

Foot care within the Jordanian healthcare system: a qualitative inquiry of patient's perspectives

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ABSTRACT

Objective

The objective of this study was to elaborate patient's views of diabetic foot care within the Jordanian healthcare system.

Design

A qualitative approach with unstructured face-to-face interviews was used in this study.

Setting

Participants were recruited from six hospitals throughout Jordan plus a university affiliated healthcare centre.

Subjects

Seven patients with diabetes and suffering from a foot burn injury were recruited from a university affiliated hospital plus public hospitals located in Amman, the capital of Jordan. In addition to Amman, the facilities were located in two main Jordanian governorates; Irbid and Al-Karak.

Results

Our findings are consistent with what is known about barriers to effective diabetic foot care. Participants were not practising preventive foot care behaviours due to personal beliefs about healthcare and the structure and culture of healthcare practice in Jordan. Specifically, participants of this study believed that the presence of diabetes does not necessitate the need for regular foot examination when there are no active ulcers on their feet. Additionally, providers of healthcare were not performing foot examination as part of regular diabetes care.

Conclusions

Efforts should be made to promote preventive care practices within the context of the Jordanian healthcare system. By so doing, the incidence and severity of diabetic foot ulceration and other consequences may be reduced.

INTRODUCTION

Foot ulceration is one of the most serious complications of diabetes which may result in prolonged hospitalisation and amputation of the lower limb (King 2008). Diabetic foot is a complex syndrome in which a range of bodily structures are insulted, creating difficulties for optimal management (King 2008; Singh et al 2005). Currently, it is widely accepted that diabetic foot ulcers should be managed by a co-ordinated multidisciplinary team of clinicians (Sanders et al 2010). The effectiveness of such an approach has reportedly reduced the incidence of lower limb amputations (Houtum et al 2004; King 2008; Krishnan et al 2008; Batista et al 2010). In addition to the health professionals on a multidisciplinary team, a person with diabetes is considered a core member in that ideally, they work with team members to adopt behaviours that enable them to avoid injury or at least discover injuries in the early stages and subsequently reduce the incidence and severity of ulcers (Naude and Bruwer 2006; National Institute for Health and Clinical Excellence 2011).

Active participation in care planning and injury management by the patient necessitates persistent commitment towards implementing clinicians' advice of self-care. Similarly, clinicians should exhibit positive attitudes towards managing diabetic foot ulcers. Literature has documented several barriers towards providing optimal diabetic foot care that includes patients themselves, who have a lack of interest towards implementing clinicians' advice, especially when the advice contradicts their own beliefs (Gagliardino et al 2007; Gale et al 2008; Jinadasa and Jeewantha 2011). Several publications have reported that clinicians lack interest in managing people with diabetes (Gagliardino et al 2007; Peimani et al 2010). The concept of multidisciplinary diabetic foot care is still evolving and many countries have not adopted such a model (Apelqvist et al 2008; Boulton 2000; Bakker 2009). The situation is more dramatic in developing countries (Morbach 2006; Tulley et al 2009; Bakker 2009), where the prevalence of type 2 diabetes (The Lancet 2009), and foot ulceration (Morbach 2006; Unwin 2008; Tulley et al 2009; Ramachandran 2004), are alarming. To add to the complexity, healthcare systems in developing countries are mainly hospital oriented, and the focus is to treat acute illnesses; whereas the recommended diabetic foot management requires long-term preventive strategies.

In order to develop health services which are based on the best available evidence, research that gathers patients' perceptions of long term preventive diabetic foot care in developing countries is necessary. Jordan was chosen as a setting to conduct the current study because this developing country faces an increasing prevalence of poorly controlled diabetes (Centres for Disease Control and Prevention 2006; Ajlouni et al 2007). Additionally, data on the status of foot care services within the Jordanian healthcare system context are lacking. Accordingly, information is necessary to address issues concerning diabetic foot care within the Jordanian healthcare system and provide greater understanding of Jordanians' knowledge of diabetes and preventive foot care.

METHODS

The reported study employed an interpretive phenomenological approach and was conducted in seven healthcare settings in Jordan. Approval to conduct the study was provided by the three ethics committees governing the seven research settings. Recruited patients gave written informed consent for participation after receiving verbal and written information about the study, which detailed what was required of them and their rights in participation.

Recruitment

Recruitment from burn units was not possible because cases of a foot burn injury in Jordan are not admitted into burn units due to lack of beds and the high incidence of severe burn injuries. Recruitment through hospital records was also not possible because foot burn injuries are not usually recorded as an admission

diagnosis. Accordingly, visiting the participating healthcare centres and establishing personal communications with hospital staff was considered an appropriate strategy to identify patients hospitalised with diabetes and a foot burn injury.

A purposeful sampling approach was employed to recruit participants from a university affiliated hospital plus public hospitals, located in Amman, the capital of Jordan, and located in two main Jordanian governorates; namely, Irbid and Al-Karak. In accordance with advice from hospital administrators, to identify patients with diabetes and a foot burn injury the first author approached general surgical wards of hospital sites located in the governorates mentioned earlier. As a result, four participants agreed to take part in the study. An additional participant was recruited from the diabetic foot clinic of a large military healthcare centre located in Amman. Another participant was recruited after discharge through the plastic surgeon of the university affiliated hospital. Finally, a seventh participant was recruited through a university affiliated healthcare centre.

Data Collection

In a 40 minute in-depth conversational style digitally recorded interview conducted by the first author, participants were asked to express their views on the type of foot care they believed should be received as part of regular diabetes management. Following this initial question, further questions elaborated participants' answers, and explored their perceptions of the contribution diabetes made to foot burn injuries. The time, date and setting of the interviews were arranged to suit each participant, who was given the opportunity to invite family members or friends.

Data Analysis

Being a bilingual speaker of Arabic and English, the first author conducted and transcribed all the interviews verbatim into text files, checked the accuracy of the transcription from the original language of the interviews, Arabic, and coded the interviews for data analysis. Such strategies assured the authors that the emergent themes were consistent with the original transcribed interviews. Importantly, the first author was from the same culture as the participants and this ensured the cultural focus was not lost in the translations. The translated excerpts were discussed extensively by the two authors who are from different cultures (Arabic and Caucasian). A final point to be made is that back translation was undertaken to ensure the English version was equivalent to the original Arabic text. Excerpts presented in this manuscript are from the transcribed interviews.

The engagement of the first author in conducting and transcribing the interviews verbatim established familiarity with the texts and enabled a comprehensive understanding of participants' views on the type of foot care they should receive as part of diabetes management.

Thematic analysis, incorporating the concept of the Hermeneutic Circle was used to identify common themes within the texts (Lindseth and Norberg 2004). Each transcription, in its Arabic version, was examined carefully, using different reading approaches, in order to grasp main ideas in the texts. Commonalities between transcriptions were extracted leading to the formulation of themes and sub-themes. The formulated themes and sub-themes were connected and drawn together to formulate a meaningful picture of participants' perspectives on diabetic foot care.

FINDINGS

Participants Profile

Six of the seven participants were recruited from secondary healthcare facilities when receiving treatment of an acute foot injury. Similarly, six out the seven participants were known cases with diabetes. In the case of the seventh participant, the diagnosis of diabetes was made following the occurrence of a foot burn injury. All the participants were either in the fifth or sixth decade of life.

To ensure anonymity, each participant is identified by a pseudonym to remain anonymous. The chosen pseudonyms start with either the prefix 'Abu' for male participants or 'Umm' for females. The aforementioned prefixes are Arabic words that mean in English father and mother, respectively. It is a tradition in Jordan to call a person by the name of his/her older son. Accordingly, if the participant was male, so the pseudonym begins with the prefix 'Abu'. Similarly, if the participant was female, so the pseudonym begins with the prefix 'Umm'.

After completing interviews with seven participants, a decision was made to stop recruiting further participants because the point of data saturation was reached. Data saturation is the point at which information to answer the research question becomes repetitive and interviewing additional participants would not add further significant data to the study (Polit and Beck 2004).

Core Themes

Analysis of the transcribed interviews yielded two core themes: (1) foot screening: not necessary; and (2) diabetes: no role. These two themes are discussed to provide an understanding of participant's thoughts and perceptions of diabetic foot care.

Screening: Not Necessary

When the participants spoke about the foot care they received as part of diabetes management, they reported that foot examination was not routinely part of that care. Furthermore, participants also believed that diabetes did not necessitate the need for regular foot examination.

Umm-Haitham (participant) stressed that no one had examined her feet since she was diagnosed with diabetes. Indeed, Umm-Haitham insisted there was no need for regular foot examination because her body and feet were all right.

No, no they have not.... No, no, nothing. We thank God the body is okay. Nothing is wrong in my feet... Doctors used to say that my diabetes is satisfactory, but I need to control my diet.

Indeed, Umm-Haitham's view was common among the other participants who gave a similar justification for why they thought that regular foot examination was not necessary in the absence of an acute problem. In this context, Abu-waleed had never sought healthcare for his diabetes or possible complications because he considered his health to be "okay". Yet, Abu-waleed expressed a good understanding of complications that could result from diabetes.

The researcher: over 20 years, has any one examined your feet?

Abu-waleed: my feet, no.

The researcher: no one! What about your eyes?

Abu-waleed: no,

The researcher: Do you know about diabetes complications?,

Abu-waleed: yes.

The researcher: what are they?

Abu-waleed: Oh, it causes paraesthesia, stenosis of the arteries, damages the kidneys and retina

The researcher: so, why do you not follow up with screening?

Abu-waleed: I think things are okay.

Umm-Falah declared that her feet had not been examined from the time of her diagnosis with diabetes (fourteen years). Indeed, Umm-Falah's tone implied that she did not consider foot examination necessary because her feet were not hurting. Specifically, Umm-Falah's reply to the question, if her feet were being examined regularly as part of regular diabetes care, was *"It (the foot) was not annoying me, just since it was burned"*.

Abu-Salem mentioned that since sustaining foot burn injuries, he was receiving foot examination at a hospital, whereas prior to injury his feet had not been examined. The following excerpts have been taken from interviews with Abu-Salem.

The researcher: since being diagnosed with diabetes in the 1980s, when you visited the doctor, were your feet examined, that is, did the doctor inspect the soles?

Abu-Salem: no, no, no

The researcher: no examination! So you mean that foot examination took place after the burn injury?

Abu-Salem's wife: yes

Abu-Salem: after this accident.

In review, participants justified their views that regular foot examination is not necessary, due to no acute problems with their feet. Participants explained that the care provided was limited to periodic visits to the local healthcare centre, where medications were supplied without discussion and advice on diabetes management and possible complications was not provided.

Abu-khaldun: ...they asked me some questions like you, for instance: how long have you have diabetes and such things and they gave me the medicine, and then I took myself home.

Umm-Falah: I go to the healthcare centre to obtain the tablets...

Out of the seven participants only one person was managed by a foot care professional within a specialist diabetic foot clinic for several months, which resulted in complete healing of the injury.

Umm-Hamed: ... visiting the clinic for months and the wound completely healed.

Diabetes: No Role

Two male participants believed that diabetes had not contributed to their injuries. Abu-khaled rationalised his opinion by informing the researchers that his blood glucose level was not that high (around 140mg/dl), implying that he considered his blood glucose levels acceptable. Current recommendations suggest that people with diabetes should be supported to maintain their blood glucose levels close to the normal range (from 70 to 120 mg/dL) (National Collaborating Centre for Chronic Conditions 2008).

I do not think so, because diabetes is not high with me. When it becomes high, the highest it reaches is 140.

Abu-khaldun was more succinct in expressing his viewpoint that diabetes had not contributed to his foot burn, but his doctor took extra precautions because he had diabetes, and there was evidence of infection.

No, no, it has no role. I tried to do ablution, like any one wants to wash his feet. Diabetes has no role; but because I have diabetes the doctor took extra precautions. He (the doctor) was worried about my foot, he noticed infection, and then he hospitalised me.

In contrast, other participants did know that diabetes had contributed to the acquired burn injuries even though they did not understand how it did so. Umm-Haitham mentioned that diabetes played a role in the acquired burn because her toes became like *"charcoal"*.

Umm-Haitham: yes, it (diabetes) has a role. They (the toes) became like charcoal.

However, when asked how diabetes contributed to her incurred burn injuries, Umm-Haitham replied “*I do not know*”. Similarly, Abu-waleed’s rationalisation for the complexity of his foot burn was not because the acquired burn was severe, but because of diabetes.

The thing what happened to me is not from the force (severity) of the burn or so. No, it is weakness, I have acquired from diabetes.

Distinctively, his reply, to the author’s question “*where has the weakness happened?*” was “*in the arteries, in the cells of my body, in the skin and such things*”.

Significantly, participants mentioned that lay people from younger generations (friends or sons) informed them that diabetes predisposes them to foot ulceration. However, it was obvious that participants lacked understanding about how diabetes contributed to their burn injuries. In this regard, Umm-Falah mentioned that her sons advised her that diabetes had effects on the feet. Yet, like Umm Haitham, she had no clear understanding of what the effects were.

Umm-Falah: the sons used to say to me, take care mum. It has effects on the feet.

Umm-Haitham: I do not know, they say the blood is coagulated in the arteries the ladies talk

Abu-Khaldun highlighted some of the discrepancies among different providers of diabetic foot care. Abu-khaldun mentioned that his feet were examined for possible loss of pain sensation when he sought care from a university affiliated hospital, which was not the case when he attended the local healthcare centre. Yet, Abu-khaldun stopped seeking care from the university hospital because of longer waiting times in comparison to the healthcare centre, which was, “*within two minutes.*”

DISCUSSION

Our study sheds light on diabetic foot care services from the perspective of patients within the context of the Jordanian healthcare system. The ensuing discussion is structured to highlight the milieu of foot care provided in Jordan, paying special attention to foot screening and the importance of considering culturally oriented health education programs.

Foot Screening

A common view provided by participants was that they were not aware that regular foot examination was necessary to identify early problems. Regular foot examination is considered an integral part of diabetes care because it is a strategy by which people at risk of foot ulceration can be identified and then directed to the appropriate level of care (Mayfield et al 2000; Singh et al 2005). In so doing, the incidence and severity of diabetes-related foot ulceration is reduced and therefore the costs associated with diabetic foot management. In fact, despite reported improvements in the awareness and adherence to foot screening, foot screening is still the most neglected part of diabetes care (Jeffcoate and Bakker 2005). Specifically, the reported improvements are from a few selected developed countries in which the projected targets remain unmet (Tapp et al 2004; US Department of Health and Human Services 2005).

Participants of this study reported that the providers of their care did not periodically screen patients’ feet and the provided diabetes care was limited to receiving the monthly stock of medication. Participants mentioned that they more often obtained information from younger family members or friends about diabetes and its complications rather than health care providers. Accordingly, a lack of understanding about diabetes and the risks associated was evident among the participants because their obtained knowledge was not from health

professionals. Indeed, the diabetes care provided, as the participants mentioned, was limited to medication supply, with no discussion or advice on diabetes control, management and avoidance of complications. Evidently, preventive diabetic foot care is poorly addressed in the Jordanian healthcare system, and patient education is not part of regular diabetes care.

The status of foot care services in developing countries is far from satisfactory because the concept of preventive foot care is either not adopted (Boulton et al 2005; Apelqvist et al 2008) or still in the initial stages, and diabetic foot care clinics are not accessible to all sufferers from diabetes (Apelqvist et al 2008). For example, diabetic foot care clinics have recently been established in Jordan (The National Centre for Diabetes Endocrinology & Genetics 2009) and are finding it difficult to manage the increasing numbers of Jordanians suffering from diabetes (Ajlouni et al 1998; Ajlouni et al 2007). Furthermore, the established clinics are mainly located in the capital city of Jordan, Amman; and therefore are not accessible to all people with diabetes, especially those living in other urban areas.

Demonstrating the lack of specialised foot care clinics, only one out of the seven participants (who was living in Amman close to a large hospital) received treatment from a specialised diabetic foot care nurse. However, that participant was not receiving preventive diabetic foot care. The point emphasised is that the participants were not practicing or seeking preventive diabetic foot care because of their beliefs and this could be attributed to the structure and culture of health practices in Jordan, where health promotion and disease prevention are not well implemented concepts. The Jordanian healthcare system is strongly focused on a culture of hospital care and practices that focuses on treating acute problems.

Such a culture is reflected in the fact that all the participants approached secondary healthcare facilities for the treatment of acute burn injuries. An important and disappointing issue which can be captured from participants' comments is that healthcare professional's lack of awareness about the seriousness of injuries that may be sustained by people with diabetes. Literature has documented that clinicians often do not pay enough attention to feet of people with diabetes (Bosseri 2002; De Berardis et al 2005). Indeed, the reasons for the lack of preventive diabetic foot care practices among the participants are consistent with those reported in the literature in terms of the variation and complexity of the reasons that can be related to the patients themselves, their healthcare providers and to the structure and the nature of healthcare delivery systems.

In summary, it is evident that both healthcare providers and patients do not pay enough attention to preventive practices of diabetic foot care. This finding is supported by the observation of the first author who visited the diabetic foot clinic (located in one of the study hospitals) several times. He noted the clinic function was limited to providing care to patients suffering from active diabetic foot ulceration and paying little or no attention to preventive measures to those without a history of foot ulceration.

Given the evidence obtained from this study, providers of diabetes care should work jointly with family members in order to tailor a personalised health education plan according to each patient's individual needs. The focus of education should extend to people in rural areas who often delay seeking healthcare. Considering the structure and culture of practice, it would be difficult to provide preventive care within such culture especially to those outside cities. Accordingly, stakeholders should be involved in efforts aiming to make preventive healthcare accessible to all people wherever they live. Since participants of this study considered younger members of the family as a source of information, the Jordanian healthcare system could consider utilising younger family members to promote the concept of preventive foot care practices among older people with diabetes living in rural areas.

CONCLUSION

Similar to what is reported in the literature, our study found that both people with diabetes and health providers are not aware of the importance of preventive diabetic foot care. Additionally, the reported study highlights the need to adopt culturally oriented diabetes health education programs in which family members could be, utilised as caregivers and a resource of information to increase patients' awareness towards preventive foot care practices. Because this study has limited scope obtained results have limited application to selected settings.

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