



Primary Care Physicians and Diabetes Mellitus Care in Sub-Saharan Africa: Still Very Far Behind the Goals

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In a recent paper published in BMC Endocrine Disorders, Jingi et al. [1] assessed Primary Care Physicians (PCPs) practice vis-à-vis diabetes mellitus (DM) diagnosis, evaluation and management in a sub-Saharan African (SSA) primary care setting. They interviewed 66 PCPs and found that their level of knowledge and practices were not optimal at all, which highlighted the crucial need to urgently set up strong measures willing to upgrade PCPs' capacities with regard to DM care in SSA. Similar observations have been made in other parts of the globe [2].

DM exacts a heavy toll of illness and death worldwide with continuously increasing proportions, especially in SSA. In fact, according to the International Diabetes Federation 2014 estimates, 22 million people were living with DM in the region, hence a prevalence of 6.1% [3]. DM was responsible for around 8.6% of total deaths which occurred in SSA in 2013 [4]. What makes matters worse, it is estimated that one in two people living with DM do not know they have the disease, this proportion approaching 62.6% in SSA [3]. Moreover, DM causes significant morbidity, disability and early mortality through micro- and macro-vascular complications [5,6]. However and interestingly, early diagnosis and initiation of treatment can substantially prevent or delay DM progression and consequential complications, hence a reduction in the overall burden of the disease [7].

Actually, the large majority of people living with DM seek care in primary health care facilities, this being truer in low-income settings where these services are ill-equipped to respond to the continuously increasing demand with concomitant crucial lack of specialists, diagnostic tests and essential medicines [8,9]. Furthermore, Tomasik et al. showed that it is PCPs who are mostly responsible for provision of care for diabetes patients [2]. Consequently, PCPs must be well trained and capacitated to correctly diagnose DM and provide the best care for diabetes patients. Jingi et al. [1] pointed-out that this is not yet effective in some parts of SSA. There is strong evidence that dearth of knowledge and mis-practice regarding DM diagnosis, evaluation and management among care providers, limited consultation time due to overwhelming heavy patient load, and long intervals between patient visits significantly hinder attainment of goals of therapy in DM care [10-12].

Jingi et al. [1] proposed that PCPs should be continuously trained, and their knowledge and skills enhanced and strengthened, concurring with Tomasik et al. [2] Indeed, evidence has accumulated a significant improvement in the quality of care delivered to diabetes patients following an increase in PCPs knowledge and skills [13,14]. As they found no difference between PCPs who had already taken part in workshops dealing with DM and their counterparts who had not, Jingi et al. added that the trainings must be organized regularly, and the teaching methods adapted to the audience, mainly adults in their case, still in line with Tomasik et al. observations and suggestions [1,2].

The majority of PCPs in Jingi et al.'s study [1] did not know about prediabetes, something warranting urgent amendment. In fact, observational studies have demonstrated the association of prediabetes, a condition characterized by impaired fasting glucose (IFG) and/or impaired glucose tolerance (IGT) and/or disturbed glycosylated hemoglobin levels, with increased incidence of vascular complications,

akin to DM long-term complications [15-18]. Patients with prediabetes are at an increased risk of developing DM [16-18]. Besides, the prediabetes-state is associated with an augmented cardiovascular risk profile of affected individuals [18]. Moreover, there is convincing evidence, revisited by Ciccone et al., figuring the role of family history of diabetes in the overall incidence of cardiovascular events [18]. Family history of diabetes mellitus increases metabolic alterations predisposing to the onset of overt diabetes [18]. Additionally, it seems to overwhelm endocrinological alterations and provoke early lesions even in the vascular walls, increasing thereby the cardiovascular risk profile of individuals [18]. PCPs in SSA settings and elsewhere should be aware of these facts. More importantly, they should be trained to aggressively screen for prediabetes and implement specific measures (lifestyle modification and pharmacological interventions) so as to halt or delay its progression to diabetes, hence a reduction in the burden of the disease. It is true nonetheless that very little is currently known about the drivers of progression from prediabetes to diabetes in SSA. Thereby, something needs to be done in this concern.

There is currently no doubt that glycemic control in DM must be accompanied by strict monitoring of comorbidities, i.e. control of blood pressure and lipid levels for instance, which may delay the occurrence or progression of vascular complications due to DM [19]. But Jingi et al. showed that most of their PCPs did not actively concentrate on identification and control of comorbidities [1]. In an attempt to explain these findings, Jingi et al. argued that: (i) primary care services in their setting do not offer the opportunity to perform all the required exams, this underpinned by a previous report, precluding perhaps PCPs from prescribing these exams; (ii) PCPs may be limited or influenced by their patients' low socio-economic status; (iii) there are no national guidelines directing the practice habits of PCPs, and (iv) PCPs may not be aware of or familiar with international guidelines concerning DM management [9,1]. These two later points raise the importance of developing local policies and recommendations to guide the practice of PCPs with respect to DM care in SSA countries, and perhaps the need to take out some subscriptions to well ranked biomedical journals for SSA PCPs for constant updates.

Considering that lifestyle modification is a cornerstone of DM control, Jingi et al. [1] suggested that PCPs should be encouraged to adopt healthy lifestyles so as to easily counsel their patients on the huge benefits incurred, as it has been proven that physicians own lifestyles

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may influence the lifestyle counseling they deliver to their patients [20,21]. Moreover, these authors showed that most of their PCPs wrongly managed diabetic emergencies, stressing therefore that special emphasis should be made during trainings on management of diabetic emergencies [1]. Indeed, PCPs, especially in remote areas with extremely poor quality of roads, need to be sufficiently capacitated to manage such conditions, given that it may be very difficult for patients who might be referred to reach the reference health facility. Additionally, primary care services must be provided with the necessary material to manage these patients, as it has been shown that there is lack of availability and accessibility to diagnostic tests and essential medicines for DM care in SSA [9].

The last interesting observation from Jingi et al. is that the majority of PCPs had an heavy work load, some having to consult not less than 40 patients per day [1]. This may impede successful management of DM given that limited consultation time i.e. limited contact with diabetes patients is among the factors hindering good follow-up of these patients [8]. To overcome this limitation, it has been suggested the development of care teams including, other than PCPs, specialized nurses and pharmacists who may have the potential of being closer to diabetes patients in order to help them attaining their treatment goals [7,8,22,23]. Ciccone et al. showed for instance that introduction of care manager nurses into the primary health care system led to an increase in patient health knowledge, self-management skills, readiness to make changes in health behaviors and adherence to testing and treatment recommendations, alongside a significant improvement in patients' clinical parameters [23]. There is therefore a need to experiment such teams in SSA settings, as well as patient-centered care models. Studies in this regard are warranted to evaluate how cost-beneficial these actions may be in the milieu. On the other hand, the use of performance-based financial incentives in support of the fulfillment of care recommendations for diabetes patients has been suggested, though there may be absence of definite evidence in this regard at the level of primary care [24]. It may also be interesting to evaluate such a strategy in SSA.

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