

Patient perspective on barriers in type 2 diabetes self-management: A qualitative study

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Abstract

Aim: To explore the perceived barriers in Type 2 Diabetes care among patients with diabetes. Design The study adopted a qualitative exploratory-descriptive design.

Methods: A semi-structured interview guide was used to collect data from fifteen (15) purposively sampled patients with Type 2 Diabetes at a primary level health facility in the Bono East region. Participants' ages ranged between 42–72 years. The interviews were audio-recorded, transcribed verbatim and analysed using thematic content analysis.

Results: Patients with Type 2 Diabetes encountered a range of barriers in diabetes care. These barriers included lack of knowledge of diabetes dietary management strategies, financial constraints, non-compliance to treatment, lack of glucometers, lack of social support, and increased waiting time at health care facilities. The findings indicate that more education on diabetes and dietary management is required as well as social support from peers, family, and non-governmental organizations.

Patient or public contribution: Diabetes self-management barriers as revealed by the patients who were participants of this study requires nurses and midwives to ensure that self-management education is well understood by patients and their relatives. This would empower the patients and bring clarity to their confusion about self-care practices.

KEYWORDS

barriers to treatment, qualitative study, self-management, Type 2 Diabetes Mellitus

1 | INTRODUCTION

One complex lifelong disease condition among non-communicable diseases that distresses the lives of individuals and families globally is diabetes mellitus (Arena et al., 2017; Mitchell-Brown, 2014). In 2017 alone, it claimed the lives of about 4 million people worldwide and it is one of the top 10 causes of death in people above 20 years (International Diabetes Federation, 2019). In the past 20 years,

the number of adults affected has more than tripled (International Diabetes Federation, 2019). The three main types are: Type 1, Type 2 and gestational diabetes with Type 2 diabetes accounting for about 90% of the total number of diabetes globally (Saeedi et al., 2019; Zheng et al., 2018).

The worldwide prevalence of diabetes among the adult (20–70 years) population in 2019 was estimated to be 463 million (International Diabetes Federation, 2019). The prevalence of

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diabetes has also been rising so rapidly in low- and middle-income countries of the world and seems to be higher in females than males (Mirzaei et al., 2020).

According to the International Diabetes Federation (IDF) Africa, about 19 million people between the ages of 20 and 70 years are living with diabetes in Africa and this is projected to rise to 47 million by 2045. About 45 million adults have impaired glucose tolerance, putting them at the risk of developing T2D and this is likely to hit 110 million by 2045 (International Diabetes Federation, 2019). This notwithstanding, an overwhelming 60% of the populace with diabetes in IDF Africa are unaware of their status (International Diabetes Federation, 2019). In 2019, about USD 9.5 billion was spent as expenditure on healthcare for people with diabetes which was less than 1% of the global health expenditure on diabetes. In sub-Saharan Africa, the prevalence rate of diabetes was 3.2% (Ogurtsova et al., 2017). This figure is expected to increase to 5.1% by the year 2030 and 5.2% by the year 2045 (International Diabetes Federation, 2019). Sub-Saharan urban settings are the most afflicted due to lifestyle changes including inactivity, ageing and nutrition concerns (Mbanya et al., 2010). Several factors including older age, central obesity, increase in body mass index and family history of T2D is largely associated with the disease (Aamir et al., 2019; Sahile & Bekele, 2020) while low family income, high body mass index and low educational level were also associated with T2D (Xu et al., 2018) with a lower prevalence in individuals with better education. People with T2D rarely catered for themselves adequately regarding self-monitoring of blood glucose level and engaging in exercises with moderate adherence to medication and dietary recommendations (Stephani et al., 2018). People were also found to have poor knowledge of diabetes-related complications and used herbal medications. It was concluded that T2D self-management was generally poor in sub-Saharan Africa (Stephani et al., 2018).

The number of adult people living with diabetes in Ghana was estimated to be about 518,400 in 2017 out of a total adult population of 14,586,000. Now with an adult population of 15,452,100, the prevalence of diabetes in Ghana stands at 1.8% with 281,100 adults living with the condition and a 70% undiagnosed population (International Diabetes Federation, 2019). This makes diabetes one of the health challenges among the non-communicable diseases in the country.

The majority of research that has been done to unearth diabetes-related self-care barriers was conducted outside Africa, especially from Asia and countries such as the United States of America and Canada (Al-Sahouri et al., 2019; Bhattacharyya et al., 2011; Bustillos & Sharkey, 2019; Kulhawy-Wibe et al., 2018). These studies found the reasons that account for the diabetes self-management obstacles, such as inadequate family support, insufficient economic assistance, communication lapses between patients and health care providers, poor understanding of the disease condition as well as lack of that inner drive to put in an effort for change.

Even though there have been studies in sub-Saharan Africa, it appears that most of these studies adopted the quantitative approach (Desalu et al., 2011). Therefore, deeper insight into the difficulties in

self-care practices is lacking. Besides, there is limited literature on research conducted in Ghana on barriers to the management of T2D mellitus. Therefore, this study hopes to fill that gap using the qualitative approach to seek the perspectives of people with diabetes regarding factors that serve as obstacles to their treatment.

2 | METHODS

2.1 | Study design

This was a hospital-based exploratory-descriptive qualitative study (Grove & Gray, 2018) conducted at a hospital in Techiman. The study adopted this design to gain an in-depth knowledge on the obstacles faced by people with diabetes in the course of self-management. The social-ecological model by Mcleroy et al. (1988) was used to guide the study. The model was used to guide the interview questions focussing on the intrapersonal, interpersonal, organizational and community-level factors. The model assumes that the promotion of health in the individual operates at levels that are based on the individual's beliefs and understanding, family and social support as well as institutional factors. Opportunities are also available to enhance care at each level of the model through health education programmes, counselling, and support from friends, peers, families and organizations within the environment of the patient. This makes it robust for use in guiding this study.

2.2 | Study setting

The study was conducted in one of the largest Christian Health Association of Ghana (CHAG) facilities located within the Bono East region of Ghana. The hospital has a diabetes clinic that is run to manage all manner of diabetes cases. It also serves as a referral centre for hospitals and other health facilities within the Techiman Diocese. This mainly persuaded the choice of the facility as the study centre such that a wider catchment area may be covered.

2.3 | Study population

The population for this study consisted of all people living with T2D who usually sought care at a hospital in Techiman.

2.4 | Inclusion and exclusion criteria

The inclusion criteria included: people who were diagnosed with T2D by the physician for at least 1 year and usually sought healthcare from the hospital in Techiman; people who were at least 18 years old and able to express themselves in the native Bono or English language, which is the commonest medium of communication at the study setting and were willing to participate. The exclusion criteria included:

people with T2D who sought care for the first time and those who had comorbid chronic conditions. This measure prevented a situation where participants' experiences not related to the phenomenon of interest would be narrated to contaminate data.

2.5 | Sampling size

All people who fell within the inclusion criteria were selected using a purposive sampling technique to recruit 15 participants with T2D at the diabetes clinic. None of the people approached by the researcher declined participation in the study. In this study, after the 15th participant was recruited and interviewed, no new insight was elicited and therefore the interviews were truncated, a concept referred to as data saturation (Creswell, 2014).

2.6 | Trustworthiness

The trustworthiness of the research was ensured using the framework developed by Lincoln and Guba, which summarily says that in qualitative studies rigour can be achieved through credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985). To ensure credibility, the researcher ensured that the individual interviews conducted adhered to all qualitative interview protocols and the audio recordings were subsequently transcribed verbatim with member checking where a summary of data collected was presented to participants to ensure data accuracy and faithful representation of the views of participants. Transferability was ensured by providing a thick description of the context of the study and the participants. To ensure dependability, the study process was logical and all documents related to the study are traceable. Confirmability was ensured by following up with participants to clarify issues that cropped up during transcription to prevent the researcher from projecting his imagination.

2.7 | Data collection

A semi-structured interview guide, which is attached as an appendix (Data S1), was used to extract relevant information from the study participants. Open-ended questions which were piloted and modified were used throughout. This type of interview gives room for follow-up questions to get the best data from the participants. Through interviews, people can explain life experiences and state the meanings associated with these experiences through answers to a series of questions. After participant recruitment, 11 of the interviews were held in a serene office provided within the diabetes clinic while the remaining four were done at the private homes of the participants. With the consent of participants, the interviews were audio-recorded, and field notes were written once the researcher left the field. The endorsed consent forms were kept as part of the audit trail. The researcher took steps to build trust and rapport with participants to

create a safe, non-threatening and supportive environment for them to share their perspectives. The interviews were conducted over 3 months from November 2020 to February 2021 by the first author (JT), who is a trained qualitative researcher through individual face-to-face in-depth interviews without any third party. None of the interviews were repeated. The COVID-19 preventive measures, including wearing of face mask made communication with participants quite stressful since it was not easy to pick non-verbal cues. Nonetheless, all the recruited participants were interviewed successfully. After interviewing 15 participants, data saturation (Creswell, 2014) was achieved and this was confirmed when the last three participants (13, 14 and 15) did not produce any new insight into the phenomenon of interest. After each interview session, participants were provided with a summary of the data collected. This allowed participants to correct inaccuracies and omissions. All interviews lasted between 39 and 57 min. Nine participants were interviewed in Twi (Bono) language while six participants were interviewed in English. All the interviews in English were transcribed verbatim while those in the Bono language were translated into the English language by the skilled and bilingual researcher. Subsequently, the translated transcripts were verified by the second author (GPM) and the third author (KAK) to ensure accuracy and prevent the loss of meaning of data. GPM and KAK are qualitative researchers at a university in Ghana while the first author (JT) is a health tutor in a health training institution also in Ghana. At the end of each interview, participants were given a snack as an appreciation for their time.

2.8 | Data analysis

The English audio recordings of this study were transcribed verbatim while the Twi (local vernacular) recordings were translated into English after listening to the recordings severally to avoid misconceptions and misrepresentation in transcription. The data were analysed using thematic content analysis. The analysis relied on the approach where data were analysed concurrently with data collection (Creswell & Poth, 2018). After reading through the transcripts severally for familiarization by all three authors, who are also experienced qualitative researchers, frequently occurring words were initially coded line by line across the entire data set by assigning either words or phrases that represented the datum read. Similar codes were then grouped and regrouped and finally refined to form the subthemes in line with the constructs of the social-ecological model by McLeroy et al. (1988). This manual process continued until the data were exhausted. The inferences drawn from the data were subsequently discussed by the research team to ensure a total representation of the participants' world.

2.8.1 | Reflexivity statement

Throughout the research process, I consistently reflected upon my assumptions, biases and experiences as a nurse when investigating

diabetes self-care. Being mindful of the potential impact of my professional background, I made conscious efforts to maintain objectivity and minimize any preconceived notions that could influence the data collection, analysis and interpretation processes. Regular self-reflection and engagement with the research participants and existing literature helped me to challenge and interrogate my perspectives. While I strived to approach this study with an open mind, it is crucial to acknowledge that personal biases and beliefs may have unconsciously influenced the research process and findings. By providing this statement, I aim to enhance transparency and encourage readers to critically evaluate the study's outcomes within the context of my role and experiences as a nurse.

2.9 | Ethical considerations

Ethical approval for the study was obtained in October from the institutional review board (ethical clearance 'REDACTED'). The researcher further sought permission to access the study participants at the facility and all people with diabetes who met the study's inclusion criteria were duly educated about the study and its purpose to request their consent for the study. All participants signed the informed consent forms before data collection.

3 | RESULTS

A total number of 15 ($n=15$) people participated in the study constituting Ten females and five males. The age range of the participants was between 42 and 72 years with an average age of 57.9 years. [Table S1](#) attached as an appendix gives a detailed description of the demographic characteristics of the study participants. [Table S2](#) attached as an appendix gives a detailed information of the supporting data (themes, subthemes and participants' quotes).

Following data analysis, four themes and eight subthemes emerged as tabulated below in [Table 1](#).

3.1 | Intrapersonal barriers

This theme dealt with the individual-level factors, which served as barriers to the self-management of T2D. According to the study participants, a range of factors determined their ability to cater for themselves.

3.1.1 | Deficient knowledge on self-care

All participants expressed their knowledge about how their diabetes started, which prompted them to seek medical attention. Once they were diagnosed, steps were also taken to consciously manage themselves in terms of diet per knowledge gained about disease

TABLE 1 Summary of themes and subthemes.

Themes	Subthemes
1. Intrapersonal barriers	<ul style="list-style-type: none"> Deficient knowledge on self-care Lack of glucometer Forgetfulness Financial constraints
2. Interpersonal barrier	<ul style="list-style-type: none"> Peer support
3. Organizational barriers	<ul style="list-style-type: none"> Waiting time Lack of social support
4. Community-level barrier	<ul style="list-style-type: none"> Lack of resources

management. Nonetheless, some participants described the challenges they experienced in the process of dietary management.

Diabetes mellitus is a troublesome disease condition. If your body doesn't tolerate certain foods and you eat them, it makes you restless and uncomfortable, so I have avoided all such foods. As I sit here, I do not know the specific foods I should be eating
(DP009, 52 years).

Although this participant did not have enough information on specific dietary regimen for people with diabetes, she could identify foods that were not properly tolerated and avoided them.

Anything we lay our hands on we eat because there is no help from anywhere...
(DP001, 52 years).

3.1.2 | Lack of glucometer

One key piece of personal equipment that a person diagnosed with diabetes should have to enhance self-management is a glucometer. This study found that most of the participants did not have a glucometer to aid in self-management and therefore, blood glucose could only be monitored at the hospital.

I always check the sugar level when I come to the hospital for review. I don't have a personal glucometer for monitoring it at home. That is one challenge for some of us because sometimes the sugar level may go low or high but because we are unable to determine that immediately, we just continue taking our medication which may not be safe for use at the time
(DP015, 50 years)

Due to the lack of a glucometer, this participant could only monitor her blood glucose levels on a monthly basis during reviews, a practice that could mar the management of the disease

condition. However, the anti-diabetic medications were taken daily as prescribed.

Similarly, this participant only checks her blood sugar level at a nearby clinic or the main hospital. This is what she had to say concerning the glucometers.

I am unable to monitor the sugar myself because I do not have a glucometer. I don't have money to get one for myself. So, I always check the blood sugar level at a nearby clinic at a fee of GHC 5 cedis. Sometimes, I come to the antenatal clinic at the hospital for them to check
(DP004, 55 years)

3.1.3 | Forgetfulness

The factor of forgetfulness was a problem that heavily affected self-management as few participants related how their medication doses were skipped because they could not remember to take the medications on schedule.

All my medications are taken orally and I usually take them after food. The challenge is that, because of the nature of my work, I wake up so early to start work and there are times I have forgotten to take my medications
(DP009, 52 years)

The participant noted that even though she is committed to taking her medications on schedule, sometimes she forgets to take them. This participant is a trader who usually goes to the market early in the morning when it is not yet time to take her medications; she therefore forgets sometimes to carry her medications along leading to skipping of medication doses.

One challenge is that sometimes I forget to take some of the doses. When I remember to take a particular dose and it coincides with the next dose, I just take the current dose and forget about the previous dose. My wife also reminds me sometimes
(DP010, 55 years).

Although this participant sometimes skips his medication due to forgetfulness, he is fortunate to have a very supportive wife who most of the time prompts him to take his medication when the time is due. This has posed a challenge in his quest to take control of his self-management.

3.1.4 | Financial constraints

One key factor necessary for effective self-care management in diabetes is access to resources including the individual's finances. Some of the participants gave various accounts of how

their financial status had affected their self-care management behaviours.

The most difficult aspect of this management of my condition is a lack of finances because I have to eat well before even taking the medications. So, where I don't have money to buy food, you can imagine. There are instances I didn't take the medications because I didn't eat
(DP007, 64 years).

This participant underscores the role finances play in the successful management of an individual's disease condition. Her medications are usually taken after eating, so when there is no money to purchase foodstuff for meals, taking the medication becomes an issue. This implies that some medications may not be taken because of a lack of food as a result of financial challenges.

Regarding my eating habits, initially, I used to eat three times a day and took my medication on each occasion afterwards, but now, it's difficult to get three square meals. My condition is also better so I eat something to keep moving...The recommended foods such as fruits and vegetables, I eat them but not always because of financial constraints
(DP005, 56 years).

This participant laments how financial difficulty sometimes dictates when to consume recommended foods, which play a major role in the self-care management of diabetes. Although there are a lot of fruits and vegetables available at his village where he resides, he is not able to consume them as he should because of financial constraints.

3.2 | Interpersonal barrier

This was the second major theme of the study which focussed on the social support systems available for T2D. This level of influence analysed the relationship between persons with T2D and social networks which is critical in diabetes self-management. According to the participants, there were diverse support systems available, such as their close relatives, husbands, wives, brothers and sisters, peers and friends but not all provided any such support to enhance T2D self-management.

3.2.1 | Peer support

Most of the study participants said they never benefitted from peer support in any form, but few admitted that they usually share ideas with their colleagues and through those discussions they could pick some helpful tips to guide their self-care management.

Some participants indicated how they were persuaded by colleagues to try herbal medicine for the treatment of their condition but they opted to continue using orthodox medicine.

...when we meet on clinic days, for instance, we exchange ideas... Some try to convince me about how the traditional medicine they are using is helping them but the next time I meet them at the hospital, their condition has deteriorated so much that others will subsequently die. I made up my mind never to be deceived by anybody into taking traditional medicine

(DP011, 72 years).

This participant has 30 years of experience with diabetes but did not see any benefit associated with the use of herbal medicine, although colleagues tried on occasions to influence him which he declined.

Another participant underscored how they had never benefitted from peer discussions and other forms of support.

When we come together, no one discusses his/her issues with anyone. We all come to report and get our medications to continue with our treatment. I have never shared any issue concerning my condition with any of my colleagues

(DP008, 70 years).

Clearly as noted by this participant, they usually report to the hospital to receive treatment on review days and nothing else. No one discusses anything with the other in terms of sharing ideas concerning their care. This could be that they did not see the need to share ideas in relation to their self-management or that their human relationships with each other were poor.

3.3 | Organizational barriers

The third theme of the study specifically examined the health institutions and organization-related factors, and how they played a role in the self-care management of people with T2D. Healthcare workers are instrumental in the provision of care and support to all patients under their care especially those with chronic health challenges, including persons with diabetes. According to the participants, health professionals and other organized groups, such as churches, did their part which invariably influenced self-care management.

3.3.1 | Waiting time

In the process of providing health care, some participants noted some behaviours among the staff which made them quite unhappy.

These issues bothered perceived favouritism towards some patients to the neglect of others while others complained of the lateness of staff members to work, especially those who check the blood glucose levels in the morning. According to the participants, some staff neglect their duties whiles chatting with colleagues or were seen fidgeting with their phones. These among others delayed them at the facility whenever they came for review. Some participants shared their experiences:

One time I came to the Hospital for review and left after 5 pm all because those at the Pharmacy neglected us and were there chatting. No explanation as to the reasons for the delay was given

(DP009, 52 years).

The quote above indicates that sometimes instead of performing their duties, the staff would neglect the patient causing an unnecessary increase in waiting time at the hospital. Such behaviours delay patients and make them unhappy at the hospital.

One participant lamented how they usually are made to wait for a long period of time at the hospital most of the time when they report for review and underscored the potential health effect it may have on them since they report without breakfast.

We waste a lot of time here frankly speaking but it is even better. At first, we use to keep it long enough and that is always very frustrating. Just imagine that we don't normally take breakfast before reporting to the hospital, so when we keep long like that it affects our health in a way

(DP008, 70 years).

The long waiting periods at the hospitals, especially where the patients most of the time do not take breakfast before attending the hospital because of the need to check their fasting blood sugar may be detrimental to their health. This could lead to several complications such as hypoglycaemia.

3.3.2 | Lack of social support

Social support focussed on the role of faith-based societies, such as churches and diabetes societies, non-governmental organizations (NGOs) and the affluent in society. Whereas little support was reported of the religious organizations such as churches and mosques, virtually nothing supportive was mentioned of diabetes societies, NGOs and the affluent who had the means of providing some support. Most of the participants were never aware of the society for diabetes.

...the church doesn't do much when it comes to the care of persons with diabetes. I believe if they were to organize health talks on diabetes and other conditions

and incorporate them into the church's plan, it probably would have helped a lot of people

(DP014, 46 years).

Occasionally, health education is organized by the churches and health personnel are invited to educate people of the community but this seems to be woefully inadequate.

Another participant who is a moslem emphasized the absence of activities such as organization of health screening exercises by health professionals at the mosque. This could have positively influenced the self-care management of people with chronic conditions such as diabetes.

Since I became a Moslem, I have never seen such an arrangement where health professionals are invited by the mosque authorities to give health education. If such arrangements happen elsewhere, I am yet to witness that at our end

(DP015, 50 years).

3.4 | Community-level barrier

The fourth theme that emerged from the data was community-level factors that affected the self-care management of persons with T2D. According to the participants, lack of resources among others militated against self-care.

3.4.1 | Lack of resources

This subtheme was a major issue hindering effective self-care management among participants. Participants lamented about a wide range of structural and human resource-related challenges within the community. These included a lack of training facilities for physical exercises, clinics and qualified medical staff among others. Some participants did not have a health facility within reach, which made them anticipate danger in the event of an emergency.

"I live in a village where there is no health facility so we always have to travel about 20 kilometres to get to the nearest health facility for care"

(DP005, 56 years).

Where I stay, there is no clinic to attend to me when I need help. We always have to travel about 15 kilometres to the nearest health facility to seek health care and I feel it does not help. You can imagine what will happen in an emergency

(DP012, 65 years).

The participants noted the absence of a clinic or health centre within the community, which made it difficult to access care when

they needed it without travelling long distances. This lack of health resources may be disastrous in an emergency, taking diabetes complications into account.

Some participants had a clinic in their community but the clinics were not resourced and therefore could not attend to people with diabetes. These under-resourced clinics often resorted to referrals because they could not perform a basic diagnostic test. One participant made her revelation as follows:

I didn't know I had such a condition until I reported to a nearby Health Centre with complaints of bodily weakness and inability to sleep. They referred me to a bigger facility without performing any test where I was diagnosed after they checked my blood sugar level which read 32 mmol/L

(DP014, 46 years).

Participants who stayed in some villages did not have health facilities to rely on for care in times of need, others had clinics in their communities but these clinics were under-resourced in material and human resources. Therefore, participants who did not have clinics in their communities had to travel some kilometres to seek care. The under-resourced facilities were also handicapped and had to refer their cases to better resourced facilities. These factors constituted challenges to people with diabetes.

4 | DISCUSSION

This study was anchored on the social-ecological model and discussed within four constructs: intrapersonal/individual factors; interpersonal; organizational and community level factors.

4.1 | Intrapersonal barriers

The study found that all the participants had a superficial knowledge of diabetes self-management. People with diabetes possessed some level of general information but lacked in-depth knowledge of medically sanctioned diets and did not have much information on complications of their condition (de-Graft Aikins et al., 2019; Jarab et al., 2018). Some participants had a low educational background which may have contributed to their lack of in-depth knowledge of diabetes. This low educational standard of participants has implications for management as patients may not understand a lot of self-management strategies, a view also held by Afaya et al. (2020). This implies that healthcare professionals should intensify their education on diabetes to ensure that most of the Ghanaian populace would be adequately informed to help reduce the disease prevalence and improve self-management strategies. This study found that most of the participants could not adhere to dietary recommendations. Some participants found it difficult to make a square meal at home and therefore managed with whatever food came their way.

This finding concurs with the work of Hushie (2019), who found that people with T2D had difficulties adhering to dietary recommendations. This finding was much anticipated as participants expressed their willingness to eat according to dietary recommendations but were constrained financially to purchase the recommended foods. The study found few participants to skip medication schedules as a result of forgetfulness. This aligns with previous studies (Aminde et al., 2019; Krishnan, 2020) that found non-adherence to anti-diabetic medication was associated with forgetfulness. The issue of non-adherence as a result of forgetfulness in this study may be linked to old age since most study participants were relatively aged (average age of 57.9 years) and may be experiencing cognitive challenges as a result of the ageing process. This implies that family caregivers have a key role to play to ensure that constant reminders are given especially to the aged to reduce the likelihood of forgetfulness in taking their medications. This study found that the majority ($n=12$) of the participants did not have a glucometer to enable them to monitor their blood glucose at home as part of self-management. Participants could only check their blood glucose on review days at the hospital, which occurred in most instances every 2 months. This is similar to the work of Mogre et al. (2019), who found the lack of glucometers among patients as a barrier to diabetes self-care. It appears most Africans with chronic conditions have challenges accessing vital equipment to enhance self-care practices. This may be a result of poverty since funds were needed for the acquisition of such equipment including the blood glucose testing equipment. As revealed by this study, financial constraint was a huge obstacle that affected some patients in seeking better living and health care. For instance, some participants had difficulty purchasing healthy food and therefore had to manage any food that came their way. Others could not buy blood glucose testing equipment and test strips. Such untold hardships affected disease management despite their commitment and willingness to take control. The study finding mirrors the work of Campbell et al. (2017) who found financial difficulties to affect various aspects of diabetes care including medication, disease supplies and healthy food.

4.2 | Interpersonal barriers

The study found that the majority of people with T2D received less support from their peers. Participants claimed they did not share many ideas to aid in self-care. Some participants perceived the advice they received from their colleagues as unhealthful. For instance, some were encouraged by their colleagues to use herbal preparation in addition to the orthodox medications, which they declined. A possible explanation for participants who declined to heed the advice of their colleagues may be fear of developing complications from combining treatments. On the contrary, Pienaar and Reid (2021), in their study on diabetes peer support intervention, found that peer support was very valuable as patients freely interacted with others including the health workers. In this regard, the element of fear disappeared and this could improve diabetes self-management. To

some participants because they met casually on review days and did not know each other, they never discussed issues about their disease and its management. This finding is inconsistent with the work of McGowan et al. (2019) who found peer support to be helpful. Several similar literature findings confirm that peer support in T2D enhances self-management (Castillo-Hernandez et al., 2021; Liang et al., 2021; Peimani et al., 2018).

4.3 | Organizational barriers

This study found that participants spent several hours of waiting time at the diabetes clinic on review days. This is comparable to the finding of Hushie (2019) who found that at the outpatient diabetes clinic, patients waited between 1 and 2 h to receive health services before leaving the facility. In this study, the delay of patients at the diabetes clinic was linked to several factors as advanced by the participants. Even though participants reported early on clinic days for review, some healthcare staff reported late for duty. Lateness to work has a negative impact on diabetes outcome since blood glucose monitoring would be delayed which eventually could lead to hypoglycaemia in people with diabetes (Dunlap et al., 2019). Occasionally, the file retrieval system in the hospital failed and that also accounted for their delay at the facility. It is worthy of note that a longer waiting time at the hospital negatively affects satisfaction levels and that has the potential of discouraging patients from follow-up visits.

The study also found social support as a barrier affecting diabetes self-management because it was lacking. Participants perceived the support from religious bodies, such as churches and diabetes societies, to be negligible. This is in contrast to the findings of Namageyo-Funa et al. (2015) where the study participants recognized the contribution of religion and spirituality in changing their unhealthy behaviour. Again, the wealthy within society were also reported to be unsupportive of people with diabetes as found in this study. The wealthy were expected to support through donations to help in diabetes management but this never happened. However, in a rich kinship network in southwest Nigeria, it was found that people with diabetes controlled glycemic levels well and this was strongly linked to family support (Osuji et al., 2018). It may be that advocacy to seek support for these needy patients was rather lacking. If advocacy is rekindled to solicit support from various organized groups and NGOs, it may enhance diabetes self-management.

4.4 | Community-level barriers

The study found that resources to enhance diabetes self-management were lacking within the community. These resources included facilities for exercise and well-resourced health clinics. This implies that those who could even exercise and needed such a space within the community may find it difficult to secure a safer environment for such physical activities. This claim is consistent with the findings of Tung and Peek (2015) who posits that adequate community

resources including technology could enhance diabetes care exponentially. People needed to travel long distances to secure the services of the nearest health centre or clinic. Where the clinics were found, they lacked the necessary material and human resources to adequately cater for people with diabetes. The finding aligns with the work of Wozniak et al. (2020) who found limited financial and human resources as a hallmark issue such that healthcare workers could not undertake even screening at the health centres to identify people with T2D and therefore had to rely on the referral system. In addition, concerns have been raised about the capacity of community health workers to effectively handle people with diabetes due to the nature of their training; meanwhile, they remain instrumental in the prevention of T2D (Gore et al., 2020).

5 | STRENGTHS AND LIMITATIONS

The social-ecological model used as a guiding framework for the study gave the researchers a better appreciation and understanding of the diabetes self-management challenges at all levels. The study captured patient challenges from a diverse group of participants due to the wide catchment area served by the study centre. One strength of the study is that it was able to gain in-depth knowledge on a wide range of diabetes self-management barriers especially in the middle belt of Ghana. This will equip health personnel to assist clients with diabetes to mitigate barriers that make self-care management a challenge.

The study however faced few limitations; the management challenges of T2D from the perspective of healthcare professionals if explored would have complemented those expressed by the patients. The wearing of a mask as a COVID-19 preventive measure made communication with participants quite stressful since it was not easy to pick non-verbal cues.

6 | CONCLUSION

Diabetes mellitus has over the years remained a canker worldwide with the T2D forming the overwhelming majority. Its management has also posed a challenge for both the health professionals and the patients, but successful management lies with the patient. This study found varied perceived barriers in T2D care from the perspective of the patient, which posed a serious threat to successful self-management. Financial constraint was noted as the most important barrier in self-care as it influenced all levels of care. Most patients could not afford a glucometer and were unsure about the appropriate diet to enhance self-care. The patient's peers were found to be unsupportive in diabetes care. An important institutional-level barrier was the increase in waiting time at the hospital. Generally, access to food was problematic due to financial constraints. The appropriateness of the qualitative approach adopted was evident as it allowed patients to express their subjective views on the subject. If the patient's knowledge of the disease is enhanced through

education and necessary support is given, self-management would be enhanced to lower the burden of the disease on the individual and society.

AUTHOR CONTRIBUTIONS

Justin Tuobeniyere: Conceptualization; Data curation; Formal analysis; Methodology; Funding; Writing—original draft; Writing—review and editing. Gwendolyn Patience Mensah: Conceptualization; Formal analysis; Methodology; Supervision; Validation; Writing—review and editing. Kwadwo Ameyaw Korsah: Conceptualization; Methodology; Supervision; Validation; Writing—review & editing.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest whatsoever regarding conceptualization, writing and reviewing of this manuscript.

DATA AVAILABILITY STATEMENT

All relevant data has been duly provided within this manuscript.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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