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Barriers and Facilitators in Primary Care for the Management of Type 2 Diabetes: A Systematic Review

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ADMINISTRATIVE INFORMATION

Support - Conahcyt.

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 September 2024 and was last updated on 17 September 2024.

INTRODUCTION

Review question / Objective The research question was established following the PICO acronym (Population, Intervention, Comparison, and Outcomes):

- (i) P: People diagnosed with type 2 diabetes mellitus
- (ii) I: Management of type 2 diabetes in primary care
- (iii) C: None
- (iv) O: Identification and analysis of barriers and facilitators for the effective management of type 2 diabetes.

Rationale Primary care plays a crucial role in the management and control of type 2 diabetes, being the initial and most frequent point of contact for patients with health services. However, there are significant challenges in the effective management of this pathology at this level, as demonstrated by the high rates of associated complications and the prevalence of overweight and obesity in diabetic patients. These data underscore the importance of

implementing comprehensive prevention and management strategies in primary care, including the promotion of healthy lifestyles and adequate metabolic control. Despite global efforts, multifactorial barriers persist that hinder optimal management of the disease, related to the health system, healthcare professionals, and the patients themselves.

Understanding these barriers and facilitators is essential for developing effective interventions and public health policies that improve the quality of care and reduce the global burden of type 2 diabetes. This article seeks to provide a comprehensive vision that serves as a basis for future research and for decision-making in the planning and management of health services in primary care, with the ultimate goal of improving the quality of life of people living with type 2 diabetes worldwide.

Condition being studied Type 2 diabetes has become one of the greatest challenges for health systems worldwide, with a constantly increasing prevalence that positions it as one of the most

common chronic non-communicable diseases. The projections from the International Diabetes Federation are alarming, estimating 783 million cases by 2045, with type 2 diabetes representing 90% of cases and a current prevalence of 12.2%. In Latin America, prevalence rates vary significantly, reaching up to 66.9% in Cuba. This disease is associated with various risk factors, including advanced age, female sex, family history, sedentary lifestyle, overweight, and obesity.

METHODS

Search strategy Comprehensive searches were conducted in three electronic databases: PubMed, LILACS, and SciELO, between May and July 2024. A search strategy was developed using a combination of MeSH terms and keywords, adapted to each database. The basic strategy was: (("diabetes mellitus, type 2"[MeSH] OR "type 2 diabetes"[tiab] OR "T2DM"[tiab]) AND ("primary health care"[MeSH] OR "primary care"[tiab] OR "primary level"[tiab]) AND ("barriers"[tiab] OR "facilitators"[tiab] OR "challenges"[tiab] OR "enablers"[tiab]) AND ("disease management"[MeSH] OR "self care"[MeSH] OR "patient care management"[MeSH] OR "treatment"[tiab] OR "management"[tiab])).

Participant or population The systematic review will address various types of participants related to the management of type 2 diabetes in primary care. The main groups of participants include: People diagnosed with type 2 diabetes mellitus, who are the primary focus of the review. Healthcare professionals working in primary care, including doctors, nurses, and other professionals involved in diabetes management. Family members of patients with type 2 diabetes, who play an important role in supporting and managing the disease. Administrative and managerial staff of primary care centers. Researchers and academics studying diabetes management in primary care. The review will include studies conducted in diverse geographical contexts, covering low-, middle-, and high-income countries. This will allow for a broader understanding of barriers and facilitators in different health systems and socioeconomic realities. It is important to note that the review will not be limited to patients with diabetes alone, but will seek to integrate the perspectives of all actors involved in the manage.

Intervention In this case, the systematic review does not focus on evaluating a specific intervention, but rather on identifying and analyzing

the barriers and facilitators for effective management of type 2 diabetes in primary care. The review addresses the comprehensive management of type 2 diabetes in primary care, including various aspects such as: Comprehensive care programs that promote disease self-management. Education for patients and healthcare professionals. Implementation of new technologies such as continuous glucose monitoring and injectable therapies. Prevention programs integrated into primary care. Interprofessional care approaches. Digital self-management interventions. Tele-monitoring for patient follow-up. The objective is to provide a comprehensive view of the factors influencing effective management of type 2 diabetes in primary care, considering aspects of the health system, healthcare professionals, and patients themselves. This approach allows for a holistic understanding of the challenges and opportunities in diabetes management across different contexts and healthcare systems.

Comparator In this case, the systematic review does not focus on evaluating a specific intervention or making comparisons between interventions. The main objective is to identify and analyze the barriers and facilitators for effective management of type 2 diabetes in primary care. The review addresses the comprehensive management of type 2 diabetes in primary care, including various aspects such as: Comprehensive care programs and education for patients and healthcare professionals. Implementation of new technologies like continuous glucose monitoring. Prevention programs integrated into primary care. Interprofessional care approaches. Digital self-management interventions and tele-monitoring. The purpose is to provide a comprehensive view of the factors influencing effective management of type 2 diabetes in primary care, considering aspects of the health system, healthcare professionals, and patients themselves. Therefore, a specific comparative intervention is not defined, as the focus is on identifying and analyzing barriers and facilitators rather than comparing interventions.

Study designs to be included Primary studies (qualitative, quantitative, or mixed) published between 2020 and 2024, in Spanish or English, that explicitly addressed barriers and/or facilitators in the management of type 2 diabetes in primary

care, conducted in low-, middle-, and high-income countries, were included. Studies focused exclusively on type 1 diabetes or gestational diabetes, conducted in secondary or tertiary care levels, and those that did not provide empirical data on barriers or facilitators were excluded.

Eligibility criteria The study selection was conducted in two phases: Examination of titles and abstracts of all identified records and evaluation of the full texts of potentially eligible articles. Additionally, a format was designed to extract relevant information from each included study, covering: authors, year of publication, study design, population characteristics, sample size, identified barriers, identified facilitators, and main findings.

Due to the expected heterogeneity in the studies, a narrative synthesis of the results was performed. The identified barriers and facilitators were thematically categorized and analyzed based on their frequency of occurrence and relevance to the management of type 2 diabetes in primary care.

Information sources According to the methodology described in the search results, the planned information sources for this systematic review are:

Electronic databases:

PubMed

LILACS

SciELO

These three electronic databases will be the main sources of information for searching relevant articles on barriers and facilitators in the management of type 2 diabetes in primary care.

The search will be conducted between May and July 2024, using a search strategy developed with a combination of MeSH terms and keywords, adapted to each database.

Main outcome(s) The results of the systematic review on barriers and facilitators in the management of type 2 diabetes in primary care revealed several important findings:

16 relevant studies were identified from an initial total of 548 articles.

The studies covered significant geographical diversity, including countries with different income levels.

Qualitative approaches predominated, with emphasis on content analysis based on testimonies from multiple perspectives.

Sample sizes varied considerably, ranging from 6 to hundreds or thousands of participants.

Barriers and facilitators were identified in five main categories:

Education and knowledge

Socioeconomic factors and access to services

Implementation of new technologies

Interprofessional care and prevention programs

Country-specific context

The most significant barriers included:

Lack of knowledge and skills in specific areas

Financial barriers and access to health services

Resistance to change in established clinical practices

Lack of time and resources for interprofessional coordination

Key facilitators identified were:

Culturally appropriate educational programs

Implementation of new technologies such as continuous glucose monitoring

Interprofessional care approaches

Digital self-management interventions and tele-monitoring

This review did not include specific effect measures due to the qualitative nature of most of the included studies.

Quality assessment / Risk of bias analysis The study selection was carried out in two phases:

Examination of titles and abstracts of all identified records and evaluation of full texts of potentially eligible articles. Additionally, a format was designed to extract relevant information from each included study, which covered: authors, year of publication, study design, population characteristics, sample size, identified barriers, identified facilitators, and main findings.

Strategy of data synthesis Due to the expected heterogeneity in the studies, a narrative synthesis of the results was performed. The identified barriers and facilitators were categorized thematically and analyzed based on their frequency of occurrence and relevance to the management of type 2 diabetes in primary care.

Subgroup analysis In this systematic review on barriers and facilitators in the management of type 2 diabetes in primary care, no formal subgroup analysis was conducted due to the heterogeneous nature of the included studies and the primarily qualitative approach of most of them.

However, during the narrative synthesis process, some trends and patterns were identified among different groups of studies, which could be considered as a form of informal subgroup analysis:

High-income countries vs. middle- and low-income countries:

Differences in barriers and facilitators were observed between these groups, especially regarding available resources and access to technologies.

Patient-centered studies vs. healthcare professional-centered studies:

Different perspectives on barriers and facilitators were noted depending on the study's focal group.

Technological interventions vs. traditional interventions:

Studies evaluating the implementation of new technologies presented specific barriers and facilitators compared to more traditional approaches.

Sensitivity analysis In this systematic review, no formal sensitivity analysis was conducted due to the primarily qualitative nature of the included studies and the focus on narrative synthesis of the results.

However, some measures were taken to assess the robustness of the findings:

Consideration of heterogeneity:

The diversity of contexts, populations, and methodologies was taken into account when interpreting the results, avoiding excessive generalizations.

Triangulation of sources:

Findings were compared across studies from different contexts and methodologies to identify consistent themes and divergences.

These approaches, while not constituting a formal sensitivity analysis, helped ensure a more nuanced and reliable interpretation of the results, considering the diverse nature of the included studies and their findings.

Language restriction No.

Country(ies) involved Mexico.

Keywords Type 2 diabetes, Primary care, Barriers and facilitators, Self-management.

Contributions of each author

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