

The Role of Primary Health Care in the Care of Patients with Type 2 Diabetes Mellitus: A Literature Review

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ABSTRACT

Type 2 Diabetes Mellitus (T2DM) is a chronic condition characterized by persistently elevated blood glucose levels, leading to metabolic and vascular changes. With a prevalence of 9.1% among the adult population, Brazil ranks as the fifth country with the highest number of individuals affected by the disease worldwide. Given the importance of diabetes in the public health context, state intervention through Primary Health Care (PHC) is necessary, as it has the greatest reach to provide care for the largest number of patients. This study aimed to broadly analyze PHC's approach in the care of individuals with T2DM in order to understand its role in addressing this comorbidity. A descriptive literature review was conducted, analyzing the results and conclusions of ten relevant articles published between 2017 and 2021. The studies highlighted PHC's wide reach and multidisciplinary, comprehensive approach, which effectively contributes to tackling T2DM by promoting prevention, diagnosis, self-care and control of the condition. Thus, it can be concluded that PHC plays a strategic role in confronting the growing prevalence of T2DM. Therefore, expanding and enhancing the role of primary care in diabetes management is imperative.

Keywords: Type 2 Diabetes Mellitus; Primary Health Care; Care; Prevention; Diagnosis

Introduction

Type 2 Diabetes Mellitus (T2DM) is a metabolic disorder characterized by persistent hyperglycemia, resulting from decreased insulin action and secretion. Over time, macronutrient metabolism alterations affect the structure and function of the vasculature in several organs, leading to ischemic lesions manifested as complications of T2DM¹. The national prevalence of T2DM is 9.14% among adults (aged 18 years or older), a number that has grown compared to previous years. Despite its high prevalence, underreporting is frequent, with undiagnosed cases due to lack of screening and early diagnosis, which results in patients already presenting complications at the time of diagnosis².

Regarding etiology and risk factors, T2DM has both genetic and environmental components. Family history is the main genetic factor, while the most relevant environmental risk factors include dietary habits and physical inactivity, both responsible for hyperglycemia³.

The diagnosis of T2DM is based on serum glucose levels and the presence or absence of symptoms. Screening criteria include all individuals aged 45 years or older, as well as overweight or obese individuals with at least one additional risk factor, such as family history of T2DM in a first-degree relative, high-risk ethnicities (African descendants, Hispanics or Indigenous populations), hypertension and sedentary lifestyle, among others⁴.

Chronic complications of T2DM can be prevented through early diagnosis and effective follow-up within health services. Macrovascular complications include increased incidence of coronary artery disease (CAD), while microvascular complications include diabetic retinopathy, diabetic kidney disease, diabetic neuropathy and diabetic foot⁵.

As a chronic lifestyle-related condition, T2DM is considered a Noncommunicable Chronic Disease (NCD). In 2019, NCDs accounted for 54.7% of total deaths in Brazil. To address this high morbidity and mortality, the government implemented the Strategic Action Plan for Tackling Chronic Noncommunicable Diseases in Brazil 2021-2030 (Plano de DANT), which emphasizes prevention of NCD risk factors and health promotion⁶.

Primary Health Care (PHC) is defined as a set of individual and collective health initiatives that include health promotion, disease prevention, diagnosis, treatment, rehabilitation and harm reduction. Its principles are universality, accessibility, continuity of care and comprehensiveness. With high decentralization and wide coverage across Brazil, PHC has a strong capacity to resolve health demands⁷.

The Family Health Strategy (FHS) structures PHC actions, with multidisciplinary teams based in Basic Health Units (BHUs).

These professionals are responsible for geographically defined areas and populations, building strong ties with the community. This approach ensures comprehensive and continuous care for T2DM patients⁸.

Risk stratification guides patient follow-up, with classifications into low, medium or high risk according to clinical history and laboratory results. Main factors include metabolic and blood pressure control, history of hospitalization for acute complications and presence of chronic complications. Based on this, multidisciplinary FHS teams provide tailored follow-up, including the frequency of visits, exams and referrals to specialists⁹.

T2DM treatment within PHC involves lifestyle modification and the use of antidiabetic medications. Multidisciplinary strategies are implemented according to patient risk profile, with collective educational activities supporting self-care and adherence to lifestyle changes¹⁰.

Considering the rising prevalence of T2DM in Brazil, the consequent increase in complications and the associated economic burden on the Unified Health System (SUS), strengthening PHC and FHS strategies is essential to ensure prevention, effective screening, early diagnosis and comprehensive multidisciplinary care¹¹. Thus, given its relevance in public health, this study aimed to broadly analyze PHC's approach in the care of T2DM patients, in order to understand its role in addressing this comorbidity.

Methodology

Data were collected from Scientific Electronic Library Online (SciELO), Coordination for the Improvement of Higher Education Personnel (CAPES), PubMed and Google Scholar. Three descriptors from the Virtual Health Library (VHL) were used to guide the search: Type 2 Diabetes Mellitus; Primary Health Care; Care.

Inclusion criteria comprised quantitative and qualitative articles addressing diabetes management in primary care, while studies focusing on specific treatments or rare forms of the disease were excluded. Articles published between 2017 and 2021 in Portuguese or English, freely available in full, were selected. The analytical methodology followed the collection process, including analysis of study objectives, discussion and conclusions. Ten articles were selected, with five published in 2021, two in 2020 and the others distributed between 2017, 2018 and 2019.

Results and Discussion

Through the analysis of the ten selected articles, several effective measures were identified regarding diabetes care in PHC, with increased patient adherence to treatment. Considering the growing prevalence of T2DM in Brazil, improving diabetes management is crucial. As shown in Table 1, Marques et al. (2019) evaluated the effectiveness of an educational intervention for nursing professionals to promote self-care among elderly patients with T2DM⁷. The authors observed positive effects on clinical parameters, adherence to healthy eating and foot self-care. However, challenges remain in reducing blood pressure, BMI and glycemic control, which require longer interventions. The study also emphasized the role of health professionals in designing effective strategies to overcome Brazil's sociodemographic barriers to non-pharmacological measures in T2DM management.

Lopes and Junges highlighted the importance of dialogue between health professionals and patients regarding healthy eating¹². However, patient understanding often diverged from professional recommendations, resulting in perceptions of dietary restrictions that hinder adherence. Since food carries symbolic and social significance, diabetes management should integrate into patients' daily lives. Nonetheless, most health professionals fail to incorporate management as part of health care, reinforcing a culture of surveillance. Peterson, et al. stressed the importance of understanding care management systems to achieve better clinical outcomes¹³. Shared decision-making was identified as the most effective approach to reaching clinical goals. Galán, et al. emphasized the importance of Health-Related Quality of Life (HRQoL) in guiding health resource allocation¹⁴. They argued that diabetes should not be assessed only objectively but also considering patients' self-perceptions and psychosocial aspects.

Gama, Guimarães and Rocha found that incomplete teams and low Family Health Strategy coverage compromise the care network⁹, worsening chronic conditions and increasing mortality. Due to a biomedical and curative training model, many professionals perceived patients abstractly, disregarding social, economic and psychological aspects. This hierarchical and asymmetric relationship hindered patient self-care.

Suplici, et al. showed that facilitators of diabetes treatment are crucial to overcome adherence challenges¹⁵. Elderly care centers, public spaces for physical activity and physical activity groups in health units were positively associated with adherence. However, monitoring was limited by shortages of glucometer test strips in the public system. Rodrigues, et al. found that social¹¹, behavioral and quality-of-life factors influenced the use of health services. Female gender, lower education, systemic complications, retirement or pensions and reduced quality of life were associated with greater use of public health services.

The study highlighted the need for PHC teams to prioritize health promotion and quality-of-life improvements. Melo, et al. explored the high prevalence of T2DM in poorer populations¹⁶, linking it to poorer living conditions.

They emphasized addressing social determinants such as race (self-identified Black or Brown), low education and poverty through targeted actions to reduce the burden of T2DM. Leitão, et al. identified a reduction in regional inequalities in access to diabetes medication and increased use of oral antidiabetics among individuals aged 20 to 39 years¹⁷. They also found that the main users of SUS and the Brazilian Popular Pharmacy Program were individuals with low education, without private health insurance and predominantly Black or Brown.

Finally, Borges and Lacerda proposed an evaluative model for municipal managers to prioritize actions in primary care for diabetes control¹⁸. The model demonstrated potential to positively impact diabetes management in PHC.

Conclusion

The reviewed articles confirm the crucial role of Primary Health Care in managing Type 2 Diabetes Mellitus. PHC provides comprehensive care, from prevention to diagnosis, treatment and monitoring of patients with chronic complications. The Family Health Strategy ensures continuity of care and community engagement, promoting adherence and better outcomes. Despite its strengths, barriers remain: inadequate health worker training, shortage of professionals, insufficient planning of collective actions, low patient adherence, medication and supply shortages and infrastructure weaknesses. Strengthening PHC requires professional training, resource allocation and evaluation models to optimize management and reduce inequalities.

Overall, PHC's decentralized structure and proximity to families make it a strategic tool against T2DM. To improve outcomes, policymakers and health managers must address structural deficiencies while expanding PHC's role in prevention, diagnosis and care of T2DM patients.

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