REVIEW ARTICLE

DIABETES EDUCATION: THE NEED TO DO MORE

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ABSTRACT

Diabetes education also known as diabetes self-management education (DSME) is the ongoing process of facilitating the knowledge, skill, and ability necessary for pre-diabetes and diabetes self-care. It is a critical element of care for all people with diabetes and those at risk for developing the disease. There is an increasing amount of evidence to suggest that patient education for people with chronic diseases including diabetes mellitus is an essential component of effective disease management. It is necessary in order to prevent or delay the complications of diabetes and has elements related to lifestyle changes that are also essential for individuals with pre-diabetes as part of efforts to prevent the disease. The goals of diabetes education are to provide knowledge and skills training, help individuals identify barriers and facilitate problem solving and coping skills to achieve effective self care behavior and behavior change. This process incorporates the needs, goals, and life experiences of the person with diabetes and pre-diabetes and is guided by evidence-based standards. The overall objectives of DSME are to support informed decision-making, self-care behaviours, problem-solving and active collaboration with the health care team and to improve clinical outcomes, health status, and quality of life in a cost effective manner.

***Key words:** Diabetes mellitus, diabetes education, self management, barriers, behavior.*

INTRODUCTION

Diabetes mellitus is a chronic metabolic disorder due to relative or absolute deficiency of insulin and is associated with acute and chronic complications. It has also been described as a chronic, lifestyle disease. It is one of the most costly and burdensome chronic diseases of our time and a condition that is increasing in epidemic proportions throughout the world. According to the International diabetes Federation, 382 million people in the world have diabetes and an additional 175 million people living with undiagnosed diabetes with Africa having the highest proportion of these people (63%). All types of diabetes (particularly type 2 diabetes) are on the increase in every country with all nations, rich and poor suffering from the impact of this epidemic. It now affects higher proportion of persons in many developing countries than it does in western countries with 80% of these people living in low and middle income countries.

According to the World Health Organisation, Nigeria has the highest number of people with diabetes in Africa. Diabetes is a complex, chronic condition that requires both high quality clinical care and effective self management. There is an increasing amount of evidence to suggest that patient education for people with chronic diseases is an essential component of effective disease management. Diabetes education, also known as diabetes self-management education (DSME) : the process of teaching individuals to manage their diabetes is a critical element of care for all people with diabetes and those at risk for developing the disease. It is

necessary in order to prevent or delay the complications of diabetes and has elements related to lifestyle changes that are also essential for individuals with pre-diabetes as part of efforts to prevent the disease. The International Diabetes Federation (IDF) and the American Diabetes Associations (ADA) recommend DSME as a critically important, fundamental and integral component of diabetes prevention and care and should be available and accessible to every one. Diabetes Self Management Education is considered the cornerstone of treatment for all people with

diabetes and has been shown to be particularly supportive when clinicians interact collaboratively with patients in developing a plan of care that considers both the clinician's expertise and the concerns and priorities of the patient.

Definition

Diabetes self-management education (DSME) is the ongoing process of facilitating the knowledge, skill, and ability necessary for pre-diabetes and diabetes self-care. It is the process of providing the person with diabetes with the knowledge and skills needed to perform self-care, manage crises, and make lifestyle changes required to successfully manage this disease. The goal of the process is to enable the patient to become the most knowledgeable and hopefully the most active participant in his or her diabetes care. The goals of diabetes education are to provide knowledge and skills training, help individuals identify barriers and facilitate problem solving and coping skills to achieve effective self-care behavior and behavior change. This process incorporates the needs, goals, and life experiences of the person with diabetes and pre-diabetes and is guided by evidence-based standards. The overall objectives of DSME are to support informed decision-making, self-care behaviours, problem-solving and active collaboration with the health care team and to improve clinical outcomes, health status, and quality of life in a cost effective manner. However, there are significant knowledge and skill deficits in 50–80% of patients with diabetes with more than 50% of people with diabetes receiving limited or no diabetes self management education. Diabetes self management support (DSMS) on the other hand involves activities that assist the person with pre-diabetes or diabetes in implementing and sustaining the behaviors needed to manage his or her condition on an ongoing basis beyond or outside of formal self-management training. Consequently, the American Diabetes Association recommends assessment of self-management skills and knowledge of diabetes at least annually, and the provision or encouragement of continuing diabetes education.

In the United States, there is a national standard for diabetes self management education with a task force set by the American Diabetes Association and the American Association of Diabetes educators which reviews the standard every five years. The Standards encourage providers of DSME and DSMS to address the entire panorama of each participant's clinical profile. Regular communication among the members of participant's health care team is essential to ensure high quality, effective education and support for people with diabetes and pre-diabetes.

Effects of diabetes education

Diabetes education is effective in helping people with diabetes control their illness and maximize their health and is generally accepted as a cost-effective strategy. Studies have shown reduced glycosylated heamoglobin (HbA1c) with education. Shrader et al in the United States found an improved patient outcome with a reduced HbA1c in those who attended more than one class of DSME. Additionally, total cholesterol and low density lipoprotein cholesterol were reported to have reduced in other studies. There were also improvements in weight, triglyceride level, systolic and diastolic blood pressure in another study. A study in the USA found that patients maintained an improvement in HbA1c overtime, and employers experienced a decline in mean total direct medical costs. It is also widely reported that practiced interventions for patients with diabetes can be cost-saving and cost effective from both a medical and an economic perspective. Other studies in Nigeria and Egypt found improvement in knowledge and attitude of patients after educational intervention. Self satisfaction was also reported among those that attended more than one DSME class. A similar study among patients with diabetes undergoing dialysis found improvement in glycaemic control, patients' outcome and a better quality of life. Norris et al systematically reviewed 72 randomized controlled trials investigating diabetic education and found positive effects of self-management training in type-2 diabetes, particularly in short term follow-up.

Barriers to diabetes education

Even though patient education has been on for some time now, knowledge alone is insufficient to bring about behavior change. In addition, knowledge itself does not necessarily create an ability to enhance self-care if other priorities and barriers exist. Patient's health attitudes and personal barriers to diabetes care are influenced by social, cultural, socioeconomic and healthcare system factors. Although awareness of the value of education has improved, barriers to access to DSME exist in both developed and developing countries. The primary barrier to access to education is shortage of qualified diabetes educators. Additional

barriers include lack of financial reimbursement or support for education and inability for people with diabetes to get time away from work to receive education[7]. A study in the United States found confusing information, lack of awareness of target blood glucose and blood pressure goals as well as physicians not forth coming with information as barriers to diabetes self care[17]. Even though doctors have been identified as the primary source of diabetes information in some studies[7], the high patient volume, will make physicians less effective in patient education and this may explain why this was found as a barrier in this study. Patients' lack of awareness of the need of education was also found as a barrier in another study[7].

The challenges of diabetes education in Nigeria

Although group diabetes education has been shown in systematic reviews to be effective, these studies are mostly from resource rich countries with more developed primary health care systems[7]. The cadre of diabetes educators in sub-Saharan Africa was almost non-existent till 1998[11]. Awareness amongst health care professionals in Africa of the need for diabetes education has existed for only a few years[7]. In Nigeria, there are less than 100 diabetologists and a few nutritionists and diabetes educators and the knowledge of patients with diabetes is said to be poor[18-20].

Some studies in Nigeria looked at the attitudes and knowledge of patients with diabetes with an improvement after education[21]. The practice of self care is also poor; studies have shown that few people with diabetes practice self-monitoring of blood glucose[22,23] with less than three quarters of patients with diabetes engaging in any form of exercise or physical activities[24]. Inspite of the many efforts by health professionals and people with diabetes, patients continue to experience less than optimal outcomes, long term complications and diminished quality of life[7].

The challenges of diabetes education in Nigeria are many. Poor communication is a problem of diabetes education. Traditionally, health care professionals do not communicate well with the people in our care as many proceed to prescribe medications without offering an explanation of the nature and demands of the condition[3]. In Africa, many people with diabetes receive no advice whatsoever on coping with their condition which leads to potentially dangerous situation in which vulnerable people seek diabetes information from unreliable or even unscrupulous sources[3].

Another challenge of diabetes education in this environment is lack of appropriate materials. The bulk of the materials on diabetes care in Africa is from overseas and it is mostly not adapted to the local setting[3]. Additionally, the beliefs and cultural practices of the people can serve as a challenge. Nwankwo et al[25] found that people with diabetes believe that herbalists can cure diabetes with some going to the extent of taking herbal medications.

Poverty and lack of publicly funded diabetes care is another road block to diabetes education in this region. Poverty leads to lack of access to care where education is likely to be given.

Funding is another challenge. Diabetes and other non communicable diseases receive limited attention from the agencies that promote development in low and middle income countries; this is true even in the case of health promotion funding from the world health organization (WHO)[7].

Strategies for improving diabetes education among our patients

It is important that the challenges affecting diabetes education are faced headlong in order to equip patients with diabetes so as to manage their condition well since it is a said that people with diabetes provide about 99% of their own daily care[7]. Physicians, who are the primary source of diabetes information to patients should be aware of the importance of education in patients' care and learn to communicate well with their patients as this may lead to better care with better control and subsequently minimize complications. Health workers should learn to listen to their patients and encourage them to ask questions which should be answered appropriately. The attitude of the patients should also be addressed with a view to change the behavior of these patients. A behavior change protocol is attached in Table 1[7]. The volume of patients may however, not allow enough time for good communication which is key in diabetes education. Additionally, the inadequate number of endocrinologists and diabetic educators in Nigeria is also an issue. Therefore, the need to train other health workers especially nurses who have interest in diabetes care is imperative. These health workers together with the physicians can work with the patients putting their concerns and priorities first so

achieve the goals of diabetes education. Materials used for diabetes education should be indigenized using the language known to the people and the pictures should be simple, culturally acceptable and should serve as a springboard for discussions. These materials should be available in all hospitals and primary health centers. Public enlightenment should be pursued vigorously by all about bad practices that affect diabetes care. The media should be encouraged to inform people about the dangers of these practices with such information being screened by relevant bodies to ensure appropriate information is being disseminated. Community health workers should also be trained to educate the populace about the bad effects of some cultural practices and how it affects their condition. The need for diabetes care to be funded cannot be overemphasized. If diabetes care is incorporated into the health insurance scheme and the scheme is extended to involve many people, then all patients including the poor will have access not only to their drugs but also to education about their condition. Funding from relevant bodies should be encouraged. This should be directed towards diabetes care as well as prevention of type 2 diabetes since diabetes education is directed towards those at risk of developing diabetes also. In conclusion, the importance of diabetes education cannot be overemphasized. Even though there are challenges, health care workers must show commitment to educating their patients to achieve good control minimize complications and improve the well being of these patients.

Table 1. Behaviour-change protocol45

Behavior-Change Protocol17

Step I: Explore the Problem or Issue (Past)

What is the hardest thing about caring for your diabetes?

Please tell me more about that.

Are there some specific examples you can give me?

Step II: Clarify Feelings and Meaning (Present)

What are your thoughts about this?

Are you feeling (insert feeling) because (insert meaning)?

Step III: Develop a Plan (Future)

What do you want?

How would this situation have to change for you to feel better about it?

Where would you like to be regarding this situation (specific time, e.g., 1 month, 3 months, 1 year)?

What are your options?

What are barriers for you?

Who could help you?

What are the costs and benefits for each of your choices?

What would happen if you do not do anything about it?

How important is it, on a scale of 1 to 10, for you to do something about this?

Let's develop a plan.

Step IV: Commit to Action (Future)

Are you willing to do what you need to do to solve this problem?

What are some steps you could take?

What are you going to do?

When are you going to do it?

How will you know if you have succeeded?

What is one thing you will do when you leave here today?

Step V: Experience and Evaluate the Plan (Future)

How did it go?

What did you learn?

What barriers did you encounter?

What, if anything, would you do differently next time?

What will you do when you leave here today

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