The introduction of podiatric telemedicine for wound care management – an alternate model of care

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ABSTRACT

Telemedicine has been a fundamental component of healthcare for many decades, although its widespread adoption significantly accelerated during the COVID-19 pandemic. This unprecedented global health crisis compelled healthcare institutions to rapidly innovate and shift to remote care options, highlighting the potential of virtual healthcare delivery. This article seeks to look at the emergence of podiatric telemedicine for the management of high-risk feet as an alternate model of care to help reach more high-risk patients in a timely manner. By concentrating on this specific field, we aim to put forward the implementation of podiatric telemedicine as a viable supplementary service for high-risk patients. Researchers and healthcare professionals should work towards implementing such services aimed at preventing complications in the high-risk foot by offering timely care and advice.

Keywords telemedicine, podiatry, wound management

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KEY MESSAGES

- Podiatric telemedicine possesses considerable potential for the management of the 'at-risk' foot.
- This commentary aims to put forward the implementation of podiatric telemedicine as a viable supplementary service for high-risk patients.
- Podiatric telemedicine can be considered as an opportunity to advance the study of telemedicine practices in podiatric care delivery and potentially improving care and treatment for the at-risk foot.

INTRODUCTION

In a rapidly advancing technological landscape, healthcare systems must adapt to the evolving environment in which they function and strategically leverage the advantages presented by the digitalisation of society and other innovative frontiers.[1] The integration of telemedicine into podiatry, signifies a notable advancement in the delivery of podiatric care.[2] This transition, highlighted by the establishment of a podiatric telemedicine framework,[3] is particularly pertinent for primary care settings, where its adoption and implementation are increasing. The urgent demand for accessible healthcare solutions, exacerbated by global disasters like the COVID-19 pandemic, has underscored the unexploited potential of remote podiatric consultations for follow-up care.[2]

Therefore, awareness of the rising incidence of the at-risk foot, characterised by one or more risk factors such as peripheral neuropathy, peripheral artery disease, or foot deformity, necessitates proactive measures to avert preventable complications in individuals with diabetes, including ulceration and potential amputation.[4] Recent statistics indicate that in 2021, the global prevalence of diabetes was approximately 537 million adults, projected to rise to 783 million by 2045. The estimated global prevalence of diabetic foot ulcerations among individuals with diabetes ranges from 6% to 10%, with elevated rates noted in regions with insufficient healthcare systems.[5] These figures recognise that diabetic wounds represent a substantial healthcare economic, and social burden that can significantly affect quality of life.[6]

As a result, managing patients classified as having an at-risk foot necessitates ongoing surveillance, placing considerable pressure on healthcare resources and treatment strategies.[7] For some years, research has been conducted in telemedicine for foot and ankle wound management[8,9,10] mainly involving nurses, and less frequently podiatrists although the latter are involved in the daily treatment of the at-risk foot. A recent meta-analysis showed positive results for telemedicine in certain domains. In the four small-sample studies that met the criteria for inclusion, although there were no significant differences in the rates of healing (4 studies), time to heal (3 studies), or death rates (3 studies), the rate of amputation (3 studies) was significantly different.[11] Hence, in view of recent literature, we believe that podiatric telemedicine has much to offer in terms of managing the at-risk foot in relation to wound management, since podiatrists encounter such scenarios daily. We believe that podiatrists should engage more directly in telemedicine and explore novel approaches to provide podiatric care, encompassing both in-person treatments and preventive care through remote modalities.

INTRODUCING PODIATRIC TELEMEDICINE FOR WOUND CARE MANAGEMENT

Telemedicine has significantly altered communication and the provision of medical care, presenting an opportunity to

explore how this modality can enhance the management and treatment of the at-risk foot, while also addressing the potential challenges associated with virtual care. It is imperative that new healthcare services are meticulously strategised and deliberated, considering not only the viewpoints of policymakers and healthcare providers but also the perspectives of service users, as they are the ultimate beneficiaries of these services aimed at delivering optimal care for patients. Furthermore, we contend that this discussion should focus on a comprehensive strategy to explore methods for delivering equitable care for all, creating paths to avert medico-legal complications, and propose that the research leading in such domain is than reflected into clinical practice.

Accessible care by breaking barriers

Podiatric telemedicine, a relatively nascent discipline, can be delivered mainly through synchronous and asynchronous methods.[2] Whereby, telemedicine is recognised for minimising time and travel costs, particularly due to the widespread use of telephone, smartphones and computer devices that facilitate remote communication.[12,13] Therefore, evolving communication technology, enhances the different modalities of care delivery particularly by offering accessible podiatric care which can improve patients' quality of life. Moreover, patients who have access to digital devices can disseminate wound images by sending them online to their clinicians. However, it is important to acknowledge that sharing visuals has limitations, as these images may occasionally be of substandard quality, preventing the clinician from reaching a judgement. This can be attributed to several factors, including subpar camera quality and/or insufficient individual photographic skills.[14]

Additionally, technological limitations are not solely linked to visual quality. A recent study indicates the necessity of providing telephone-only telehealth options to mitigate healthcare disparities affecting both in-person and virtual care, as individuals from lower-income and older demographics were less inclined to participate in care when solely virtual options were available, yet exhibited a higher propensity to engage in care delivered via telephone.[15]

The medico-legal dimension

Medico-legal considerations must not be disregarded since these policies are crucial for ensuring the effective and safe operation of telemedicine practices. Healthcare professionals must possess expertise in medico-legal matters to comply with legal and ethical standards, protect patient confidentiality, and uphold a high standard of care in telemedicine procedures.[16] Consequently, informed consent about the risks and benefits of remote treatment is an essential consideration in telemedicine practice. It can be related to autonomy; patient privacy and confidentiality; data protection and security; malpractice and professional liability/integrity; equity of access; quality of care; the professional-patient relationship; and the principle of beneficence.[17] This prompts clinicians and researchers to recognise that the ethical and legal concerns associated with telemedicine require standardised and specific regulations for best practice and to correspond with overarching public health goals.[18] This has also been identified in a recent scoping review that sustained that the contactless nature of telemedicine consultations and the potential absence of continuity of care may hinder clinicians from fully comprehending the patient's medical and familial history, ultimately resulting in less effective care and increased patient suffering.[19] Therefore, these obstacles, together with their ethical and legal ramifications, must be taken into account while executing telemedicine consultations within an already established service.[19] As a result, it is recommended that robust guidelines are established to aid clinicians in overcoming these barriers by providing explicit instructions for conducting remote consultations for the at-risk foot, in terms of wound management, thereby minimising inappropriate and ineffective interventions and, crucially, preventing harm to patients.

Where research and practice converge

From our present clinical and research perspective, the potential of telemedicine in podiatry is promising. There is potential for research and clinical implementation as it is a domain that is still growing. This leaves room for new collaborations for research purposes and for incorporation into practice. Engagement of stakeholders in the dialogue is essential to ensure that the evolution of podiatric telemedicine is both patient-centered and responsive to the diverse needs of the population. In addition, ensuring that clinicians are supportive and confident in the service is paramount.[3] Consequently, advancing and standardising podiatric telemedicine is essential, as this service significantly benefits patients who do not require in-person treatment, and only need close monitoring, one-to-one education and prompt guidance.[3] While advancing podiatric telemedicine services, via a framework for low-risk patients needing foot and ankle care, already exists,[3] we advocate for the development of comprehensive guidelines specifically for at-risk feet, focussing on wound management. Furthermore, it is essential to prioritise mitigation strategies to minimise healthcare inequities, highlighting the necessity of outreach initiatives that engage all stakeholders, particularly service users. Health literacy is essential; this service not only offers remote podiatric care, but also fosters better patient self-care.

Interdisciplinary approaches in wound care management

Although it is beyond the scope of this manuscript to provide an exhaustive account of the diverse clinical professionals involved in wound care management, it is nonetheless important to acknowledge the crucial role of interdisciplinary collaboration in effectively treating wounds. In areas where podiatrists may not be readily available, other allied health professionals or nurses fulfil equivalent roles. Accordingly, the guidance and insights outlined in this paper remain applicable and pertinent across varied healthcare contexts.

CONCLUSION

In conclusion, podiatric telemedicine possesses considerable potential for the management of the at-risk foot. The current situation indicates that podiatric telemedicine is a promising area worth for further investigation with regards to outcomes in the 'at risk' foot. Healthcare professionals should not be overwhelmed when exploring innovative service delivery; hence, we must not wait for another healthcare crisis to explore alternative options for providing podiatric consultations beyond our clinics. Consequently, we consider this as an opportunity to advance the study of telemedicine practices in podiatric care delivery and their potential to improve care and treatment for the at-risk foot.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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