Diabetes Self-Management Education Program
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Executive Summary

Kenya has a population of about 40 million people. Half of the population is comprised of adults aged between 20 and 79 years (Mwenda, 2012). The prevalence rate of diabetes in this age group is 4.66% (720, 730 cases). In 2012, 17,733 Kenyans died of diabetes related causes and 595,400 remained undiagnosed (International Diabetes Federation [IDF], 2012). Diabetes is the leading cause of kidney disease, heart disease, stroke, adult blindness and non-traumatic lower limb amputations (American Diabetes Association [ADA], 2012).

In Kenya, barriers to the provision of quality diabetes care and education include poor hospital conditions and inadequate resources, limited numbers of trained diabetic educators, and patient characteristics such as illiteracy, denial and poverty (Ministry of Public Health and Sanitation [MOPHS], 2010). Approximately 80% of Kenyans are uninsured and 45% live under $1 a day. Kenya provider payment mechanisms include out of pocket 36.7%, public 30.0%, donors 29.4%, private companies 3.4%, and others 0.5% (Kamunyo, 2012).

The ratio of physicians to patients in Kenya is one physician for every 6000 patients (Sunday Nation, 2012). Most health care providers are located in urban areas and therefore persons who live in rural areas face significant challenges in receiving timely, safe and quality diabetes care. They often forgo important diabetes management (Landon, Loudon, Selle, & Doucette, 2004). Travelling the long distances necessary to access diabetes clinics hinders patients from rural areas from receiving quality diabetes care from the clinics (Mutea & Baker, 2008; Rourke, 2010).

Many Kenyans with diabetes are elderly, have limited knowledge about diabetes, and they have poor attitudes and practices of the disease (Maina, Ndegwa, Njenga, & Muchemi, 2011). One cross-sectional study revealed that the level of diabetes knowledge in all regions of Kenya is poor,
but worse in rural areas. A shortage of nurses hinders effective teaching of diabetes self-management education (DSME) to patients (Gross et al., 2010) and the diabetes educators’ cadre in Kenya is not officially recognized (MOPHS, 2010).

It is believed that providing DSME to persons with diabetes in rural areas can empower them to care for their chronic illness and maintain their optimal level of wellness (Evans, 2010; Maina et al., 2011). DSME increases patients’ knowledge, attitude towards the disease and adherence to the recommended treatment regimen (Maina et al., 2011). Some studies have documented that DSME leads to improved quality of life, (Nelson, 2011; Sanchez, 2011), fewer emergency department visits, reduced hospitalizations, decreased morbidity and mortality and lower health care expenses (Chen & Cheng, 2011; Duncan et al., 2011). The benefits obtained through provision of DSME outweigh the cost incurred (Boren, Fitzner, Panhalkar, & Specker, 2009; Maina et al., 2011).

The purpose of this project is to develop a program that will be utilized by Kenyan hospitals to provide DSME to patients with diabetes in rural areas. DSME will help the patients attain skills to manage the disease. The project is based on Orem’s theory of self-care, which states that maturing or mature adults deliberately learn and perform actions to direct their survival, quality of life and well-being (Alligood, 2010). Community health workers (CHWs) will be utilized to provide DSME.

CHWs programs enhance accessibility and affordability of health care in rural communities, and are more appropriate to the health needs of the population than those of clinic based-services (Hunt & Grant, 2012; Landon et al., 2004; WHO, 2007). The most important role of CHWs is to act as a bridge between the community and formal health care system (Hunt & Grant, 2012; WHO, 2007). This project adapts the CHWs model of care provision for persons living in underserved remote areas. It is intended to address the need for DSME and quality diabetes care, for those living in rural and remote areas of Kenya (Hunt & Grant, 2012; Landon et al., 2004; Nkonki & Sanders, 2011; WHO, 2006; WHO, 2007).
The development of DSME program involved coming up with the criteria for hiring CHWs and recruiting community members with diabetes. The training modules were initially prepared and later modeled. A start up budget was devised and an operational budget was created thereafter. Evaluation materials, which included questionnaires, interview questions and checklists to be used during the review of records, were developed.

The DSME program is complete and ready to be implemented in any hospital in Kenya. North Kinangop hospital in Kenya is committed to implementing the program but the current delay is due to limited funds, more focus on infectious diseases, unstable political climate and the complications that it creates. The diabetes educators (DEs) will oversee the implementation process and the program director will provide oversight as needed. CHWs will be trained and monitored weekly by DEs and registered nurses (RNs). Adults with type 1 or type 2 diabetes, and HgA1c of greater than 6.5% will be identified. CHWs will provide DSME and make three months follow up appointments. DEs will keep the diabetes clinics informed of activities taking place in the community. Emphasis will be on prevention of complications from diabetes. Complicated cases will be referred to diabetes clinics for further management.

The evaluation plan for this program consists of process and outcome evaluation. Measures such as direct observation, questionnaires and interview sessions will be utilized. Process evaluation will involve monitoring CHWs’ knowledge of diabetes self-management skills. Patients’ mastery of skills such as blood sugar check, insulin injection and foot examination will be evaluated. Records will be reviewed to monitor diabetes self-management activities taking place in the community. Outcome evaluation will be accomplished by monitoring patients’ lifestyle change and quality of self-care. Clinical measures such as glycemic control, emergency department visits, hospitalizations, health care cost related to diabetes, morbidity and mortality will be monitored. Evaluation will be conducted every three months by the appointed DEs, RNs and CHWs.
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