

Improving Management of Diabetes Mellitus in Primary Care

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Diabetes becomes one of the fastest growing health challenges of 21st century and it causes a disproportionate burden on low-and middle-income countries. More than 500 million people in their middle age suffered from diabetes mellitus worldwide.¹ Tackling diabetes in primary care level had vital importance due to its significant burden and its complications. Primary care has a big and challenging role in managing diabetes mellitus in the community and also plays a central role in providing integrated collaborative care with Specialist in secondary and tertiary center.² There is strong evidence worldwide that primary diabetes care can provide cost-effective, comprehensive, and patient-centered management to prevent and treat T2D and its related conditions. For people with type 1 diabetes, although a specialist diabetes team usually manages them, the involvement of primary care in delivering aspects of care such as monitoring and managing secondary complications is increasing.³

Avoiding both short- and long-term complications are the primary goals of diabetes management. Not only are diabetes-related complications responsible for significant healthcare costs but they also can have a hugely negative impact on quality of life for the person living with the condition. Much of what we do is aimed at reducing modifiable risk factors, including hypertension, dyslipidaemia, high blood glucose and, where appropriate, associated overweight and obesity, and this frequently involves the prescription of medication.

Given the current challenges, there may be

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an opportunity to re-focus our attention on the benefits of lifestyle interventions like healthy diet, regular exercise. These are a key component in the management of most long-term conditions, and they feature in every clinical guideline for the management of type 2 diabetes. Despite this, I suspect that many healthcare providers will question their impact, and they probably devote less time to offering lifestyle advice and support than discussing possible pharmacological options. Pharmacological interventions include controlling cardiovascular risk factors such as smoking cessation, blood pressure, and blood cholesterol to personalized and safe targets. Physical exercise plays an essential role as a non-pharmacological and cost-effective treatment, improves insulin sensitivity, a better quality of life (QoL), enhances diabetes treatment efficacy, thus lowering morbidity and mortality in people with T2D. Diabetes self-management education is considered one of the pillars in T2D care.⁴

There are several studies showing Diabetes mellitus can be preventable by well organized care, risk factor control and patient education. There are various care models adapted in different countries in the primary care for management of diabetes mellitus. Even there are Diabetes Empowerment Group Program (DEGP) to foster patient engagement and empowerment in diabetes self-care and identified seven critical elements: medical visit, continuity of care, group-based dynamics, multi-disciplinarity, clinician facilitation, patient-centered agenda, and a theoretical framework of empowerment. The theoretical framework itself comprises of four components: attitude, knowledge, behavior, and relatedness. This goes well with the implementation

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of shared medical appointments (SMAs) in the management of T2D.⁵

The conventional care model, where physicians are the sole caregivers who address patients' healthcare needs, is challenged to deliver holistic diabetes care^{6,7}. Several constraints limit the ability of primary care physicians to meet all the healthcare needs of the patients⁸. Indeed, physicians commonly experience high workload that often forces them to provide suboptimal care⁹. Diabetes cannot be adequately managed by a single healthcare professional (HCP) group¹⁰. Multidisciplinary healthcare teams involve a variety of HCPs, including nurses, physicians, pharmacists, dietitians, and others who share and combine their skills, expertise, and resources to provide comprehensive, patient-centered care to patients with diabetes instead of an episodic, fragmented, and disjointed form of care¹¹. HCPs were globally recognized for their ability to manage up to 77% of chronic and preventive care in isolation from or collaboration with other HCPs, potentially offsetting some demand for physician services while improving access to care⁸. No diabetes mellitus (DM) management approach is as important as the services of a specialized diabetes healthcare team.

Collaborative Care Model (CCM) comprises multiple HCPs with different professional backgrounds working together in collaboration with patients, families, caregivers, and communities to deliver optimal care¹². There is a substantial body of evidence highlighting the positive impact of CCM in reducing medical errors and improving patients and health outcomes¹³⁻¹⁵.

In recent years, the armamentarium for the management of hyperglycemia has been strengthened by the introduction of novel therapies, including sodium-glucose cotransporter 2 (SGLT2) inhibitors and Glucagon-Like Peptide-1 (GLP-1) Receptor Agonists. The cardiovascular and kidney protective effects of SGLT2 inhibitors and GLP-1 receptor agonists have now been ascertained, independent of their glucose-lowering properties, and are now recommended as first-line therapies in

people with atherosclerotic cardiovascular disease, heart failure, and chronic conditions kidney disease. There is growing evidence suggesting that vitamin D deficiency could play an essential role in T2D pathogenesis (5). Thus, the potential of vitamin D supplementation as part of the management of T2DM to optimize glycemic control and prevent complications were investigated in a different research projects. They found that oral daily doses of vitamin D significantly decreased the level of HbA1c after 3 and 6 months of vitamin D supplementation with metformin, compared to the metformin only group.¹⁶

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