

Exploring patient experiences of diabetes education to reduce foot complications as part of a service evaluation: qualitative, focus group methodology

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Key words

- Diabetes
- Diabetic foot complications
- Education
- Patient perspective
- Podiatry

Article points

1. The need for individualisation of education packages, in terms of delivery method, content and timing, was a commonly expressed view.
2. The potential need to educate family and carers to support individuals with self-care requirements was highlighted.
3. Further research is required into the impact of social media for peer support and education dissemination.

Authors

Author details can be found on page 2

The provision of foot care education for patients with diabetes is recognised in national and international guidelines as important for the prevention of foot ulceration. However, guidance as to the content, context and delivery method of foot care education is sparse. A patient and public involvement consultation was conducted to explore patient perspectives towards foot care education strategies within a community podiatry setting. Five individuals with diabetes, who receive foot care from community podiatry, participated in a moderated focus group. Thematic analysis produced three themes: format, timing and audience, with an overarching theme of individuality of provision. Recommendations from this service evaluation are that family and carers should be included in education package re-design and development, personalised content at diagnosis, provided in varying formats and strategies. Key areas for further investigation included the need for peer support and social media as a tool for information dissemination.

The provision of timely and relevant foot care education to individuals with diabetes is recognised as an important foot ulceration prevention tool (Schaper et al, 2020). The National Institute of Health and Care Excellence (NICE) National Guideline 19 (NICE, 2015) for foot management in diabetes recommends written and verbal foot care education is provided at diagnosis, annually and as foot problems arise according to foot risk status. Education should be provided for basic foot care, emergency escalation information, footwear, individual risks and the importance of managing diabetes. However, there is evidence that providing education targeting high-risk foot complications for those at lower risk potentially provides preventive benefits (McInnes et al, 2011).

The literature recognises that there is insufficient evidence to recommend specific educational approaches (Dorresteijn et al, 2014). This results in

variability in the delivery and content of foot care education packages in preventing foot ulceration. In the absence of defined criteria, clinicians often provide a variety of educational information based on experiences, local standards and available material.

Torbay and South Devon NHS Trust (TSDFT) Podiatry department currently provide education at clinical appointments, in verbal and written form. The material provided is tailored to the individual's diabetic risk status, according to NICE NG19 (NICE, 2015). To assess the quality of the education provided, an in-house questionnaire was completed ($n=110$). This highlighted gaps in patient knowledge, including basic emergency wound care and how to access the service in an emergency. A service improvement model has been applied to assess the department's provision of foot care education further. A focus group was held with patients with diabetes to explore their experiences of receiving foot health

education provided by the department and make recommendations for change.

Aim

The aim of this study was to explore patient experiences of diabetes education, to guide and inform the re-design of foot care education strategies and materials provided by TSDFT community podiatry.

Methods

For this project, a patient focus group method was selected, as it provides the opportunity to collect the views from multiple participants at the same time (Braun and Clarke, 2013). Including the target audience in the development of materials or strategies is valuable, as people living with the condition can offer different perspectives and ideas not apparent to healthcare professionals (INVOLVE, 2012). Volunteers, selected from the TSDFT podiatry department caseload according to the inclusion/exclusion criteria (Table 1), were invited to attend.

Potential participants (n=10) were sent invitation letters, along with an information pack including: focus group aim, questions, rules and sample education materials, including videos, written information and photos.

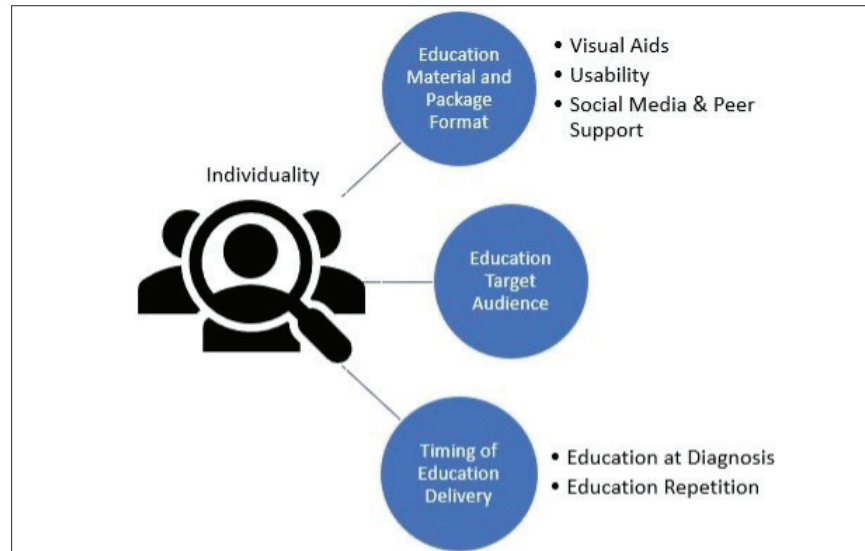
The focus group was conducted in an informal, non-clinical room within an outpatient setting. Five individuals attended (two females, three males), all over 55 years old, with peripheral sensory neuropathy, long-standing diabetes and an active foot problem.

Data collection

Prior to the focus group, a number of semi-structured, open-ended questions were outlined:

- What format of written materials do you prefer?
- How do you react to videos and shock value pictures?

Table 1. Patient focus group inclusion and exclusion criteria.	
Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> • 18 years of age or older 	<ul style="list-style-type: none"> • Aged under 18 years of age
<ul style="list-style-type: none"> • Capacity to consent 	<ul style="list-style-type: none"> • Lacks capacity to consent
<ul style="list-style-type: none"> • Medically recorded type one or type two diabetes mellitus diagnosis 	<ul style="list-style-type: none"> • No recorded medical history of diabetes or other form of diabetes (i.e. not type 1 or 2)
<ul style="list-style-type: none"> • Existing podiatry patient 	<ul style="list-style-type: none"> • New podiatry patient
<ul style="list-style-type: none"> • Previously received podiatry education 	<ul style="list-style-type: none"> • No previous podiatry education



- At what stage should information be provided?
- How detailed should information provided be about diabetes complications and ways to reduce ulceration risk?
- How can podiatry improve the current patient education package?

One focus group, lasting 1.5 hours, was conducted. To improve credibility, the session was moderated by a clinician experienced in overseeing focus groups, with an interest but no direct involvement in the education project. A facilitator was also present, recording field notes. The session was audio-recorded, manually transcribed verbatim, then the recording was deleted.

Analysis

Thematic analysis was applied as described in Braun and Clarke (2006). Data coding and theme categorisation were completed using NVIVO (QSR international, 2019) computer-based programme. To increase result credibility, the data was originally coded separately by the moderator and facilitator;

Figure 1. Theme and sub-theme representation.

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following initial coding, comparison was made and themes agreed.

Reflexivity

The facilitator is female, new to qualitative research methodology, an experienced diabetes podiatrist and has topic interest. The moderator is male, a National Institute of Health Research doctoral research fellow, with a clinical speciality in musculoskeletal podiatry. Clinician/patient relationships were present between the facilitator, moderator and group members. Additionally, a working relationship between the facilitator and moderator was present. These relationships potentially lead to bias.

Ethical considerations

The work was as conducted as the patient, public involvement element of a service evaluation project, therefore, ethical approval was not required. However, ethical considerations were applied to focus group members and their data. All group members were informed by letter of the aims and objectives. Group members could leave the group at any time, without providing a reason, without impacting their NHS treatment. All group members were asked to respect discussion confidentiality, both throughout and after the session. All group members consented to session recording prior to commencing. Once fully transcribed, the recording was deleted. Confidentiality and anonymity of all group members was maintained throughout and any quotes utilised are anonymised.

Results

Thematic analysis identified 60 quotations, divided into five sub-themes, clustered into three parent themes (Figure 1).

Additionally, individuality was an overarching theme traversing all themes. Each participant had been affected by diabetes differently, developing their own methods for disease management (Figure 2).

Education target audience

Throughout the session, group members emphasised that they were generally the education recipients. Group members were clear that patients should not be the sole target audience, but that family and carers should be also included, as they were vital in helping with foot care provision. The importance of these

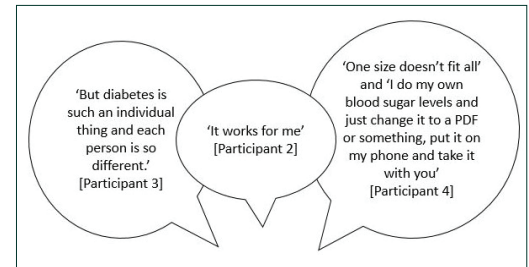


Figure 2. Quotes to support individuality as overarching theme.

individuals having correct and appropriate education was evident throughout (Figure 3).

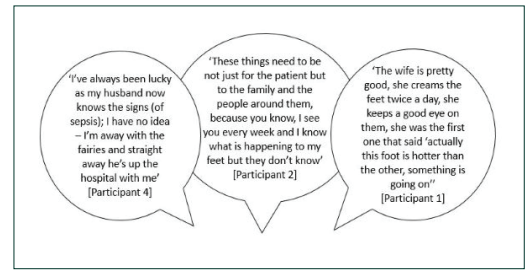


Figure 3. Quotes illustrating family/carer involvement.

Education material and package format

Discussions regarding education format provided three sub-codes: visual aids, usability, social media and peer support.

Visual aids

The use of videos to deliver self-care education was positively received (Figure 4). Additionally, the use of photographs depicting diabetes associated foot complications provided varied discussion, as well as emotional responses. Although the photographs produced strong emotional reactions, the group felt that this was necessary to allow complication awareness.

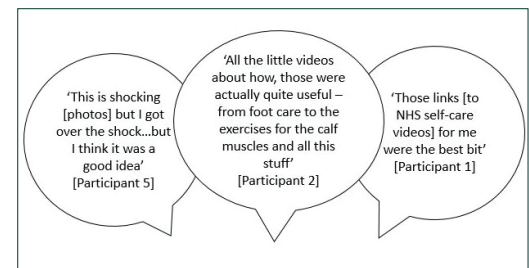


Figure 4. Quotes supporting experiences for visual aids.

Usability

Providing materials that were appropriate to individual needs or had the potential to be individually adapted was highlighted by multiple group members (Figure 5).

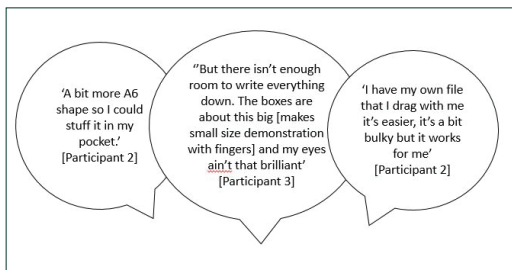


Figure 5. Quotes supporting experiences for individuality of materials.

Social media and peer support

Social media was discussed as an information source and peer support provider. The group expressed that social media groups could provide a good platform for peer support, however, stated reservation regarding the relevance and accuracy of the information provided (Figure 6).

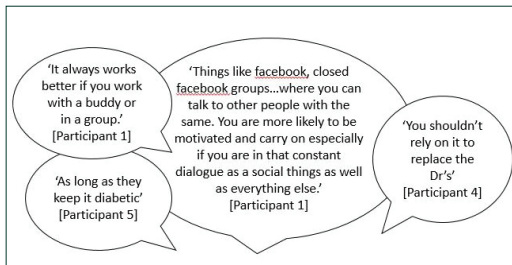


Figure 6. Quotes supporting experiences for social media and peer support.

Timing of education delivery

The timing of receiving education was highlighted as particularly significant to group members. This was divided into two distinct codes: education at diagnosis and education repetition.

The majority of group members stated that they would like the education material early following diagnosis (Figure 7). All of the participants felt that information received should have been reinforced throughout their management (Figure 8).

Discussion

The ability of patient education to contribute to foot

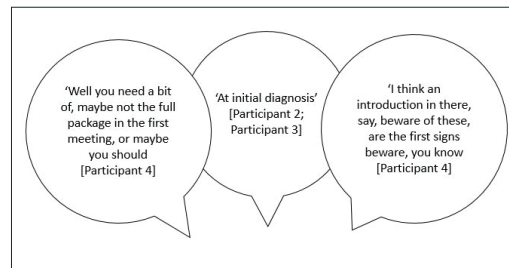


Figure 7. Quotes supporting experiences for timing of foot care education provision.

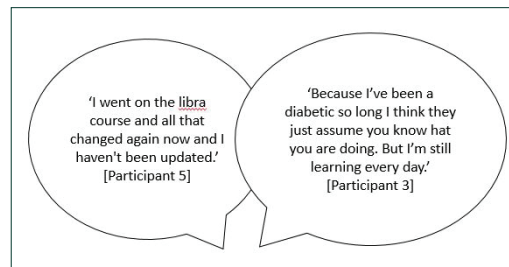


Figure 8. Quotes demonstrating repetition of information.

ulceration and amputation associated with diabetes, despite regular provision, remains uncertain for healthcare professionals and patients alike. This focus group highlights several areas where education strategies could provide more tailored patient education. Throughout the session, emphasis was placed on the individuality of both the effects of diabetes as a disease and the strategies employed by those living with it. There was clearly a desire for patient-centred education, tailored to individual needs, which is reflected in the literature (Kent et al, 2013).

Although family and carers are key to the care of many individuals with diabetes (Gunn et al, 2012), they are often reliant on self-researched diabetes information rather than education provided directly from the healthcare professionals involved in the individuals' care (Sinclair et al, 2010). Any patient education re-design must consider this and allow for provision of carer/family education alongside the patient (Sinclair et al, 2010; Gunn et al, 2012).

The use of visual aids was well received, providing the opportunity to review material outside the clinic. Videos have been recognised as a low-cost option for delivering patient education (Rice et al, 2017). A preliminary study by Goulding et al (2017) suggests

that prescribed video content can improve diabetes management, although further research is required to determine effects on foot ulceration incidence.

In this instance, the use of 'shock' photographs, while uncomfortable for some participants, provided impact to demonstrate complications and potential future problems. Although limited evidence suggests that the use of photos can increase awareness of potential problems during self-care foot checks, empowering individuals to seek help earlier, potentially leading to reduced complication severity (Lincoln et al, 2008).

All participants indicated that peer support is beneficial for long-term disease management, although opinions differed regarding delivery method. In-person, group or buddy education was favoured by some, this has been demonstrated to improve general diabetes management (Rickheim et al, 2002; Adam et al, 2018). Other group members preferred online social media support. Due to its unregulated nature, there is a risk that incorrect, inaccurate and misleading information can be accessed (Ellis and Ellis, 2006; Abedin et al, 2015). Research determined that a considerable portion, 44% of informative posts, 28% of advertisements, were not useful. Additionally, little emotional support provided; however, only open groups were analysed, which may have biased this result (Abedin et al, 2017). If used wisely, social media has potential as an accessible platform for healthcare professionals to disseminate appropriate information (Coulter, 2011).

Education timing

Several group members reported their experience lacked foot care education at diagnosis. It is unclear if foot care education was truly lacking, or if a retention or perception issue exists, low information retention is acknowledged in diabetes patients (Kessels, 2003; Yuncken et al, 2018). Current diabetes foot care guidelines NG19 (NICE, 2015) suggest an increase in education delivery, content and volume with complication development. The focus group reflected the desire for more intense foot care education at initial diagnosis, with regular repetition to reinforce existing knowledge and expand further. This aligns with the view that those living with diabetes require continuous education to allow effective disease management (Beebe and Schmitt, 2011).

Furthermore, a lack of clear education provision

at diagnosis, has been linked to disengagement with successive healthcare professional education due to the recipient feeling 'let down' in the diseases early stages (Johnson et al, 2005).

Limitations

The recruitment strategy, of identifying participants from multidisciplinary or ulcer clinics, led to participant bias towards the active diabetic foot. Although there was no exclusion of moderate/low-risk diabetic foot risk status, these patients would not be managed within the targeted clinics. Furthermore, attendance required the participant to be able to accommodate the conditions of a group setting. Mobility and financial restrictions, work and time constraints will have excluded potential participants. Additionally, the focus group did not reach best practice numbers and response saturation was not reached (Curtin and Trace, 2016).

Future research considerations

Conducting further focus groups would capture additional attitudes and opinions, as well as expanding participant demographics to include other diabetic foot risk statuses, allowing better result generalisation (Doody et al, 2013). Further investigation into social media as a peer support group to determine appropriateness and benefits for patient care.

Conclusions and implications for practice

Following the service evaluation completion changes to the provision of foot care education in diabetes have been implemented. These include:

- Education regarding risks and warning signs is provided at diagnosis or first presentation to the department and repeated regularly to reinforce. This is both verbal and written format. More consideration is provided for font size and colour in written documents, with pictorial versions for those with special educational available
- The mode of education has been varied and now includes the latest technology. Videos and a diabetic foot app have been developed and are now accessible for both patients, carers and family members to download and access remotely as much times as is required. This also includes emergency contact information available on their mobile phone

■ Provision for non-clinical support, through a peer support group, is also available, currently in virtual format.

The changes made will be evaluated by audit, questionnaire and patient experience 24 months following implementation. ■

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