Variations in the referral of people with diabetic foot ulceration for specialist management: are we missing something?

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Article points

1. Variations in the referral of people with diabetes and foot ulceration are seen at international, national and individual referrer levels.
2. Previous research has concentrated on quantitative analysis to highlight this issue and suggest solutions.
3. Employing in-depth qualitative methodologies could increase the possibility of extending the evidence base on the phenomena of referral variation.
4. This would assist effective design and evaluation of initiatives aimed at reducing referral delay.

Key words

- Decision making
- Delay
- Influence
- Referral
- Variation

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For over three decades, there has been growing evidence that the delayed referral of people with diabetes and foot ulceration to specialist multidisciplinary teams (MDTs) for the management of this condition negatively impacts on its outcomes (MacFarlane and Jeffcoate, 1997; Prompers, 2008; National Diabetes Footcare Audit, 2019). There are continuing calls for this issue to be addressed by way of the implementation of educational strategies (Garcia-Klepzig et al, 2018), refining referral pathways (Meloni et al, 2019) and simplified access to facilities offering specialist MDT care (Barker, 2015). However, extant studies often lack full explanations as to why referral timeframes vary at international, national and individual referrer levels. One reason for this may be the absence of in-depth qualitative data obtained from the multiple healthcare professionals to whom people first present with this condition. This pilot study highlights the need to consider perspectives of referrers when attempting to explain differences in referral timeframes across differing healthcare contexts.

Variations in referrals to specialists have been investigated since the 1960s (Wilkin and Smith, 1987). Despite calls for explanations of this phenomena it appears that the multiple component interactions leading to disparities are still yet to be fully understood (Appleby et al, 2011). While it is known that not all referral variation is unacceptable and unwarranted, due to local factors and case-mix (Sullivan et al, 2005), in the field of diabetic foot disease this variation is usually discussed pejoratively and in the context of delayed referral (Manu et al, 2018).

In terms of specialist referral, diabetic foot ulceration can be considered a unique condition as it alone fulfils the following criteria:

- Guidelines exist for referral timeframes for specialist management which span international contexts (NICE, 2016; SIGN, 2017; International Working Group on the Diabetic Foot [IWGDF], 2019; Meloni, 2019)
- Optimal care is recognised by the MDT, but multiple referral options are available
- No pre-diagnostic tests, other than confirmation of diabetes, are required for urgent referral
- GPs are not the sole referrers to specialists.

Pan-European studies identify the knowledge and perceptions of diabetic foot ulcer care of GP referrers (Manu et al, 2018) and explore differences in national healthcare structures on foot ulcer management (Prompers et al, 2008) that may influence referral practices. Substantiating previous theories on the cause of referral delay, Connelly (2001), Krishnan (2008) and Wise (2016) postulate it is a lack of referrer knowledge that leads to disparities in care. Such studies have resulted in continued calls for the development of interventions aimed at delivering training to those tasked as gatekeepers to specialist care services.

Undoubtedly, all strategies implemented will be of benefit in raising the awareness of non-specialists of the need for prompt referral. It may be argued, that the predominance of quantitative inquiry means that the consideration of 'how much'

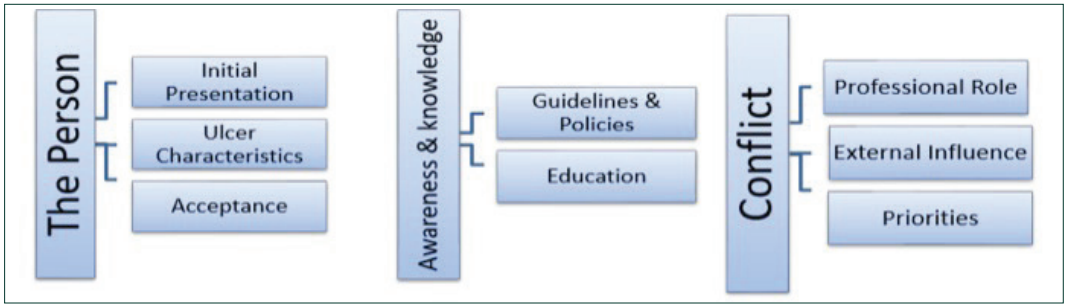

Figure 1. Themes and sub-themes.

variation significantly outweighs that of the 'how' and 'why' they occur (Vandermause et al, 2017). This can be seen as particularly important when considering as a whole, the influences on referral that local, organisational and national policies have on individual decision making. A lack of recognition of these factors could lead to educational initiatives being less effective in certain settings and with outcomes differing between healthcare professions. This study was designed to be a pilot project conducted to inform the development of a full PhD research proposal. Due to the paucity of knowledge of how and why individual referrers make decisions on when to refer someone with diabetes and a foot ulcer for ongoing specialist management, it was decided that a qualitative approach would be the most appropriate method to employ.

Aims

The primary aim of this study was to explore healthcare professionals' reasons for referring or not referring diabetic foot ulceration to a secondary care specialist outpatient clinic. A secondary aim was to explore if these influencing factors varied among different healthcare professional groups.

Methods

Participants were purposively selected from healthcare professionals who referred people with diabetic foot ulceration to one outpatient secondary care-based specialist MDT. Contact with potential participants was made via a standard worded email or in person at professional meetings.

Ethics

Ethical approval was granted by the University of Nottingham's ethics committee with local approvals being sought from a community healthcare organisation and two clinical commissioning groups.

Data collection

Qualitative data collection was carried out using face-to-face semi-structured interviews, which took place at the participant's place of work. Five healthcare professionals participated in the research; the characteristics of these is shown in *Table 1*. Interviews were recorded after gaining informed consent and were transcribed verbatim prior to thematic analysis, as advocated by Braun and Clarke (2006). This entailed the production of codes from the interviews; codes being the most basic element of the data that can be expressed meaningfully. Collating these codes, broader themes and subthemes were developed to allow for the manageable reporting of the findings.

Findings

Three main themes were identified from the interview data: Awareness and Knowledge, The Person and Conflict. These were further divided into sub-themes as shown in *Figure 1*.

Theme 1 — the person

Subtheme — initial presentation

To whom a person with diabetes and a foot ulcer might first present was described as varying, with little consistency reported by the participants as to who would make an initial assessment.

Podiatrist 2 explained: "Sometimes they've already been seen by the practice nurse or a district nurse [and] sometimes they will wait until they have an appointment here." Meanwhile, the practice nurse (PN) stated: "They would go to the doctor first."

Subtheme — ulcer characteristics

It appeared that, in terms of ulcer characteristics, the decision of an "appropriate" pathway may be based not only on the ulcer's severity but also the

Table 1. Participant characteristics — Professional Experience 6–35 years.

Number of participants	Profession	Care setting	Report code
2	Podiatrists	Community Trust	Podiatrist 1 & 2
1	General Practitioner	Primary Care	GP
1	Practice Nurse	Primary Care	PN
1	Treatment Room Nurse	Community Trust	TRN

Table 2. Contextual level influences (adapted from Ong et al (2014).

Contextual level	Examples of influences
Macro	Regulatory frameworks, policies, guidelines, referral management initiatives
Meso	Practice structure, available facilities, management.
Micro	Individual decision processes, relationship with other healthcare professionals, perception of role.

assessment as to the likelihood of deterioration. Those who had suffered from past ulceration were deemed by all the participants to be at far greater risk and, hence, most in need of a specialist referral.

Podiatrist 1 said: "I'd be more inclined to refer because of their history. I wouldn't hang around if they'd had one before."

Subtheme — acceptance

Only one participant spoke of a patient's reticence at being referred to the MDT and this was due to comorbidities and transport issues. Most were keen to stress that those they wished to refer were pleased to attend, whether they had been referred in the past or not. The treatment room nurse (TRN) said: "Some have never heard of it, but no one says I'm not going."

Theme 2 — Awareness and Knowledge

Subtheme — education

The participants spoke of increasing the awareness of other healthcare professionals as to the seriousness of the condition and referral processes, they should follow. Both participants from primary care settings spoke of factors associated with practice employees receiving education regarding foot examinations. PN explained: "The nurse above me trained me, but nothing about ulcers. It's weird."

The GP pointed out that he thought practices often looked at the "return" of the attendance of educational sessions offered in light of time constraints and surgery workloads.

While the awareness and implications of not referring cases of foot ulceration to the MDT were shown by the participants, they did not see all professionals as being equally adept at referring in a timely manner.

Tcording to the TRN: "The knowledge of foot ulcers is very poor in nursing. There is no education in feet unless you want to specialise ... it's amazing how many professionals don't refer. They patch them up, but don't tend to refer to the hospital though."

However, participants also contradicted their perception of themselves as someone who referred without delay by using statements such as: "It depends on how bad a hole it is, thinking about all those risk categories — how quickly I act ... in other words, is this something we might be able to manage in-house if its minor or is it something that needs to go to the locality podiatrist or is it something that needs immediate referral through to foot clinic?" (GP). Meanwhile, the PN said: "Does it have to be really bad to refer? I don't know?"

Subtheme — guidelines and policies

The theme of education being required across professions did not link to participants own knowledge of guidelines and policies, both local and national. Only one participant making mention of the referral criteria stated in NICE NG19 (NICE, 2016), while others stated no awareness of any guidelines. The TRN stated: "There are no guidelines. I think it would be a good idea to have some kind of flow chart."

Theme 3 — conflict

Subtheme — professional role

Perceptions of professional roles appeared to play a large part in decisions made in referral pathways. Community podiatrists working outside of the MDT saw themselves very much as non-specialists and referred all diabetic foot ulceration to the specialist team, but their comments and that of other participants suggest not all healthcare professionals viewed them this way. The PN said: "Even podiatry are getting strict on referrals. Elderly

people can't go, but they still see diabetic foot ulcers." Podiatrist 1 asserted: "They seem to think 'oh Podiatry first' and no-one thinks to send direct to the foot clinic, like yesterday, so why am I the middle link?"

Subtheme — external influences

Rhetoric surrounding referrals to secondary care in general appeared to cause conflict and influence decision making, this was exemplified in statements made by the two primary care participants. The PN said: "So you can see it from our point of view. I even think that all the time you're getting measured on referrals, keep them down, keep prescription costs down and all that." The GP stated: "Not with the foot clinic but other specialities referrals get bounced back because they don't think 'we've not done everything they think we should have done'."

The PN added: "But it has always been seen if it's not too bad, not too broken down. If it's manageable, you want to keep [the patient] out of secondary care … by not handing them over, we are keeping them in the community aren't we, like we are told to?"

Mention of referral management initiatives influencing referral decisions were not similarly made by those working within the community care Trust. It was also clear that perceptions of the MDT workload had implications on the thought process of those considering a referral. The TRN explained: "Maybe if there was more knowledge more referrals would take place … but I know they are very busy anyway though."

Subtheme — priorities

Conflicts of priority were also noted by some participants which could indicate that feet were perhaps seen by some as a secondary concern to that of, perceived, more life-threatening issues. The GP said: "We are high pressured — that's a huge constraint, so you could be seeing someone with diabetes and never get round to looking at their feet."

The findings suggest that multiple factors influence referrer's decision making on the timeframes of ulcer referral, along with their choice of referral destination. This underlines the importance of considering how much variation in referral timeframes for specialist care occurs along with why it does so. Participants voiced perceptions of which professional should manage a foot ulcer, awareness of initiatives aimed at reducing secondary care referral per se, and the impact of differing facilities and ethos of the healthcare setting people worked in. Factors reported to influence referral decisions and referral practice are broad and are shown in *Table 2*.

Discussion

The findings highlight the need to appreciate the multitude of factors that can affect referrers' decision processes, not only at the level of the individual. They also indicate that different healthcare professionals may experience differing influences.

Undoubtedly, those being interviewed could have felt they were being judged due to the authors' professional role. Despite this, there were many statements in the interviews which could be considered as 'negatively' influencing their referral timeframes. This goes some way towards highlighting the complexities surrounding referral variations, which may even exist outside the awareness of referrers themselves.

In this research locality, any healthcare professional can refer to the specialist MDT; and yet the most cited reason for not being eligible to be interviewed was that they always referred cases of foot ulceration to other non-specialists. This would seem to add validity to the statements made by participants interviewed who gave their opinions that referrals other than to an MDT regularly occurred.

Limitations

This was a small, local study conducted in a predominantly non-rural area with a central MDT location served well by public transport. The sample did not include a district nurse, which may have resulted in more person-related factors influencing referral decisions being found.

Conclusion

This study has found the levels and variation of influences on referral to be multiple and complex. It highlights factors that previous research has failed to consider and yet may be important for future research into designing interventions aimed at reducing referral delay. Further evidence is required, in order to develop a broader picture of this issue, with the inclusion, for example, of patient and

Clinical Commissioning Group-level data, as well as wider geographical contexts. While the goal of this work is not to produce statistical generalisability or prediction, it should be judged by those wishing to consider the findings, in terms of applicability to their own circumstances (Wynn and Williams, 2012). With this in mind, it is hoped that the contribution of this modest piece of research goes some way to shedding light on the complexities of the causes of delayed referral of diabetic foot ulceration. ■

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