Perceptions of Delay in Seeking Medical Help among People with Diabetic Foot Ulcers in Rural Southwest China

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Abstract: Diabetic foot infection is one of the most severe complications of diabetes mellitus. Immediately seeking medical attention is vital after foot ulcers occur; however there are often delays in seeking treatment. This study used a qualitative descriptive approach to explore the perceptions of delay in people seeking medical help for foot ulcers in three villages in Baise, rural areas of southwest China. Fifteen patients were recruited in this study. In-depth interviews were performed to collect data from August to October 2022, and thematic analysis was used to analyze the data. This study identified four main themes: personal estimation; supernatural and traditional power; health service expertise, cost and access to hospital care; and psychological and complementary care. Inadequate awareness of potential ulcers and a preference for alternative methods significantly contributed to delays in medical foot care. Additionally, a shortage in community healthcare services impeded the timely initiation of proper foot care actions. It was worth noting that the preference for Traditional Chinese Therapy was relevant to the delay in seeking medical attention on foot, yet it was not perceived before. These findings serve as crucial evidence for developing interventions and future policy adjustments. Further consideration of the multifaceted impacts is necessary to incentivize prompt treatment decisions for diabetic foot ulcers. Nurse specialists should be concerned regarding psychological care, and dual-way support between nurses and families is vital for prompt medical care-seeking. Nursing education should emphasize knowledge of pathophysiology integrating prayer merits and Chinese therapies for patient empowerment.

Keywords: China, Diabetic foot ulcers, Pre-hospital delay, Qualitative description, Social-ecological model, Treatment delays

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Introduction

Diabetic foot infection stands out as the predominant factor triggering lower extremity amputation,[1] with a lifetime incidence ranging between 15% and 25% on a global scale. According to a comprehensive prospective study conducted in England, by the end of the first year, only 46% of ulcers had successfully healed, with a subsequent 10% recurrence rate. In comparison, 15% of individuals had succumbed to the condition, and 17% had undergone lower extremity amputation.[2] The recurrence rate was very high even

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when an ulcer was cured.[3] In China, one study that recruited participants from nearly all the geographic regions of China revealed that the annual incidence of ulceration for people with diabetes was around 8.1%, and the recurrence rate was around 31.6% in the first year. The amputation rate for patients with diabetic foot ulcers [DFU] was 5.1%.[5]

It is crucial to safeguard the feet of people with diabetes mellitus [DM] against elevated mechanical stresses and external physical trauma,[6,7] such as cuts and scratches. While most wounds on the foot are relatively superficial at presentation, deeper destruction inside the tissues and vessels may occur, which could also decrease the sensation of pain[8] Based on the guidelines of the International Working Group on the Diabetic Foot [IWGDF], patients should promptly seek professional assistance upon identifying a foot ulcer. Rapidly contacting an appropriately trained healthcare professionals must reach out promptly when abnormalities or lesions are identified.[6] Due to China's ten-year-round medical reforms since 2009, much progress has been made in social health security, per capita funds, catastrophic illness insurance, essential medicines, primary healthcare, and basic public health services.[9] Per capita funds for resident-based health insurance increased from 100 CYN (13.91 USD) in 2008 to 700 CYN (97.37 USD) in 2018, including about 70% from government subsidies. Regarding primary healthcare, government budgets for community and township health centers were elevated by around 20%.[10] In basic public health services, per capita allocation for the package rose from 15 CYN (2.09 USD) in 2009 to 55 CYN (7.65 USD) in 2017.[9,11] In 2017, the guideline for DM management issued by the Chinese Diabetes Society emphasized the importance of daily behavior and self-care ability of patients in DM control and complication prevention. Furthermore, specifically, the core concept for diabetic foot care was "prevention is more important than treatment" in the guideline.[12] Despite rapid economic growth, the income gap between urban and rural areas remains prominent. From 2010 to 2017, China's total health expenditures increased by 12.78%.[13] Compared with community and township health units, medical development in hospitals received more resources.[10] The utilization rate of rural or township health services on DFU prevention was notably low due to specific challenges, such as inadequate human resources,[14] deficiencies in interdepartmental cooperation, and heavy workloads.[15] The problem of pre-hospital delay was still prominent.[16] Only around 25% of participants reported quick medical foot care within one month after the onset of complications.[17] In the past few years, the incidence of diabetic foot ulcer [DFU] has risen from 5%, 5.7%, and 7.6% to 10% between 2016 and 2019 in the local area (statistics acquired from local hospital 1 January 2016 to 12 December 2019). Although many previous studies identified determinants related to DFU prevention,[18,19] few exclusively focused on the rural population. As to the marginalized geography of the area in this study, near the boundary between China and Vietnam, the perspectives of cultural impact on delaying seeking medical help were rarely studied in the local area.

Health behavior change is influenced by multiple elements interwoven together. Personal attributes, interpersonal relationships, community environment, and social-cultural underpinning comprehensively affect behavior outcomes.[20] Seeking prompt medical foot care was influenced by individuals' dynamic perspectives and needs. It was very significant to research to explore the perception of delay in seeking medical help among patients at risk of DFU in rural districts.

Review of Literature

According to the IWGDF 2019 Risk Stratification System, six of the risk for DFU are categorized into four levels: very low (no loss of protective sensation [LOPS] and no peripheral artery disease [PAD]), low (LOPS or PAD), moderate (LOPS + PAD, or LOPS + foot deformity, or PAD + foot deformity), and high (LOPS or PAD, and one or more of the following: a history of

foot ulcer; a lower-extremity amputation (minor or major); or end-stage renal disease).

There are still several challenges in promoting diabetic foot care in the community. First, there is a significant shortage of human resources. In China, the existing policy aims at providing incentives to attract and retain qualified health professionals in the primary care system to improve the quality of care is inadequate.[21] Second, there is a lack of practical multi-sectoral cooperation.[15] Third, advanced education or training is deficient, resulting in insufficient quality of care from primary healthcare providers.[22] Fourth, there is a shortage of medical equipment, with sophisticated equipment primarily concentrated in secondary and tertiary hospitals.[23] Fifth, community health service centers (stations) are overloaded with tasks.[15,21]

The perceived determinants of delayed medical help-seeking for diabetic foot ulcers, as identified in previous studies, could be summarized as follows: difficulty accepting one's diabetes,[18,24] the lack of visible symptoms, and the gradual onset of this "silent disease," providing few cues for action.[19] Additionally, diabetes foot self-care is often considered of lower priority than more immediate needs, such as taking medication and monitoring blood glucose.[25] Furthermore, health behaviors, in general, are largely shaped by cultural norms and customs in society.[26] In China, numerous cultural practices might impact patients' health behavior. For example, there is a belief in feudalistic superstition, where individuals rely on supernatural forces to alleviate their health conditions.[27] There is also a widespread belief in herbal medicine, with many considering it more effective than physicians' prescribed medical treatment.[28] For these reasons, a qualitative approach was deemed the best for this study.

Study Aim

This study explored the perceptions of delay in seeking medical help for diabetic foot ulcers among adults in rural southwest China.

Methods

Design: The study utilized a qualitative descriptive design with in-depth interviews to facilitate data collection, thus enabling a comprehensive exploration of real-world issues perceived through the lens of patients' experiences.[29,30] This approach is straightforward and allows the researchers to comprehend the experiences and perspectives of participants based on naturalistic inquiry principles that are essential for enhancing nursing practice and patient outcomes.[31] Fieldwork was conducted, giving the researcher (WQZ), as an outsider, an insider's view. Qualitative description helped the researcher in this study deeply understand how people's socio-cultural and physical environment could impact health behavior.

Participants and Setting: The research setting was three villages in the counties of Jingxi, Tianlin, and Tiandong, respectively, within the city of Baise, because of the similar conditions in geography and economic development. Baise is located in the southwest area of China. It is close to the boundary between China and Vietnam, primarily covered by mountains and rural areas. Compared with the north and southeast coastal areas, the southwest border region is relatively less developed economically and in terms of transportation. Those characteristics result in a unique culture that could influence perspectives on the practice of foot care. A purposive sampling strategy was applied to recruit 15 patients to acquire wide and diverse perspectives. Participants were selected from three villages referring to the inclusion criteria as follows: diagnosed as type 2 diabetes mellitus [T2DM] (including first diagnosis); identified as DFU risk group by the IWGDF 2019 Risk Stratification System;[6] age 18 years or older (the Mini-Mental State Examination [MMSE] was used to ensure normal cognitive function, score 24 or more if age 60 years old or over); and willing to participate in the study. The first participant was selected through the recommendation of a community nurse who was sophisticated with diabetic foot care, arranged for the

introduction, and provided access to participants during the study. A snowball technique was used, which resulted in the selection of 15 participants. Data saturation was achieved when no new information arose from the interviews.[32] The informed consent was obtained from all participants in the study. Our reporting follows the Consolidated Criteria for Reporting Qualitative Research (COREQ): a 32-item checklist.

Ethical Considerations: This study was approved by the Institutional Review Board of Khon Kaen University, HE642102 (2021). Also, approval was acquired from the institutional review board of the Chinese health administration agency in the local area (1224/2021). The primary researcher (WQZ) informed the community leaders and got an agreement before reaching out to the community members. All participants in this study received written information about the study before giving written consent. They were informed that their participation was voluntary and that they could withdraw from it anytime for any reason. Furthermore, they were guaranteed confidentiality. Data would be anonymous.

Data Collection: The research was conducted between August and October 2022. One assistant researcher (JL) was trained in a simulation course to learn about the whole research project, especially the data collection process. After a short self-introduction and interpretation of the research process, the interviews were held in a quiet, undisturbed room. An interview guide was developed through deliberately reviewing literature[7,17,33] and was evaluated by five experts for its content validity, proving a value of 0.85.[34] By referring to an interview guide, the researcher (WQZ) interviewed with open-ended questions chiefly to know perspectives of delaying seeking medical help followed by probes, such as "What would you do when something abnormal happens on foot?" and "Why don't you go to healthcare providers for help after a foot ulcer presents?" The interviews lasted around 60 minutes and were recorded through digital audio by the assistant researcher (JL). All records were sealed and would be known by researchers only. Finally, patients were acknowledged genuinely for participation.

Data Analysis: According to Braun and Clarke, thematic analysis is used to identify themes from qualitative interviews.[35] It is very flexible and provides clear guidance on the practical aspects of qualitative analysis. The thematic analysis consists of six steps: transcribing all audio records, coding, searching for themes, reviewing, defining, and writing up. Firstly, the researcher transcribed the audio records verbatim and analyzed data inductively and deductively. In coding, quotes in each data were marked by comparing their interpretation with research questions (WQZ and JL). Later, the sub-themes were categorized according to the relevance within coded quotes; for example, "It depends, if it is not so serious, I may try massage first" and "Sometimes I will use acupuncture" were included in "traditional therapy" (WQZ and JL). All sub-themes were examined again for identical and different characteristics by two researchers (WQZ and KN). Broad themes were classified according to their similarities (WQZ and KN). For example, the "underestimate the risk of ulcer" and "overestimate the effect of self-recovery" were united to be one central theme as to their common characteristic related to inaccurate estimation. Finally, the researcher wrote up the findings in words to better clarify the understanding of the research questions (WQZ). During this process, if there were any disagreements, the data would be re-checked and re-analyzed until a consensus was reached (WQZ, JL, KN, and SLL). The QDA Miner Lite v2.0.8 software was used for thematic categorization.[36] To confirm and clarify the data collected, the researchers returned to the participants to verify that the categories identified from interviews accurately reflected their thoughts and perspectives captured in interviews and checked for disagreement.

Trustworthiness: Based on criteria from Lincoln and Guba, research trustworthiness was ensured in this qualitative inquiry.[32] To enhance the study's credibility through a member-checking method, the acquired data

underwent thorough summarization, and participants actively engaged in the review process. Rigorous auditing of all research processes and documents further guaranteed dependability. At least two researchers meticulously re-examined and reviewed the data for discrepancies to ensure conformability. A reflective journal was promptly recorded after each interview to minimize researcher bias. A detailed and comprehensive description of the findings was provided to facilitate transferability.

Findings

Fifteen participants, aged between 45 to 73 years old, were interviewed. Males comprised the majority (n = 15; 75%). In ethnicity, Han (n = 8; 53.5%) was in proportional equivalence with Zhuang. The majority of them had undertaken elementary school (n = 11; 73.3%). Most participants have been diagnosed with T2DM within five years (n = 12; 80%) and the occupation of farmers was nearly two-thirds (n = 9, 60%). The characteristics of participants are in **Table 1**.

Table 1. Characteristics of participants (n = 15)

Characteristics	Group	N	%
Age (years)	40-49	2	13.3
	50-59	5	33.3
	60-69	7	46.7
	>70	1	6.7
Gender	Female	4	26
	Male	11	74
Ethnicity	Han	8	53.3
	Zhuang	7	46.7
Education	Elementary school	11	73.3
	Junior high school	3	20
	Senior high school	1	6.7
Duration of disease (years)	0-5	11	73.3
	5-10	3	20
Occupation	Farmer	9	60
	Retirement	4	26.6
	Rural officer	1	6.7
	Teacher	1	6.7
Monthly Income in CYN (1 US dollar = 7.19 CYN)	1000-2000	7	46.7
	2001-3000	3	20
	3001-4000	2	13.3
	4001-5000	3	20
Previous foot ulcer	None	6	40
	One time	8	53.3
	Two times	1	6.7

The results revealed that the main perspectives on delaying seeking medical help were categorized into four themes: health service expertise, cost, and access to hospital care; supernatural and traditional power; psychological and complementary care; and personal estimation.

Theme 1: Personal estimation

This category comprises two sub-themes: Underestimation of the risk of ulcers and overestimation of the effect of self-recovery. A minor wound was consistently underestimated, neglecting the risk of deep tissue damage and dismissing early signs of severe

ulcers like mild foot numbness. This led to a lapse in routine foot examinations and delayed medical attention.

Sub-theme 1: Underestimation of the risk of ulcers

One participant perceived a superficial wound as inconsequential, considering it a common occurrence in everyday life. However, it was not realized that such injuries could expedite the deterioration of deep tissues.

> *"It is not necessary to go to hospital that often, if it is just mild wound. For example, you cannot avoid getting injury when you work, is that right? A small wound is not a big deal."* (male farmer, 65 years)

Slight foot numbness or wound was always disregarded, though it was a prodromal indicator preceding the development of severe ulcers. Without visible serious symptoms, it led to ignoring the essential practice of routine foot examination and postponing the timely seeking of medical attention, for example,

> *"I rarely check my foot. Most of the time, it is ok. Only when I have cramp I will go to check it. If I do not feel anything serious on my foot, or just a little bit* (numbness or wound), *I won't pay much attention to it."* (male rural officer, 55 years)

Sub-theme 2: Overestimation of the effect of self-recovery

Some participants within the cohort exhibited a notable conviction in the intrinsic self-repair mechanisms of the human body, nurturing a belief in swift and autonomous healing processes. Consequently, these individuals approached wound management akin to the broader population, frequently opting for minimalist interventions, such as applying adhesive bandages. This ostensibly straightforward approach inadvertently precipitated delays in their pursuit of timely and appropriate medical attention.

> *"I presume that it won't be too serious, just numbness or occasional wound. You can apply a band aid on it. And that's it. I think that it may recover by itself after a while."* (female farmer, 66 years)

The severity of ulceration was categorically stratified into three distinct levels: mild, moderate, and severe. It was commonly held that the first two categories would not pose substantial concerns. This perception stemmed from a deeply ingrained belief in personal robust health and well-being, which, in turn, led individuals to downplay the significance of these ulcerations.

> *"It depends, if only mild or moderate, I won't be too worried about it. Actually, I am good in health, except for diabetes."* (male farmer, 49 years)

Theme 2: Supernatural and traditional power

This category comprises two sub-themes: Feudalistic superstition and traditional therapy. Individuals in the study commonly practiced prayer rituals for diverse blessings, with some relying on supernatural forces for foot abnormalities, reducing the urgency for medical care. A unique perspective emerged as participants embraced Buddha's influence despite uncertainty. The community widely used alternative methods as an initial step for foot issues.

Sub-theme 1: Feudalistic superstition

Frequent engagements in prayer, conducted either within temples or before home altars, were a common practice among the individuals studied. These rituals sought diverse blessings, encompassing themes of fortune and overall well-being. Notably, specific individuals demonstrated a particular emphasis on supplication when confronted with foot abnormalities. In these cases, the reliance on supernatural forces to alleviate their conditions, to some extent, contributed to a diminished sense of urgency regarding proactive medical foot care.

"Yes, of course, you have to believe in it (Buddha). *It is true. Many times it helps me a lot. I will light incense on in front of the Buddha image in my house, and pray for a while. Of course, I will go to check in health center sometimes, but it depends; sometimes it* (discomfort or wound on the foot) *disappears itself".* (male, retired, 69 years)

Among the participants, there was a distinct case where an individual displayed a unique perspective. One participant chose not to resist but, instead, to embrace the supernatural influence of Buddha, even when the eventual outcome remained uncertain and unknown.

"I believe in Buddhism...sometimes it can really help and bring you good luck. En, how to say, I think it is better to believe it than not." (female farmer, 54 years)

Sub-theme 2: Traditional therapy

Massage was widespread within the community and was a primary means to alleviate muscle soreness and manage initial ulcer symptoms. This traditional therapeutic approach was not only widely adopted but also considered adequate. Many individuals relied on it as a first step before considering medical intervention at a hospital.

"Sometimes I feel relaxed after massage...It depends, if it (foot ulcer) *is not so serious I may try massage first."* (female farmer, 66 years)

Furthermore, certain participants addressed foot pain through alternative methods such as acupuncture and cupping. These traditional healing modalities were significant in the general population and passed down through generations from their predecessors. As a result, these individuals drew upon age-old wisdom and techniques to manage their foot-related discomfort.

"Normally, when I feel pain at home, sometimes I will use acupuncture. Sometimes I feel a short relief. The elders tell me this way, here many people use acupuncture, especially for pain control, and cupping too." (female farmer, 54 years)

Theme 3: Health service expertise, cost, and access to hospital care

This category comprises three sub-themes: expertise, participant hesitation to engage with rural health centers for foot care due to doubts about expertise, and limited equipment. Financial constraints often led to forgoing medical foot care for individuals with DM as hospitalization costs became unsustainable. In remote areas, constrained transportation also hinders access to hospital care, revealing healthcare disparities.

Sub-theme 1: Lack of expertise in diabetic foot ulcer care

Among the participants, one individual demonstrated a limited level of engagement with the care offered at rural health centers. Their reluctance stemmed from a perceived deficiency in expertise regarding foot issues within these centers. As a result, this participant harbored skepticism regarding the center's ability to effectively manage their foot-related concerns, leading to lowered expectations for a satisfactory resolution.

"They (physicians in rural health center) *can deal with it* (foot problem) *if it is not so serious. But I think that they are not so professional."* (female farmer, 66 years)

The health center's specialized equipment shortage further reinforced the participant's concerns. They were explicitly advised to seek medical foot care at a superior hospital due to the unavailability of essential resources at the local level. This recommendation underscored the healthcare infrastructure's challenges in addressing specific foot-related needs.

"Physicians in health center here, they lack equipment to check the foot. Sometimes they suggest me to go to the tertiary hospital in the city town." (male, retired, 65 years)

Sub-theme 2: High expense of hospitalization

DM, being a chronic condition, requires continuous treatment and steadfast self-care practices. The protracted struggles individuals faced in managing

this illness had far-reaching repercussions on their daily lives and financial capacity. Consequently, many participants frequently encountered the difficult decision to forego medical foot care. The considerable costs associated with hospitalization had drained their financial resources to the point where seeking further medical intervention became untenable.

> *"The travel expenses is ok, it won't cost too much. During hospitalization, it costs a lot, more than 1000 CYN equivalent* (139.10 USD) *per day. Medication fee and inspection fee cost a lot."* (male farmer, 55 years)

Sub-theme 3: Difficulty in access to hospital care

One participant, who resided in a remote rural area, encountered formidable obstacles when attempting to access hospital care, primarily attributable to the area's severely constrained transportation infrastructure. This challenging situation significantly impeded the feasibility of receiving the necessary foot care at the hospital, shedding light on the critical healthcare disparities faced by individuals in remote and underserved regions.

> *"I live in rural area. The roads are very bad, especially when it rains. It becomes rugged and muddy. The transportation is so inconvenient that I have to find some other ways instead* (to relieve foot pain)*; I have to take motorcycle first, and then I transfer by bus to the county. And after that I take coach to the hospital in city town."* (female farmer, 54 years)

Despite transportation challenges, participants often received recommendations to seek medical care in urban hospitals for more comprehensive diagnosis and treatment. The uncertainty of care quality stemmed from issues such as the lack of essential medical equipment and doubts regarding the expertise of physicians in diabetic foot treatment, highlighting potential barriers to optimal healthcare delivery.

> *"In the health center here, there is lack of equipment to check the foot. Sometimes they* (physicians) *suggest me to go to the tertiary hospital in the city town, but it is too far, nearly two hours. It seems like some of them do not know very well about foot care too."* (female farmer, 62 years)

Theme 4: Psychological and complementary care

This category comprises two sub-themes: A manner of health carers and difficulty accepting disease. Participants perceived medical foot visits negatively due to insufficient attention and a lack of personalized care, leading to dissatisfaction. Prolonged hospitalization adversely impacted psychological well-being, fostering doubt and reluctance to seek medical care. Emotional burden and feelings of isolation created a complex psychological barrier as well.

Sub-theme 1: Manner of health carers

The medical foot visit was perceived as a negative encounter due to insufficient attention during the appointment. Although participants acknowledged the high volume of sick people in the clinic, they could not help but feel a deficiency in the quality of communication and were disheartened by the superficial nature of the consultation. The lack of personalized care left them unattended and dissatisfied with the healthcare experience.

> *"The service is not so good too. The healthcare provider is not so patient. Sometimes when I want to know something more, they say they will come back later and they have the other urgent case to deal with. But sometimes they forget. I know they are busy. But I really do not feel good about that."* (male farmer, 46 years)

A participant expressed dissatisfaction with the convenience of services provided at the local health center. In cases where long waiting lines for clinics were the norm, the absence of a designated

resting area equipped with chairs or movable stretchers for temporary use added to discomfort. Furthermore, additional supportive care services, such as access to clean water or patient guidance, were infrequently observed. These shortcomings further diminished participants' interest in seeking medical care, particularly when faced with the onset of foot ulcers.

> *"The health service is just ok, the basic clinic service and dispensary service are good, but the convenient service is not so good, there is no water supply and sometimes I want to take a rest at the corridor, but there are few chairs there."* (male, retired, 57 years)

Sub-theme 2: Difficulty accepting the disease

Prolonged hospitalization for recurrent foot ulcers had a notable impact on the psychological well-being of participants, often resulting in the development of depression and anxiety. The protracted nature of treatment regimens, characterized by repetitive interventions, left some participants feeling emotionally drained. In extreme cases, participants began to doubt their ability to manage and control foot ulcers effectively in the future. This resistance to the enduring illness gave rise to a negative attitude towards engaging in essential foot care actions and learning.

> *"en...the more you know, the more anxious you are. It is impossible to make it. I get hospitalized so many times, but my situation still cannot be controlled very well. I feel exhausted. I do not know what to do."* (male teacher, 64 years)

A specific participant's emotional response to the diagnosis was marked by a noticeable sense of emotional restraint, especially compared to their healthy friends of similar age and lifestyle. The persistent, haunting question of 'why me?' continued to echo in their mind, leading to a reluctance to seek medical foot care. This emotional burden, coupled with feelings of isolation, contributed to a complex psychological barrier that hindered their proactive engagement with healthcare services.

> *"What you said to me, I am not able to make it, and I do not know why I have diabetes while somebody else does not."* (male, farmer, 55 years)

Discussion

This study revealed rich findings about the participants with foot ulcers who had delays in seeking treatment. A previous study on social representations of diabetic feet showed that the absence of prominent and early symptoms provided few cues for action.[37] The gradual onset feature also made patients complacent about their foot health.[24] One study conducted in the southwest of England also showed that as little pain was experienced, patients thought there was no urgency in seeking help for the foot blisters, even if they were enormous.[25] Even though the pre-ulcer symptoms were "silent" and the lesion on the foot was superficial, the microorganisms may have already been spreading and destroying contiguously subcutaneous tissues for a long time.[8] We identified instances where the pace of ulcer recovery was overestimated in the present study. It aligned with Jordan's work, indicating that patients often wait for weeks, expecting the wound to heal before seeking medical intervention.[38] One UK study also noted that holding a fluky attitude towards ulcer healing, patients solely applied plaster on their feet after taking a shower every time. Eventually, it got worse when they reached the hospital.[39] A study in Iran also revealed the risky practice of simply dealing with foot ulcers by putting the foot in cold salt water, spraying vinegar, or honey therapy at home before referring it to a physician.[40] Additional inclusion of pathophysiological knowledge was warranted to elucidate the potential risk for invisible presenting tissue deterioration.

From this study, we know that many people believed in destiny. It was thought that gods or the Buddha in heaven controlled various aspects of life.

This belief was consistent with a Ugandan article reporting that patients would associate foot problems with divine will, displaying a tendency to seek rehabilitation through prayer before pursuing medical foot care.[41] People would instead pray for healing when the ulcer relapsed.[42] Another study on folk treatments for diabetic plantar ulcers among African Americans also found that the reliance on the power of witch healers resulted in neglect of medical intervention for diabetic foot problems.[43] This finding contrasts with a study conducted in Canada, where participants recognized the importance of self-directed learning. They utilized Google searches for treatment and foot self-care strategies, reducing dependence on hospital treatments.[44] The internet has become a primary information source for patients with chronic disease, particularly those with T2DM and higher education.[45,46] As a complementary therapy, prayer merits consideration for support within medical units because it empowers patients in health practice.[47] However, it should respect the comfort of others as well. In our study, the TCTs [traditional Chinese therapies] were commonly used by laypeople and regarded as a prior option when foot ulcers were present. Although this was not noticed before, it decreased the initiatives for foot care in medical units. Many researchers have shown a relationship between foot ulcer healing and traditional methods, but they are limited to medication usage. One study on Yaqui Native Americans with diabetes found that patients primarily sought herbal medicine from the folk sector rather than going to the hospital when foot ulcers occurred.[42] The folk medication was preferred for diabetic plantar ulcers than prescribed medical treatment from physicians.[43] One study involving complementary therapies for DM management within broad ASEAN countries showed that acupuncture and Thai massage as complementary methods were perceived effectively to relieve pains and increase body energy.[48] The fusion of traditional Chinese therapies and modern scientific medicine in health institutions holds the potential to encourage in-time medical foot care.

In our study, doubts often arose about the professional ability of healthcare providers in rural health centers regarding diabetic foot care. It was incoherent with one Irani study, where concerns about expertise were expressed due to the long duration of treatment. This reduced trust in care services and foot examinations.[40] The inconsistent health care from different professionals or health units decreased participants' confidence in the quality of care and, in turn, delayed foot referral.[49] Except for general knowledge about diabetes management, specific foot ulcer prevention suggestions were rarely emphasized by healthcare providers.[38] The township medical facilities were noticeably perceived as lacking advancement in the current study. Similarly, one former review of the evaluation of DFU treatment delay highlighted that the disappointment with little advanced medical equipment in local health centers caused unwillingness to receive medical care.[14] China has made great efforts in health system reform over the past decades. However, most medical resources were concentrated in urban tertiary hospitals, and the equipment and workforce in township or rural health centers were in shortage.[10] Much needed are health policies prioritizing increased investment in medical equipment. More incentives are suggested to attract and retain skilled health professionals within the primary care system. In this study, participants still hesitated to go to the hospital for foot care where the medical care is better because they worried about the high expenses. One UK article revealed that the primary concern was the financial burden, with the accumulation of medical costs exacerbating the situation. Poverty resulted in reduced motivation for seeking medical foot care.[50] The cost of travel back and forth to clinic appointments also suffered. Necessary foot checking in the hospital was postponed, considering travel expenses.[51] People were forced into unemployment owing to long-term medical burdens, and this, in turn, disabled them from medical foot care when ulcers happened.[49] The disparities in wealth distribution between rural and urban regions are still widening.[10]

Further health reforms to lower per-patient discharge medical costs should be considered. Accessing hospital foot care was still perceived as not easy in our study due to inconvenient transportation. Concerns also arose about time consumption and neglect of fieldwork. This finding aligned with one Irish study, which showed that patients delayed foot checking because of geographic location limitations.[52] As healthcare providers cater to many health units, the difficulty of making appointments with them about foot care was identified.[53] The shortage of diabetic foot care clinics in the local region hindered swift foot treatment when ulcers presented.[24] This finding was in contrast to one former study in the US, where it was observed that urban counties exhibited significantly greater access to the national diabetes prevention program,[54] with rates of medical resource utilization and physician consultations notably higher among patients with diabetes in urban areas.[55] Endeavors to establish mutually convenient access to medical foot care was commendable.

In the present study, we identified that inadequate communication with healthcare providers and sporadic care led to a sense of interpersonal distrust. This finding was in accord with one Ugandan study, as healthcare providers rarely paid attention to communication with patients when busy engaging in routine ward work, and patients became reluctant to ask questions when encountering ulcer problems.[41] The communication with nurses was hasty. This indifference led to a negative attitude towards hospital foot care.[56] The appointment with the physician was always fragmented with medication prescriptions only. Rarely, advice about ulcer prevention was provided. The delay in seeking instant medical foot care happened due to poor awareness of the necessity.[24] In our study, certain participants were emotionally frustrated with treatment. One recent article in the UK disclosed that patients dismissed foot self-care recommendations due to their difficulty in accepting the reality of being diagnosed with DM.[25] The uncertainty about foot ulcer progression was also depressing. The emotional anxiety hindered the activeness of medical intervention on foot.[57] Nurses should consider an assessment of symptoms of distress, depression, and anxiety among patients with DM. Nurses should also know perceived psychological needs to provide targeted care.[58] Family members were vital in offering health suggestions and psychological comfort in DFU prevention.[24] Nurse-family duplex support appeared likely to facilitate the adoption of seeking prompt medical assistance.

Strengths and Limitations

This qualitative study provides valuable insights regarding seeking immediate medical foot care when an ulcer emerges. It contributes evidence to inform the enhancement of interventions and is a benchmark for future research comparisons. While acknowledging its strengths, it remains imperative to recognize certain limitations in the study. This study could have incorporated focus group discussions and single in-depth interviews to enhance the richness of the data. The participants were encouraged to build on one another's responses, fostering the generation of ideas that might not have emerged in individual interviews. While there are similar characteristics across the three villages, achieving complete consistency in culture and the physical environment proves challenging. Expanding the participant pool could ensure broader results. Additionally, involving diverse stakeholders, including physicians, nurses, and podiatrists, could provide additional insights.

Conclusion and Implications for Nursing Practice

It was worth considering that the desire for traditional Chinese therapy was influential in delaying seeking medical intervention for foot ulcers, yet it was not known previously. More resources are expected to incline the development of rural health centers from the policy level. Healthcare providers could further explore emotionally integrated and culturally tailored

practices to encourage foot ulcer treatment in rural areas. Adding fundamental knowledge of pathophysiology into education for nurses is also desired to elevate the perception of the potential risk of DFU. Additionally, the results of this study could provide a basis for nurse researchers to develop interventions to promote seeking medical help for DFU among patients with DM.

These findings highlighted several critical issues in the nursing care of people at risk of DFU. It can assist nurses in creating individualized nursing care plans for patients to promote perception of the potential risk of DFU. It is recommended that nurse specialists be able to utilize the findings in creating programs that will ensure suitable psychological care. This study also indicated the necessity of nurse-family dual support to promote prompt medical care-seeking behavior in nursing practice. In nursing education, narrating pathophysiological knowledge about DFU is essential to stress the potential risk. For nursing management, prayer merits and Traditional Chinese Therapies could be complementary methods to empower patients in health units. There is a need for health policies to increase investment in medical equipment and to attract more experts in diabetic foot care in the primary care system.

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การรับรู้ความล่าช้าในการแสวงหาความช่วยเหลือทางการแพทย์ของผู้ที่เป็นแผลเบาหวานที่เท้าในชนบททางตะวันตกเฉียงใต้ของประเทศจีน

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บทคัดย่อ: การติดเชื้อแผลเบาหวานที่เท้าเป็นภาวะแทรกซ้อนที่อันตรายมากอย่างหนึ่งของโรคเบาหวาน การแสวงหาความช่วยเหลือทางการแพทย์ทันทีหลังจากเกิดแผลที่เท้าเป็นสิ่งที่สำคัญ อย่างไรก็ตาม การแสวงหาความช่วยเหลือเพื่อการรักษามักเกิดความล่าช้า การศึกษานี้เป็นการวิจัยพรรณนาเชิงคุณภาพ มีวัตถุประสงค์เพื่อศึกษาการรับรู้ถึงความล่าช้าในการแสวงหาความช่วยเหลือทางการแพทย์เพื่อการรักษาแผลที่เท้าของผู้ที่เป็นเบาหวานในพื้นที่ชนบท กลุ่มตัวอย่าง คือ ผู้ที่เป็นเบาหวานจำนวน 15 รายได้รับการคัดเลือกจากหมู่บ้าน 3 แห่งในไป่เซ่อซึ่งเป็นพื้นที่ชนบททางตะวันตกเฉียงใต้ของประเทศจีน เก็บข้อมูลโดยการสัมภาษณ์เชิงลึกในช่วงเดือนสิงหาคมถึงตุลาคม พ.ศ. 2565 วิเคราะห์ข้อมูลโดยใช้การวิเคราะห์แก่นสาระ

ผลการศึกษาพบว่ามีประเด็นหลัก 4 ประการ ได้แก่ 1) การคาดคะเนส่วนบุคคล 2) ความเชื่อในอำนาจเหนือธรรมชาติและการรักษาแบบดั้งเดิม 3) ความเชี่ยวชาญในการบริการสุขภาพ ค่าใช้จ่ายในการรักษาและการเข้าถึงบริการของโรงพยาบาล และ 4) การดูแลด้านจิตใจและการดูแลเชิงผสมผสาน การรับรู้ถึงโอกาสการเกิดแผลที่เท้าที่ไม่เพียงพอและความนิยมในการรักษาแบบแพทย์ทางเลือกทำให้เกิดความล่าช้าในการรักษาแผลที่เท้า นอกจากนี้ การขาดแคลนบริการด้านสุขภาพในชุมชนเป็นอุปสรรคในการริเริ่มการดูแลเท้าที่เหมาะสมอย่างทันท่วงที เป็นที่น่าสังเกตว่าความนิยมในการบำบัดแบบจีนดั้งเดิมนั้นเกี่ยวข้องกับความล่าช้าในการแสวงหาความช่วยเหลือทางการแพทย์ในการดูแลเท้า ซึ่งประเด็นนี้ไม่เป็นที่รับรู้มาก่อน

ผลการศึกษานี้นำเสนอข้อมูลที่สำคัญในการพัฒนาวิธีการรักษาและการปรับเปลี่ยนนโยบายการรักษาแผลเบาหวานที่เท้าในอนาคต การพิจารณาเพิ่มเติมถึงผลกระทบหลายแง่มุมของความล่าช้าในการแสวงหาความช่วยเหลือทางการแพทย์จะช่วยจูงใจให้ผู้ที่เป็นเบาหวานตัดสินใจเข้ารับการรักษาแผลเบาหวานที่เท้าอย่างรวดเร็ว ผู้เชี่ยวชาญด้านพยาบาลควรให้ความสำคัญกับการดูแลด้านจิตใจและการสนับสนุนแบบสองทางระหว่างพยาบาลและครอบครัวซึ่งเป็นสิ่งสำคัญต่อการแสวงหาการรักษาพยาบาลอย่างทันท่วงที การศึกษาพยาบาลควรเน้นความรู้ด้านพยาธิสรีรวิทยาเกี่ยวกับโรคและผสมผสานกับวิธีการสวดมนต์และการบำบัดแบบจีนเพื่อเสริมสร้างพลังความสามารถให้กับผู้ที่เป็นเบาหวาน

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คำสำคัญ: ประเทศจีน แผลเบาหวานที่เท้า ความล่าช้าก่อนเข้ารับการรักษาในโรงพยาบาล งานวิจัยพรรณนาเชิงคุณภาพ แบบจำลองทางสังคมและนิเวศวิทยา ความล่าช้าในการรักษา

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