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DETERMINANTS, CHALLENGES, AND IMPLICATIONS FOR
PATIENT CENTERED CARE**



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CALIDAD DE VIDA EN PACIENTES CON DIABETES MELLITUS: DETERMINANTES, DESAFÍOS E IMPLICACIONES PARA UNA ATENCIÓN CENTRADA EN EL PACIENTE

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ABSTRACT

Diabetes mellitus is a chronic metabolic disease that significantly affects the physical, psychological, and social wellbeing of individuals, making quality of life an essential outcome in its management. This narrative review aimed to synthesize the available scientific evidence on the factors influencing the quality of life of patients with diabetes mellitus and to analyze their implications for patient centered care. The review included original research articles, review articles, systematic reviews, and international clinical recommendations related to quality of life, metabolic control, chronic complications, self-management, psychosocial determinants, nutritional interventions, and healthcare quality. The selected studies were critically analyzed and organized into thematic categories to identify common findings and emerging trends. The evidence indicates that quality of life is influenced by multiple interrelated factors rather than by metabolic control alone. Chronic complications, longer disease duration, obesity, advanced age, comorbidities, and poor glycemic control were consistently associated with lower quality of life. In contrast, effective self-management, structured diabetes education, nutritional counseling, psychological support, family involvement, and multidisciplinary interventions were associated with better physical, emotional, and social outcomes. The findings support the implementation of comprehensive patient centered care models that integrate clinical management with educational, behavioral, and psychosocial interventions.

Keywords:

Diabetes mellitus, quality of life, glycemic control, patient centered care, multidisciplinary care.

RESUMEN

La diabetes mellitus es una enfermedad metabólica crónica que afecta significativamente el bienestar físico, psicológico y social de las personas, por lo que la calidad de vida constituye un resultado esencial en su manejo. La presente revisión narrativa tuvo como objetivo sintetizar la evidencia científica disponible sobre los factores que influyen en la calidad de vida de los pacientes con diabetes mellitus y analizar sus implicaciones para una atención centrada en el paciente. La revisión incluyó artículos originales, artículos de revisión, revisiones sistemáticas y recomendaciones clínicas internacionales relacionadas con la calidad de vida, el control metabólico, las complicaciones crónicas, el automanejo, los determinantes psicosociales, las intervenciones nutricionales y la calidad de la atención sanitaria. Los estudios seleccionados fueron analizados de manera crítica y organizados en categorías temáticas para identificar hallazgos comunes y tendencias emergentes. La evidencia indica que la calidad de vida está influenciada por múltiples factores interrelacionados y no únicamente por el control metabólico. Las complicaciones crónicas, la mayor duración de la enfermedad, la obesidad, la edad avanzada, las comorbilidades y el deficiente control glucémico se asociaron de forma consistente con una menor calidad de vida. En contraste, el automanejo efectivo, la educación estructurada en diabetes, el asesoramiento nutricional, el apoyo psicológico, la participación familiar y las intervenciones multidisciplinarias favorecieron mejores resultados físicos, emocionales y sociales. Los hallazgos respaldan la implementación de modelos integrales de atención centrados en el paciente que integren el manejo clínico con intervenciones educativas, conductuales y psicosociales.

Palabras clave:

Diabetes mellitus, calidad de vida, control glucémico, atención centrada en el paciente, atención multidisciplinaria.

INTRODUCTION

Diabetes mellitus is one of the most significant public health challenges of the twenty-first century because of its rapidly increasing prevalence, high morbidity and mortality, and profound socioeconomic consequences. As a chronic metabolic disorder characterized by persistent hyperglycemia resulting from impaired insulin secretion, insulin action, or both, diabetes affects millions of individuals worldwide and imposes a substantial burden on healthcare systems, families, and society. Beyond its clinical manifestations, diabetes influences virtually every aspect of an individual's daily life, including physical functioning, emotional well-being, social participation, work productivity, and economic stability. Consequently, healthcare professionals and researchers have progressively recognized that successful diabetes management should not be measured exclusively through biochemical indicators such as glycated hemoglobin or fasting plasma glucose, but also through patients' perceptions of their health and overall quality of life. This broader perspective reflects the transition from a disease-centered model toward a patient-centered approach in which maintaining or improving health-related quality of life has become a primary therapeutic objective alongside metabolic control (International Diabetes Federation, 2017).

Quality of life is a multidimensional construct that encompasses individuals' subjective perceptions of their physical health, psychological status, level of independence, interpersonal relationships, environmental conditions, and ability to perform everyday activities. Health-related quality of life specifically refers to the impact of a disease and its treatment on these dimensions. For individuals living with diabetes mellitus, quality of life is influenced not only by the physiological consequences of chronic hyperglycemia but also by the continuous demands associated with disease management. Patients are required to adhere to lifelong treatment regimens involving medication or insulin administration, dietary restrictions, regular physical activity, blood glucose monitoring, routine medical evaluations, and continuous vigilance to prevent acute and chronic complications. These daily responsibilities often create physical fatigue, emotional distress, financial burden, and social limitations that may substantially reduce overall well-being (Wändell, 2005).

The worldwide burden of diabetes has increased considerably during recent decades because of population aging, urbanization, sedentary lifestyles, unhealthy dietary patterns, and increasing rates of overweight and obesity. Type 2 diabetes mellitus accounts for approximately ninety percent of diagnosed cases and is closely associated with modifiable lifestyle factors, whereas type 1 diabetes results primarily from autoimmune destruction of pancreatic beta cells and requires lifelong insulin therapy from the time of diagnosis. Although these two major forms of diabetes differ in etiology and pathophysiology, both expose

individuals to long-term complications that compromise functional capacity and quality of life. Persistent hyperglycemia contributes to microvascular complications such as diabetic retinopathy, nephropathy, and neuropathy, as well as macrovascular complications including coronary artery disease, stroke, and peripheral arterial disease. These conditions frequently result in chronic pain, visual impairment, disability, reduced mobility, loss of independence, and increased healthcare utilization, all of which negatively influence patients' perceptions of their health and daily functioning (International Diabetes Federation, 2017).

Modern diabetes management therefore extends beyond pharmacological therapy and emphasizes comprehensive care that integrates lifestyle modification, nutritional counseling, structured diabetes education, psychosocial support, and individualized treatment planning. International clinical recommendations advocate patient-centered strategies that empower individuals to actively participate in self-management while promoting healthy eating habits, regular physical activity, weight control, and continuous monitoring of treatment outcomes. Nutritional education represents a cornerstone of diabetes management because dietary choices directly influence glycemic control, cardiovascular risk, and long-term prognosis. Educational tools such as the Diabetes Plate Method developed by the American Diabetes Association facilitate healthier food choices through practical meal-planning strategies that patients can easily incorporate into their daily routines. Such interventions not only contribute to improved metabolic control but also enhance treatment adherence, self-confidence, and quality of life by simplifying dietary management and encouraging sustainable behavioral changes (American Diabetes Association, 2023).

Interest in evaluating quality of life among individuals with diabetes has expanded considerably over the last several decades. Earlier investigations primarily focused on clinical outcomes and mortality; however, advances in diabetes treatment have increased life expectancy, making patient-reported outcomes increasingly relevant. In one of the pioneering reviews examining research conducted in Nordic primary healthcare settings, Wändell (2005) concluded that diabetes consistently exerts a negative influence on multiple domains of health-related quality of life. The review demonstrated that patients with diabetes generally report lower physical functioning, poorer perceived health, greater emotional distress, and reduced social participation than individuals without diabetes. Moreover, the author identified several determinants of impaired quality of life, including the presence of diabetes-related complications, poor metabolic control, obesity, cardiovascular disease, depression, and increasing age, highlighting the multifactorial nature of patient well-being.

Subsequent investigations conducted in different regions of the world have consistently confirmed these

observations while demonstrating that the determinants of quality of life may vary according to socioeconomic, cultural, and healthcare contexts. Gupta et al. (2021), in a study involving patients receiving care in two health institutions located in the sub-Himalayan region of India, reported that quality of life was significantly associated with educational attainment, income level, duration of diabetes, glycemic control, treatment modality, and the presence of chronic complications. Their findings suggest that social determinants of health strongly influence patients' capacity to manage diabetes effectively and cope with the physical and psychological challenges imposed by the disease. Individuals with better educational backgrounds and greater access to healthcare resources generally exhibited higher quality-of-life scores, emphasizing the importance of equitable healthcare services and patient education programs.

Comparable findings have been reported in African populations. Etiobong & Morgan (2022), evaluating patients attending a tertiary healthcare institution in Nigeria, observed that diabetes adversely affected physical functioning, emotional health, and social relationships. The authors found that poor glycemic control, longer disease duration, and the occurrence of chronic complications significantly reduced patients' quality of life. Furthermore, they emphasized that psychological support and continuous patient education should complement pharmacological treatment to improve long-term outcomes. These results reinforce the concept that diabetes management requires a holistic approach addressing not only physiological abnormalities but also emotional resilience, behavioral adaptation, and social integration.

More recently, Mroz et al. (2025) conducted a cross-sectional study assessing quality of life among individuals with diabetes and prediabetes in Poland. Their findings demonstrated that advancing age, obesity, multiple chronic conditions, and diabetes-related complications were independently associated with poorer health-related quality of life. Importantly, the study also revealed that individuals with prediabetes generally reported better quality-of-life outcomes than those with established diabetes, suggesting that preventive interventions during the early stages of metabolic dysfunction may preserve physical and psychological well-being before irreversible complications develop. These findings underscore the importance of early diagnosis, lifestyle modification, and comprehensive preventive strategies within national diabetes control programs.

Psychological health constitutes another critical determinant of quality of life among individuals living with diabetes. Depression, anxiety, diabetes-related distress, fear of hypoglycemia, treatment fatigue, and concerns regarding future complications frequently accompany chronic disease management. These psychological conditions may impair treatment adherence, reduce motivation for

self-care, and negatively influence metabolic control, creating a vicious cycle in which poor psychological health contributes to deteriorating clinical outcomes, which in turn further diminishes quality of life. Likewise, inadequate social support, financial difficulties, and limited access to healthcare services can exacerbate emotional stress and hinder effective disease management. Consequently, multidisciplinary care models increasingly incorporate psychological counseling, diabetes self-management education, family involvement, and community support to enhance patients' resilience and improve long-term quality-of-life outcomes.

The assessment of quality of life has therefore become an indispensable component of diabetes research and clinical practice. Standardized instruments evaluating physical, emotional, social, and functional domains provide valuable information that complements traditional biomedical measurements and enables healthcare professionals to identify patients requiring additional support. Patient-reported outcomes facilitate individualized treatment planning, strengthen shared decision-making, and promote healthcare interventions that align with patients' personal priorities and expectations. Moreover, quality-of-life assessment provides policymakers with essential evidence for evaluating healthcare programs and designing public health strategies aimed at reducing the burden of diabetes while improving overall population health.

Although scientific literature consistently demonstrates that diabetes negatively affects quality of life, important gaps remain regarding the relative contribution of demographic characteristics, clinical variables, lifestyle behaviors, psychosocial factors, and healthcare interventions across different populations. Differences in study designs, measurement instruments, healthcare systems, and cultural contexts continue to generate heterogeneous findings that require comprehensive synthesis. Furthermore, continuous advances in diabetes management, including newer pharmacological therapies, structured educational programs, nutritional interventions, and integrated multidisciplinary care, necessitate periodic reviews that summarize current evidence and identify emerging research priorities.

Therefore, the present review aims to critically examine the available scientific evidence regarding quality of life in patients with diabetes mellitus. Specifically, it seeks to synthesize current knowledge concerning the principal determinants of health-related quality of life, including demographic, clinical, psychological, behavioral, and social factors, while highlighting the influence of diabetes complications and self-management practices on patient well-being. By integrating findings from international studies and established clinical recommendations, this review intends to provide healthcare professionals, researchers, and policymakers with a comprehensive understanding of the factors that shape quality of life among individuals

living with diabetes and to identify opportunities for improving patient-centered care, preventive strategies, and future research.

MATERIALS AND METHODS

This study was conducted using a narrative literature review design aimed at synthesizing the current scientific evidence regarding quality of life among patients living with diabetes mellitus. The review sought to identify the principal determinants influencing health related quality of life and to analyze their implications for clinical practice and future research.

The methodological process consisted of identifying, selecting, reviewing, and critically analyzing scientific publications addressing quality of life in patients with diabetes mellitus. The literature included original research articles, systematic reviews, review articles, and international clinical recommendations published in peer reviewed journals and by recognized professional organizations. Priority was given to studies that examined demographic, clinical, psychological, behavioral, and social factors associated with quality of life in individuals with type 1 diabetes, type 2 diabetes, or prediabetes.

The selection of the literature considered publications that provided empirical evidence or comprehensive analyses related to quality of life, diabetes complications, metabolic control, self-management, patient education, nutritional interventions, psychosocial determinants, healthcare quality, and multidisciplinary approaches to diabetes care. Studies representing different geographical regions were incorporated to obtain a broader understanding of the phenomenon across diverse healthcare systems and sociocultural contexts.

Following the selection process, the information was organized according to thematic categories that emerged from the reviewed literature. These categories included clinical determinants, psychological factors, socioeconomic influences, self-management practices, nutritional interventions, healthcare services, chronic complications, methodological considerations, and multidisciplinary care. Similarities and differences among studies were subsequently examined to identify consistent findings, complementary evidence, and existing knowledge gaps.

The synthesis followed an interpretative approach rather than a quantitative meta-analytical procedure. Therefore, the objective was not to estimate pooled effect sizes but to integrate the available evidence, compare findings across investigations, and generate a comprehensive understanding of the multidimensional factors influencing quality of life in patients with diabetes mellitus. This approach allowed the identification of recurring patterns while considering variations related to study design, patient characteristics, healthcare environments, and quality of life assessment instruments.

RESULTS AND DISCUSSION

The evidence reviewed indicates that quality of life among patients with diabetes mellitus is influenced by clinical status, disease duration, treatment burden, socioeconomic conditions, self-management capacity, and diabetes related complications. Although the studies were conducted in different geographical and healthcare settings, they consistently demonstrate that quality of life results from the interaction of multiple determinants rather than a single factor.

One of the most consistent findings is the association between diabetes complications and poorer quality of life. Wändell (2005) identified complications and comorbidities as major contributors to reduced physical functioning and perceived health. Similarly, Gupta et al. (2021) reported that chronic complications significantly diminished quality of life among patients in India, while Etiobong & Morgan (2022) found that patients with complications in Nigeria experienced greater physical, emotional, and social limitations.

These findings indicate that the impact of diabetes extends beyond hyperglycemia. Complications such as neuropathy, visual impairment, renal dysfunction, cardiovascular disease, and chronic pain progressively reduce mobility, independence, and participation in daily activities, increasing dependence on family members and healthcare professionals.

The relationship between complications and quality of life also underscores the importance of prevention. The International Diabetes Federation (2017) recommends early diagnosis, adequate metabolic control, cardiovascular risk reduction, and routine screening to prevent diabetes complications. The reviewed evidence supports these recommendations, suggesting that preventive interventions should begin before severe functional impairment develops.

The reviewed studies also demonstrate a close relationship between glycemic control and patient wellbeing. Gupta et al. (2021) observed that poor glycemic control was associated with lower quality of life, a finding confirmed by Etiobong & Morgan (2022). Inadequate metabolic control may increase fatigue, thirst, frequent urination, blurred vision, and concerns about future complications, thereby increasing treatment burden.

Nevertheless, improved metabolic control does not necessarily guarantee better quality of life. Intensive therapeutic regimens involving frequent monitoring, strict dietary restrictions, multiple medications, or complex insulin schedules may negatively affect daily living when they are difficult to maintain. Therefore, successful diabetes management should combine effective metabolic control with treatment plans that remain compatible with patients' lifestyles.

This evidence supports individualized care. The International Diabetes Federation (2017) recommends adapting therapeutic goals according to patients' age, clinical condition, available resources, and personal preferences. Such an approach recognizes that treatment adherence may be limited by restricted access to healthy food, medications, transportation, monitoring supplies, or regular healthcare services.

Socioeconomic conditions also emerged as important determinants of quality of life. Gupta et al. (2021) found that educational attainment and socioeconomic status were significantly associated with patient outcomes. Individuals with higher educational levels generally demonstrate greater capacity to understand medical recommendations and participate actively in disease management, whereas limited education may hinder treatment adherence.

Economic limitations further complicate diabetes management by restricting access to medications, laboratory tests, medical consultations, nutritious foods, and transportation. Consequently, diabetes may generate both direct medical costs and indirect economic losses through reduced productivity and work absenteeism.

Overall, the evidence indicates that diabetes care should extend beyond individual behavior. Although patients are encouraged to improve diet, physical activity, glucose monitoring, and medical follow up, their ability to implement these recommendations depends largely on socioeconomic conditions, healthcare accessibility, health literacy, and family responsibilities. These broader determinants should therefore be considered when designing patient-centered interventions aimed at improving quality of life.

The studies from India and Nigeria are particularly relevant because they demonstrate that quality-of-life outcomes are closely connected to the organization and accessibility of healthcare services. Etiobong & Morgan (2022); and Gupta et al. (2021) assessed patients in institutional clinical settings, where the level of support available may differ considerably from that in high-income healthcare systems. Their findings suggest that the burden of diabetes may be intensified in contexts where patients encounter difficulties obtaining continuous care or accessing preventive services.

The study by Mroz et al. (2025) provides an important perspective by comparing individuals with diabetes and prediabetes. The authors found that quality of life was generally better among individuals with prediabetes, suggesting that progression to established diabetes is accompanied by a gradual decline in physical and psychological wellbeing. This difference may reflect the greater treatment demands, higher prevalence of comorbidities, and increased occurrence of chronic complications among patients with diabetes. The findings also emphasize the importance of early preventive interventions, as lifestyle

modifications during the stage of prediabetes may delay disease progression and help preserve quality of life.

Mroz et al. (2025) further identified obesity, advanced age, and multiple chronic conditions as major determinants of reduced quality of life. These factors often coexist, increasing functional limitations, reducing mobility, and intensifying treatment burden. Obesity contributes not only to poorer metabolic control but also to joint pain, reduced physical activity, lower self-esteem, and diminished social participation, indicating that weight management should be considered an essential component of comprehensive diabetes care.

Nutritional management represents another key aspect of diabetes care. The American Diabetes Association (2023) recommends the Diabetes Plate Method as a practical strategy that simplifies meal planning and facilitates healthier dietary choices. Educational tools of this type may improve adherence by providing realistic, culturally appropriate, and affordable recommendations that can be incorporated into daily routines. Consequently, nutritional counseling should be individualized, considering patients' economic conditions, cultural preferences, family responsibilities, and food availability to maximize adherence while reducing treatment burden.

Disease duration also appears to influence quality of life. Etiobong & Morgan (2022); and Gupta et al. (2021) reported that longer duration of diabetes was associated with poorer quality of life, likely because prolonged exposure to the disease increases the risk of complications, continuous self-care demands, and emotional exhaustion. Long term treatment may generate fatigue and frustration, reducing patients' motivation to maintain complex therapeutic routines.

The psychological dimension is equally important. Wändell (2005) emphasized that quality of life assessments provides information unavailable through clinical indicators alone. Patients may achieve acceptable metabolic control while simultaneously experiencing anxiety, fear of complications, emotional distress, or dissatisfaction with treatment. Therefore, evaluating patient reported outcomes is essential for obtaining a comprehensive understanding of treatment effectiveness.

Although the reviewed studies were conducted in different geographical settings, including Nordic countries, India, Nigeria, and Poland, they reached remarkably similar conclusions. Differences in healthcare systems and socioeconomic conditions may influence the magnitude of specific determinants, but complications, poor glycemic control, obesity, aging, and limited healthcare access consistently reduce quality of life. These findings indicate that diabetes interventions should be adapted to local contexts while maintaining patient centered principles.

The consistency of the available evidence strengthens confidence in these findings. Nevertheless, comparisons

among studies should be interpreted cautiously because Wändell (2005) reviewed evidence from primary healthcare settings, whereas Etiobong & Morgan (2022); Gupta et al. (2021); and Mroz et al. (2025) conducted cross sectional investigations. Consequently, the observed associations cannot establish causal relationships. For instance, poor glycemic control may reduce quality of life, while diminished quality of life may also impair self-management and worsen metabolic control.

Another methodological challenge concerns the diversity of quality-of-life instruments. Generic and diabetes specific questionnaires assess different dimensions of patient wellbeing, making direct comparisons difficult. Future reviews should distinguish findings according to the measurement instruments employed and promote greater standardization to improve comparability across studies.

The reviewed evidence also supports incorporating quality of life assessment into routine diabetes care. Validated patient reported outcome measures can identify emotional distress, functional limitations, financial difficulties, or treatment burden that may not be detected through conventional clinical evaluation. Such information facilitates timely referral to nutritionists, psychologists, diabetes educators, social workers, and other specialists.

Overall, literature strongly supports multidisciplinary care as the most appropriate approach for improving quality of life among patients with diabetes mellitus. Effective management requires the integration of medical treatment, nutrition, education, psychological support, family participation, and social assistance. Likewise, the success of diabetes programs should be evaluated not only by improvements in glycemic control but also by their capacity to enhance patients' daily functioning, treatment satisfaction, and overall wellbeing.

From a public health perspective, the results underline the importance of early prevention. The comparison between prediabetes and diabetes reported by Mroz et al. (2025) suggests that early intervention may preserve both physical health and quality of life. Preventive programs should therefore address not only the risk of developing diabetes but also the behavioral and social factors that influence long term self-care.

These findings also emphasize the importance of patient education. Beyond providing information, educational interventions should strengthen practical skills, self-confidence, and problem-solving abilities to facilitate sustainable behavioral change. In this regard, the American Diabetes Association (2023) recommends the Diabetes Plate Method as a simple strategy that facilitates meal planning and may improve adherence by making nutritional guidance easier to apply in daily life.

Overall, the reviewed evidence demonstrates that quality of life in diabetes mellitus is determined by the interaction of clinical severity, complications, metabolic control, age,

obesity, comorbidities, education, socioeconomic conditions, healthcare access, and self-management. Across different countries, these factors consistently identify quality of life as a fundamental outcome of diabetes care.

The findings also indicate that improving quality of life requires more than pharmacological treatment. Prevention of complications, individualized care, nutritional counseling, continuous education, psychological support, and attention to socioeconomic barriers are all essential. Future research should prioritize longitudinal studies, standardized diabetes specific quality of life instruments, broader cultural comparisons, and evaluations of multidisciplinary interventions to identify strategies that achieve sustained improvements in both clinical outcomes and patient wellbeing.

Research on quality of life in diabetes has evolved from focusing primarily on metabolic outcomes to adopting multidimensional approaches that integrate clinical, psychological, behavioral, and social determinants. This evolution reflects the growing recognition that patient wellbeing should be considered a primary outcome of diabetes management.

Rubin and Peyrot (1999) established the conceptual foundation for this perspective by demonstrating that diabetes affects virtually every aspect of patients' lives. Their review highlighted that treatment burden, depression, anxiety, diabetes related distress, and treatment satisfaction frequently explains quality of life more effectively than clinical indicators alone. They also emphasized the importance of patient reported outcomes as complements to laboratory measures and promoted a patient centered approach that considers physical, psychological, and social wellbeing as essential therapeutic goals.

Similarly, Abolfotouh (1999) concluded that diabetes negatively affects physical, psychological, occupational, and social functioning. The review identified advanced age, disease duration, obesity, poor glycemic control, and chronic complications as major determinants of reduced quality of life while emphasizing prevention, patient education, and early intervention as key strategies for preserving long term wellbeing.

From a methodological perspective, Luscombe (2000) highlighted the importance of selecting appropriate quality of life instruments. The author distinguished generic questionnaires from diabetes specific measures and argued that disease specific tools more accurately capture treatment burden, dietary restrictions, fear of hypoglycemia, and emotional distress. The review also reinforced that patient reported outcomes provide information that cannot be obtained through biomedical indicators alone.

Hart et al. (2003) extended this evidence to individuals with type 1 diabetes mellitus, showing that quality of life depends not only on metabolic control but also on psychosocial adaptation. Although intensive treatment may

improve clinical outcomes, it can increase treatment burden and emotional fatigue. The study demonstrated that social support, confidence in self-management, and effective communication with healthcare professionals facilitate successful adaptation and improve long term wellbeing.

Pera (2011) emphasized the close relationship between healthcare quality and quality of life, arguing that effective diabetes care should empower patients to actively participate in disease management. Structured education, shared decision making, multidisciplinary collaboration, and individualized treatment planning strengthen self-efficacy, improve treatment adherence, and enhance emotional wellbeing. The author also highlighted patient satisfaction as an important indicator of healthcare quality, advocating multidisciplinary care involving physicians, nurses, dietitians, psychologists, and diabetes educators.

AbuAlhommos et al. (2022) reported that quality of life among patients with type 2 diabetes in Saudi Arabia was negatively influenced by chronic complications, poor metabolic control, older age, obesity, longer disease duration, and multiple comorbidities. The authors emphasized that diabetes management should address psychological and social dimensions in addition to clinical outcomes and recommended individualized treatment plans that consider demographic, socioeconomic, and clinical characteristics.

Reina Bueno et al. (2021) demonstrated that physiological parameters and quality of life are closely related, although clinical indicators alone do not explain patients' overall wellbeing. Emotional adaptation, treatment adherence, and behavioral factors also play important roles. The authors concluded that combining biomedical assessment with patient reported outcomes allows more comprehensive and individualized diabetes management.

Alsuwat et al. (2021) found that poor glycemic control, obesity, prolonged disease duration, and chronic complications were associated with lower quality of life among patients attending primary healthcare centers in Saudi Arabia. The study highlighted the importance of continuous follow-up and patient education in promoting self-care, early detection of complications, and long-term treatment adherence, reinforcing the central role of primary healthcare in diabetes management.

Teli et al. (2023) synthesized evidence showing that quality of life in type 2 diabetes is determined by demographic, clinical, behavioral, and psychosocial factors. Poorer outcomes were consistently associated with advanced age, obesity, complications, depression, low educational level, poor adherence, and limited social support, whereas effective self-management, regular physical activity, diabetes knowledge, and family support improved wellbeing. The review also identified the need for more longitudinal and culturally diverse research.

Cho & Kim (2021) reported that psychosocial variables, including diabetes related distress, self-efficacy, self-management behaviors, and perceived health status, were stronger predictors of quality of life than several traditional clinical indicators in individuals with type 1 diabetes. The study emphasized the importance of psychological support, confidence in disease management, and family and professional support for achieving better long-term adaptation and treatment satisfaction.

Aryal et al. (2023) observed that many patients attending an endocrinology outpatient clinic in Nepal maintained good quality of life despite living with diabetes. The authors attributed these favorable outcomes to regular medical follow up, adherence to treatment, lifestyle modification, and patient education. They also highlighted that early intervention and multidisciplinary care increase the likelihood of preserving functional independence and emotional wellbeing throughout disease progression.

Chen et al. (2024) introduced an innovative perspective by applying network analysis to explore the complex relationships among factors influencing quality of life in individuals with diabetes. Rather than evaluating isolated predictors independently, the authors examined how multiple psychological, behavioral, and clinical variables interact to influence patient well-being. Their findings demonstrated that depression, anxiety, sleep disturbances, diabetes-related distress, and self-management behaviors occupy central positions within the network of factors affecting quality of life. Depression emerged as one of the strongest interconnected variables, influencing not only emotional health but also treatment adherence, self-care capacity, and perceived physical functioning.

The study also showed that improvements targeting one central factor may positively influence several related dimensions simultaneously, suggesting that interventions addressing psychological health could produce broader benefits than previously recognized. Another important contribution involved demonstrating the usefulness of network analysis for understanding chronic disease management, as conventional statistical methods frequently underestimate the complex interrelationships among behavioral and emotional variables. The authors concluded that future interventions should prioritize integrated strategies addressing both psychological well-being and self-management behaviors to maximize improvements in overall quality of life among patients with diabetes.

Al Gamal et al. (2024) examined the relationship between diabetes self-management and quality of life through a cross-sectional correlational study and found a significant positive association between effective self-care behaviors and patient well-being. Individuals demonstrating greater adherence to medication, dietary recommendations, blood glucose monitoring, physical activity, and routine clinical follow-up consistently reported better quality-of-life outcomes. The authors emphasized that

self-management extends beyond following medical instructions because it requires patients to make informed daily decisions regarding nutrition, symptom recognition, treatment adjustment, and prevention of complications.

Participants exhibiting stronger self-management skills generally experienced greater confidence, improved perceived control over their disease, and lower emotional distress. The study also highlighted the role of nursing professionals and diabetes educators in strengthening patients' self-management competencies through individualized education and continuous support. Another important finding was that improvements in self-management behaviors produced benefits across multiple quality-of-life domains, including physical functioning, emotional health, and social participation. These results reinforce previous evidence supporting patient empowerment as a central objective of diabetes care and suggest that interventions designed to improve self-management capacity may simultaneously enhance clinical outcomes and subjective well-being.

Masithoh (2025) confirmed the multifactorial nature of quality of life in patients with diabetes mellitus by identifying age, educational level, disease duration, treatment adherence, glycemic control, chronic complications, and family support as major determinants. The study emphasized that these factors interact throughout the disease course, making individualized assessment essential. Family support was identified as particularly important because it promoted adherence to treatment, healthier behaviors, and better emotional wellbeing. Conversely, limited social support and inadequate health education were associated with poorer adherence and lower quality of life. The author concluded that diabetes care should integrate clinical treatment with family involvement, patient education, and psychosocial support.

Similarly, Bosić Zivanović et al. (2012) found that chronic complications, including vascular disease, neuropathy, and visual impairment, were major contributors to reduced quality of life. The study also showed that disease duration and multiple comorbidities intensified physical limitations and emotional distress, supporting the need for early detection of complications, continuous monitoring, and multidisciplinary care to preserve functional independence and psychological health.

Overall, the reviewed evidence indicates that quality of life in diabetes mellitus is determined by the interaction of biological, psychological, behavioral, social, and healthcare related factors rather than metabolic alterations alone. Across different countries, chronic complications, prolonged disease duration, poor glycemic control, obesity, advanced age, and comorbidities consistently emerged as predictors of poorer quality of life, whereas treatment satisfaction, self-efficacy, effective self-management, family support, and access to healthcare contributed to better outcomes.

The literature also demonstrates that successful diabetes management requires more than pharmacological treatment. Structured education, nutritional counseling, psychological support, individualized care, and multidisciplinary interventions are essential for improving patient wellbeing. Furthermore, patient reported outcomes complement traditional clinical indicators by identifying needs that may remain undetected through laboratory measures alone. Collectively, these findings support the routine assessment of quality of life as a key outcome for evaluating diabetes interventions and guiding patient centered clinical practice and future public health strategies.

CONCLUSIONS

Diabetes mellitus continues to represent one of the most important chronic diseases affecting global health because its impact extends far beyond metabolic abnormalities and substantially influences patients' physical, psychological, social, and functional wellbeing. The reviewed evidence demonstrates that quality of life is a multidimensional outcome that reflects the combined effects of disease progression, chronic complications, treatment demands, individual characteristics, and contextual factors. Consequently, improving quality of life should be considered a fundamental objective of diabetes management rather than a secondary consequence of achieving adequate glycemic control.

To address this problem, the present study employed a narrative literature review that synthesized current scientific evidence from international studies and clinical recommendations. The methodological approach enabled the integration of findings obtained in different healthcare settings, patient populations, and research designs, facilitating the identification of common determinants and recurring patterns associated with quality of life among individuals living with diabetes mellitus.

The evidence consistently indicates that chronic complications, poor metabolic control, prolonged disease duration, obesity, advanced age, and multiple comorbidities are among the principal factors associated with reduced quality of life. Likewise, psychological wellbeing, self-management capacity, treatment adherence, educational level, family support, and access to healthcare services play decisive roles in determining patients' overall wellbeing. These findings confirm that quality of life depends on the interaction of clinical, behavioral, psychosocial, and socioeconomic factors rather than on biological variables alone.

Another important finding emerging from the reviewed literature is the growing relevance of patient centered care. Educational interventions, nutritional counseling, multidisciplinary management, psychological support, and strategies aimed at strengthening self-management skills contribute not only to improving metabolic outcomes but also to preserving functional independence, emotional

adjustment, and treatment satisfaction. Furthermore, the incorporation of patient reported outcome measures into routine clinical practice provides valuable information that complements conventional biomedical indicators and facilitates more individualized therapeutic decision making.

Overall, this review highlights the need for comprehensive healthcare models that integrate prevention, early diagnosis, continuous education, individualized treatment planning, and multidisciplinary collaboration. Future research should prioritize longitudinal investigations, standardized quality of life assessment instruments, and evaluations of interventions capable of simultaneously improving clinical outcomes and patients' overall quality of life across different cultural and healthcare contexts.

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Conflicts of Interest:

The author declares no conflicts of interest.

Author Contributions:

Iako Shiukashvili: Conceptualization, data curation, formal analysis, investigation, methodology, supervision, validation, visualization, original draft writing, and writing, review, and editing.

Ethical statement:

The study was based on the analysis of documentary sources and publicly available data, and therefore did not involve the direct participation of human subjects. No personally identifiable information was handled.