Supplementary materials

Characteristics of identified research

First author (year), country	Research methodology and method / type of research	Purpose of the research	Survey sample (*n*)	Main results of the research
Aldahmashi et al. (2024), Sweden, Lebanon, USA, Netherlands, Malaysia	Integrative review	To investigate nurses' adherence to clinical guidelines for diabetes management in primary healthcare settings and to explore factors influencing effective implementation, focusing on the role of nurses and impacts on patient outcomes.	*n* = 10 studies conducted between 2000 and 2020.	Multilayered educational strategies and interdisciplinary approaches effectively increase adherence to clinical guidelines for diabetes. Following the guidelines by nurses leads to better clinical management, lower HbA1c, improved blood pressure and lipids, and greater patient involvement in self-care. The role of nurses in multidisciplinary teams and their autonomy in implementing care programs are key. In primary care, empowering nurses with diabetes guideline education and tailoring strategies to local needs enhance guideline adherence and improve patient outcomes.
Campbell et al. (2020), India, USA, Belgium, Dominican Republic, Iran	Systematic review	Systematic evaluation of community-based participatory research (CBPR).	*n* = 16 studies, published between 2010 and 2020.	Of the 16 included studies, 12 showed a statistically significant improvement in at least one diabetes outcome (A1C, fasting glucose, blood pressure, lipids, quality of life). Most studies have used CHW to implement interventions in group and individual settings, leading to a significant reduction in diabetes outcomes. CBPR approach: Joint leadership (the highest level of cooperation) was most associated with improvements in diabetes outcomes. The collaborative approach also showed positive effects, although it did not involve joint decision-making. The consultation and awareness-raising approach has had a limited impact, with less consistent improvements in outcomes.
Davis et al. (2021), Sweden, Canada, UK, Netherlands, England,	Quantitative systematic review	To identify the effectiveness of nurse–led services for people with chronic disease	*n* = 14 studies, published between 1946	Nurse-led services for adults with chronic disease were linked to fewer hospitalisations (2–8.9% reduction) and readmissions (14.8–51%, *n* = 886), along with reported improvements in

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Taiwan, Australia, Thailand, China		in achieving an outcome of continuity of care at the primary-secondary healthcare interface.	and May 2019 (*n* = 4,090 participants).	symptoms, lifestyle, and patient satisfaction. These services provide coordinated interventions that support continuity of care across primary and secondary healthcare settings. While a direct effect on continuity of care as an outcome could not be conclusively confirmed, nurse-led programs contribute to better management of chronic conditions, enhance patient engagement, and promote adherence to treatment plans, ultimately supporting overall health outcomes and quality of life.
De la Fuente Coria et al. (2020), Spain	Quantitative methodology, randomised controlled trial	Evaluate the effectiveness of a structured and individualised education program for type 2 diabetes, provided by a primary care nurse, which featured educational reinforcements and family support to achieve metabolic control, and long-term therapeutic targets.	*n* = 236 participants with type 2 diabetes mellitus, the average age was 65.1 ± 9.5.	After 12 months, the intervention group showed decreases in glycated haemoglobin and systolic blood pressure. By 24 months, improvements included basal glycemia, glycated haemoglobin, total cholesterol, LDL cholesterol, and diastolic blood pressure. The intervention group reached the glycated haemoglobin target (<7%) more often than the control group (35.2% vs 24.7%, *p* < 0.003). Continual diabetes education with nurse-led reinforcement effectively improves glycemic control, lipid profiles, and blood pressure in the medium and long term. It also increases the proportion of patients achieving therapeutic targets, supporting nurse-led interventions as valuable for long-term diabetes management.
Horvat et al. (2025), Slovenia	Guidelines	Intended to ensure uniform and standardised implementation of patronage care, to improve the quality and security of services, to record data correctly and to properly bill services in accordance with	N/A	Patronage is a systematic form of health and preventive care that includes pregnant women as well as newborns, children and their families. It includes regular visits that are adapted to the age, health condition and needs of the family, and includes monitoring of physical and mental development, advice on nutrition, vaccination, hygiene, and a safe environment. It also provides support to parents in their upbringing, preventing health risks and coping with stress or social challenges. Special

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		legislation and expert recommendations.		visits are intended to address chronic diseases, developmental disorders, or social vulnerabilities. The purpose of patronage is to provide comprehensive, continuous, and preventive care for the healthy development of the child and the well-being of the family.
İlhan et al. (2021), Turkey	Quantitative methodology, cross-sectional study	To examine the relationship between health literacy and diabetes self-care in individuals with type 2 diabetes.	*n* = 207 participants with Type 2 diabetes, the mean age was 59.46 ± 10.89 years.	It was found that 81.5% of individuals with type 2 diabetes demonstrated an inadequate or limited and problematic level of health literacy. The DSCS mean scores of patients with an inadequate health literacy level were significantly lower than that of patients at other levels of health literacy. It was determined that education level, exercise status, and HLS-EU-Q-TR scores were significantly related to diabetes self-care (R^2 = 0.245, $p < 0.001$). The study found that individuals with type 2 diabetes had higher diabetes self-care if they had a high education level, regularly exercised, or had high HLS-EU-Q-TR mean scores.
Ju et al. (2023), ZDA	Quantitative methodology, one-group pretest-posttest interventional study	To examine the feasibility and usability of a telehealth program focused on preventive diabetes foot care.	*n* = 39 participants with diabetes, over the age of 30.	The study found that a nurse-led telehealth education program focused on foot care in diabetes was feasible and well-received among participants. Participants positively rated the usefulness of telehealth, and their knowledge of diabetes increased statistically significantly after three months. Self-care also improved; including more frequent foot care, adherence to a healthy diet and greater physical activity. Improved frequency of foot self-examinations, which is key to preventing serious foot complications in diabetes, was also highlighted. The programme thus shows the potential to improve knowledge and behaviour for self-care, which can reduce the risk of complications.

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Leonard (2024), USA	Quantitative methodology, cross-sectional implementation study	To increase the implementation of comprehensive diabetic foot screenings in patients with diabetes in a rural clinic, to improve compliance with ADA guidelines, and thereby reduce the risk of complications such as foot ulcers and amputations.	*n* = 58 participants with diabetes.	Prior to the intervention, only 43% of patients had undergone a comprehensive diabetic foot screening, which was below ADA recommendations. After a 13-week initiative that included staff training, the use of one-of-a-kind tools, and a holistic role for registered nurses, 74% of patients underwent an examination, and the appropriate prescribed frequency of examinations or referrals increased from 38% to 71%. Standardised procedures, staff training, and regular monitoring have enabled sustained improvements, increased patient satisfaction, and improved patient-centred care.
Ma et al. (2021), China	Quantitative methodology, quasi-experimental study	To investigate the effect of high-quality nursing and health education on glucose and lipid metabolism and quality of life in elderly patients with diabetes.	*n* = 99 elderly diabetic patients were selected and divided into an observation group (57 cases) and a control group (42 cases).	The study found that quality nursing care provided by nurses significantly improves the self-management of the disease, glucose and lipid metabolism, and the quality of life of elderly patients with diabetes. After the intervention, patients in the observation group had lower glucose, TG, TC, and LDL-C levels, and higher HDL-C, while also experiencing less depression and anxiety and greater satisfaction with nursing compared to the control group. Patients reported lower levels of depression and anxiety and greater satisfaction with care. The results confirm the important role of nurses in the comprehensive care of older people with diabetes.
Matthys et al. (2021), Belgium	Quantitative methodology, observational cohort study	The aim of this research is to explore the current early-stage diabetes mellitus type 2 care in Belgian general practices.	*n* = 249 people (22–96 years) with newly diagnosed type 2 diabetes.	The introduction of multidisciplinary teams and the use of standardised protocols improved glycaemic control (HbA1c reduction) in patients with type 2 diabetes. Collaboration between doctors, nurses, and dietitians has strengthened teamwork, communication, and care alignment. Healthcare professionals followed diabetes management guidelines more consistently, and patients became more active and involved in

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				their own treatment, which contributed to better overall care outcomes.
Noroozi et al. (2024), Iran	Quantitative methodology, Randomised controlled clinical trial with no blinding	To examine the impact of an educational program based on King's model of goal achievement on health-promoting behaviours and on life satisfaction in patients with type 2 diabetes.	*n* = 70 patients with type 2 diabetes, overall average age is about 56.6 years.	The results of this study suggest that an educational program based on King's goal attainment model can be effective in improving health-promoting behaviours and life satisfaction in patients with type 2 diabetes. The findings of the study showed that there was a significant difference in the mean score of health-promoting behaviours between the control and intervention groups immediately and 3 months after the intervention, and in the mean score of life satisfaction immediately and 3 months after the intervention.
Oliveira and Franco, (2021), Brazil	Quantitative methodology, cross-sectional study	Assess glycaemic elderly care patients with diabetic Type 2 diabetes at the primary level.	*n* = 110 patients in 60–69 years old.	The study found that older patients with type 2 diabetes had lower HbA1c levels, reflecting good disease control according to age-specific recommendations. Combining oral antidiabetics and insulin was linked to adequate glycaemic control, highlighting the need for tailored therapy. Regular visits in primary healthcare are essential for monitoring, adjusting treatment, supporting disease management, and promoting behavioural changes. The findings emphasise an individualised approach for older adults, considering their comorbidities, lifestyle, and health literacy, to optimise diabetes management and improve overall outcomes while ensuring safe and effective treatment.
Reininger et al. (2020), USA	Quantitative methodology, randomised controlled trial	To examine the effectiveness of different community-based clinical intervention strategies in the Mexican American population with poorly controlled diabetes.	*n* = 353 adults with uncontrolled diabetes, average age: 51.55 years.	After 12 months, both study groups improved their HbA1c, with the intervention group maintaining stable levels after month 6, while the control group had a slight increase. Highly engaged participants showed a trend of further decreasing HbA1c, while low-engaged groups did not sustain improvements. Despite the improvements, mean HbA1c

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				values were still above recommendations, suggesting that populations facing inequalities in the social determinants of health need longer and more intensive interventions to effectively manage diabetes.
Sun et al. (2025), Qatar, Pakistan, Iran, China	Systematic review of randomised controlled trials	To evaluate through meta-analysis the impact of nurse-led DSME on glycaemic control, lipid profiles, and self-efficacy in adults with type 2 diabetes mellitus (T2DM).	*n* = 8 randomised controlled trials.	A meta-analysis showed that nurse-led DSME (Diabetes Self-Management Education) effectively improves long-term glycaemic control in patients with T2DM, which is reflected in a significant reduction in HbA1c after 4-6 months and after more than 6 months, and an improvement in fasting glucose. In addition, the intervention group showed significantly increased self-efficacy. Among lipid parameters, HDL increased, while TC, TG, and LDL showed no significant changes. The study highlighted high heterogeneity between outcomes, with the duration of follow-up having a marginal effect on the size of the effect. The findings support the integration of medically driven DSME models into clinical guidelines and highlight the need for long-term follow-up and cost-effectiveness analyses.