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Original Article

Attitudes towards, facilitators and barriers to the provision of diabetes self-care support: A qualitative study among healthcare providers in Ghana

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ABSTRACT

Statement of the problem: Self-care support provided by healthcare providers (HCPs) is critical to diabetes self-care. However, a number of barriers prevent HCPs from providing self-care support to people with diabetes. We explored attitudes towards, barriers and facilitators of the provision of diabetes self-care support among Ghanaian HCPs.

Methods: Fourteen semi-structured interviews were conducted among HCPs recruited from three diabetes clinics in Tamale, Ghana. All interviews were digitally recorded and transcribed verbatim. Transcripts were coded and analysed thematically.

Results: HCPs reported a sense of responsibility and urgency to provide self-care education to diabetes patients; while believing it was the patients' responsibility to self-care for their diabetes condition. Accordingly, HCPs perceived their role to be limited to information sharing rather than behaviour change interventions. Facilitators to the provision of self-care support included patients' motivation, and team work among healthcare professionals. Barriers that hindered self-care support included language barriers and poor inter-professional collaboration. Furthermore, HCPs discussed that they felt inadequately trained to provide self-care support. Healthcare-system-related barriers were inadequate office space, lack of professional development programmes, high patient numbers, inadequate staff numbers, inadequate health insurance and a lack of sufficient supplies and equipment in the hospital.

Conclusion: HCPs attitudes were generally favourable towards supporting self-care, albeit with a focus on information provision rather than behaviour change. Training in effective strategies for providing self-care support are needed, and better use of the resources that are available.

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1. Introduction

Diabetes is one of the most frequently occurring diseases worldwide, increasing from a prevalence of 366 million adults in 2011 to 425 million in 2017 [1,2]. The rapidly increasing prevalence of diabetes is pronounced in middle- and low-income countries [3,4]. It is a systemic disease that requires regular and quality

medical care to prevent the development of complications such as heart attack, stroke, kidney failure, amputations, loss of vision and nerve damage [5,6]. To reduce the risk of developing these life threatening complications, diabetes patients are required to follow self-care behaviours which include, but are not limited to, appropriate diet, sufficient exercise, taking medication, self-monitoring of blood glucose and foot care [7,8].

Health experts and international diabetes organisations agree that individuals with diabetes should receive self-care support to assist them to effectively manage their condition [9]. As defined by the Institute of Medicine, self-management/care support refers to 'the systematic provision of education and supportive interventions by health care staff to increase patients' skills and confidence in

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managing their health problems, including regular assessment of progress and problems, goal setting, and problem solving' [10]. Self-care support goes beyond the mere provision of information by healthcare providers (HCPs) and includes building patients' confidence and assisting them to make choices that will result in improved self-care and health outcomes [11]. The Chronic Care Model [12,13] and several diabetes treatment guidelines [14–16] strongly emphasise the role of self-care support and consider it a key dimension of quality care for individuals with chronic diseases including diabetes.

Supporting patients to self-care has been shown to decrease hospitalisations, emergency department visits and costs of care [9,11,17]. However, patient adherence to self-care is often poor [18]. For instance, a recent study from Tamale, Ghana found diabetes patients reporting poor adherence to four recommended self-care behaviours i.e. diet, exercise, self-monitoring of blood glucose (SMBG), and foot care [19].

The HCP plays a critical role in supporting diabetes patients to self-care [20,21]. However, studies of HCPs, primarily in high-income countries, indicate that HCPs often report they lack the knowledge and skills to properly support patients with the challenges of self-care [22,23]. Other barriers to supporting self-care which have been reported by HCPs in high-income countries include lack of motivation [23], lack of an enabling healthcare team to support self-care [22], provider non-compliance to treatment guidelines [24], lack of confidence in clinical skills [25], lack of effective communication tools, lack of reimbursement for preventive care [20,23,24], organizational constraints such as the absence of organizational systems to support diabetes management (i.e. registries, automatic recall systems and reminder systems); and the lack of an individualized plan of care [26]. Facilitators of self-care support have also been reported including effective provider-patient communication [27], continuing professional education in diabetes for HCPs [25], patients' responsibility for their self-care activities [28], patients' awareness about diabetes and its complications [29], working in multidisciplinary teams [28] and adherence to treatment guidelines [30].

It is plausible that the attitude HCPs bear towards their role of providing self-care support can either promote effective self-care support or forestall it. While a number of studies have investigated HCPs' attitudes towards diabetes care in general [29,31,32] those specifically reporting HCPs' attitudes towards self-care support are limited [33]. Although studies from high income countries have identified a number of facilitators and barriers to HCPs supporting diabetes care [34–36], the barriers experienced by HCPs and facilitators that promote self-care support in resource-challenged healthcare systems like those in sub-Saharan Africa are largely unstudied. Given the growing prevalence of diabetes in sub-Saharan Africa, such data are needed to guide health service planning in order to maximise the effectiveness of the very limited resources. Qualitative data are likely to be valuable for providing an in-depth understanding of the experiences and perspectives of HCPs in sub-Saharan Africa. The study aimed to explore attitudes towards and facilitators and barriers to the provision of diabetes self-care support among Ghanaian HCPs.

2. Methods

2.1. Design, setting and participants

A qualitative study was conducted in the diabetes clinics of the Tamale Teaching Hospital, West Hospital and Central Hospital located in Tamale, Ghana. Tamale is approximately 500 km North of Accra, Ghana's capital. HCPs were eligible to participate if they provided diabetes care in these hospitals (e.g. nurses, nutritionists/

dietitians) and had worked in the diabetes clinic for at least 3 months.

2.2. Recruitment

All staff of the diabetes clinics were invited to participate in the study. VM visited the hospitals on days scheduled for the diabetes clinics. Potential participants were approached prior to the start of the clinic and the purpose of the study explained to them. Those that agreed to participate were given an information sheet detailing the consent process and introduction to the interview. They were subsequently asked to sign a consent form if they agreed to participate in the study. Our purposeful approach in selecting participants was informed by our aim to choose participants who will provide rich information that will represent broad views concerning the provision of self-care support to diabetes patients [37]. The study was approved by the University of Newcastle Human Research Ethics Committee and the Tamale Teaching Hospital Ethics committee.

2.3. Data collection

Semi-structured interviews were conducted using a discussion guide informed by open-ended questions to explore general diabetes care, attitudes towards self-care support, facilitators and opportunities to improve self-care support and barriers to the provision of self-care support. The questions of the interview guide were derived from the literature [30,32] and were evaluated by all members of the research team who have varying levels of experience in qualitative research, chronic disease care and nutrition. The discussion guide was pilot tested on a group of four participants to ensure clarity, comprehension and understanding of the questions. The data generated from the pilot sessions were not included into the main data analysis. To ensure uniformity, VM conducted all interviews, which were individual and face-to-face, in a private room at the diabetes clinics. Interviews were digitally recorded. Participants were allowed to give detail and in depth information about their opinions and experiences regarding self-care support and its provision enabling them express their own understanding and point of view rather than assuming generalizations. Wherever necessary, VM probed, clarified or sought for elaboration of participants' responses. Participants were also granted the opportunity to express unsolicited opinions and experiences.

2.4. Data analysis

All interviews were transcribed verbatim. VM checked for transcription errors by comparing transcripts with the digital audiotapes. Coding of transcripts was done by VM following the constant comparative method of qualitative data analysis developed by Strauss [38]. Following an inductive, bottom up approach this method has been widely used for analysing qualitative data [39]. Transcripts of the individual interviews were read and re-read and assigned a series of codes. Another member of the research team coded a sample (i.e. 25%) of interview transcripts independently. These were then compared and any differences resolved through discussion between the coders, and with other members of the research team if required. The codes were grouped into similar themes/concepts. Data collection and analysis were conducted simultaneously until thematic saturation was realised. Results are presented as themes/concepts and augmented with illustrative quotes. Nvivo software was used for processing, ordering and comparison of codes.

3. Results

3.1. Participants

Seventeen HCPs were approached to participate and 14 (82%) agreed to be interviewed. This number was realised upon reaching a point of saturation whereby collection of further data and analysis did not yield new evidence. Nine of the participants were male (n = 9). Most were nurses (n = 8) and two each were physician assistants/prescribers, nutrition officers and dietitians. The only doctor who worked at one of the diabetes clinics was on leave at the time of data collection. The mean (SD) number of years working in the diabetes clinic was 3.2 (1.9) years.

3.2. Self-care behaviours HCPs usually recommend

Diet, exercise, SMBG and medications were the self-care behaviours that were consistently identified by HCPs.

We try to educate them on how they can monitor their blood glucose by themselves. We also try to educate them on what to eat and at what time. We educate them on how to take the diabetes medication and if they have any problem anytime to call on us. - Participant 12, Prescriber.

HCPs rarely mentioned foot care as one of the self-care behaviours/activities they recommend to diabetes patients. When foot care was mentioned, the issues addressed generally related to how patients could prevent getting wounds and cuts.

They should not be walking barefooted because if there's any nail or a needle they may get them pricked and the wound will be difficult to heal they should avoid all those home accidents so they don't get any wound that will become a challenge to take care of. - Participant 5, Dietician

3.3. Attitudes towards self-care support and self-care

HCPs expressed the following attitudes towards the provision of self-care support.

Sense of responsibility: All the HCPs considered it their responsibility to support diabetes patients to follow their recommended self-care behaviours. They recognised that self-care was very important in helping the patient maintain normal blood glucose levels in order to prevent complications. Furthermore, they recognised that they had a responsibility to facilitate or support diabetes patients to self-care for their condition i.e 'help them to help themselves'.

I have a very important role in treating patients and helping them to be able to help themselves at home to care for themselves in order to avoid any complications. - Participant 9, Principal Physician Assistant.

... it's our responsibility to ... let them understand what they need to do to have them improve upon their conditions. - Participant 5, Dietician.

Information-centric role: HCPs perceived self-care as the responsibility of the patient and that the provider's responsibility is to deliver the self-care message to the patient. They described their roles as providing information and encouragement (as opposed to behaviour change management) to the diabetes patients.

The things they are supposed to do on their own, ours is to find out whether they know and if they don't know, ours is to tell them and encourage them how they themselves are supposed to take the role to be doing it. So ours is just to encourage them and throw more emphasis on the fact that if you do this, this is what you will get. ... I will tell that if you try to take breakfast between 6:00 to 8:30, these are the benefits you'll get. And upon telling you all this, I don't follow you to your home so it's up to you then ... -Participant 5, Dietician.

For us, what we see as our responsibility is to get them informed. ... They spend very little time in the clinic as compared to their general life, so most of the things we encourage them to do by themselves, and that is even the objective of health care ... So if the person can do those things, what you just need to do is give the patient guidelines as to how to do them. - Participant 1, Nurse

3.4. Facilitators to the provision of self-care support

Patients' motivation and enthusiasm: HCPs were motivated by some patients' enthusiasm and eagerness to know about their condition and to receive counselling as to what to do to remain healthy. Furthermore, participants noted that over time they build relationships and a sense of belonging to the patients and vice versa.

The enthusiasm with which our patients come. Like, we see ourselves as a family. If you don't see a patient for a while we'll ask - even remind a patient, they know themselves, and say well, we haven't seen this person and we'll try to trace to find out what is it. -Participant 1, Nurse.

Team work: HCPs felt their ability to provide quality self-care support was influenced by team work and cooperation among their colleagues.

We do meetings from time to time, especially to discuss about how best to manage our clients.-Participant 3, Nurse.

... It is very common to come across a condition and when we are facing something, we all come together to bring our heads together and come to a consensus on how to manage the case. - Participant 5, Dietician.

3.5. Barriers to the provision of self-care support

3.5.1. Patient-related barriers

Language barrier: As shown in the quotes below, self-care support was hindered by the lack of a common language and translation difficulties.

That is my main problem because I don't understand Dagbani and they don't also understand English ..., so I try to call somebody to explain. - Participant 2, Enrolled Nurse.

Also the language; it is a problem because sometimes some of the terms it's quite difficult to put it in the layman local language. ... sometimes you have to make away with some of the technical terms and use really basic terms so that the fellow will understand. - Participant 14, Nurse.

3.5.2. Provider-related barriers

Poor inter-professional collaboration: Team work and cooperation was more likely to occur among healthcare professionals of the same type, such as among nurses, than among healthcare professionals of different types. Some HCPs were particularly concerned about the poor inter-professional collaboration between nurses and dietitians/nutritionists. Furthermore, competition and lack of sharing ideas did not also foster inter-professional collaboration.

..But if we could also talk about how each personnel involved in the clinic could work as a team. I don't know. ... But this staff feels he is more important than the next one. If you are not there, I will do my work and do it well. Our system is such that sharing is difficult. People find it difficult to share what they know.. – **Participant 6, Nutrition Officer.**

People can be difficult, when it comes to those colleagues who are naturally rude, such people you don't even go to them. However, you can go to those who are willing to share knowledge with you on the problem. – **Participant 13, Nurse, Male.**

They can't just understand the dietary management of the disease. Yes. Because of that, it's like if you are the one who identifies a case, it brings some controversies. They feel that they're the only people who should. And they feel that we are only assisting them. So when we identify cases and refer to them, they sometimes feel bad [They perceive that we are only assisting them but are not part and parcel of diabetes care]. – **Participant 10, Nutrition Officer.**

Healthcare professionals feeling inadequately trained: Some HCPs were not confident of their skills and felt inadequately trained. These HCPs felt that they needed more training on diabetes care and self-care support but this was not forthcoming due to the unavailability of continuous professional development programmes.

... no one has gone in to do any special training on diabetes. Yes. It is just on the job training. – **Participant 3, Nurse.**

So I feel I need more training regarding the clinical aspect of diabetes. – **Participant 6, Nutrition Officer, Male**

3.6. Barriers related to organisation of healthcare and the environment

High patient numbers: HCPs reported that their ability to provide self-care support was often hindered by high patient numbers. This usually resulted in HCPs spending less time with a patient than they felt was necessary.

The first barrier is time, because of the numbers. At times you wish that every clinic you will be able to spend at least 15 minutes with your patient so that they will also talk to you about their experiences. The equipment we are also using are too small in number. So usually when they are many like that you don't feel comfortable. You see them in that small space and they will be waiting for their turn. At times when you look at the numbers too, you can't ask any questions about the current problems that are affecting them. Even what they present to you as a problem is what you discuss with them. So I think time is a barrier. – **Participant 12, Prescriber.**

Ok, when there are too many cases for example, you may not have time to ask further questions or educate the client further because of the number of patients. – **Participant 14, Nurse.**

HCPs also noted the high patient numbers affected the scheduling of follow-up appointments:

That's why we give our patients two month periods of review. So usually if we are going to give them one month you come and the whole place is flooded. But we give each patient two months. – **Participant 1, Nurse.**

Inadequate office space: HCPs discussed that they lacked a permanent adequate space to conduct the diabetes clinic. This situation resulted in the diabetes clinic being carried out for a limited number of days during the week as they are required to use the consulting rooms interchangeably with other units of the hospital.

At the moment, we don't have a place of our own. ... they will tell you that they need their consulting room to do some other things when you also need it to care for your clients ... **Participant 3, Nurse.**

In one of the diabetes clinics those providing counselling shared the same office space with those who were taking the vital signs of the patients. For instance, the prescriber/physician assistant shared office space with the nutritionists such that two diabetes patients were usually inside the consulting room at every point in time.

Then also, it's still with work conditions. The setting, the atmosphere. We are sitting together with a prescriber and there's a nurse, and then another patients come in, they seem to join. So sometimes, it's difficult to get a person to talk about personal issues. – **Participant 6, Nutrition officer.**

Health insurance does not cover some medications: HCPs indicated that most of the diabetes medications were covered by Ghana's National Health Insurance Scheme. However, HCPs were concerned that not all the medications (generally more efficacious drugs) were covered by the scheme leading to patients purchasing some medications from their pockets which may be challenging for patients who have inadequate levels of income.

So mostly they are dependent on the health insurance covered medication so when you are prescribing anything outside that you can be sure that they may not buy it. – **Participant 1, Nurse.**

HCPs were also concerned that the insurance scheme does not provide an adequate quantity of drugs to be used by the patients until their next scheduled visit. HCPs thought this was due to the rationing of drugs by the insurance scheme.

With this health insurance system, you know they do rationing. ... They give the client two vials and that is it, whether it will take the client for a month or not. So most of the time, you find them coming to weep that they're not able to afford the rest of the medication. – **Participant 3, Nurse.**

Health insurance does not cover nutrition and dietetic care: The nutrition and dietetic care which is required by all diabetes patients was not covered by the health insurance scheme. Given that most patients have low incomes this limits their access to this kind of care.

Finance is also another barrier. The services we are rendering is cash and carry. It's not covered by health insurance. ... Some can

and others cannot afford so that's another barrier. –**Participant 5, Dietician.**

Inadequate staff: The diabetes clinic did not have all the required kinds of healthcare professionals needed for diabetes care such as diabetologists, endocrinologists, podiatrists, public health nurses, dieticians and nutritionists. Some diabetes clinics had some of these types of healthcare professionals but they were inadequate in number or were not directly associated with the diabetes clinic. There were also insufficient dieticians and only one hospital had a diet therapy unit. The rest had nutritionists who were undertaking the roles of dieticians.

Ideally, we are supposed to have public health nurse and a dietician attached to the diabetes clinic. As at now we have none. –**Participant 3, Nurse.**

... Currently we are just three dieticians in the three regions Every patient that is on admission is supposed to get some nutritional advice. But because we are limited we rather concentrate on cases that are referred to us Because of the numbers, we try to overlook some of those things and handle only the serious ones. –**Participant 5, Dietician.**

Inadequate teaching and learning aids: HCPs discussed that their self-care support was hindered by limited availability of teaching and learning aids such as pictures, demonstration cards, and banners.

I really would have preferred if there are pictures or videos or things of that sort that I could use. And we would have also preferred pictures of diets especially localized. It should ... be ... something that is Ghanaian that patients can use. Then I would have also preferred pictures of the complications of diabetes or maybe pictures of how the steps should also be done. – **Participant 14, Nurse.**

High turnover of staff: Some HCPs were replaced frequently at some of the diabetes clinics and may not always have been trained before they commenced work at the clinic. At some places there were no permanent HCPs for the diabetes clinic and any nurse could be called to work in the diabetes clinic at any time.

Like I said, we don't have a particular nurse So in the absence of this person, the next person will do - ... So you can be there consulting sometimes, and then a patient will ask for something and you won't even know. –**Participant 4, Enrolled Nurse.**

Inadequate continuous professional training programmes or workshops: Most HCPs were concerned that they did not get the opportunity to attend continuous professional programmes such as in-service training workshops, and educational tours.

You know, every day they revise the modes of drugs that were used previously and are outdated. ... They are supposed to provide workshops so that you will attend and upgrade your knowledge and skills set. To be up to the task. But lack of workshops for the staff to constantly upgrade is always a problem. – **Participant 11, Nurse.**

Furthermore, HCPs attempts to self-educate were affected by inadequate access to both hard copy and electronic resources.

We don't have internet access in the wards and we don't also have a library to go and read about diabetes. – **Participant 13, Nurse.**

We do a lot of reading, going to the internet, you do that on your own. You're not given credit to go onto the net.–**Participant 3, Nurse.**

Lack of medications and other diabetes-related supplies and equipment: HCPs discussed that their ability to ensure patients adhered to their self-care behaviours was sometimes hampered by the hospital's pharmacy running out of medications and other important supplies resulting in patients buying medicines out of their pockets from private pharmacies.

Also, from time to time, we run out of medication and clients will have to buy on their own. **Participants 1, Nurse**

A lot of the times also, we run out of strips to monitor their glucose. Sometimes our machines are down.–**Participant 3, Nurse.**

At times we also run short of drugs and we have to pick pharmacy shops that patronize health insurance. When they go to pick the drugs from those pharmacy shops, you don't even know the quality of those drugs.–**Participant 12, Prescriber.**

4. Discussion

We found that HCPs usually recommended the self-care behaviours of diet, exercise, SMBG and medications but that foot care was rarely mentioned. Both primary studies and systematic reviews have previously reported that foot care is sparingly investigated in the literature [40].

HCPs felt that it was their responsibility to provide self-care support to diabetes patients but adopted information-centric approaches instead of building patient-provider teams and patients' confidence for behaviour change. This is similar to the findings of Fransen et al. [33] in a qualitative study of HCPs and patients with low health literacy from the Netherlands in which HCPs adopted information-centric approaches. Such an approach is not consistent with the Institute of Medicine (IOM) definition, which makes it clear that the role of the HCP in self-care support goes beyond sharing information but includes building the confidence and ability of patients to make important choices about their self-care [11,41,42].

HCPs identified that self-care was the responsibility of the diabetes patient and expressed a desire for patients to take greater responsibility for their diabetes care. This perception demonstrated by the HCPs is consistent with the literature regarding patient empowerment that encourages patients to be responsible for their diabetes care with some level of support from their HCPs [32,43]. Funnel and Anderson suggests the need to change the typical orientation of the patient from “the doctor is responsible for my health” to “I am responsible for my own health” [44]. However, patient empowerment can be misconstrued by healthcare HCPs and instead of building patient-provider teams [33], HCPs offload their responsibility to that of the patients, especially if they are overstretched [11].

HCPs identified patients' motivation and enthusiasm to care for their diabetes as one of the things that facilitated their provision of self-care support to diabetes patients. This is encouraging as patient motivation is significant in the diabetes care process [45]. Given that self-care is a process and a lifelong one, its effectiveness is largely dependent on the patients' initiation and maintenance of self-care activities in the context of daily life events [46] in which motivation is a strong denominator.

Frequently cited in qualitative research as a facilitator of improved diabetes care including self-care support [47,48], HCPs

discussed that the existence of team work, motivated and facilitated their self-care support of diabetes patients. However, team work was common among HCPs of the same profession (e.g. nurses) but an apparent poor inter-professional collaboration existed among the various types of healthcare professionals required to provide diabetes care (especially between nurses and nutritionists/dieticians). The situation of poor inter-professional collaboration was probably borne out of poor communication and sharing of ideas and information among the various healthcare professionals. Some types of healthcare professionals felt they were more competent than other types or perceived that they had a more important role to play in diabetes care which did not foster inter-professional collaboration. In consonance with our findings, two previous studies, one from Belgium and the other from the Netherlands reported competition among specialists, dieticians, physical therapists, family physicians and primary care nurses as barriers to evidenced-based diabetes care [27,30].

An important patient-related barrier that was discussed by HCPs was language barrier. The basis of self-care support is effective communication between the patient and the HCP, and a language barrier hinders this process as well as health literacy regarding diabetes and may also affect patients' trust in HCPs to manage their diabetes [49].

Effective diabetes care including self-care support hinges on the availability of trained healthcare professionals, however the diabetes clinics had insufficient HCPs. The majority of these healthcare professionals felt inadequately trained in diabetes care which may be due to the little attention given to diabetes and its treatment in the curriculum of healthcare professionals from this setting [50]. We also found that there was a lack of key healthcare professionals such as endocrinologists, diabetologists, emergency specialists, and pharmacists, which are required for effective diabetes care including self-care support. It is concerning that except in one hospital, all the diabetes clinics had no doctors to provide patients with medical consultations. There was also a general lack or inadequacy of continuous professional development programmes for HCPs to enrol and equip their competencies regarding diabetes care. Opportunities to learn more about diabetes through the internet were also limited as internet connectivity was non-existent in almost all of the hospitals. These barriers place HCPs in a precarious position in which they may be willing to support patients to self-care for their diabetes but do not have the knowledge, skills, resources and opportunities within the healthcare system to do so. This situation also makes it difficult for the HCPs to create full time specialised teams solely devoted to diabetes care.

Self-care support was also hindered by inadequate office space. Although HCPs said they had a conducive environment to run the clinics, they felt it was inadequate. The inadequacy of the office space meant that the diabetes clinics could not be run daily, and they provided two or more services in one consulting room (e.g. taking vital signs of patients and providing counselling to patients). Scheduling of the diabetes clinic did not allow for patient flexibility regarding their appointments. This may affect patients' motivation to visit the clinic regularly to receive self-care support. The provision of two services in one consulting room may create privacy and confidentiality issues for the patients which may make it difficult for patients to fully express themselves and share information that they may not want other patients to know about.

Services such as nutrition and dietetic care were not insured and patients had to pay from their pockets to receive such care. This negatively affected the receipt of self-care support regarding diet especially for patients who did not have enough income to pay for such care. We also found HCPs reported that their self-care support was frequently hindered by the inadequacy of consumables such as glucose strips and medicines in the hospital as well as the lack of

regular access to basic diagnostic tools to test for important clinical variables such as HbA1c. This hampered the provision of evidenced-based diabetes care. All of these inadequacies create avoidable inconveniences for both patients and HCPs and may make patients feel less inclined to make regular appointments. The orientation of the healthcare system in Ghana and in several sub-Saharan Africa countries in which more emphasis is placed on acute conditions than chronic conditions may be an important contributor to the myriad of barriers hampering the provision of effective self-care support to diabetes patients.

4.1. Limitations, strengths and implications

Recruiting participants from only three diabetes clinics might not represent the views of all HCPs from Ghana thereby affecting the generalisability of our findings. Also, the exclusion of doctors due to their unavailability during the time of data collection might have limited the scope, experiences and perspectives explored. The majority of the participants in this study being nurses depicts the situation of inadequate set of HCPs for diabetes care in most developing countries like Ghana [51–55]. Nurses are the majority of HCPs of the healthcare system of Ghana and it is not surprising that majority of the HCPs responsible for diabetes care are nurses. A typical country in sub-Saharan Africa has 2 physicians, and 11 nurses and midwives per 10, 000 population compared to 32 physicians, and 72 nurses and midwives in the European region [56].

An important strength of the study is our use of semi-structured interviews which granted us the chance to collect in-depth information and to understand varied perspectives and experiences of providing self-care support to patients. It is also one of the first studies from sub-Saharan Africa to explore HCPs attitudes, perspectives and experiences of providing self-care support to diabetes patients thereby increasing our understanding of diabetes self-care support in the sub-region and also serves as a basis for future research in this area.

The current study brings to bear important areas that can be utilised by researchers, policy makers, hospital administrators, and practitioners to design interventions to improve diabetes care particularly in low and middle income countries. To allow for transferability of the findings of the current study, future research should explore further the barriers identified in this study that hampered the provision of self-care support. Future quantitative studies should also be conducted to determine the magnitude of these barriers and how those barriers affect patients' adherence to their self-care recommendations.

5. Conclusion

There is the need to create enabling conditions and opportunities for health care professionals to continuously develop and update their competencies in diabetes care. More resources should be committed to diabetes care and the healthcare system should place more emphasis on chronic disease management such as diabetes self-care support. HCPs should also endeavour to work in multidisciplinary teams to promote effective self-care support to diabetes patients.

Conflicts of interest

The authors declare that they have no conflict of interest.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.dsx.2019.03.041>.

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