มุมมองเกี่ยวกับปัจจัยที่มีผลต่อการดูแลเท้าเพื่อป้องกันแผลเบาหวานที่เท้า - การทบทวนความรู้อย่างเป็นระบบเชิงคุณภาพ

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บทคัดย่อ

โรคเบาหวานมีผลต่อทุกส่วนของร่างกาย แต่มักมีผลต่อเท้าก่อนเสมอ การดูแลเท้าด้วยตนเองจึงเป็นสิ่งสำคัญในการป้องกันแผลเบาหวานที่เท้า (DFU) แม้ว่ามีความพยายามอย่างมากในการป้องกันแผลเบาหวานที่เท้า แต่ยังมีปัจจัยที่ส่งผลต่อการดูแลเท้าตนเองซึ่งควรคำนึงหลายปัจจัย อาทิ ความต้องการที่เฉพาะส่วนบุคคล สภาพแวดล้อมในชุมชน รวมถึงบริบททางวัฒนธรรมเฉพาะ วัตถุประสงค์ของการทบทวนความรู้ครั้งนี้ เพื่อสังเคราะห์ความรู้ในมิติของปัจจัยที่มีผลต่อการดูแลเท้าเพื่อป้องกันแผลที่เท้า ด้วยวิธีเชิงคุณภาพแล้วสังเคราะห์แก่นสาระสำคัญ โดยมีบทความนำเข้าสู่การวิเคราะห์รวม 25 เรื่อง มีผลการวิเคราะห์ประเด็นสำคัญได้ 3 ประการ ได้แก่ ความรู้ ทัศนคติ และการปฏิบัติ ปัจจัยที่มีอิทธิพลต่อการป้องกันแผลเบาหวานที่เท้า แรงจูงใจในการส่งเสริมการปฏิบัติเพื่อป้องกันแผลเบาหวานที่เท้า โดยพบจุดเน้น คือ ปัจจัยที่เป็นทั้งอุปสรรคและเอื้ออำนวยต่อการดูแลเท้าโดยผู้ป่วยเองซึ่งมีองค์ประกอบที่เป็นอุปสรรคทางกายภาพ ความกังวลด้านจิตใจ ข้อจำกัดในการให้บริการด้านสุขภาพ และการปฏิบัติเชิงวัฒนธรรม มีความเกี่ยวข้องอย่างมีนัยสำคัญกับการดูแลเท้าด้วยตนเองอย่างมีประสิทธิผล กล่าวได้ว่าการศึกษานี้ช่วยให้เข้าใจถึงปัจจัยที่เกี่ยวข้องกับการดูแลเท้าด้วยตนเองมากขึ้นและสามารถใช้เป็นแนวทางในการจัดกิจกรรมเพื่อส่งเสริมการดูแลเท้าด้วยตนเองสำหรับผู้ป่วยเบาหวานได้อย่างเหมาะสมต่อไปในอนาคต

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Perspectives on factors influencing foot self-care to prevent diabetic foot ulcer - A qualitative systematic review

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Abstract

Diabetes eventually affected every part of the body, but it frequently involved the feet first. Foot self-care was crucial to prevent diabetic foot ulcer (DFU). Though great efforts have been made, there were changing factors on foot self-care considering diverse personal demands, community environment, and particular cultural context. This review aimed to synthesize knowledge of perspectives on factors influencing foot self-care of DFU prevention. A qualitative review followed by a thematic synthesis was applied. A total of 25 articles were established for analysis. Three themes were identified: knowledge, attitude and practice; factors influence on DFU prevention; motivators to promote DFU prevention practice. The findings underscored a spectrum of barriers and facilitators in foot care experienced by individuals with diabetes. The elements encompassing physical obstacles, psychological concerns, limitations in healthcare services, and cultural practices were found to be significantly associated with the effective implementation of foot self-care. This study shed light on factors related to foot self-care and provided evidence for optimal intervention on foot self-care in the future.

keywords: self-care; prevention; qualitative study; diabetes; foot ulcer

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Introduction

Around the world, DM was the main seventh leading cause of death[1]. In 2019, approximately 452 million adults (20-79 years) were living with diabetes. By 2044, the incidence will rise to 700 million[2]. From 2015 to 2040, it was estimated that the incidence of type 2 diabetes mellitus (T2DM) among age 20-79 years old will rise from 405 million to 641 million[1]. Diabetic foot disease was one of the most dangerous complications of diabetes which affected 40 to 59 million people with diabetes worldly. It was an important source of morbidity in people with diabetes[3]. The global prevalence of diabetic foot complications was on average 6.4% [3]. Even when an ulcer was successfully healed, the risk for recurrence was high, with reported rates between 30% and 40% within the first year. Around 15% of DFU eventually resulted in lower extremity amputations[2]. While national and international guidelines underscored the importance of educating patients in appropriate foot self-care for managing diabetic foot issues, the effectiveness of current interventions was constrained[4]. This limitation was attributed to a lack of attention to the psychosocial processes that underlie foot-related behaviors[5].

There were many researches focusing on synthesizing knowledge on overall NCDs management, and diabetes management, yet few on foot self-care to prevent DFU. Foot self-care behavior was largely influenced by changing personal demands, community context, and variable culture. Therefore, it is very meaningful to synthesize perspectives on factors influencing foot self-care of DFU prevention.

Materials and methods

Search strategy

Qualitative studies were sourced using the databases MEDLINE, CINAHL, EMBASE, PsychINFO, PubMed, Web of Science, Scopus, and keywords: factors, DFU, prevention, qualitative, between January 2008 and April 2023. Reference lists of relevant papers were hand-searched for additional complementation. The researchers Wangqiao Zhu and Sulan Long are professionals with over 8 years of experience in diabetic treatment and management, while Khanitta Nuntaboot is an expert in chronic disease care with over 10 years of experience. Two authors (Wangqiao Zhu and Sulan Long) first reviewed titles and abstracts for relevance and gave an in-depth review of the full text for eligible papers. If any disagreement occurs, papers would be sent to the third author (Khanitta Nuntaboot) for further judgment.

Selection criteria

Papers were included if they (a) included adults aged 18 years old with type2 diabetes and at risk of DFU, (b) used qualitative methods of data collection and analysis, (c) focused on exploring perspectives on influential factors to DFU prevention (d) were written in English. Papers were excluded if (a) were quantitative in nature (b) qualitative findings were short of details to contribute meaningful knowledge for synthesis.

Quality assessment

Studies meeting the inclusion criteria were independently assessed by two researchers (Wangqiao Zhu and Sulan Long) using rationale and standard for the systematic review of a

qualitative study by Popay et al.[6]: (i) flexibility of the research design considering phenomenon in a particular context; (ii) the use of theoretical or purposive sampling; (iii) sufficient description of the interesting phenomenon; (iv) completeness of the data analysis and interpretation and (v) theoretical and conceptual adequacy (vi) ability of generalization of the findings. Any differences or disagreements were resolved through discussion and reference to a third reviewer (Khanitta Nuntaboot)

Data extraction and synthesis

Synthesis of findings was done depending on the six stages as outlined by Braun and Clarke (2006)[7], which were transcribing all audio records, coding, searching for themes, reviewing themes, defining themes, and write up. Two researchers (Wangqiao Zhu and Khanitta Nuntaboot) independently extracted data from each eligible paper. Information about the country, study setting, population, disease status, method of data collection, and study objective were organized to provide a context for data synthesis. Wangqiao Zhu was responsible for recording details of illustrative quotation from each eligible paper as first-order constructs. Khanitta Nuntaboot was responsible for organizing illustrative quotations into second-order constructs according to the objective of review by using key concepts. And Wangqiao Zhu grouped the concepts into the third-order constructs (themes and subthemes) by comparing their similarities. The third-order constructs were finally re-checked independently by Wangqiao Zhu and Khanitta Nuntaboot

Findings

Search results

Database review found a total of 1103 studies without duplicate. After screening of titles and abstracts, researcher had 546 articles left. Then the researcher selected 69 records for full-text review according to including criteria. Moreover, 6 additional papers were used from the reference list of included papers. Eventually, researcher established 25 articles for analysis (Figure1).

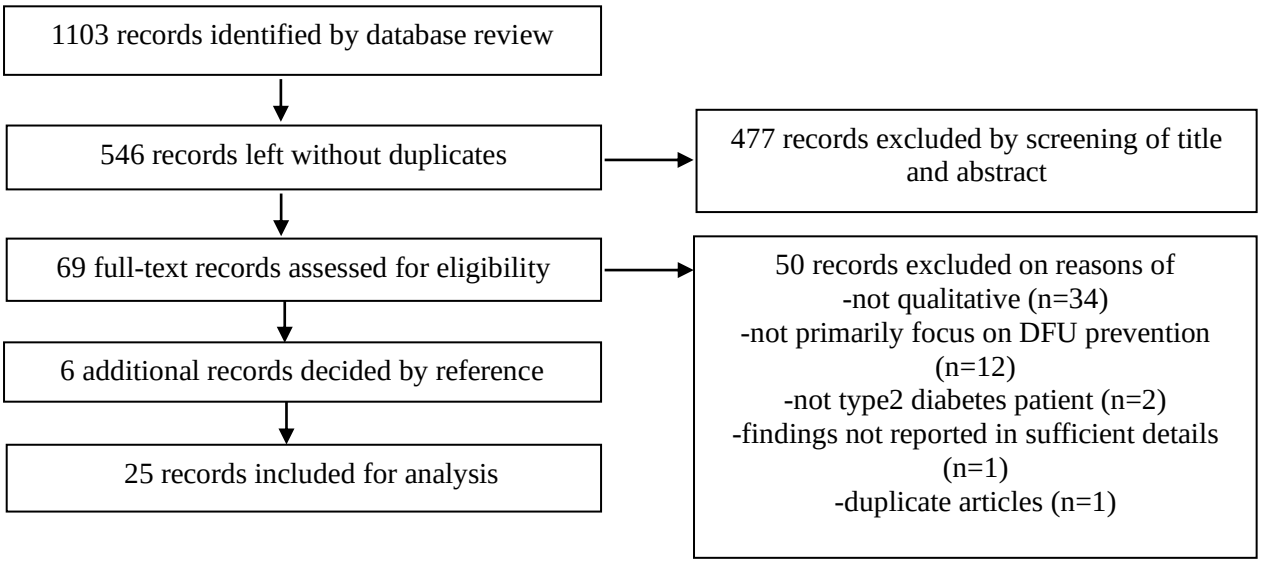

Figure 1 Analysis

Study characteristics

The characteristics of included papers were concluded in Table1. Most of researches were conducted in United Kingdom (n=7), some other articles were from Jordan (n=2) and England (n=2), Indonesia (n=2), Australia (n=2), Kenya (n=1), Iran (n=1), Ireland (n=1), Barbados (n=1), Uganda (n=1), France (n=1), Brazil (n=1), Ethiopia (n=1), Mexico (n=1), Netherlands (n=1). The sample size was ranged from 3 to 80, having both male and female.

Data synthesis

On basis of the Enhancing Transparency of Reporting the Synthesis of Qualitative Research (ENTREQ) statement, the researcher organized the situation of knowledge, attitude and practice toward DFU prevention and defined 3 themes: knowledge, attitude and practice; factors influence on DFU prevention; motivators to promote DFU prevention practice. These themes and sub-themes were outlined in Table2.

Knowledge, attitude and practice

Though most of the participants recognized the importance of taking care of foot in order to refrain from a complication[8-9], participants had different levels of knowledge and practice of DFU. Some demonstrated good knowledge of prevention behavior[10-12] and conduct routine care for their foot[13]. However, many others were short of knowledge[13], and their engagement in prevention behavior was either inconsistent or poor[14-15]. Majority of participant perceived the need for foot self-care and was positive towards treatment and foot care[10-11].

Factors influence on DFU prevention

Self-limitation

For participants who had poor control of DFU prevention practice, quite numbers of them were in negative emotion towards their diabetes status[11-12, 16]. Few visible symptoms and “silent disease” characteristics of DFU resulted in low action of self-care[17-18]. Other regular concerns about diabetes, such as taking medication, blood glucose tests, took higher priority than diabetes complication prevention, such as DFU[11,19]. Physical and cognitive limitations were also presented among participants, such as poor eyesight, back pain, poor memory[18], problems remembering[8,11], or difficulty reaching feet[11], these also brought challenges in foot self-care practice. Moreover, some participants reported that self-care practice sometimes went inconsistent with their routine life activities[8,12,21]. And sometimes the participants underestimated the possible seriousness of developing ulcers[22-23].

Community services

A subset of participants reported the poor quality or inconsistency of health services received from professionals[11,16-17]. Some complained about the cost of health services in hospitals[18] and the expense for footwear was a little bit overloaded[19]. Others were disappointed about the accessibility to health service, such as the long-distance between home and health institutions[17,20-21,24] and the expense of traveling forth and back[20,25].

Culture underpinning

Several participants experienced stigma and revealed that they felt embarrassed or have been looked down because of the disease they have during daily life[12,21,23,26] some female participants refused to wear footwear because it impacts beauty[12]. For other participants, traditional or local treatment method is in their prior choice when they felt wrong[23], and prayer was regarded as a way to bring recovery[23]. Surrendering and accepting when talking about disease and complications were presented[27], and also adapting to the way of being tolerant to others in life[25]. Even some participants just left Allah to the result[27-28].

Motivators to promote DFU prevention practice

Some participants had strong individual responsibility for foot self-care and showed independence in foot self-care practice[27]. Others could follow foot self-care practice successfully under assist and support of family members[17-18,24,27]. Education and training provided by professionals were regarded important for behavior changes[13,23]. Moreover, individual experience of foot ulcer or known from other patients could encourage self-care in some degree[12,26,29]. Parts of participants agreed that both physical care and emotional care could do a lot of help[9]. Some individuals reported that local religious events and activities provided a good opportunity for emotion sharing and relief[27]. The Non-governmental organization sometimes could be an effective place for health experiencing sharing[27].

Discussion

To the best of the authors' knowledge, this detailed and comprehensive synthesis constituted a valuable contribution to the expanding body of research on the often over looked complication of diabetes. The synthesis identifies three overarching themes that transcend the results of individual qualitative studies, enriching our understanding of how individuals with diabetes perceive foot self-care.

From this qualitative synthesis, it was clear that participants mostly could recognize the importance of DFU self-care. It indicated that participants had a positive willingness towards health behavior at the first step. Participants had a good attitude towards the modern scientific medical techniques. In line with many previous studies, participants' basic knowledge on DFU self-care and real action towards self-care practice were quite limited[23] because of ground barriers related to the personal limitation, community service, and even culture underpinning.

In this study, researchers found that individual inner responsibility and personal independence characteristics could help to motivate consistent behavior changes[13,27]. And also the researcher found that participants' previous experience of foot ulcers from self or known others could be an alarm to remind the necessity of DFU prevention practice[12,27,29]. Meanwhile, modern Medias were suggested to be efficient and convenient channels to acquire as much information as they can. Some non-governmental organizations and local religious events and activities were well-welcomed and advised by participants as a way to increase information and maintain good foot ulcer prevention practice. And family assistance, emotional support from professionals, and regular medical visits were demands in order to promote the possibility of behavior changes[9-10,17,24]. Intervention together with public advertisement and education about diabetes at community-level could increase understanding and acceptance from the public level, thus could release psychological burden for patients. Besides, multi-organization cooperation and local religious activities integration education could be a good form to diffuse education and increase patient-professional communication and trust.

Our findings revealed that there were many self-limitations that impacted foot self-care to prevent DFU, such as negative emotion, "silent disease" characteristics, low priority, physical and cognitive limitations, and routine life activities struggling, and underestimating seriousness. However, many present education packages mainly focused on foot-care practice introduction[30-31]. These findings indicated that pre-understanding and psychological communication together with the representative who had good responsibility and independence towards life difficulties, at the beginning of medical contact with patients for each appointment, might bring inner relief and comfort and do help for the whole process of medical practice. Also, the personal physical condition should be taken into consideration in form of physical examination or medical history reviewing firstly at present. Education on self-care should balance the importance of well-known diabetes treatment, such as blood

glucose monitoring, with complication prevention. Moreover, a tailored or alternative plan for DFU self-care could be more helpful considering patients' circumstances and routine activities they were involved in daily life, and personal habits they have already adapted to. And in education, the potential risk of foot ulcer or even amputation should be stressed.

It was obvious from our findings that patients were not successfully benefited from community care service because of limited service availability, inadequate quality of service, access to care, and financial problem. However, present DFU prevention services or education program were mostly available within a hospital or were conducted and concentrated in an urban area, though multi-discipline cooperation was gradually applied, the frequency of regular public medical services were needed to be increased[32-33]. Our findings indicated that intensive, regular, and periodic planed-medical activities could encourage consistent self-care practice. And a hospital-together, professionals-combined, patients and family cooperated community-based medical service could be a good representative of high quality of care. Besides, "out-of-pocket" money on an aspect of medical aid equipment, such as footwear, could partly be considered into governmental medical reimbursement or education program budgets if possible. Besides routine oral presentation and manuscript introduction, multi-media application may be beneficial to diffuse education conveniently and sufficiently. Additional incentives within the community healthcare system should be considered to attract professionals and ensure the quality of service for patients with diabetic foot problems.

Moreover, especially our findings showed that patients' self-care behavior had some connection with culture underpinning in local circumstances, such as disease stigma, femininity, traditional or local treatment, prayer, embracing Allah, surrender and accepting, tolerance to others. However, present diabetes foot care relevant services were largely delivered on basis of medical institutions or organizations as a good way to attract attention[34-35]. Our findings indicated that culturally-tailored intervention could be an appropriate and efficient way to promote foot ulcer prevention behavior changes. Not only paying attention to the content of education but also showing understanding to individual's values and belief, such as female sense of femininity, believing in traditional treatment or gods, we could acquire more cooperation from participants.

Strengths and limitations

While the present synthesis stressed important findings, certain limitations should be acknowledged. First, although a qualitative methodological filter was used to purify our search, poorly labeled studies may have been unintentionally omitted. Larger investment in the consistent indexing of qualitative research in databases was required. Second, articles were limited to peer-reviewed publications in English. Eligible studies reported in other languages and publication types could also be included. Third, significant heterogeneity in demographic characteristics and DFU-related characteristics made it difficult to apply to wider populations. Finally, all included studies provided data at one-time point only; longitudinal researches were required to examine changes in perspectives over time.

Conclusion

This synthesis offered plentiful and meaningful insights into the situation of diabetes foot ulcer prevention and knowledge of variable issues impacted on foot self-care behavior, such as self-limitation, community services, and cultural circumstances. In nursing education, emphasizing the severity of foot ulcers or even the potential for amputation after prolonged ulcers is crucial to underscore the necessity of foot self-care. For nursing researchers, culture-tailored interventions should be explored to be adapted to the local atmosphere. Additionally, there is a need for health policies to increase investment in medical equipment

and attract more experts in diabetic foot care to the primary care system. These findings had significant implications for health providers and researchers on intervention development to promote effective foot self-care behavior changes among patients with diabetes. Therefore, an individualized and multi-faced, rather than "one-size-fits-all", approach was expected to effectively improve foot self-care in the future.

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Table 1 The characteristics of included papers

Author (year) and country	Study approach	Characteristics of samples (sample size, age and setting)
Abdulrehman (2016) Kenya.	Ethnography	Male14 and female 16, mean age 52.9, Lamu town community
Abu-Qamar (2011) Jordan	Phenomenology	4 males, 3 females, 52–69 y, 6 hospitals, one health care centre
Abu-Qamar (2012) Jordan	Phenomenology	4 males, 3 females, 52–69 y, 6 hospitals, one healthcare centre
Aliasgharpour (2012) Iran	Phenomenology	n=11, Large urban hospital
Anders (2010) Germany, Italy, United Kingdom	Ground theory	40-75y, Recruited from data held by market research companies
Beattie (2014) United Kingdom	Phenomenology	Males7, females8, 26-73y, Hospital podiatry clinics
Bradbury (2011) United Kingdom	Phenomenology	Males 2, female 1, 71-86y, Specialist diabetic footclinic
Chithambo (2015) United Kingdom	Ethnography	Males 4, females 2, 49-69y, Diabetes foot clinic
Delea (2015) Ireland	Phenomenology	Males 10, 40-72y, Prosthetic rehabilitation outpatient unit
Foster (2014) United States	Phenomenology	Males 10, females 5, <60 y (n = 2), 60–64 y (n = 3), 65–69 y (n = 6), 70–74 y (n = 1), 75–79 y (n = 2), 80–84 y (n = 1) Suburban community
Gale (2008) England	Ethnography	9 males, 9 females, mean age 64y, Suburban primary care health Centre
Grace (2008) England	Ethnography	Males 37, females 43, mean age 35y, community of the London borough of Tower Hamlets
Guell (2015) Barbados	Ethnography	Two public polyclinics
Hjelm (2013) Uganda	Ethnography	Males 4, females 10, 40-79y, Surgical ward of a university hospital
Marchand (2012) France	Ethnography	Males 30, Mean age = 63.8 ± 7.9 y, Diabetes Centre of a university hospital centre
Malki (2023) Netherlands,	Ethnography	Males 14, females 10, average age 63.6y,
Mogre (2019) Australia	Ethnography	male 5, Female 17, average age 60.9y, diabetes clinics of the Tamale Teaching Hospital
Morei (2010) Brazil	Phenomenology	18y older, Recruited through participation in previous research
Paton (2014) United Kingdom	Phenomenology	Males 2, females 2, 58-84y, National Health Service podiatry clinics
Permana (2019) Indonesia	Ethnography	Males 10, females 14, 18y older, Internal Medicine outpatient clinic
Sari (2022) Indonesia	Ethnography	Males 4, females 21, wound care clinics and public

Table 1 The characteristics of included papers (Cont.)

Author (year) and country	Study approach	Characteristics of samples (sample size, age and setting)
		health centres
Tewahido (2017) Ethiopia	Ethnography	N=13, age of 35 and 65, outpatient diabetes clinics of two public hospitals
Vedhara (2012) United Kingdom	Ground theory	Males 6, females 2, 56-81y, Specialist podiatry services in secondary care
Wellard (2008) Australia	Ethnography	3 females, 1 male, 55-65y, Regional Victoria community
Whittemore (2019) Mexico	Ethnography	16 females, 4 males, mean age 52.5, primary health clinics from Seguro Popular

Table 2 Qualitative synthesis: Themes, sub-themes

Themes	Sub-themes	Descriptive	Illustrative quotations from participants
Knowledge attitude and practice	Knowledge	Good knowledge	"going barefoot on the beach was dangerous and hard skin was a 'no, no'."[11]
		Poor knowledge	"I thought it would heal with the tablets I bought from nearby drugstore"[23]
	Attitude	Positive attitude	And I think that if people made the stipulation that they spent 10 minutes every day doing their feet it would save an awful lot of problems.[35]
	Practice	Good practice	I wash my feet daily, I keep my nails short, ensure no injury is inflicted on the skin while cutting nails I put on cotton socks to reduce moisture and always keep spaces between toes, I clean and dry them.[23]
		Poor practice	Interviewer: Do you sometimes put your hands inside your shoes to make sure there's nothing loose in there? Participant: No, I don't, that's the sort of thing I never think about, to be honest[36]
Factors influence on diabetic foot ulcer prevention	self limitation	Negative emotion towards disease status	I get anxious, worried, it [DFU] really does take over my life. Because I immediately start to think of things I can't do… Just walking out to the kitchen, its simple things like standing[12]
		Few visible symptoms and "silent disease"	Well, I know I have it, yet because I can't see it, and no sort of immediate effects. Hey, it is just something that I just don't want to have, you know so I would have to put in denial as part of the problem[18]
		Other regular concerns about disease in higher priority	"I think as diabetic patients the most important thing is to keep our glucose levels down, so I check my glucose once a month."[37]
		Physical difficulties	It's difficult for me because at the moment am having treatment because my eyes have gone bad as well, since I have been in hospital. Am partially sighted so I can barely see so it's difficult to try and look to see if I have any marks, it's not easy, so you know it's difficult.[22]
		Underestimate seriousness of foot ulcer	I do not know its name; it is one of those ordinary creams. After using it, it caused infection, my toe blackened and the infection started to spread to other parts.[10]

Table 2 Qualitative synthesis: Themes, sub-themes (Cont.)

Themes	Sub-themes	Descriptive	Illustrative quotations from participants
		Inconsistent with routine daily activities	"Well I don't really need to, if I want to go to the toilet I don't really need to put me shoes on to go up the stairs do I ya know, also if I'm a like gona go up and have a shower"[29]
	Community service	Limited service availability	She [diabetes educator] is very busy and works over four campuses. That sort of deters you from actually going ahead and really grabbing the moment to go and see her and make an appointment[18]
		Inadequate quality of service	They were thin and looked after themselves. I found the communication style was lacking. Maybe if it was someone who had actually been through some problems and understood what it is like to find it difficult. I think it might have helped then[18]
		Access to care is difficulty for long distance and travel expense	At the emergency health care centre they instructed me to schedule an appointment with the vascular doctor. I went to the city hall during lunch break and waited there for some time. I was close to crying I was in so much pain. I was able to schedule an appointment, but I remember that the employee responsible for the scheduling told me that the city bus that takes the patients to the appointment was full.[21]
		Financial problem such as foot care service is costly, footwear is expensive	The podiatry and dietetic services are costly[18] I have two pairs of them [diabetic foot wear] and they are expensive. I bought them 349 dollars [Barbadian; equivalent to USD 175] for a pair. You understand? So 700 dollars for two pairs of shoes.[19]
	Culture related	Impact beauty	"Uh so as to the appearance of the shoes. I think uh that with outdoor shoes, they should look a bit decent."[38]
		Disease stigma	"Some people don't even want to come for consultation. People don't want to know that some people is diabetic."[26]
		Traditional or local treatment	"I had look for assistance from folk sector to get herbs"[23]
		Prayer for recovery	"I pray and hope not to get complications, these had worsen my life which is already disgusting"[23]
		Keep trying, but embracing Allah to the result	"It"s true that we make effort, but the result is the Allah's decision. So, whether the result will be good or bad, it's Allah's power'[27]
		Surrender and accept	Basically, according to Javanese way, everything we do we should do it slowly… don't bother to think anything, if you get tired, so be it… after you get better then you can start to work again… I followed it, and it would end up good [27]
		Being tolerant to others	It's because.. the time with the doctor was so tight.. I mean, "I could not have a long consultation time.. I was concern of the other patients which was a lot of them waiting.. so" in case I was disturbing them.. that's all[27]

Table 2 Qualitative synthesis: Themes, sub-themes (Cont.)

Themes	Sub-themes	Descriptive	Illustrative quotations from participants
Motivators to DFU prevention practice		Individual responsibility	….at the end of the day it's me who's responsible for my feet…[8]
		Personal independency	It's been told in the seminar that if we feel like that we have to try to flex our feet, or by using newspapers, we crawl our toes over the newspaper, that's how we do to keep our feet moving to treat the symptoms.[27]
		Previous experience of foot ulcer from self or others	I've lost this leg…I protect my foot because I don't want to lose another one.[12]
		Family assistance	My husband, he is very observant and notices things and comes to the doctor with me[18]
		Previous experience of foot ulcer from self or others	I've lost this leg…I protect my foot because I don't want to lose another one.[12]
		Emotional support from professionals	There was one nurse… she sat with me and gave me comfort. Now that is something that you cannot get with swallowing a pill.[9]
		Regular medical visit	The GP, I see regularly on about a three weekly basis, because something always turns up. I need to catch things early[1]
		Media	"I learn from scientific reports of advances in health and diabetes care"[18]
		Non-governmental organization	"And after I join the club, I met a lot of new friends of fellow diabetic. It felt relieving some of my stress as well."[27]
		Local religious event and activities	They mean a lot to me. Firstly, I could meet friends, we could make fun together. They can help me increasing our knowledge; I know what I didn't know before. So, if I couldn't come, I would feel pity, missing my friends[27]

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