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Living with Diabetes Beyond Medicine: Quality of Life, Mental Health, and Self-Management Challenges

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ABSTRACT

Diabetes mellitus constitutes a major global public health challenge, with far-reaching consequences that extend beyond metabolic dysregulation. While clinical management traditionally prioritizes glycemic control, growing evidence underscores the profound impact of diabetes on quality of life (QoL), mental health, and the sustainability of self-management behaviors. This narrative review critically examines the psychosocial, behavioral, and social dimensions of living with diabetes, integrating evidence from public health, clinical, and behavioral research. The review highlights that diabetes-related distress, anxiety, depression, and stigma are highly prevalent across populations and are closely associated with poor adherence, suboptimal self-care, and diminished QoL. The lifelong demands of diabetes self-management—including medication adherence, dietary modification, physical activity, and continuous glucose monitoring—create a substantial emotional and cognitive burden that can lead to burnout and psychological morbidity. Although digital health technologies and self-management tools have enhanced disease monitoring and patient engagement, they may also contribute to stress and information overload when inadequately supported. Social determinants of health, such as socioeconomic status, health literacy, cultural context, and access to healthcare services, play a decisive role in shaping diabetes outcomes. Financial constraints, limited patient–provider communication, and pervasive societal stigma further exacerbate inequities in diabetes management, particularly in low- and middle-income settings. Evidence indicates that psychological interventions, integrated and multidisciplinary care models, and technology-assisted self-management programs can significantly improve mental well-being, quality of life, and self-care capacity. This review emphasizes the necessity of a holistic, patient-centered approach to diabetes care that integrates mental health support and addresses broader social determinants alongside biomedical treatment. Strengthening public health strategies and health system responses to these dimensions is essential for improving long-term outcomes, enhancing quality of life, and reducing the overall burden of diabetes.

INTRODUCTION

Diabetes is a leading cause of morbidity and mortality worldwide, and has serious complications that impede the daily life and functional capacity of those affected. Beyond the clinical and biomedical aspects of the disease, late- and post-diagnostic patients experience significant deterioration in quality of life and other psychosocial and emotional challenges, leading to a range of co-morbidities (Ong *et al.*, 2023). Despite its relevance to diabetes management, data on the patient psyche of people living with diabetes remains scarce. Quality of life is a multidimensional construct that includes the psychological and emotional aspects of an individual's life. Therefore, a construct that acknowledges diabetic patients' treatment and paralogical burden preferably multilaterally is needed to inform adequate healthcare policies (Adailton da Silva *et al.*, 2018). Many self-care behaviors require significant adjustment of lifestyle and alteration of daily routines. Diabetes treatment also often implies a complex regime of medication particularly for Type 2 patients and significant alteration to diet and exercise. Neither medication adherence nor changes in diet, physical activity, or other key behaviors will yield the desired health benefits unless patients stick to the regime and persist through the initial learning phase (Cho & Kim, 2021). Only through recent advances in communication and healthcare engineering technologies have information and communication technologies (ICT) been integrated into self-management programs. As such, the option is available of organizing and conveying the abundant data associated with the self-care regime through a diabetic care service or system that communicates directly with the patient (Chen *et al.*, 2025). The health-oriented enormous amount of data electronic disease maps or e-disease maps containing data prepared, organized, stored, and conveniently representable as e-disease maps from the diabetes healthcare process efficiently generates a regularized diagram of diabetic self-management, together with structured information about the regime (Zhu, 2025).

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Conceptual Framework: Quality of Life in Diabetes

The World Health Organization's holistic definition of health includes physical, mental, and social aspects. Although health rarely lies at the extremes of this continuum, possessing good health contributes to quality of life (QoL) and well-being. In diabetes, efforts to maintain physiological parameters within desirable limits cannot guarantee a good QoL patients frequently report unwanted experiences incompatible with more holistic definitions of health. QoL deteriorates with age and is affected by diabetes type, duration, and complications. Quality of life(QoL) is a extended concept and is measure of outcome in people with chronic medical issues (Rubin, 1999) The psychological burden of living with a chronic disease cannot be neglected. Although QoL has been considered an indicator of health status, and mental health symptoms (e.g., anxiety, depression, distress) detrimental to QoL are more severe in women, these factors interact negatively in both sexes. (Megari, 2013;Otten *et al.*, 2021; Hu *et al.*, 2024). Diabetes self-management is widely recognized as a difficult and lifetime endeavor since most diabetes control measures occur outside of a clinical setting and require ongoing daily effort on the part of the individual (Glasgow *et al.*, 2005). As a result, diabetes patients have a long-term responsibility to monitor their blood sugar levels, take their prescriptions as directed, and alter their lifestyles. This can lead to a substantial treatment burden (Piette *et al.*, 2004). Even when treatment is provided at no cost, this load often results in poor adherence, inappropriate therapy implementation, and stress or discomfort associated with daily self-care procedures (Hood *et al.*, 2014). Additionally, self-management extends beyond medicine and includes dietary changes, exercise, and quitting smoking all of which have been demonstrated to reduce diabetes-related issues but are difficult to initiate and maintain over time (Powers *et al.*, 2020). Regular glucose monitoring is frequently perceived by patients as an extra burden, both mentally and practically (Fisher *et al.*, 2012).

Mental Health Dimensions in Diabetes Care

The psychological burden of self-managing diabetes significantly contributes to inadequate glycemic control (Ducat *et al.*, 2015). People with diabetes feel bad since they have to manage their own health every day. This keeps their mental balance off and makes it harder for them to stick to their treatment plans. Proactive problem-solving skills, cognitive and coping processes, and regular self-monitoring of emotional states all help people handle their negative emotions better. Because psychological load is so common, diabetes self-management strategies often take both the mind and the body into account.

Psychological Burden and Coping

People with diabetes experience significant psychosocial strain throughout their lives; they frequently compare their quality of life to that of people without diabetes and claim that the constant demands of self-management and caregiving make them feel bad (Fisher *et al.*, 2012). Anxiety or depression affects 20-30% of people with diabetes, making it difficult for them to follow their treatment plan and feel better (Roy & Lloyd, 2012). Financial constraints, limited access to healthcare systems, and the daily needs of food, medication, and physical activity all contribute to this load (Piette *et al.*, 2004).

Anxiety, Depression, and Diabetes Distress

Anxiety, depression, and diabetes distress remain significant concerns for many living with diabetes (Ducat *et al.*, 2015). Diabetes distress, characterized as stress or negativity related to managing diabetes, is common, especially among adolescents but can affect any age group. Emotional burdens associated with diabetes may arise from diagnosis and persist throughout life. These burdens peak during pivotal transitions, such as the move from pediatric to adult care, when psychosocial support is often limited. A group of adolescent patients described these burdens effectively by capturing the concrete manifestations of diabetes distress. Depression rates can be markedly elevated in individuals with diabetes compared to the general population, and diabetes may be a contributing factor to the development of depression. The significance of diabetes distress as a barrier to successful self-management and quality of life can hardly be overstated.

Stigma and Social Interfaces

Stigma is well recognized as a social phenomenon that hinders health-related behaviors (Abdoli *et al.*, 2018) assert that stigma in diabetes is regarded as an inherent stigmatizing characteristic of the condition, mostly stemming from the notion that the disease is self-inflicted and the expectation that diabetes management should remain confidential. Fear of criticism and negative social judgement is one of the greatest things that stops people from implementing medically suggested self-care activities. From sociological and psychological perspectives, the stigma surrounding diabetes is perceived to encompass discrimination, devaluation, and fragmentation within social and medical practice contexts. Frameworks designed to understand diabetes-related stigma emphasize experiences, causes, mechanisms, and effects (de Wit *et al.*, 2020). Evidence indicates distinct psychological pathways, with individuals with type 2 diabetes more prone to feelings of guilt and those with type 1 diabetes more susceptible to stigma associated with rage. A global survey done in 60 countries found that 76% of people with type 1 diabetes and 52% of people with type 2 diabetes said they had been stigmatized. This shows that there is a lot of cultural diversity and major discrimination (Browne *et al.*, 2013).

Self-Management in Daily Life

Diabetes is a long-term illness that requires self-care and the correct help to avoid difficulties and maintain quality

of life. Self-management and medication are essential to diabetes management. Always monitoring and changing the sickness (Umeda *et al.*, 2020). Diabetics must follow their prescriptions, adjust their meals, exercise, and check their blood sugar. Seniors are less inclined to follow doctors' orders. Younger people also disobey doctors frequently (Jimmy & Jose, 2011). Due to complicated schedules and frequent dosages, managing drugs can be difficult. Fewer people change their diet or exercise than take oral antidiabetics. This is primarily because people think they'll have to work hard and see slow biological changes like lipid profiles that don't improve. Diabetic specialists are scarce, making diabetes management harder (Polonsky *et al.*, 2016).

Medication Adherence and Regimen Burden

Diabetes is a lifelong, highly complex, and demanding chronic condition. Self-management requires frequent monitoring of blood glucose levels, dietary changes, exercise management, social interaction, and medication use. In many respects, self-management is more critical and challenging than medical treatment itself; in fact, it is the principal determinant of the long-term course of diabetes. The challenges posed by self-management often become overwhelming for individuals, negatively impacting mental well-being (Mishra *et al.*, 2021). Medication-taking behavior has received much attention as a critical self-management component.

Diet, Exercise, and Behavioral Change

Data indicate that elevated diabetes distress is common among adults with type 2 diabetes, correlating with diminished quality of life and compromised well-being. The findings underscore the significance of evaluating and addressing the psychological issues associated with diabetes (C. Weller & N. Vickers, 2021). People know that lifestyle is an important part of managing diabetes well, but there are a lot of things that make it hard for them to eat well and exercise. People with diabetes typically have a lot of responsibility for managing their own care, which can lead to missed chances for self-care (A. Cradock *et al.*, 2021).

Monitoring, Technology, and Data Overload

Monitoring gadgets and health-tracking apps have generated a lot of diabetes management data. Fitness app and glucose-monitoring device graphs are widely shared on social media. The variety of data stimulates frequent weight, caloric intake, glucose, and physical activity assessments, which can conflict with the simplicity and consistency needed for self-management (Du *et al.*, 2020). Many data can be captured with the gadgets. People who use continuous glucose-monitoring devices may face data overload. This concept relates to the paradox that decision-supporting knowledge veils it. Knowing more increases anxiety, guilt, and error dread. Stress and burnout can result from struggling to balance diabetes monitoring and management.

Social Determinants and Healthcare Access

Social variables include housing, food, social, and economic stability affect health and diabetes development and progression (Venkat Cuddapah *et al.*, 2022). Disease incidence and severity are linked to socioeconomic position (SES) and access to housing, healthcare, healthy food, transportation, social involvement, political power, and awareness. SES includes educational, economic, and occupational characteristics that affect health differently; income, educational achievement, and occupation are key indicators. SDOH includes education and health literacy gaps, which affect disease management and prevention. Previous qualitative studies have shown that spouses often support healthy eating, physical activity, and regular healthcare attendance in type 2 diabetes management. However, greater societal stigma surrounding other chronic conditions, such as mental illness, may limit diabetes patients' access to healthcare (Scott *et al.*, 2019). Chronic illnesses often cause social exclusion, discomfort, and shame, which lowers quality of life and hinders illness management. Stigmatization makes relatives and friends less likely to accompany chronically ill people to consultations. Raising awareness about diabetes and its social effects to combat stigma, together with personalized health promotion initiatives to dispel myths, could improve social interactions and diabetes management (Wellard *et al.*, 2008).

Socioeconomic Influences on Management

Self-management is critical for people diabetes. Possessing the information and capabilities required for effective self-management is influenced by socioeconomic status (de Wit *et al.*, 2020). A lower level of economic resources affects food choices and access to medication, making it difficult for the individual to heed medical advice. This phenomenon has been investigated through focus-group discussions among diabetic patients in the Philippines, where low income and dependence on family for sustenance are associated elevated psychological stress, negatively impacting diabetes management (Aoto *et al.*, 2021).

Health Literacy and Patient-Provider Communication

Health literacy is the ability to find, understand, and use health information. The World Health Organization (WHO, 2013) defines it as the social and cognitive qualities that motivate and enable people to obtain, comprehend, and apply knowledge to promote and maintain health. Diabetes self-management is difficult. Health literacy and effective communication with healthcare experts are essential for diabetes treatment and self-management. A participatory approach lets patients share their diabetes journey, encouraging self-management. Effective patient-provider communications involve patients in glucose monitoring and diabetic self-care planning consultations (O. Kirk *et al.*, 2023). Health literacy and provider-patient communication affect diabetes management. Low health

literacy makes it hard for people to follow treatment programs and doses, according to studies. Medication labels, patient education materials, and diabetes self-management plans use too much technical language, making treatment regimens harder to understand and diabetes self-management harder (Z Jones-Pool, 2019).

Cultural and Linguistic Considerations

Obstacles to biological treatment and medication administration hinder diabetes self-management (A. Chesla *et al.*, 2009). After relocating to the US, immigrant patients mostly take oral medications, although they face socio-cultural issues taking them as prescribed. Diabetes patients may not tell people because they don't want to be discriminated against or because they think modifying their diet to control their sugar levels is odd. Nutrition, exercise, and other diabetes control approaches have comparable issues. Restrictive diets are hard to follow, especially since food is so crucial in celebrations and rituals. In certain civilizations, wanting a certain appearance renders interventions worthless (Enrique Caballero, 2018). Changes in family commitments after arriving in the US make following the rules harder.

Interventions to Enhance Quality of Life

Psychological support. Psychological therapy improves diabetes patients' mental health and life (Sugiyama *et al.*, 2015). Self-management and psychological treatment increase mental health and habits (Trikkalinou *et al.*, 2017). Meta-analyses of numerous chronic diseases show that psychosocial therapies including diabetic self-management education and coping skills training improve mental and physical health (Xuan Tran *et al.*, 2020). Cognitive behavioral therapy, mindfulness, and the diabetes empowerment program may help, according to research. Collaboration between public health and social sciences enhances mental health care and wellness. Teams from different fields and integrated care. Different health professionals can work together to provide integrated therapy. Interdisciplinary diabetes education and care have enhanced health-related quality of life. Meta-analyses demonstrate that diabetes self-management interventions incorporating education, physical activity, dietary modification, and psychosocial support significantly improve well-being and health-related quality of life (HRQoL) (Powers *et al.*, 2020; Chrvala *et al.*, 2016). Even modest improvements in HRQoL are associated with meaningful reductions in diabetes-related morbidity, mortality, hospitalizations, and healthcare costs (Huang *et al.*, 2009). Advances in self-management technologies, including web-based platforms, mobile health applications, and decision-support systems, enable patients to monitor blood glucose, track medication adherence and dietary intake, and receive real-time coaching (Kitsiou *et al.*, 2017). Community-, family-, and information and communication technology (ICT)-based diabetes prevention and lifestyle interventions further enhance engagement with technology-assisted self-management, highlighting the growing need for integrated information-sharing and monitoring systems.

Psychological Interventions and Support Networks

Diabetes management extends beyond medication and diet to encompass psychological care and the adoption of interventions that facilitate self-management and lifestyle changes (R. Sridhar, 2020). Psychological readiness, coping strategies, perceived control, and social support significantly influence the quality of life and functionality of people who have diabetes (R. Jewell & M. Gorey, 2019). Addressing stressors and enhancing emotional well-being and social connectedness improve metabolic control, engage individuals in their care, and provide encouragement, leading to better overall quality of life, treatment adherence, and clinical outcomes.

Integrated Care Models and Multidisciplinary Teams

Self-managing diabetes requires many tasks that patients often find difficult. Recent estimates of the cumulative daily load of diabetes self-care, which considers task frequency and perceived capacity, suggest that diabetes management problems are underestimated (May *et al.*, 2014). Diabetes management coordination and patient quality of life can be improved by integrated care models (Wagner *et al.*, 2001). People with diabetes and mental health issues have a harder difficulty accessing health system treatment, which worsens their metabolic control and makes them suffer more (Gonzalez *et al.*, 2008). Thus, mental health and diabetes management therapy are crucial for this population. Integrating diabetes management with other health issues might disrupt the narrow view of diabetes as a homogeneous disease that people must handle alone. Working on closely related, non-diabetic tasks like stress management or exercise helps many patients achieve their diabetes self-management goals. Even easier for patients with severely degraded diabetes self-management, focusing on these areas can take precedence over medicine adherence and standard diabetes regimen issues without affecting glucose control (Tuudah *et al.*, 2022).

Technology-Assisted Self-Management Tools

Technology-assisted self-monitoring solutions help engaged patients manage diabetes. Many studies have used technology acceptability models to study technology-assisted self-monitoring (Du *et al.*, 2020). Diabetes patients' diets, exercise, and health habits changed during the COVID-19 epidemic. Technology-assisted self-monitoring and social media impact helped preserve healthy lifestyles during the COVID-19 epidemic and will likely continue to do so. Smartphones and mobile technologies continue to influence diabetic patients' health behaviors indirectly.

Policy and System-Level Implications

Despite behavioral and psychosocial factors, health policies and systems affect diabetes patients' well-being. Recent academic research on diabetes quality of life and

mental health emphasizes the need for public health strategies to improve psychological and emotional well-being beyond clinical diabetes management (de Wit *et al.*, 2020) and address healthcare access, affordability, and reimbursement. Socioecological models of diabetes have increased academic and policy focus on demographic factors, health literacy, trust, motivation, social support, caregiving, and daily living to help or hinder self-management.

Access, Equity, and Reimbursement

Equity, access, and reimbursement are social determinants of health. Access is timely utilization of health services, with broader healthcare and narrower personal care (Harris, 2018). Access discrepancies, especially between White and African American populations, affect diabetes care affordability, adherence, and results. Older persons with type 2 diabetes face cost and equity hurdles, yet Medicare affordability and accessibility inequalities are understudied.

Public Health Approaches to Diabetes Well-Being

Diabetes control programmed globally focus on clinical blood glucose treatment rather than psychosocial stressors that may hamper self-management and harm wellbeing (Ali Shams *et al.*, 2018). Public health recommendations for type 2 diabetes (T2D) care and prevention recognize that half of all diabetics worldwide report reduced psychological well-being, especially those at risk for comorbid mental health issues. Poor treatment adherence, body mass index, waist circumference, and HbA1c control all cause psychological suffering, but social support and treatment satisfaction improve well-being. Diabetes-related discomfort affects treatment non-adherence, notably in stigmatized groups including men, younger adults, low-educated people, and socially isolated people.

Research Gaps and Methodological Considerations

Despite increasing recognition of the importance of quality-of-life outcomes for individuals living with diabetes and their influence on diabetes management, significant methodological gaps persist in the literature. Methodological considerations influencing the capacity for robust and meaningful assessment of the quality-of-life and mental-health experiences of individuals living with diabetes and the obstacles to effective self-management arising in daily life are outlined. The frequency and depth with which specific quality-of-life indicators are measured can vary tremendously, complicating cross-study comparison and synthesis. Standardized reporting of the burden imposed by self-management across medication adherence, lifestyle management, and monitoring continues to be limited.

Measuring Quality of Life and Mental Health Outcomes

Research on quality of life (QOL) and mental health outcomes emphasizes the importance of a comprehensive assessment of multiple factors. In the context of diabetes, relevant elements include the duration of insulin use, engagement in self-management behaviors, coping styles, and self-reported depressive symptoms, which may underlie problems with adherence. Path analysis serves to test interdependent relationships among these variables and their impact on QoL across diverse populations (Sundaram, 2005). Global efforts to enhance the QOL of individuals with diabetes demonstrate a similar focus on intervention targets and methods (Xuan Tran *et al.*, 2020). The concentration of activity in high-income countries reflects the uneven burden of the disease, and consequently the QOL remains inadequate for many. Community- and family-based initiatives, lifestyle modifications, and digital technologies are commonly employed. Nevertheless, comorbidities in diabetes remain under-addressed, and regional initiatives to promote the translation of evidence are essential for reducing the disease burden in low- and middle-income countries.

Longitudinal and Interventional Study Designs

Longitudinal and interventional studies assessing quality of life, mental health, and self-management in diabetes have been executed in Australia, Spain, the Netherlands, and Canada. The Australian Living With Diabetes Study (LWDS) tracked 2,846 persons and showed how diabetes affects health-related quality of life, mental health, self-management, and satisfaction with health services across time (Donald *et al.*, 2012).

Patient-Reported Outcomes and Real-World Evidence

Diabetes mellitus harms society, the economy, and health worldwide. Thus, maintaining health-related quality of life (HRQoL) is essential for controlling diabetes, supporting concurrent efforts to enhance psychological well-being, self-care, and QoL (Abdel-Rahman *et al.*, 2024). Diabetes-dedicated patient-reported outcome measures (PROMs) priorities HRQoL, disease burden, and disorder-specific distress, which are evaluated differently across population and demographic strata and influence social and health policies that support equitable management, especially in low- and middle-income nations (Xuan Tran *et al.*, 2020). Multilevel analyses of conventional or multimedia-recorded glycaemia or related indicators and patient observations of overall well-being link individual behaviors, or their management, to age, sex, and socioeconomic status. The lack of longitudinal studies exacerbates the situation.

Overall Aim

To integrate clinical, psychological, behavioral, and public health evidence to develop a robust, theory-driven conception of Diabetes-Related Quality of Life (DRQoL) to improve patient-centered diabetes care and health policy beyond biomedical results.

MATERIALS AND METHODS

We utilized Walker and Avant's approach to direct this analysis of the idea of DRQoL. We chose Walker and Avant's framework because it lays out clear processes and a philosophical perspective for analyzing the subject we are studying. It has also been used a lot to make concepts clearer (Nuopponen, 2010).

Literature Search Strategy

A comprehensive and systematic literature search was conducted to identify studies relevant to the conceptualization of diabetes-related quality of life (DRQoL). To provide comprehensive coverage of clinical, public health, and psychosocial literature, several Internet databases were scrutinized. Some of the databases were ScienceDirect, PubMed, Scopus, and MEDLINE. The search approach included both controlled vocabulary terms and free-text keywords relating to diabetes, quality of life, health-related quality of life, psychosocial well-being, and patient-reported outcomes. The searches only looked at English-language papers that had been peer-reviewed. The initial database search generated 1,580 results in total. This included 432 items from ScienceDirect, 398 from PubMed, 410 from Scopus, and 340 from MEDLINE. There were also 21 records obtained using other methods, such as manually searching through key journals and looking at the reference lists of pertinent articles. After all the recovered records were put into a reference management system, duplicate records were carefully removed. After removing duplicates, there were 1,420 unique records left for further screening. Titles and abstracts were reviewed independently to see if they could be used for the study's aim. During this phase, 1,310 records were removed because they dealt with clinical outcomes that weren't related, didn't have any conceptual or theoretical value, or didn't focus on quality of life related to diabetes. After this filtering process, 110 articles were kept for full-text review. Then, full-text publications were carefully looked at to see if they met the set criteria for inclusion and exclusion. Studies that only looked at teenagers (n = 5), only looked at people who weren't diabetic (n = 7), or didn't conceptually improve diabetes-related quality of life (n = 8) were not included. At this time, 20 items had been removed, and there were clear reasons for each one. Ultimately, 90 studies were incorporated into the final concept analysis as they met the eligibility criteria. These studies provided the theoretical and empirical foundation for identifying the characteristics, causes, outcomes, and related variables of diabetes-related quality of life.

Steps of concept analysis using walker and Avant's framework

Walker and Avant's framework, which included the following steps, was used to conduct the analysis: (1) concept selection, (2) analysis goals, (3) potential applications of the concept, (4) defining characteristics, (5) model case identification, (6) extra case construction, (7) antecedent and consequence identification, and (8) empirical referent definition (Walker & Avant, 2019).

Data extraction and analysis

The applications of the DRQoL concept as well as its characteristics, causes, effects, and metrics were the main topics of our investigation. Using a Microsoft Excel spreadsheet, two authors separately extracted the data from each article to determine the characteristics, antecedents, repercussions, and measures for DRQoL. Titles, authors, year of publication, country, area, research design, samples, types of diabetes, whether QoL was the major or secondary outcome, contributions for qualities, antecedents, consequences, and measures, and crucial points for the concept analysis are among the data that the authors extracted. The two authors had a discussion to settle any differences. A table extraction was used to display the results.

RESULTS AND DISCUSSION

The literature search found 1,601 records, and 1,580 of those were papers retrieved in electronic databases such

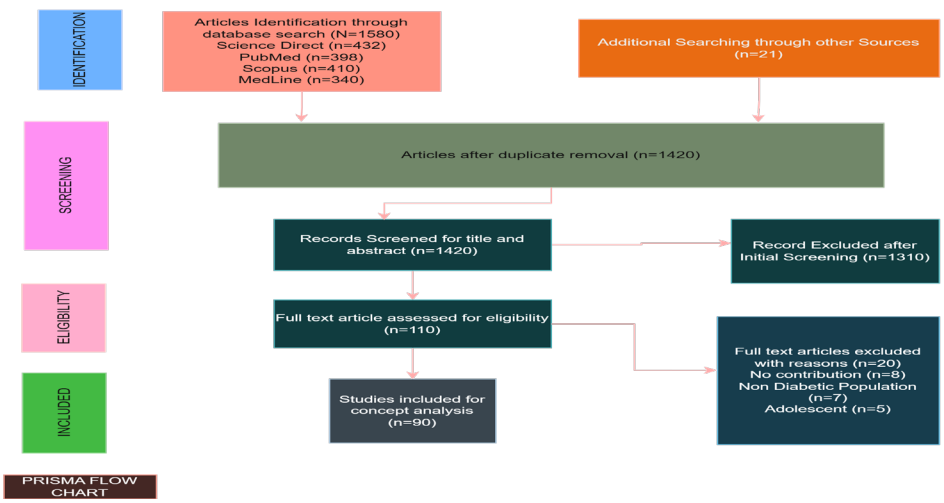

Figure 1: PRISMA Flow Diagram of Literature Identification, Screening, Eligibility, and Inclusion for the Conceptual Analysis of Diabetes-Related Quality of Life

ScienceDirect (n = 432), PubMed (n = 398), Scopus (n = 410), and MEDLINE (n = 340). Using alternative sources, 21 additional records were located. After removing duplicates, there were 1,420 unique records remaining to screen.

We looked at all 1,420 records for titles and abstracts and got rid of 1,310 papers that didn't meet the criteria we had set for inclusion. At this stage, non-conceptual study designs and irrelevance to diabetes-related quality of life were the predominant reasons for exclusion. Consequently, 110 full-text papers were assessed for eligibility. After a full-text assessment, twenty studies were removed for specific reasons: eight did not add anything new to the field, seven focused on non-diabetic groups, and five only studied adolescents. The final conceptual analysis of diabetes-related quality of life encompasses 90 studies that fulfilled all qualifying criteria. The PRISMA flow diagram gives a description of the study selection process by showing each phase of identification, screening, eligibility review, and final inclusion.

Characteristics of included studies

America accounted for the bulk of the articles (n = 62, 33.88%), followed by Europe, Asia, the Middle East, Oceania, and Africa (28.41%, 24.04%, 5.46%, 3.82%, and 2.73%, respectively). The remaining studies were experimental, secondary analyses, reviews and meta-analyses, and qualitative research (27.87%, 6.01%, 4.37%, and 2.18%, respectively), with observational studies accounting for approximately half of the publications (n = 109; 59.56%). The bulk of the papers (79.66%) cited QoL as the main result. (Wicaksana & Hertanti, 2025)

Possible use of DRQoL concept

In the medical and health disciplines, "quality of life" (QoL) means wanting to change and improve parts of life (World Health Organisation, 1997). The World Health Organisation (1997) says that quality of life (QoL) is how a person sees their place in life based on their culture and values. Health research often defines quality of life (QoL) through health-related frameworks that focus on functional status and subjective well-being (Palamenghi & Graffigna, 2020). In the realm of diabetes management, diabetes-related quality of life (DRQoL) is characterised by patients' viewpoints and their personal assessments of priorities and life satisfaction (Wicaksana, 2025). The Diabetes Quality of Life (DQOL) evaluation (DCCT Research Group, 1988) is a well-known tool that shows how the chronic aspect of diabetes affects the patient experience by measuring things like effect, anxiety, and enjoyment. A study on the quality of life for people with type 2 diabetes (Trikkalinou *et al.*, 2017) says that diabetes QoL is complicated and includes social, psychological, and physical elements.

Defining the attributes of DRQoL

The defining attributes of DRQoL were identified through systematic analysis of domains and subdomains of existing DRQoL instruments, consistent with established concept analysis methodologies (Walker &

Table 1: DRQoL attributes:

Conceptual Component	Category / Domain	Description / Elements
Antecedents	Positive-induced factors	Diabetes management; weight loss; diabetes education; education level; financial status; pharmacological agents; social support; oral health and care; good general health; medication adherence; supportive care; diabetes knowledge; self-efficacy; exercise training; continuous glucose monitoring; positive attitude; social capital; self-care activities; health literacy; quality of health care; medical interventions; motivation; psychological resilience; nutritional status; religiosity
	Neutral-based factors	Age; insulin therapy; marital status; use of other medications
	Negative-induced factors	Diabetic complications; depression; poor glycemic control; female sex; duration of diabetes; mental health problems; comorbidities; neuropathic pain; hypoglycemic events; diabetes distress; poor sleep quality; frequent and painful self-monitoring of blood glucose; mobility limitations; limited access to health care; chronic pain; apathy; family history of diabetes; fatigue; dysfunctional help-seeking behaviors
Attributes	Core DRQoL attributes	General health; diabetes-related satisfaction; diabetes impact; diabetes self-management
	Disease-specific DRQoL dimensions	Obesity; diabetic foot ulcer (DFU); neuropathy; neuropathy with DFU; retinopathy; gastroparesis; hypoglycemia; oral health problems; coronary arterial diseases; elderly population; overactive bladder
Consequences	Health and social outcomes	Mortality risk; overall personal health outcomes; satisfaction with health care; risk of hospitalization; failure to return to work

Measurement Instruments (Examples)	DRQoL tools	ADDQoL; DQOL; DHP; DQOL-BCI; DTRQOL; AsianDQOL; DQOLCTQ; D-39; ADS; DCP; DIMS; DMQoL; DSQOLS; QOLD; DDRQOLR; MDQ; JAPID-QOL; PRO-DM-Thai; ViDa1; TRIM-D; TRIM-HYPO; DLI-D; T1DAL; DQOLY; D-QOL; DSQL; PROMIS
Conceptual Component	Category / Domain	Description / Elements
Antecedents	Positive-induced factors	Diabetes management; weight loss; diabetes education; education level; financial status; pharmacological agents; social support; oral health and care; good general health; medication adherence; supportive care; diabetes knowledge; self-efficacy; exercise training; continuous glucose monitoring; positive attitude; social capital; self-care activities; health literacy; quality of health care; medical interventions; motivation; psychological resilience; nutritional status; religiosity
	Neutral-based factors	Age; insulin therapy; marital status; use of other medications

Avant, 2019; Nuopponen, 2010). The multidimensional structure of diabetes-specific quality of life, encompassing general health, satisfaction, impact, and self-management, has been well documented in prior measurement and conceptual studies Table 1,Figure 1 (DCCT Research Group, 1988; Trikkalinou *et al.*, 2017; Wicaksana, 2025)

DRQoL attributes

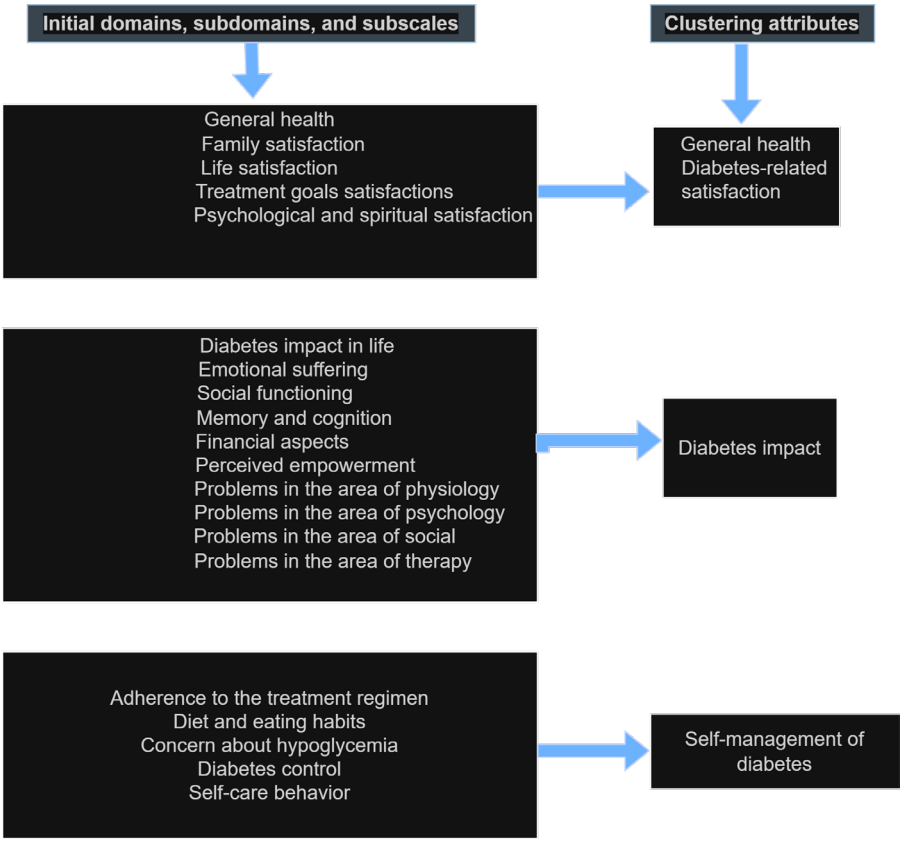

Figure 2: Concept analysis of diabetes-related quality of life

Individuals with diabetes may use their quality of life (QoL) to evaluate their overall health. In this context, people's assessments of their health status are referred to as general health. Their subjective perception of their general health while living with diabetes has an impact on their quality of life. "How do you describe your overall health regarding the current quality of life?" is a question that patients may be asked to answer. Based on their personal perception, users can then modify their general state of health (Wicaksana & Hertanti, 2025).One of the most important aspects of DRQoL, according to earlier research, is general health state. According to Tietjen *et al.*, over 50% of Palestinians with diabetes reported having a good or very good quality of life. Since diabetes is a chronic condition, all patients need diabetic treatment, and as a result, they report feeling satisfied with that care. In this context, satisfaction encompasses the following: health-care experience; psychological, spiritual, and

familial satisfaction; treatment goal satisfaction; and life satisfaction while living with diabetes. Patients with diabetes may experience either pleasure or dissatisfaction with diabetes-related issues; their degree of satisfaction eventually affects how well they evaluate their DRQoL. A patient's everyday activities may be impacted by diabetes since they must manage the condition and live with it (Tietjen *et al.*, 2021). Additionally, diabetes may result in a range of diabetes-related difficulties that negatively affect patients' overall quality of life, including perceived empowerment, memory and cognitive functioning, social participation, emotional distress, and financial burden (Rubin & Peyrot, 1999; Polonsky *et al.*, 2005). These diabetes-related challenges are multidimensional and may involve physiological, psychological, social, and treatment-related components (Trikkalinou *et al.*, 2017). All actions undertaken by individuals to effectively manage diabetes are referred to as self-management and include self-care behaviors, adherence to treatment regimens, maintaining a healthy diet, concern about hypoglycemia, and glycemic control (Glasgow *et al.*, 2002). The necessity for ongoing behavioral modification associated with these activities substantially influences the well-being and quality of life of people living with diabetes (Fisher *et al.*, 2015).

Discussion

This concept analysis synthesizes clinical, psychological, and public health evidence to explain diabetes-related quality of life (DRQoL)'s complexity. DRQoL goes beyond glycaemic control and biological outcomes to incorporate subjective judgements of overall health, satisfaction, sickness impacts, and self-management capabilities. Effective metabolic control alone does not guarantee a good quality of life for diabetics. This fits the WHO's wide health criteria. A key finding of the investigation is that DRQoL is affected by health perception. Even with chronic illness and continuous therapy, patients' subjective health assessments affect their quality-of-life scores. Despite the chronicity and difficulty of diabetes, more than half of Palestinian diabetics reported an excellent or very good quality of life (Tietjen *et al.*, 2021). This shows how people adjust their expectations and assess their health depending on real life rather than idealised settings. Theoretical research supports these findings that DRQoL is subjective and based on coping mechanisms, cultural norms, and personal values (Wicaksana & Hertanti, 2025).The research emphasizes satisfaction as a multifaceted construct that includes life satisfaction, psychological and emotional well-being, treatment goals, healthcare experiences, and family and social support. Even with a high disease burden, improved Diabetes-Related Quality of Life (DRQoL) is linked to diabetes care and treatment satisfaction (Rubin & Peyrot, 1999). Communication between patient and provider, patient autonomy in decision-making, and therapy complexity all affect satisfaction, which changes over time. The balance of happy and negative emotions in diabetes patients' lives influences their view of their Diabetes-Related Quality of Life. This concept study also found that diabetes affects physical, emotional, social, and treatment elements of life. Studies found diabetes-related financial pressure, social constraints, cognitive burden, emotional anguish, and perceived disempowerment. These issues commonly interact, worsening their quality-of-life impacts. Stress, especially diabetes-related worry, inhibits self-care and adherence, generating a feedback loop that worsens clinical results and psychological load (Polonsky *et al.*, 2005; Fisher *et al.*, 2015). Poor health coverage and out-of-pocket costs worsen illness burden in low- and middle-income countries. This is why DRQoL must include finances. Diabetes differs from other diseases in that self-management is crucial to quality of life. Self-management includes taking medications as prescribed, controlling diet, exercising, testing blood sugar, and recognising low blood sugar. Even if they prevent issues, these habits stress people's minds, feelings, and actions constantly. Without proper psychological support, lifestyle change can lead to burnout, treatment fatigue, and worse well-being (Glasgow *et al.*, 2002). This study reinforces the emerging notion that self-management is a lived experience that deeply affects daily life and well-being, not just a set of activities. The findings reinforce how social variables affect DRQoL. Self-management skills and quality of life were strongly influenced by socioeconomic level, health literacy, cultural context, stigma, and healthcare access. Due to perceptions that diabetes is self-induced, stigma around diabetes limits social contact, disclosure, and healthcare system participation (Browne *et al.*, 2013; de Wit *et al.*, 2020). These social and structural aspects emphasize the need of placing DRQoL within socioecological contexts rather than considering it as an individual outcome. This idea analysis impacts clinical and public health. They strengthen the evidence that integrated, multidisciplinary therapeutic approaches including social support, diabetes self-management education, and psychological support improve DRQoL more than biological therapies alone. Peer support, empowerment-based programs, and cognitive-behavioral therapy improve mental health and self-care. Technology-assisted self-management tools can help patients manage their health, but they need training to minimize stress and too much information. Many questions remain. Standardized measures of DRQoL do not capture its conceptual range across cultures and socioeconomic groups. There is little longitudinal and interventional research in low- and middle-income settings on how self-management burden, mental health, and social factors affect DRQoL over time. These gaps must be filled to turn clear ideas into policy and practice. This concept analysis reiterates that diabetes quality of life is complicated, dynamic, and nuanced, impacted by health beliefs, satisfaction, illness impact, and self-management in broader societal contexts. Diabetes patients need a comprehensive, patient-centered strategy that incorporates biological, psychological, social, and public health interventions to improve long-term outcomes and quality of life.

CONCLUSION

People with diabetes are often burdened constantly by complex demands and challenges. Interventions delivered through multidisciplinary teams containing mental health professionals are required to improve the quality of life of people living with diabetes (Xuan Tran *et al.*, 2020). Educational and social programs characterized by peer support and technological assistance for self-management challenges, particularly those related to medication adherence and dietary restriction, have demonstrated significant positive effects on the quality of life of people with diabetes (Aoto *et al.*, 2021). Addressing the diverse social determinants influencing food security and treatment adherence—such as socioeconomic status ethnic group, urbanization, and health literacy—is essential for creating equitable healthcare systems and supporting effective diabetes management (Adailton da Silva *et al.*, 2018). Comprehensive, integrated public health strategies involving collaborative innovations directly targeting these determinants could substantially bolster the quality of life of people with diabetes and strengthen preventative measures.

Table 2: List of Abbreviations

Abbreviation	Full Form
ADDQoL	Audit of Diabetes-Dependent Quality of Life
ADS	Appraisal of Diabetes Scale
APC	Article Processing Charge
BASE	Bielefeld Academic Search Engine
CBT	Cognitive Behavioral Therapy
CGM	Continuous Glucose Monitoring
DCCT	Diabetes Control and Complications Trial
DFU	Diabetic Foot Ulcer
DHP	Diabetes Health Profile
DIMS	Diabetes Impact Measurement Scales
DQOL	Diabetes Quality of Life
DQOL-BCI	Diabetes Quality of Life – Brief Clinical Inventory
DQOLCTQ	Diabetes Quality of Life Clinical Trial Questionnaire
DRQoL	Diabetes-Related Quality of Life
DSQOLS	Diabetes-Specific Quality of Life Scale
DSMES	Diabetes Self-Management Education and Support
DTRQOL	Diabetes Therapy-Related Quality of Life
HRQoL	Health-Related Quality of Life
ICT	Information and Communication Technology
LMICs	Low- and Middle-Income Countries
MDQ	Multidimensional Diabetes Questionnaire
PROMIS	Patient-Reported Outcomes Measurement Information System
PROMs	Patient-Reported Outcome Measures
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
QoL	Quality of Life
SDOH	Social Determinants of Health
SES	Socioeconomic Status
T1DM	Type 1 Diabetes Mellitus
T2DM	Type 2 Diabetes Mellitus
TRIM-D	Treatment-Related Impact Measure for Diabetes
TRIM-HYPO	Treatment-Related Impact Measure for Hypoglycemia
WHO	World Health Organization
WHOQOL	World Health Organization Quality of Life

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