



Healthcare-seeking behaviour and management of type 2 diabetes: From Ugandan traditional healers' perspective



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ABSTRACT

Background: Healthcare-seeking behaviour has been investigated to a limited extent in persons with diabetes, and the way traditional healers manage diabetes still needs exploration.

Aim: To explore healthcare-seeking behaviour and management of type 2 diabetes from the perspective of traditional healers in the folk sector to understand how traditional medicine is integrated into the professional health sector.

Design: A qualitative descriptive study.

Method: A purposeful sample of 16 traditional healers known in the area. Data were collected by individual semi-structured interviews.

Findings: Healthcare was sought from the professional health sector, mainly from the public hospitals, before the patients switched to the traditional healers. Reasons for seeking help from traditional healers were mainly chronic conditions such as diabetes, high blood pressure and the perceived failure of western medicine to manage diabetes. The cost at the healers' facilities also influenced healthcare seeking because it was perceived to be affordable as it was negotiable and accessible because it was always available. Traditional medicine therapies of patients with diabetes were herbal medicine, nutritional products and counselling, but many patients whose conditions were difficult to manage were told to return to the public hospitals in the professional health sector.

Conclusion: Healthcare seeking was inconsistent in character, with a switch between different healthcare providers. Living conditions including treatment costs, healthcare organization, patients' health beliefs and general condition seemed to influence healthcare seeking practice.

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What is already known about the topic?

- Healthcare-seeking behaviour among persons with type 2 diabetes has been investigated to a limited extent, and the way traditional healers manage diabetes still needs exploration.
- Persons with diabetes mellitus use a variety of healthcare providers, and switching between different health sectors may interrupt glycaemic control and negatively affect health.

- Limited resources, poor availability of health facilities, individual beliefs about health and illness affect health-related practices including healthcare-seeking behaviour.

What this paper adds

- Healthcare was sought from the professional health sector, mainly from the public hospitals, before the patients switched to traditional healers in the folk sector.
- Reasons that compelled patients to seek help from the traditional healers were mainly chronic conditions such as diabetes, hypertension and the perceived failure of western medicine to manage diabetes.
- Traditional medicine therapies were mainly herbal medicine, nutritional products and counselling, but many patients whose conditions were difficult to manage were told to return to the public hospitals in the professional health sector.

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1. Introduction

Healthcare-seeking behaviour of persons with type 2 diabetes (T2D) has been investigated to a limited extent in developing countries, with a few exceptions (Atwine, Hultsjo, Albin, & Hjelm, 2015; Hjelm & Atwine, 2011). A switch between different healthcare providers may interrupt glycaemic control and negatively affect health (Kalyango, Owino, & Nambuya, 2008). Healthcare can be sought in different sectors in society: among family and friends in the popular sector, or traditional healers (sacred or secular) in the folk sector or from healthcare staff in the professional sector in different health institutions (Kleinman, 1980). Healthcare-seeking behaviour is influenced by multiple factors, some of which are the availability, accessibility, affordability, and acceptability of the service facilities to the care recipients (Kroeger, 1983; Rutebemberwa et al., 2013).

The incidence of type 2 diabetes (T2D) is increasing globally, with a pandemic mostly affecting people in developing countries in Africa and Asia under development (International Diabetes Federation (IDF), 2015). The waves of pandemic are driven by the combined effects of obesity, inactivity and longevity among patients with diabetes (Van Dieren, Beulens, Van der Schouw, Grobbee, & Neal, 2010). Uganda's estimated prevalence of diabetes was 4.1 in 2013 with a projection of 4.9% by 2035 (Guariguata et al., 2014). The nation has experienced a rapid increase of diabetes with a prevalence of 7.4% and pre-diabetes of 9% within half a decade (Mayega et al., 2013).

T2D is a chronic, progressive condition with micro- and macrovascular complications (affecting eyes, kidneys, heart, and lower extremities) likely to develop over time in relation to glycaemic control (IDF, 2015). T2D requires self-management over time to maintain health through dietary adjustment, exercise, medication (if needed), continuous education and regular medical follow-up (American Diabetes Association (ADA), 2015).

In developing countries diabetes care is largely managed in medical centres in primary healthcare, but it is different in Africa. A previous study reports that patients with diabetes seek healthcare from traditional healers in the folk sector to get some relief from symptoms/signs of diabetes such as polyuria, fatigue because of the perceived failure of western medicine to manage diabetes (Atwine et al., 2015). Females describe using more free-of-charge government institutions; the perceived failure of healthcare to manage diabetes or related complications leads many people, particularly women, to seek alternative treatment from traditional healers in the folk sector (Hjelm & Atwine, 2011).

Diabetes care in Uganda is run in the general healthcare system of public and private facilities. Some hospitals have established outpatient diabetes clinics that operate once weekly across the country in public hospitals. (Ministry of Health (MoH), 2010). There is no national health insurance system. The government is the main provider of health services free for the clients, but health services are underfunded and frequently drugs are not available, which forces patients to purchase from private pharmacies (Xu et al., 2006). Consequently, some patients turn to traditional healers in the folk sector to manage their diabetes (Atwine et al., 2015).

The use of traditional medicine (TM), complementary and alternative medicine (CAM) is widely acknowledged and growing in both low- and high-income countries (WHO, 2013). Due to high levels of poverty traditional medicine is considered essential for physical and mental welfare, especially of rural black households in South Africa, with more than 60% of all healing taking place outside the formal/western medical system (Semenya & Potgieter, 2014). Underlying living conditions, affordability of drugs, food, and equipment for self-monitoring of blood glucose, and individual

beliefs about health and illness greatly influence self-care practices and care-seeking behaviour (Hjelm & Nambozi, 2008). In Tanzania traditional healers are reported to manage and claim to cure T2D (Moshi & Mbwambo, 2002).

With good self-care management and health-professional support, people with diabetes can live a long, healthy life (IDF, 2015). Nurses are integral members of interdisciplinary team of health professionals and often serve as the primary care managers to guide patients in maintaining self-care. Patients under the nurse-led management are provided holistic care to meet their needs with their families based on individual beliefs about health and illness, aimed at teaching patients to become experts in their own disease and self-management (Hjelm & Atwine, 2011). Healthcare-seeking behaviour of persons with T2D is influenced by multiple factors, coupled with the complexity of diabetes process; the trend of care seeking is likely to continue with switches between different healthcare providers (Atwine et al., 2015). It is important, therefore, to explore healthcare-seeking behaviour and management of diabetes from traditional healers' perspective.

1.1. Aim

The aim of this study was to explore healthcare-seeking behaviour and management of type 2 diabetes from the perspective of traditional healers in the folk sector to understand how traditional medicine is integrated into the professional health sector.

2. Method

2.1. Study design

A qualitative descriptive study design was used. Data were collected by individual semi-structured interviews in order to give the participants freedom to express their own perceptions and experiences to reach a deeper understanding of the topic being studied (Flick, 2009).

2.2. Participants

Purposeful sampling of information-rich participants was applied (Patton, 2015), and known traditional healers in the area who reported to manage diabetes were studied. Participants were recruited by the principal investigator (FA) from their facilities found in different places in the district in order to explore healthcare seeking and management of diabetes from traditional healers. The inclusion criteria were: traditional healers aged ≥ 18 years that freely consented to participate. All people who reported to be helpers and not traditional healers found at the traditional healers facility were excluded. The sample comprised 16 participants, 7 females and 9 males, aged 35–84, (Md 52 years); born and living in south-western Uganda (Table 1). Most were low-educated and trained on the job by relatives or traditional healers through practical experience, with the exception of one who had acquired formal education in nutrition.

2.3. Ethical considerations

The study was approved by the Institution Research Ethics Committee of the university in the region. Research procedures were carried out in accordance with the Helsinki Declaration and written informed consent was obtained from all participants (World Medical Association (WMA), 2013).

Table 1
Characteristics of the studied population.

Variables	N (16)
<i>Gender, n</i>	
Women	7
Men	9
Age (years) ^a	52 (35–84)
<i>Level of education, n</i>	
No formal education	1
Primary education	9
Secondary education	5
College education	1
University education	0
<i>Training to become healers, n</i>	
Trained on job	15
Formal training	1

^a Median (range).**Table 2**
Interview questions used.

What kind of health problems do you manage?
Do you know where else they have sought healthcare from?
How do you know that they have diabetes?
How do you manage persons with diabetes?
What advice do you give if someone has other treatments?
If you cannot manage the condition, where do you refer the client?
How much do you charge for the treatment?

2.4. Data collection

Data were collected between April and September 2015. Each interview started with standardized questions on socio-demographic data. Then a semi-structured interview guide was used with open-ended questions on healthcare-seeking behaviour and diabetes management offered by traditional healers, (see Table 2). The interview guide was developed based on previous

investigations in Uganda (Atwine et al., 2015; Hjelm & Atwine 2011) and was peer-reviewed by nurses and general practitioners working in diabetes care. A pilot test was conducted on three traditional healers (not included in the study) and minimal corrections were made. Interviews were carried out using Runyankole, the local dialect, led by a bilingual nurse (first author) in a secluded room provided by the owners of the facilities. Sessions lasted 45–60 min, were tape-recorded and then transcribed verbatim in English.

2.5. Data analysis

Qualitative content analysis was conducted (Patton, 2015). Collection and analysis of data proceeded simultaneously until no new information was forthcoming from new sampled units, thus to redundancy point.

All transcripts were read several times to obtain a general sense of all the information. Inductively the process started with searching for emerging patterns responding to research questions. The analyses were based on openness to variation in data and a search for patterns, regularities and contradictions by constantly comparing different statements of participants. By reviewing each line of the text, meaning units were identified and coded. Phrases with similar meaning were condensed into common sub-categories. Content categories were merged that linked the text to answer research questions. The explanatory models for health-care seeking behaviour by Kleinman (1980) and Kroeger (1983) were used to give the main analytical framework and in the development of the content categories. Healthcare can be sought from different sectors in every society: the popular sector among family, friends; or from the professional sector among health professionals; or traditional healers in the folk sector specializing in different forms of healing. Healthcare-seeking behaviour is a complex element that is influenced by multiple factors, which include the availability, accessibility, affordability, and acceptability of the service facilities to the care recipients (Kroeger, 1983). An example of data analysis is given in Table 3.

Table 3
An example of data analysis concerning reasons for seeking help from traditional healers in the folk sector.

Illuminative quotations	Subcategories (n) ^a	Categories (n) ^a
... people used to tell us that some conditions don't get cured like diabetes, high blood pressure and allergy... no some of these conditions are curable... people have benefited from our products (m6). ... treat well mental illness, epilepsy... (f5)	Diabetes (16) High blood pressure (13) Allergy (4) Mental illness (3) Epilepsy (3) Asthma (1) Heart problems (1) Cancer (2) Diseases affecting the kidneys (1) and the liver (1)	Chronic conditions (45)
... I treat asthma... and heart problems (m1)		
... get people from different regions... coming with conditions like... cancer diseases affecting kidney and the liver (m4)		
... many people with... all worms including tapeworms (m5) ... coming with cough, fevers...; (f2)	Worms, tapeworms (3) Fever (3) Cough (2) Meningitis (1) Dysentery (1)	Communicable diseases (10)
... those with meningitis, dysentery, ... (f1)		
... many with HIV/AIDS... (f3) People have benefited from our products... for cure... syphilis (m6) ... many types of medicines to treat... gonorrhoea (m9)	HIV/AIDS (3) Syphilis (3) Gonorrhoea (1)	Sexually transmitted diseases (7)
Most come from hospitals... on failing medical treatment completely (m8) ... there are those who do not believe in western medicine (f3)	Failing medical treatment (5) Don't believe in western medicine (2)	Failing western medicine (7)
... all abdominal diseases including fibroids and infertility (m5)	Fibroids (2) Infertility (2) Bleeding in women (1)	Gynaecological condition (5)
... bleeding disorders including bleeding in women (m2)		
... these days we have complicated situations... we have abahwezi, evil spirits, they attack our people (m8) ... medicine to neutralize witchcraft (f7)	Abachwezi Evil spirits (2) Witchcraft antidote (1)	Cultural illnesses (3)

^a Number of statements.

2.6. Trustworthiness

Credibility was ensured by the first author conducting, transcribing and analysing the data (Patton, 2015). The co-author, a diabetes specialist nurse and researcher experienced in diabetes care, double-checked the content of the categories to confirm their relevance. The confirmability of the study was further ensured by the findings that are supported by illuminative quotations from participants. Dependability was ensured by describing the research process as clearly as possible.

3. Findings

Healthcare was sought from the professional health sector, mainly from the public hospitals before the patients switched to the traditional healers in the folk sector. Reasons for seeking help from traditional healers were mostly chronic conditions such as diabetes, high blood pressure and the perceived failure of western medicine to manage diabetes. The cost at the healers' facilities influenced healthcare seeking also because it was perceived to be affordable as it was negotiable and accessible because it was always available. TM therapies of patients with diabetes were herbal medicine, nutritional products and counselling. However, many patients whose conditions were difficult to manage were told to return to the public hospitals in the professional health sector.

3.1. Healthcare-seeking behaviour

Traditional healers stated that the main reasons for seeking help from their facilities were chronic conditions like diabetes and high blood pressure. Other health problems were communicable diseases, followed by sexually transmitted diseases, gynaecological conditions and the perceived failure of western medicine to manage their conditions (see Table 3).

"...people used to tell us that some conditions don't get cured like diabetes, high blood pressure and allergy...no some of these are curable...people have benefited from our products." (m6)

"...coming with conditions like high blood pressure, diabetes, cancer, asthma diseases affecting the kidneys and the liver. Coming from hospitals after failing medical treatment completely." (m4).

"...coming with conditions like high blood pressure, diabetes, cancer, asthma, diseases affecting the kidneys and the liver...coming from hospitals after failing medical treatment completely." (m4)

Healthcare was sought from the professional health sector, mainly from public hospitals, before patients switched to traditional healers in the folk sector. According to the traditional healers few combined the sectors of popular healthcare, home care and the professional health sector, such as the aforementioned hospitals, and an exceptional case who sought care from the professional health sector and other unknown places.

"...most patients come from the hospital and when they come they report that they are tired of western medicine, some patients start from N hospital, they are referred to X hospital after failing all western treatment, some are told to go home and live with their conditions, others are told that we cannot manage your condition, those are the type of patients we get." (m4)

"...some come from home. Others from N hospital who report no improvements at all and there are those who do not believe in western medicine at all." (f3)

Costs at the healers' facilities were described as having different rates depending on the patients' condition and the amount of medicine to be given in doses. Some healers had fixed charges that were called *enteerabishaka*, a consultation fee, and *okutashura*, gifts of some kind to show appreciation when clients felt that they benefited from the treatment. Some traditional healers offered free treatment to patients who were unable to pay for the service; others sold nutritional books on specific health problems like diabetes at standard price.

"...diseases like high blood pressure, diabetes, HIV/AIDS I don't have a standard cost because I know you have to take medicine for a long time, I tell the patients to bring however much money they have at hand and that is the amount of medicine I give them." (f4)

"...there are those who come without money at all, who have lost hope and are desperate from many places for help, those I don't charge them. It may be like 20–30 people in a year." (f3)

"...ask them to buy books to get information about nutrition, the food encyclopaedia is at \$150 and medicinal plant volume 2 books are at \$100." (m2)

"...they pay consultation fee of \$ 4 and buy medicine separately, one strong piece of advice was that I should never give medicine free, medicine I should charge a certain fee known as *enteerabishaka* for going to the bush to collect medicine and I charge 1000 UGX (<\$1)." (f7)

"...yes I get a cow for *okutashurwa*, thanks of some kind, and another one will come tomorrow to bring *omushenga*, a kind of a gift in the form of food." (m9)

Most traditional healers mentioned that patients who failed to improve on their treatment were told to return to the public hospitals in the professional health sector. A few traditional healers reported that some patients were retained in the folk sector to continue their treatment. Other traditional healers however, said that some patients remained in the popular sector at home and the treatment was collected by the relatives from the traditional healers' facilities in the folk sector.

"...condition has failed to improve, the person is asked to go back to the hospital for more investigations, possibly there are other health problems." (m1)

"...not found anyone who has failed to improve, all of them come back to show their appreciation." (m6)

"...try to give facts and information about diet and ask them to keep coming back for three months." (m3)

"... don't refer them, sometimes the medicine is collected by the relatives until the condition improves." (f4)

3.2. Management of diabetes

Many traditional healers could tell how they knew that the patient had diabetes by mentioning symptoms of diabetes or signs related to glycaemic control such as polyuria, polydipsia, nocturia, polyphagia, and some of them relied on diagnosis of diabetes confirmed by the professional health sector, and a few could do blood sugar tests from their own laboratory.

"...they come with passing urine many times, a person tells about feeling dry and thirsty most of the time, waking up many times in the night to pass urine, hungry all the time and does not get satisfied with food you see the skin, it is dry." (m8)

“...then I ask whether they have ever been to the hospital for a blood test, if the answer is no, I send them to the hospital for the laboratory test.” (f4)

“...most patients don't start from here they come with diabetes results on their medical records...if it is not clear we take blood sugar test to know how much the person has.” (m6)

However, other signs not related to diabetes were mentioned: sharp bodily pains, weak cervical and femoral lymph nodes, and differences in blood groups, that some blood groups have higher blood sugar than others.

“...starts with *amacuumu* sharp bodily pains, and feels heat all over the body...diabetes has many types of blood groups...in some blood groups, blood sugar rises more than others.” (m4)

“...examine the pubic area and around the neck I find weak lymph nodes.” (m9)

Most traditional healers advised patients to complement their treatment, meaning that patients continued with what they had in terms of medication for diabetes, but others were advised to stop their former treatment and switch to taking the traditional medicine only.

“...meet many patients but I don't stop them from taking their medicines. Herbal medicine is not harmful when taken with other treatments.” (m2)

“...if someone comes with another medicine, I tell them to stop that one because we are going to give this one, combining medicine is not good. The strength is not known when we combine the two...it works well when western medicine is stopped completely.” (m1)

Management of diabetes at the traditional healers was mainly described as using herbs and different food items. Some herbs were known; other medicines had labels based on the function they perform while the names of other medicines were not revealed. There were some medicines that were imported from many places like Kenya, India and Tanzania. Few traditional healers mentioned treating patients with hot baths which they termed as hot springs.

“...you get a person with diabetes get the roots of *ekitojo*, a local medicinal plant, pound them, make a mixture and pack it in the bottles...wait for at least two days to change yellow colour if not you add on another medicine...no I cannot mention this one unless it is paid for.” (m1)

“... medicine is known as *omuravunga*, a local herb the extract from the leaves give a mug after every meal, the second one is *enyabarashana biden pilosa*, this gives strength in the body and the treatment is likely to cure diabetes but the person has to adjust to a fat-free diet.” (f1)

“...those with diabetes, we give medicine for fevers, on the other hand this medicine treats diabetes also...aloe vera is for many conditions and other medicines...yellow powder is from India together with *zaabu*.” (f4)

“...we have four types of medicines, *suubi* syrup restoration of hope, *Mutuuzza*, restoration of peace of mind, this expels gas and acts on the abdomen, treats fevers, gastric ulcers, and cleans blood. We have *kandali* mixture and we offer other services such as hot spring, hot bath and massage.” (f3)

Food was in the form of local fruit and vegetables. Those with a bitter taste were recommended for consumption. Others were given as food supplement to boost immunity, detoxify or cleanse the blood. Many traditional healers mentioned counselling, and

teaching patients about diet and exercise in some cases. Other traditional healers reported continuing to monitor patients' progress via phone calls.

“...then we give tea to clean blood and the blood vessels open to allow blood to move freely...when the blood vessels are blocked, blood does not reach some parts of the body and these parts get problems.” (m6)

“...one special plant known as stinging nettle, it is good for people with diabetes. It acts by detoxifying the blood therefore it cleanses it and stabilizes the production of insulin...it is used as vegetables.” (m2)

“...teach and counsel them to have hope for improvement, it builds on the hope a person has, we avoid some words like you are very sick...those statements scare a person to death...surprisingly through active treatment you get to be informed that the patient is improving by telephone.” (f4)

4. Discussion

Healthcare-seeking behaviour in persons with diabetes has not previously been studied, with a few exceptions (Atwine et al., 2015; Hjelm & Atwine, 2011). This study is unique as it investigates healthcare seeking and management of diabetes from traditional healers' perspective. Healthcare was sought from the professional health sector, mainly from public hospitals, before the patients switched to the traditional healers. Traditional healers stated that the main reasons for seeking help from their facilities were chronic conditions such as diabetes and high blood pressure and the perceived failure of western medicine to manage diabetes. TM therapies used to manage signs of diabetes/glycaemic-related complications were herbal medicine, nutritional products and counselling. However, many patients whose conditions were difficult to manage were told to return to the public hospitals in the professional health sector. The cost at the healers' facilities also influenced healthcare seeking because it was perceived to be affordable as it was negotiable, accessible because it was always available.

Ill-health experienced by patients with diabetes has remained an issue to compel patients to switch between different healthcare providers (Atwine et al., 2015). According to traditional beliefs, every illness has a cure; in the context of these beliefs the scientific description of diabetes as a chronic non-communicable disease exposes the limitations of biomedical medicine and motivates people who subscribe to these widely held beliefs to turn to traditional healers (Awah, 2006). The perceived failure of western medicine to improve health in diabetes is a challenge which warrants paying attention to those who seek healthcare from traditional healers. Healthcare-seeking behaviour in these patients could have been influenced by inadequacies in the functionality of the professional healthcare system and unavailability of diabetes medication (Xu et al., 2006). Many patients with diabetes are frustrated by the high cost of accessing western medicine in the professional health sector that provides diabetes care, because it is distant and medication is frequently out of stock (Atwine et al., 2015). On the other hand, traditional healers in this study appeared confident in their treatment modalities for curing diabetes, as elsewhere in South Africa (Peltzer et al., 2001; Pelzer, 2009).

Some healers also borrowed western methods in their practices by acquiring laboratory facilities in their healthcare setting. Foreign applications have been added to their practices, such as imported medicines from Kenya, Tanzania and India, and the use of hot baths/hot springs. The hot-tub therapy increases blood flow to skeletal muscles when used appropriately for patients with diabetes (Matheka & Alkizim, 2012).

The birth of Traditional and Modern Health Practitioners Together against AIDS (THETA) in Uganda in 1997 (Degonda & Scheidegger, 2009) brought together traditional healers to share their indigenous knowledge with healthcare professionals to promote safe practices in combating the HIV/AIDS scourge. This might have greatly influenced some of the practices of these healers, because all of them were under the umbrella of THETA and some of them were area leaders of the association. Apart from owning medicinal gardens in their courtyards, some of these healers manufacture products that are easily accessed on open market in the country. THETA may be important for reaching the traditional healers in the region. Health professionals may start diabetes programmes designed to work in collaboration with these traditional healers to improve patients' healthcare-seeking practices. Traditional healers regard themselves as naturally-gifted people because they can diagnose the case and treat it with their products (Mbeh et al., 2010).

Healthcare at the traditional healers was perceived to be accessible, affordable and acceptable, but continuously switching between different healthcare providers may carry potential high risks of draining personal resources in terms of time and money at the expense of improved health and well-being of individuals. Diabetes that is inadequately managed progresses into micro- and macro-vascular complications that put a large financial burden on an individual and their families due to the cost of medical care, consequently with a substantial economic impact on the national health system (IDF, 2015). There was no formal referral system for these patients. Traditional healers told the patients whose conditions were difficult to manage to return to the public hospitals in the professional health sector. This type of back-and-forth movement of healthcare seeking delays diabetes management. Hence the call for possible collaboration between health professionals and traditional healers through training in order to improve diabetes care as recommended (WHO, 2013).

It was discovered elsewhere that herbal medicine and nutritional products were used to treat patients with diabetes; these include prayers and relaxation techniques to manage diabetes (Peltzer et al., 2001). Nutritional products were given to boost immunity, detoxify/cleanse the blood. Advice on treatment had a twofold impact. Some patients were told to stop taking the medicine they had come with and switch to traditional medicine only. A major concern is that patients may opt to replace clinically proven western medicine with TM/CAM therapies (Atwine et al., 2015). This practice is quite contrary to the guidelines on effective diabetes care (American Diabetes Association (ADA), 2015). Consequently, for those who combine western and traditional medicine the effect may interfere negatively with glycaemic control and cause adverse complications (Matheka & Demaiio, 2013). It is thus important for health professionals, particularly nurses, to assess data on whether the patient uses TM/CAM or not.

Traditional healers were committed to their work through other forms of engagement with their clients such as teaching, counselling, keeping connected, even when patients were at home, through phone calls. It is logical to imagine that the TM system is holistic in its application by dealing with the mind, body and soul of individuals/families (World Health Organization (WHO), 2010). It was noted that traditional healers are not ready to reveal their core treatment for diabetes to the public. A potential health consequence in this is that patients do not know about the medicine they get for their health problems. This leads to scepticism about discussing TM use with health professionals to effect further management. Collaboration between healthcare professionals and traditional healers might create a fundamental basis for cooperation to improve healthcare-seeking practices for persons with T2D, as with the case in Cameroon where traditional healers were trained in diabetes care (Mbeh et al., 2010).

4.1. Limitations

Results from qualitative studies may have limitations because of the difficulty of generalizing data (Patton, 2015), but carefully collected and analysed data are transferable to similar populations, and the main aim of qualitative studies is to understand what is going on instead of explaining.

5. Conclusion

This study highlighted that healthcare-seeking behaviour and management of diabetes is complex in developing countries. T2D management has been influenced by multiple factors attributed to perceived dissatisfaction with western treatment or unmet expectations with care providers. This is affirmed by the 80% of the African population who use TM to meet their health care needs (WHO, 2013). It is worth observing that people with T2D are likely to continue switching between different healthcare providers because of community influence and beliefs that TM is easily affordable and accessible (Rutebemberwa et al., 2013).

The lines between the popular, folk and professional health sectors are porous; therefore they act as points of entry and exit of patients at given time (Kleinman, 1980). It is important to develop well-organized diabetes care focused on self-care diabetes education, raising awareness about glycaemic control to prevent the development of costly complications (IDF, 2015). Living conditions including treatment costs, healthcare organization, patients' health beliefs and general condition seem to have a major influence in the healthcare-seeking practice of persons with T2D (Atwine et al., 2015). Patients need individualized diabetes self-management education and support in order to be helped to sustain long-term adjusted behaviour of medical healthcare follow up to achieve effective diabetes management (Haas et al., 2012).

Nurses and other health professionals need to carry out a comprehensive health assessment to identify the educational needs of all individuals with diabetes, including those who do not frequently attend clinical appointments in order to provide appropriate educational, psychological and clinical support (Funnell et al., 2011).

Conflict of interest

The authors declare no competing interests.

Authors' contributions

Both authors were involved in the study design, data analysis and manuscript preparation.

FA was also responsible for data collection. KH provided the overall supervision, technical guidance and material support, and both authors were involved in report writing and approved the final manuscript.

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References

- American Diabetes Association (ADA) (2015). Diabetes care: Standards of medical care in diabetes. *The Journal of Clinical and Applied Research and Education*, 38(1), 1–99. <http://dx.doi.org/10.2337/dc15-s001>.
- Atwine, F., Hultsjo, S., Albin, B., & Hjelm, K. (2015). Health-care seeking behaviour and the use of traditional medicine among persons with type 2 diabetes in

- south-western Uganda: A study of focus group interviews. *Pan African Medical Journal*, 20(76), 5497. <http://dx.doi.org/10.11604/pamj.2015.20.76.5497>.
- Awah, P. (2006). Diabetes and traditional medicine in Africa. *Diabetes Voice*, 51(3).
- Degonda, M., Scheidegger, P. (2009). Traditional Healing in Uganda. A statistical analysis of treatment by a group of traditional healers. *Ethno-Research* 03 <http://www.ethnoresearch.ch/publikationen/healing_uganda> Accessed 22 February 2016.
- Flick, U. (2009). *An introduction to qualitative research* (4th ed.). London: Sage.
- Funnell, M. M., Brown, L. T., Childs, P. B., Haas, B. L., Hoseney, M. G., Jensen, B., Maryniuk, M., Peyrot, M., Piette, J., Reader, D., Siminero, L., Weinger, K., & Weiss, M. (2011). National standards for diabetes self-management education. *Diabetes Care*, 34(1), 589–595.
- Guariguata, L., Whiting, D. R., Hambleton, J., Beagley, U., Linnenkamp, U., & Shaw, E. J. (2014). Global estimates of diabetes prevalence for 2013 and projections for 2035. *Diabetes Research and Clinical Practice*, 103, 137–149. <http://dx.doi.org/10.1016/j.diabres.2013.11.002>.
- Haas, L., Maryniuk, M., Beck, J., Cox, E. C., Duker, P., Edwards, L., et al. (2012). National standards for diabetes self-management education and support. *Diabetes Care*, 35(11), 2393–2401. <http://dx.doi.org/10.2337/dc12-1707>.
- Hjelm, K., & Atwine, F. (2011). Health-care seeking behaviour among persons with diabetes in Uganda: An interview study. *BMC International Health & Human Rights*, 11(11). <http://dx.doi.org/10.1186/1472-698X-11-11>.
- Hjelm, K., & Nambozi, G. (2008). Beliefs about health and illness: A comparison between Ugandan men and women living with diabetes mellitus. *International Nursing Review*, 55, 434–441.
- International Diabetes Federation (IDF). (2015). *International Diabetes Federation Atlas*. 7th ed. <<http://www.diabetesatlas.org>> Accessed 22 February 2016.
- Kalyango, J. N., Owino, E., & Nambuya, A. P. (2008). Non-adherence to diabetes treatment at Mulago hospital in Uganda: Prevalence and associated factors. *African Health Sciences*, 8(2), 67–73.
- Kleinman, A. (1980). *Patients and healers in the context of culture*. London: University of California Press.
- Kroeger, A. (1983). Anthropological and socio-medical health care research in developing countries. *Social Science and Medicine*, 17(3), 147–161.
- Matheka, M. D., & Alkizim, O. F. (2012). Complementary and alternative medicine for type 2 diabetes mellitus: Role of medicinal herbs. *Journal of Diabetes and Endocrinology*, 3(4), 44–56. <http://dx.doi.org/10.5897/jde12.008>.
- Matheka, M. D., & Demairo, R. A. (2013). Complementary and alternative medicine use among diabetic patients in Africa: A Kenyan perspective. *Pan African Medical Journal*, 15(110). <http://dx.doi.org/10.11604/pamj.2013.15.110.2925>.
- Mayega, R., Guwatudde, D., Makumbi, F., Nakwagala, F., Peterson, S., Tomson, G., & Ostenson, C. (2013). Diabetes and pre-diabetes among persons aged 35–60 years in eastern Uganda: Prevalence and associated factors. *PLoS ONE*, 8(8), e72554.
- Mbeh, N. G., Edwards, R., Ngufor, G., Assah, F., Fezeu, L., & Mbanja, J. (2010). Traditional healers and diabetes: Results from a pilot project to train traditional healers to provide health education and appropriate health care practices for diabetes patients in Cameroon. *Global Health Promotion*, 1757–9759(2), 17–26. <http://dx.doi.org/10.1177/1757975910363925>.
- Ministry of Health (MoH) (2010). *Health Sector Strategic Plan 111 2010/11–2014/15*. Uganda: Kampala, Ministry of Health.
- Moshi, M. J., & Mbwambo, Z. H. (2002). Experience of Tanzanian traditional healers in the management of non-insulin dependent diabetes mellitus. *Pharmaceutical Biology*, 40(7), 552–560. <http://dx.doi.org/10.1076/phbi.40.7.552.14691>.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). London: Sage Publications.
- Peltzer, K., Khoza, L. B., Lekhuleni, M. E., Madu, S. N., Cheian, V. I., & Cheria, L. (2001). Concepts and treatment for diabetes among traditional and faith healers in the Northern Province, South Africa. *Curationis*, 24, 42–47.
- Pelzer, K. (2009). Utilization and practice of traditional/complementary/alternative medicine (TM/CAM) in South Africa. *African Traditional CAM*, 6(2), 175–185.
- Rutebemberwa, E., Lubega, M., Katureebe, S., Abanga, O., Kiweewa, F., & Mukiga, D. (2013). Use of traditional medicine for treatment of diabetes in eastern Uganda: A qualitative exploration of reasons for choice. *BMC International Health and Human Rights*, 2(13), 1. <http://dx.doi.org/10.1186/1472-668X-13-1>.
- Semenya, S. S., & Potgieter, M. (2014). Bapedi traditional healers in Limpopo Province, South Africa: Their socio-cultural profile and traditional healing. *Journal of Ethnobiology and Ethnomedicine*, 10(4), 1–12. <http://dx.doi.org/10.1186/1746-4269-10-4>.
- Van Dieren, S., Beulens, J. W., Van der Schouw, Y. T., Grobbee, E. D., & Neal, B. (2010). The global burden of diabetes and its complications: An emerging pandemic. *The European Journal of Cardiovascular Prevention and Rehabilitation*, 17(1), S3–S8. <http://dx.doi.org/10.1097/01.hjr.0000368191.86614.5a>.
- World Health Organization (WHO) (2010). *Bulletin of the World Health Organization: Health transition in Africa. Practical Policy Proposals for Primary Health Care*, 88(12), 877–953.
- World Health Organization. (2013). *World Health Organization, Traditional Medicine Strategy 2014–2023*. Geneva.
- World Medical Association (WMA) (2013). *World medical association declaration of Helsinki ethical principles for medical research involving human subjects. Journal of the American Medical Association*, 310(20), 2191–2194. <http://dx.doi.org/10.1001/jama.2013.281053>.
- Xu, K., Evans, D., Kadama, P., Nabyonga, J., Ogwal, P., Nabukhouzo, P., & Aguilar, A. (2006). Understanding the impact of eliminating user fee: Utilization and catastrophic health expenditure in Uganda. *Social Science and Medicine*, 62(4), 866–876. <http://dx.doi.org/10.1016/j.socscimed.2005.07.004>.