**Abstract title:**

Understanding Lived Experience of Diabetic Peripheral Neuropathy to Guide Technology Innovation

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Aim: Diabetic Peripheral Neuropathy (DPN) imposes a significant physical and financial burden globally, with millions affected by this debilitating condition. Despite its prevalence, effective treatments remain limited. With rising incidence, the development of new interventions must involve experience-based co-design, engaging those with lived experience of DPN. This study aimed to gain a deeper understanding of the experiences of individuals living with DPN and treating clinicians as these pertain to development of new technology.

Method: A qualitative research design was employed using semi-structured interviews with 9 individuals living with DPN and 11 clinicians. The interviews were conducted via Zoom teleconference, which were audio-recorded, transcribed, and analysed thematically using Braun and Clarke’s six-step approach.

Results: For patients living with DPN, motivation to seek solutions was linked to experience of DPN symptoms and consequences. Neuropathic pain emerged as a primary factor impacting quality of life. Fear of disease progression, including amputation and loss of autonomy, was prevalent and cause of anxiety. Clinicians reported limitations of current treatments and lack of health literacy in relation to DPN, particularly the individuals’ lack of awareness of their neuropathy and the possible sequelae. Motivation to follow care plans was deemed low, particularly in the high risk public patient cohort, driven in part by lack of curative treatments and feelings of resignation. A common theme that emerged is the heterogeneity of the DPN population across stage of DPN, symptomatic impact, socio-economic status, motivation and health-literacy.

Conclusion: The research bridges the gap in understanding the primary concerns of individuals with DPN and medical professionals. It highlights the motivation, priorities and clinical realities of care provision for DPN. In particular, developers of new technologies should be aware of the heterogeneity of the DPN population from those oblivious in the early-stages to those resigned to consequences in later stages.