Supplementary materials

Table S1. Characteristics of the included studies.

Study and Year	Sample Size	Intervention/ Study Design	Control	Outcome Measures	Improved/No Change/Decreased
Adisa and Fakeye (2014) [15]	176 patients	Interview: RIM (Recognize, Identify, Manage) model	N/A	Barriers to medication adherence	Lack of knowledge about medications and poor dietary adherence were identified as major barriers.
Alatawi et al. (2016) [16]	220 participants	Questionnaire Survey: Health Belief Model (HBM)	N/A	Medication adherence and health beliefs	Barriers to adherence should be addressed at the patient-centered level.
Almutairi et al. (2023) [11]	82 Type 2 diabetic patients interviewed	Interview	N/A	Tailoring interventions based on patients' activation	Improved T2DM self-management and clinical outcomes
Branda et al. (2013) [21]	103 type 2 diabetic patients	RCT: Decision aid for statin/anti-hyperglycemic agents	Usual care	Medication adherence and knowledge of medications	No change in medication adherence.

					Improved knowledge and decision-making.
Brundisini et al. (2015) [24]	86 studies reviewed	Systematic review	N/A	Barriers to medication adherence	Identified barriers include emotional experiences, intentional non-compliance, and patient-provider relationship issues.
Cheng et al. (2018) [12]	242 patients	RCT: Health education and post-discharge follow-up	Control: Usual care	HbA1c, Self-management behaviours	Non-significant HbA1c reduction. Improved diet management and blood glucose self-monitoring.
Habte et al. (2017) [25]	39	Semi-structured interview	N/A	N/A	N/A
Haque et al. (2014) [26]	South Africa	Focus groups, semi-structured interviews with 46 medical officers	N/A	Barriers to insulin initiation	Recommended better physician education and patient-centered communication to overcome insulin initiation barriers.

Islam et al. (2018) [13]	336 randomized participants (176 intervention, 160 control)	RCT: 5 group educational sessions, 2 one-on-one visits	Control: First group session overview	Primary: Glycaemic control, Secondary: LDL, HDL, cholesterol, weight, BMI, BP	0.2% greater HbA1c reduction in intervention group. Significant changes in patient-centered outcomes.
Lauffenburger et al. (2019) [17]	1,400 participants with poorly controlled type 2 diabetes	RCT: Telephone-based patient-centered intervention	Usual care	Primary: Change in HbA1c, Secondary: Medication adherence measures	No improvement in HbA1c. 25% of patients were not ready for change.
Lee and Lin (2010) [18]	A sample of 614 patients with type 2 diabetes	Survey	N/A	-	Direct link between autonomy support and patients' glycaemic control was not significant.
Peyrot et al. (2018) [1]	1,055 participants (non-Hispanic White, African American, Hispanic American, Chinese American)	Survey	N/A	Diabetes self-management behaviours	Ethnic differences in self-management behaviours. Tailored, patient-centered approaches needed.

Rossi et al. (2015) [22]	2,390 type 2 diabetes patients	Survey: Empowerment assessment using Diabetes Empowerment Scale	N/A	Glycaemic control and medication adherence	Empowerment associated with better glycaemic control and self-management.
Schoenthaler et al. (2012) [19]	41 primary care physicians, 608 patients	Survey/ Interview	N/A	Diabetes knowledge, physician attitudes	Patient-centeredness increases medication adherence and clinical outcomes. Shared decision-making recommended.
Schunk et al. (2015) [2]	486 participants with type 2 diabetes	Survey: Patient-physician relationship impact on adherence	N/A	Medication adherence, clinical outcomes	Positive relationship with healthcare providers linked to higher adherence. PCC improves medication adherence.
Skinner et al. (2015) [14]	100 diabetic patient records	RCT: Medication therapy management (MTM) group vs. control	Usual care	HbA1c, Medication adherence, BP, Lipid levels	Higher medication adherence and lower HbA1c, LDL cholesterol in MTM group.

Varming et al. (2019) [20]	154 type 2 diabetic patients	RCT: Face-to-face consultation (EMMA approach)	Usual care in diabetic clinic	HbA1c, BMI, BP, Medication adherence	No superiority in improving glycaemic control, BMI, or BP. High patient engagement in EMMA.
Wang et al. (2019) [23]	372 patients with type 2 diabetes	Survey: Self-administered questionnaires (Health Literacy, SDM)	N/A	SDM impact on HbA1c control	SDM led to better glycaemic control. Health literacy supported SDM involvement.

Table S2. Full names and definitions of some terms.

Abbreviation	**Full term**	**Definition**
ADA	American Diabetes Association	A leading U.S. organisation that develops evidence-based guidelines and standards for diabetes prevention, management, and research.

ADJ	Adjacency Operator	A search operator used in database queries to specify proximity between terms (e.g., ADJ2 = within two words).
CINAHL	Cumulative Index to Nursing and Allied Health Literature	A major database indexing nursing, allied health, and biomedical literature for evidence synthesis.
EASD	European Association for the Study of Diabetes	A European scientific organisation focused on diabetes research, education, and clinical guidelines.
EMCare	Elsevier Medical Care Database	An international database covering nursing, allied health, and clinical literature, used in systematic searches.
Embase	Excerpta Medica Database	A biomedical and pharmacological database known for extensive global coverage of clinical and drug-related research.
HbA1c	Glycated Haemoglobin	A clinical biomarker reflecting average blood glucose levels over approximately 2–3 months; key outcome in diabetes research.
Medline	Medical Literature Analysis and Retrieval System Online	The U.S. National Library of Medicine's premier biomedical database accessed via PubMed or Ovid.

MMAT	Mixed Methods Appraisal Tool	A validated tool for assessing methodological quality in qualitative, quantitative, and mixed-methods studies.
NICE	National Institute for Health and Care Excellence	A UK body that produces evidence-based clinical guidelines to improve healthcare quality and outcomes.
PCC	Patient-Centred Care	A model of care emphasising personalised treatment, shared decision-making, and alignment with patient values and preferences.
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses	An internationally recognised framework for transparent reporting of systematic reviews and meta-analyses.
PROSPERO	International Prospective Register of Systematic Reviews	A global registry ensuring transparency and methodological adherence for systematic review protocols.
PsycINFO	Psychological Information Database	A comprehensive database indexing research in psychology, mental health, and behavioural sciences.

SDM	Shared Decision Making	A collaborative process integrating clinical evidence with patient preferences to support joint healthcare decisions.
T2D	Type 2 Diabetes	A chronic metabolic condition characterised by insulin resistance and impaired glucose regulation.
T2DM	Type 2 Diabetes Mellitus	The formal clinical term for type 2 diabetes, defined by chronic hyperglycemia due to insulin resistance and β-cell dysfunction.