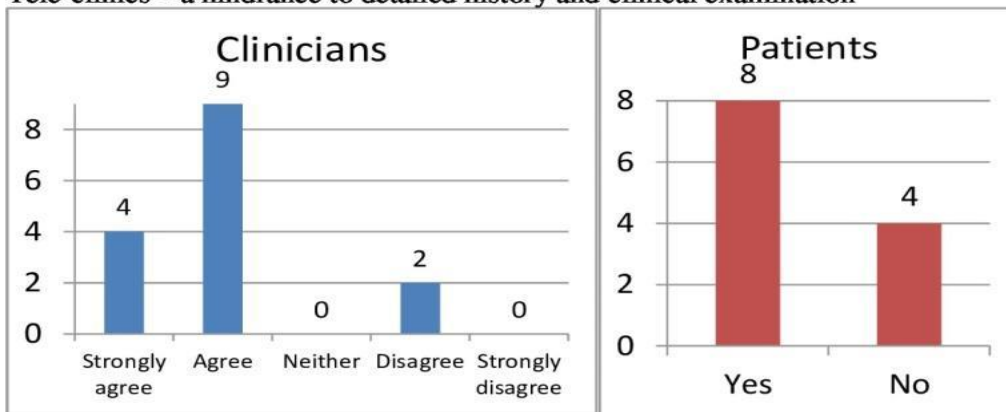
9. Did you receive the consultation call at the specified time? Yes /No

If no – Sooner / Delayed

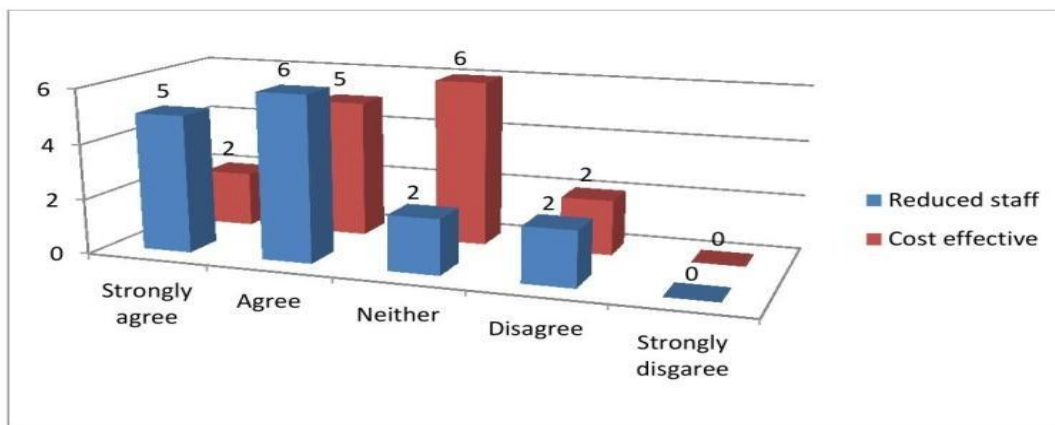
Implications -

10. Would you prefer Telephonic consultation over face-to face consultation in future? Yes/No

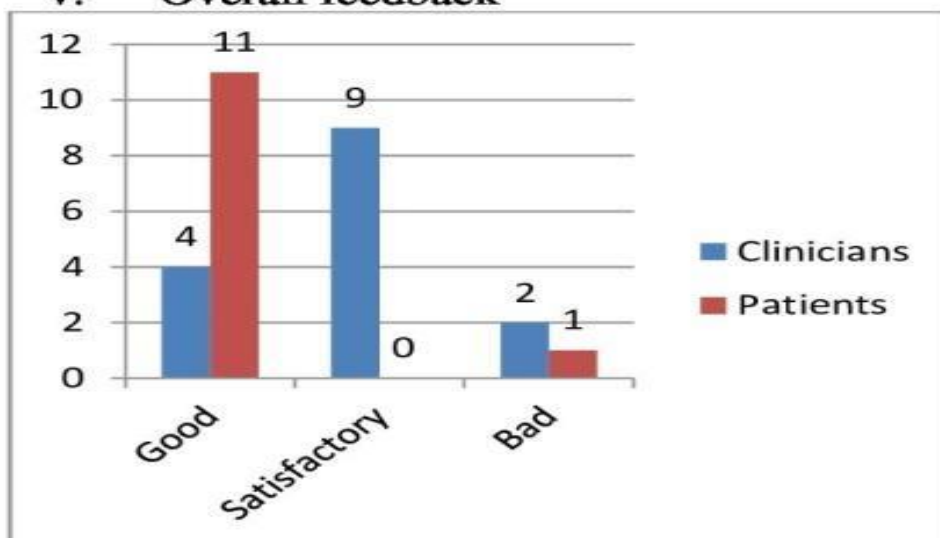
iv. **Tele-clinics – a hindrance to detailed history and clinical examination**



iii. **Telephonic consultation reduces requirement of support staff and is cost-effective**



v. **Overall feedback**



vi. **Telephonic Consultation after COVID situation settles**

