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The role and effectiveness of remote video consultations in burns management – A single-centre experience

In recent years, healthcare has seen a significant transition from face-to-face to telephone and video consultations. This growth in remote consultations has been further accelerated by the COVID-19 pandemic with 'virtual clinics' in an effort to reduce the risk of disease transmission [1].

The St Andrew's Centre for Burns serves a population of 9.8 million and is one of the largest in Europe. Telemedicine has been an integral part of burns care in the South East of the UK for many years via the use of Telemedicine Referral Image Portal System (TRIPS). However, the increased demand for remote consultations during the COVID-19 period has resulted in the uptake of new remote consultation software systems such as AttendAnywhere®: a secure video call system where patients sit within virtual online waiting areas until the healthcare provider is ready to see them [1]. Although remote consultations are generally seen as a safe alternative during the COVID-19 pandemic, objective evidence of clinical or patient perception towards remote consultations is lacking.

The aim of this study was to examine how remote consultations in burns care are perceived by patients and clinicians, respectively.

Between October 2020 and March 2021, 79 patients received a remote consultation in St Andrew's Centre for Burns. During the consultation, an independent observer was present that facilitated the dissemination of the clinician and patient questionnaire. Clinician questions included: ease of communication; the ability to discern scar characteristics such as colour, pigmentation, pliability, height, itchiness, and pain; and whether a preference is present for future remote consultations compared to face-to-face consultations. A Likert scale (1 = very difficult - 5 = very easy) was utilised to express ease of communication whilst a binary system (1 = Yes, 0 = No) was utilised to express whether elements of scar examination could be assessed and preference towards remote consultations in the future. Patient questions included: ease of communication; concerns regarding call

security; preference in favour of or against future remote consultations compared to face-to-face; cost saving for not having to attend hospital; and distance normally travelled to attend hospital. A Likert scale (1 = very difficult – 5 = very easy) was utilised to assess ease of communication whilst a binary system (1 = Yes, 0 = No) was utilised to assess concerns regarding call security and preference towards remote consultations in the future. Cost-saving and distance were expressed as continuous variables.

Results of patient and clinician questionnaires are shown in Fig. 1(a-d). Both clinicians and patients found communication to be easy or very easy, with mean ease of communication at 4.5 ± 1 . Clinicians were able to assess scar colour in 85.5% of patients, scar pigmentation in 82.1% of patients, scar pliability in 67.9% of patients, scar height in 66.7% of patients, scar itch in 84.6% and scar pain in 85.9% of patients. 99% of patients had no concerns regarding security of call. 65.7% of patients stated that they would prefer consultations to be remote in the future. In 67.7% of cases, clinicians stated that they would prefer consultations to be remote in the future.

Our study demonstrates the technical feasibility, clinical effectiveness, and user satisfaction of remote consultations in burns. Notably, we demonstrate the feasibility of burns examination in a remote consultation including the scar characteristics of colour, pigmentation, pliability, height, itch, and pain, which form the integral parts of recognised and validated scar assessment tools such as Patient and Observer Scar Assessment Scale (POSAS) and Vancouver scar scale [2–4]. It is not surprising that user satisfaction and preference for future remote consultations is relatively high: remote consultations aim to offer convenience to patients and reduce the stress and disruption to travelling to health-care setting thus supporting a patient-centred approach, especially at the times of COVID-19 pandemic.

The main benefits of remote consultations are convenience, reduced travel, greater accessibility to specialist

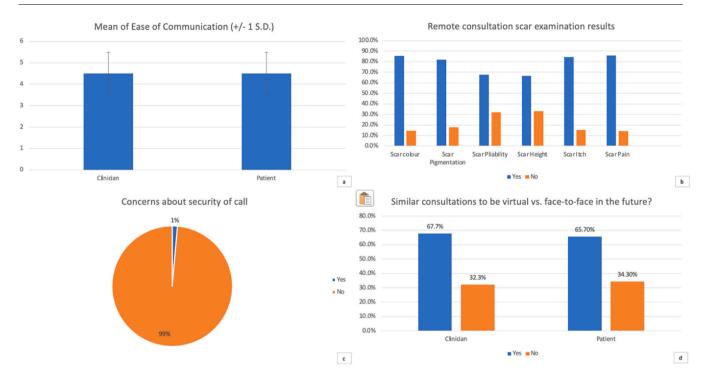


Fig. 1 – (a) Mean of ease of communication (+/- 1 S.D.) from a patient and clinician perspective. (b) Elements of scar examination from a clinician perspective – colour, pigmentation, pliability, height, itch, and pain. (c) Concerns about security of call from a patient perspective. (d) Preference on similar remote consultations in the future from a patient and clinician perspective.

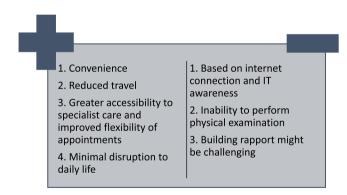


Fig. 2 – Advantages and disadvantages of video consultations.

care and improved flexibility of appointments that cause minimal disruption to daily life (Fig. 2) [5,6]. However, the quality of the remote consultation is based on technical feasibility and internet availability. This might prove to be a challenge for some patients. Our results are encouraging but are not in themselves proof that such remote consultations are always practical, safe or that they should replace face-to-face consultations. That said, it may prove an invaluable resource in long-term burns follow-up given prudent patient selection and informed decision making. Given the paucity of data in this field, further studies are required to formally validate this relatively new practice so that we can give colleagues and most importantly patients, confidence that it still constitutes high quality care.

Conflict of interest

I confirm no conflicts of interest and no source of funding regarding the manuscript.

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REFERENCES

- [1] NHS, Attendanywhere. (https://nhs.attendanywhere.com/callers/Content/J_Callers/Caller_PatientInformation.htm) (accessed 25 September 2021).
- [2] Sullivan TA, Smith J, Kermode J, McIver E, Courtemanche DJ. Rating the burn scar. J. Burn Care Rehab 1990;11(3):256-60.
- [3] Draaijers LJ, Tempelman FR, Botman YA, Tuinebreijer WE, Middelkoop E, Kreis RW, et al. The patient and observer scar assessment scale: a reliable and feasible tool for scar evaluation. Plast Reconstruct Surg 2004;113(7):1960-5.
- [4] Van De Kar AL, Corion LU, Smeulders MJ, Draaijers LJ, van der Horst CM, Van. Reliable and feasible evaluation of linear scars by the Patient and Observer Scar Assessment Scale. Plast Reconstruct Surg 2005;116(2):514–22.
- [5] Morris J, Campbell-Richards D, Wherton J, Sudra R, Vijayaraghavan S, Greenhalgh T, et al. Webcam consultations for diabetes: findings from four years of experience in Newham. Pract Diab 2017;34(2):45–50.

[6] Haig-Ferguson A, Loades M, Whittle C, Read R, Higson-Sweeney N, Beasant L, et al. "It's not one size fits all"; the use of videoconferencing for delivering therapy in a Specialist Paediatric Chronic Fatigue Service. Internet Interv 2019;15:43–51.

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