

REVIEW ARTICLE

Self-Management Behaviours and Health Literacy in Adults with Type 2 Diabetes Mellitus: A Scoping Review.

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Abstract

Background: Self-management of diabetes is significantly affected by health literacy; however, its role in affecting specific behaviours is not well understood. This scoping review synthesised the existing evidence on the mechanisms, mediators, and contextual factors through which health literacy influences self-management behaviours among adults with Type 2 Diabetes Mellitus (T2DM). **Methods:** The scoping review was conducted in accordance with the Joanna Briggs Institute (JBI) methodological framework and reported following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR). A systematic search was conducted in PubMed/MEDLINE, Scopus, Web of Science, and Google Scholar from inception to July 2026. Studies were eligible if they examined health literacy and diabetes self-management among adults with T2DM in any healthcare or community setting worldwide. Following screening, twenty-four studies were included. Data were charted and synthesised into themes based on Bandura's Social Cognitive Theory. **Results:** Findings were organised into two themes. Theme 1 identified cognitive, behavioural, psychological, and interpersonal mechanisms—including diabetes knowledge, self-efficacy, social support, and digital health literacy—through which health literacy influences self-management. Theme 2 identified individual, social, cultural, and healthcare-system factors—including age, gender, education, socioeconomic status, culture, and digital competence—that mediate or moderate this relationship. Self-efficacy was the most frequently reported mediator; however, health literacy alone was insufficient to improve outcomes, and digital interventions were effective only when patients possessed adequate digital literacy. **Conclusion:** The association among diabetes outcomes, self-management and health literacy is multifaceted. It calls for multifaceted, culturally responsive and digitally inclusive interventions that simultaneously build health literacy and self-efficacy to improve sustainable self-management of adults with T2DM. Longitudinal and intervention studies are needed to establish causal relationships.

Keywords: *Diabetes mellitus, diabetes self-management, scoping review, self-efficacy, T2DM.*



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Introduction

A commonly occurring chronic non-communicable metabolic disease is type 2 diabetes mellitus (T2DM). It is estimated that 589 million adults who are aged 20–79 years have diabetes, while by 2050, it is expected to reach 853 million without intervention [1]. It is characterised by progressive impairment of the pancreatic β -cell function and insulin resistance that accounts for about 90–95% of the total diabetes burden worldwide, reflecting a significant public health challenge [2]. It is associated with increased rates of overweight and obesity, urbanisation, sedentary lifestyle, and unhealthy dietary habits [3]. The projections highlight the fact that diabetes is no longer just a clinical issue, but a significant socio-economic problem with an impact on healthcare systems globally.

The consequences of T2DM extend far beyond hyperglycaemia. Diabetic nephropathy, coronary artery disease, peripheral neuropathy, retinopathy and stroke are all microvascular and macrovascular complications which are significantly increased by persistent poor glycaemic control [4]. They also lead to health expenditure along with increased disability, early death and poor quality of life. Additionally, the burden of economic costs is projected to go beyond 1 trillion USD per year globally [1]. However, these outcomes can be avoided by early detection, appropriate treatment, and ongoing self-care. Subsequently, diabetes care has evolved from a biomedical acute-care model to a chronic-care model, focusing on patient engagement, behaviour change, and chronic disease management [5]. This paradigm recognises that achieving good outcomes at the individual level in diabetes requires the ability to adopt complex self-care behaviours.

Diabetes self-management is a lifelong educational journey that empowers people to learn about diabetes, build their skills, and gain confidence in managing their diabetes and reducing complications in partnership with their health care providers [4]. It encompasses behaviours such as following prescribed

medications, healthy eating habits, regular physical activity, checking blood glucose levels, foot care, attending scheduled clinical visits, problem-solving, risk reduction, and coping with the psychological needs of a chronic condition. These behaviours are not static and independent, but dynamic and interdependent, continually involving decisions and adaptation to a changing health situation. Existing studies show that effective self-management is linked to better glycaemic control [6]. This is indicated by fewer diabetes complications, fewer hospitalisations, lower HbA1c levels, and enhanced health-related quality of life. However, it is difficult to ensure long-term maintenance of recommendations for self-management in many people with T2DM. Similarly, recent findings indicate that only providing knowledge is not enough to produce a lasting behaviour change. Williams et al. [7] highlighted that psychological capability, social support, healthcare accessibility, socioeconomic conditions, and understanding and applying health information in real-life situations impact whether the self-management behaviours are successful.

According to the World Health Organisation [8], to enhance health and treatment, people must possess the knowledge and abilities necessary to obtain, evaluate, comprehend, and successfully utilise health information and services. Additionally, Nutbeam [9] described health literacy as a three-stage, ongoing process, involving the critical, interactive, and functional stages. Thus, it refers to a person's ability to obtain, understand, evaluate, and act upon health information. In diabetes care, these multi-faceted skills are fundamental to understanding blood glucose levels, communicating with health care providers, following medication as prescribed, making food choices, and partaking in shared decision-making. As a result, health literacy has come to be seen as more than just an individual characteristic, but as a dynamic tool that can help individuals manage their health more effectively and achieve better health.

While there are significant studies on diabetes identifying health literacy as a positive factor impacting self-management, the literature has been predominantly concerned with demonstrating the existence of this relationship [10]. Thus, there is a need to understand the underlying relationship. From the discussion above, it was also inferred that additional variables, including self-efficacy, social support, digital health literacy, access to health services, and socioeconomic status, could mediate or moderate this relationship. Previous reviews have examined the relationship between health literacy and diabetes self-management [11,12], and others have explored contextual influences on diabetes self-management or focused on particular populations [13,14]. However, these reviews differ in their objectives, populations and scope, and may not provide a comprehensive account of the psychological and behavioural mechanisms through which health literacy influences self-management alongside the individual, social, healthcare and digital factors shaping these relationships. Additionally, these pathways are not well connected and have not been synthesised. Thus, this scoping review aimed to map and synthesise the existing evidence on the mechanisms, mediators, and contextual factors through which health literacy influences self-management behaviours among adults with Type 2 Diabetes Mellitus. This scoping review is based on Bandura's Social Cognitive Theory, which frames self-efficacy as the lens for the review. According to this theory, health literacy can contribute to improving diabetes-related knowledge, increasing diabetes-related self-efficacy, and improving diabetes-related motivation, which in turn influence self-management behaviours. Consequently, such mapping is vital for informing theory-driven nursing interventions and priorities for future research that will help improve diabetes outcomes in various healthcare settings.

The review was guided by the following research questions:

RQ1: What evidence exists regarding the mechanisms and pathways through which health literacy influences self-management behaviours in adults with Type 2 Diabetes Mellitus?

RQ2: What mediators and moderators influence the relationship between health literacy and self-management behaviours in adults with T2DM?

RQ3: What contextual factors (individual, social, cultural, and healthcare-system level) shape the relationship between health literacy and self-management behaviours in adults with T2DM?

Methodology

This scoping review was conducted in accordance with the Joanna Briggs Institute (JBI) methodological framework and reported following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR). Based on the understanding from Arksey and O'Malley [15], the method is especially well suited to topics that have emergent, multiple, and limitedly synthesised evidence. The scoping review methodology was specifically applicable as the body of literature available on the connection between self-management and health literacy among adults with T2DM is conceptually wide and methodologically heterogeneous. This review was not intended to understand the interventions, but was designed to systematically include the evidence available, describe important concepts, examine mechanisms and contextual factors, and identify gaps in current knowledge.

Eligibility criteria

The Population–Concept–Context (PCC) framework recommended by the JBI was used for developing the criteria [16]. Studies from primary care, outpatient, hospital, community, and digital healthcare settings were eligible if they examined health literacy and diabetes self-management among adults with T2DM.

- Population: Patients diagnosed with T2DM
- Concept: Health literacy and diabetes self-management behaviours, including mechanisms, pathways, mediators, and moderators linking the two constructs
- Context: Healthcare or community setting worldwide

Studies were excluded if they focused exclusively on participants with T1DM, gestational diabetes, or prediabetes. Studies with mixed populations (e.g., T1DM and T2DM combined) were included only if data for T2DM participants were reported separately or if T2DM constituted the majority (>50%) of the sample. Limiting the review to adults with T2DM was important because there are significant differences in the natural history, approach to treatment, and self-management needs of diabetes type 1 and 2. Additionally, there were no geographical restrictions on capturing variations across healthcare systems, cultures and socioeconomic contexts that might affect the relationship between the concepts. No language restrictions were applied; however, only studies published in English were identified through the search strategy.

Search strategy

Literature research was conducted in PubMed/MEDLINE, Scopus, Web of Science, and Google Scholar. For the search, free-text keywords and controlled vocabulary (such as Medical Subject Headings [MeSH]), with Boolean operators, were used for the search strategy. The search was conducted from inception to July 2026. No timeframe was maintained to ensure all evidence on self-management could be obtained. The search strings used for this study are shown in Table 1. For Google Scholar, the search was conducted using the free-text keywords "health literacy" AND "type 2 diabetes" AND "self-management," and the first 200 results were screened, as Google Scholar does not support controlled vocabulary or complex Boolean logic.

Study selection

Studies were chosen systematically in accordance with the pre-designed eligibility criteria, based on the PCC framework. The study selection process was conducted systematically and reported in accordance with the Preferred Reporting Items for PRISMA-ScR guidelines [17]. Records retrieved were first filtered for duplicates and studies that were obviously not relevant to the review goals by abstract and title. Two reviewers (S.C. and Q.H.) independently screened titles and abstracts. All potentially eligible articles were then assessed for full text using inclusion and exclusion criteria. Studies were considered when they investigated adults with Type 2 Diabetes Mellitus, health literacy, diabetes self-management or mechanisms, and contextual factors between constructs. Any study in any healthcare or community setting and geographical region was considered eligible. Disagreements between reviewers during screening were resolved through discussion, and a third reviewer was consulted when consensus could not be reached.

The reasons for exclusion at the title/abstract stage were tracked and are reported in Figure 1. At the full-text stage, studies were excluded if they were not openly accessible or did not discuss T2DM, health literacy, or self-management.

Data analysis and reporting

All retrieved records were screened using Covidence. Figure 1 illustrated the process of study selection, displayed through a PRISMA flow diagram. The results of the selected studies after screening were consolidated into conceptual themes, based on Bandura's Self-Efficacy Theory. Data were charted using a standardised form developed for this review. The charting form captured the following fields: author(s), year, country, study design, sample size, population characteristics, healthcare setting, health literacy measure, self-management measure, key findings, and identified mechanisms, mediators, or moderators. The data charting form was piloted by two reviewers (S.C. and Q.H.) on five studies;

discrepancies were resolved through discussion. The final charting table is presented as Table 2 in the Results section. Findings were coded and grouped into themes. Themes were developed both deductively (based on Bandura's Social Cognitive Theory) and inductively (based on patterns emerging from the data). This allowed it to be comprehensively mapped in an evidence map showing how health literacy can influence behaviour via the psychological, social and environmental pathways. Differences in study designs and potential evidence overlap were considered during interpretation. No formal quality appraisal was conducted, as this is optional for scoping reviews and the review aimed to map the breadth of evidence rather than assess effectiveness. However, methodological limitations of the included studies are discussed narratively in the Discussion section. This synthesis overall helped to identify gaps in knowledge and recommendations for future research and theory-based interventions that would improve diabetes self-management.

Results

Following the screening, twenty-four papers were selected as shown in Figure 1.

Table 2 summarises the characteristics of the 24 included studies, including their design, population, setting, health literacy and self-management measures, key findings, and the mechanisms, mediators, moderators, and contextual factors identified.

Following rigorous analysis of the findings, two themes were developed as discussed below.

Theme 1: Mechanisms and pathways through which health literacy influences self-management behaviours in adults with Type 2 Diabetes Mellitus

This theme addresses RQ1. The evidence indicates that health literacy influences self-management through four interrelated mechanisms: cognitive, behavioural,

psychological, and interpersonal. These mechanisms are described below, with contradictory findings highlighted where applicable.

Cognitive mechanisms

Research has repeatedly demonstrated that inadequate health literacy affects diabetic self-management through several interrelated mechanisms. Individuals with better health literacy had greater knowledge of diabetes-related information due to their better capability to understand the information [18-20]. Specifically, these individuals demonstrated greater ability to interpret treatment recommendations, calculate medication doses, and understand food labels, which in turn supported blood glucose monitoring, glycaemic outcomes, physical activity, food habits, and medication adherence. The results from the studies were consistent with the finding that self-efficacy consistently mediated the relationship between health literacy and management behaviour [18-20]. However, it should be noted that these studies used different measures of self-efficacy (e.g., the Diabetes Self-Efficacy Scale, the General Self-Efficacy Scale), and the strength of mediation varied across studies, suggesting that the consistency of this finding should be interpreted with caution. Thus, it highlights that people with more confidence in dealing with their disease are more likely to follow the behaviour through to the end. For example, for diabetic foot self-management, Yao et al. [21] found that through self-efficacy, digital health literacy has an indirect and direct impact on self-management. Similarly, Xu et al. [22] found that communicative and critical health literacy improved diabetic self-efficacy, particularly when patients were empowered and given explicit information.

Behavioural mechanisms

Health literacy was also linked to behavioural mechanisms, including problem-solving skills, goal-setting, and self-monitoring. Patients with higher health literacy were more likely to engage

in these behaviours, which in turn supported sustained self-management [11, 12].

Psychological mechanisms

Diabetes distress, fatalism, and burnout were identified as psychological factors that mediated the relationship between health literacy and self-management. Jafari et al. [18] showed that diabetes distress and burnout are decreased by social support, which in turn is influenced by health literacy. Similarly, Nam and Yoon [23] found that health literacy was associated with reduced fatalism, which in turn predicted better self-care behaviours. Social supports were also a mechanism in the facilitation of self-management of diabetes [14,24-26]. Emotional support, practical help, and collaborative decision-making opportunities from people close to the patient and healthcare providers, as well as peers and community supports, helped patients to better understand and apply diabetes management recommendations. However, Tseng et al. [20] found that the relationship was positive for both men and women, but the relationship between self-efficacy and numeracy was impacted differently based on gender. Specifically, self-management was more strongly associated with numeracy among men and with diabetes knowledge and self-efficacy among women. This suggests that psychological mechanisms may operate differently across demographic groups. Interpersonal mechanisms. Social support was identified as a key interpersonal mechanism. Emotional support, practical help, and collaborative decision-making from family, healthcare providers, peers, and community supports helped patients to better understand and apply diabetes management recommendations [14,24-26]. Jafari et al. [18] showed that diabetes distress and burnout are decreased by social support, subsequently leading to optimal self-care behaviours and quality of life. Aligning with this, Osborn et al. [27] found that health literacy caused an increase in social support, which in turn affected self-care. This was supported by evidence from systematic reviews showing that

health literacy interventions improved diabetes knowledge, physical activity, self-efficacy, and well-being [12].

Digital and eHealth literacy

Another pathway identified was digital and eHealth literacy. The eHealth literacy scores were higher, allowing patients to effectively use digital health information and online self-management resources [28]. Thus, it improved their management behaviours and decreased conditions associated with diabetes. El Ejel et al. [29] also indicated that digital interventions are effective in regulating behaviours. This implies, e-health can be used as a tool for acquiring knowledge and engaging patients in treatment, with its effectiveness being influenced by the digital capabilities of the patient. Higher health literacy has been reported to increase the understanding of diabetes and confidence in carrying out diabetes self-care behaviours [11,30]. That is, it enhances behaviour such as taking medications, healthy eating, physical activity, and monitoring glucose levels. Most importantly, research indicated that improving the levels of health literacy made the patients more confident in managing diabetes [31,23]. This, in turn, positively influences their behaviours of self-management. However, the evidence also indicated that limited digital health literacy remains a key challenge to the long-term use of these technologies [32,33]. This suggests that digital interventions may inadvertently widen health inequalities if they are not accompanied by efforts to build digital literacy. In summary, the evidence indicates that the mechanisms and pathways through which health literacy supports self-management behaviours in adults are cognitive, behavioural, psychological, and interpersonal. These mechanisms operate in an interrelated manner, enabling people to participate more confidently and effectively in long-term self-management.

Theme 2. Mediators and moderators influencing the relationship between health literacy and self-management behaviours.

This theme addresses RQ2 and RQ3. Findings suggest that a variety of factors at the individual, social, cultural, and healthcare-system levels influence the relationship between health literacy and diabetes self-management. These factors are described below.

Individual-level factors. In general, the health literacy of older adults was higher, whereas their digital competence declined with age, thus calling for age-specific educational needs and approaches [34]. This finding suggests a paradox: older adults may have higher general health literacy but lower digital health literacy, which has implications for the design of digital interventions. Another finding by Tseng et al. [20] was that self-management was more strongly associated with numeracy among men and with diabetes knowledge and self-efficacy among women. It indicated that contextual factors could potentially influence the pathways between the two contexts. The influence of health literacy was moderated by age, as motivation and self-efficacy had a greater impact in enhancing self-care in younger adults [23].

Social and cultural factors

This was also heavily influenced by cultural and environmental factors. Among language barriers, immigrants and minorities, limited access to culturally relevant health information, and low technology confidence hindered patients' understanding and implementation of diabetes self-management recommendations [14,13,35]. The use of community health workers, family involvement, culturally appropriate educational resources, and supportive communication among health care providers and patients were found to be strategies that strengthen patients' engagement and improve self-management outcomes. Redquest et al. [36] and Piette et al [32] highlighted how caregivers and peers can give support to diabetes management for T2DM patients development and intellectual disabilities.

This showed that contextual support is not just limited to patient-specific characteristics.

Socioeconomic factors. Social determinants also played an important part in influencing capacity to manage diabetes. The sociodemographic characteristics that were found to be linked to patients' access to and comprehension of health information included age, education, gender, income, and numeracy. The influence of health literacy was moderated by age, as motivation and self-efficacy had a greater impact in enhancing self-care in younger adults [23].

Healthcare-system and technological factors. Technological developments also have taken on a significant role as contextual influences. Digital technologies offer new possibilities for management [19,33]. The ongoing interventions were found to facilitate diabetes self-management through increased access to health information and personalised support [37]. It shows that there are improvements in self-care through telemedicine, artificial intelligence, mobile apps, and continuous glucose monitoring. However, limited digital health literacy continues to be a key challenge to long-term use of these technologies [37]. Similarly, evidence also presented challenges regarding limited digital health literacy, lack of training, and challenges in interpreting health data [33]. The overall evidence indicates that health literacy does not work in isolation, but interacts with an individual's ability, social support, health care access, cultural adaptation and digital environment. This suggests that interventions targeting only health literacy, without addressing these contextual factors, may have limited effectiveness. Nonetheless, Ammar et al. [38] highlighted the possible advantages of such health apps as well as personal health libraries to reinforce patient empowerment and promote personalised self-management, as long as patients have the necessary digital literacy. It can be inferred that health literacy interventions that are tailored, community-based or nurse-led consistently can produce improved glycaemic control and self-management outcomes when compared to standard education programmes.

Discussion

These results indicated that the association between diabetes self-management and health literacy is influenced by psychological, social, and contextual factors. In the studies included, self-efficacy was the most frequently reported mediator among the included studies. Thus, it implies that health literacy was significantly linked to self-management of type 2 diabetes. Other commonly reported factors included diabetes knowledge, family support, and digital competence. It fosters patients' capacity to turn health information into potential, lasting behavioural change. However, several studies showed that health literacy alone was not sufficient to improve self-management outcomes. For instance, despite health literacy being significantly correlated with glycaemic control, there was no direct relationship, suggesting a need for social support and patient engagement to mediate the relationship between health literacy and glycaemic control. Similarly, digital technologies have positive effects on self-management but are only effective if patients have the digital literacy needed and are provided with a digital support system. This could ultimately give rise to technological innovations increasing existing health inequalities.

The results build on seminal research by Paasche-Orlow and Wolf [39] that suggested that, through patient-provider interactions, self-care, and healthcare access, indirect impact of health literacy on health outcomes is observed. This framework, which was introduced in the Discussion, could have been introduced earlier in the Introduction to frame the review's findings. Future research should consider using this model to guide the design of interventions. The present review thus offers empirical support for these pathways, showing that psychosocial pathways are consistently important pathway predictors of diabetes self-management. Similarly, the findings are supported by Nutbeam [9] that critical health literacy and communication are more important than functional health literacy in the promotion of

successful diabetes management. However, this review indicated that the impact of socioeconomic disadvantage could potentially modify and be more salient than that of health literacy itself.

Self-efficacy and social support were common factors discussed as correlates of health literacy or potential pathways between health literacy and diabetes self-management. However, the current evidence did not prove that they are more consistently effective predictors than other factors due to differences in study design, measures, and analytical methods used. It is important to note that their significance should be considered as a pattern, not a ranking. This nuance is important because it suggests that interventions should address multiple mechanisms simultaneously rather than targeting a single pathway. Results were not uniform among the studies. Some research found that there were relationships between health literacy, self-management and glycaemic outcomes, but others pointed out indirect relationships via social support [27]. Other differences by gender, indicating differences in relationships by population and outcome, were also reported by Tseng et al. [20]. Thereby, methodological heterogeneity should be taken into account when seeking interpretation. Although cross-sectional analyses can find associations, they cannot determine temporal or causal relationships, while longitudinal analyses can offer more convincing evidence of temporal or causal relationships. In addition, there were variations in the dimensions of health literacy that were studied, which precludes direct comparison across findings. There were limitations in this review due to variation in the study designs, health literacy assessment tools, populations, and self-management outcomes. There is also potential for overlap in underlying evidence because of the inclusion of evidence syntheses with primary studies. Effectiveness cannot be determined by protocols or technology-development papers. Additionally, no formal quality appraisal was conducted, and grey literature was not searched, which may have

introduced publication bias. These constraints prevent direct comparisons and causal interpretations.

The findings add to the existing knowledge by showing the position of digital self-management and eHealth literacy. The results suggest that literacy should be considered a constant and dynamic capacity, rather than a single cognitive ability, that is dependent on the healthcare systems, social context and technical resources. This paradigm shift helps to shape comprehensive interventions that inculcate both health literacy and self-efficacy building, culturally responsive education, family engagement and digital support to promote lasting improvements in diabetes self-management.

Conclusion

Self-efficacy, diabetes knowledge, motivation, and social support emerged as potential pathways, while sociodemographic characteristics and digital health literacy appeared to shape patients' ability to apply health information. However, heterogeneity in study designs and health literacy measures, alongside potential overlap between primary studies and evidence syntheses, limits direct comparison and causal interpretation. The relative contributions of identified pathways and the effectiveness of tailored interventions remain uncertain. One of the limitations of this review is the methodological heterogeneity of the included studies, which may not allow the results to be directly compared. Therefore, longitudinal studies and intervention studies are recommended in future to assess causal relationships. Additionally, culturally and digitally designed health literacy interventions should be researched for promoting sustainable diabetes self-management leading to better clinical outcomes.

Authors' contributions

Conceptualization: Shuwei Chen, Siew Hong Hng. Methodology: Shuwei Chen. Data Collection: Shuwei Chen, Qizhi Hao. Data Analysis: Shuwei Chen, Siew Hong Hng,

Qizhi Hao. Writing - Original Draft Preparation: Shuwei Chen. Writing - Review and Editing: Siew Hong Hng, Paramesevary L. Subramaniam. Visualization: Shuwei Chen. Supervision: Siew Hong Hng, Paramesevary L. Subramaniam.

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Conflicts of interest

The authors declare that they have no financial or other conflicts of interest that could influence the content or interpretation of this manuscript.

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Table 1. List of Search Strings

Database	Search String
PubMed	("Diabetes Mellitus, Type 2"[Mesh] OR "type 2 diabetes"[tiab] OR "type 2 diabetes mellitus"[tiab] OR T2DM[tiab] OR "type II diabetes"[tiab]) AND ("Health Literacy"[Mesh] OR "health literacy"[tiab] OR "eHealth literacy"[tiab] OR "electronic health literacy"[tiab] OR "digital health literacy"[tiab]) AND ("Self-Management"[Mesh] OR "self-management"[tiab] OR "self management"[tiab] OR "diabetes self-management"[tiab] OR "self-care"[tiab] OR "self care"[tiab] OR "diabetes self-care"[tiab])
Google Scholar	"Health literacy" "type 2 diabetes" "self-management" OR "health literacy" "type 2 diabetes" "self-care" OR "digital health literacy" "type 2 diabetes" "self-management"
Scopus	TITLE-ABS-KEY (("type 2 diabetes" OR "type 2 diabetes mellitus" OR "T2DM" OR "type II diabetes") AND ("health literacy" OR "eHealth literacy" OR "electronic health literacy" OR "digital health literacy") AND ("self-management" OR "self management" OR "diabetes self-management" OR "self-care" OR "self care" OR "diabetes self-care"))
Web of Science	TS= (("type 2 diabetes" OR "type 2 diabetes mellitus" OR "T2DM" OR "type II diabetes") AND ("health literacy" OR "eHealth literacy" OR "electronic health literacy" OR "digital health literacy") AND ("self-management" OR "self management" OR "diabetes self-management" OR "self-care" OR "self care" OR "diabetes self-care"))

Following the screening, twenty-four papers were selected as shown in Figure 1.

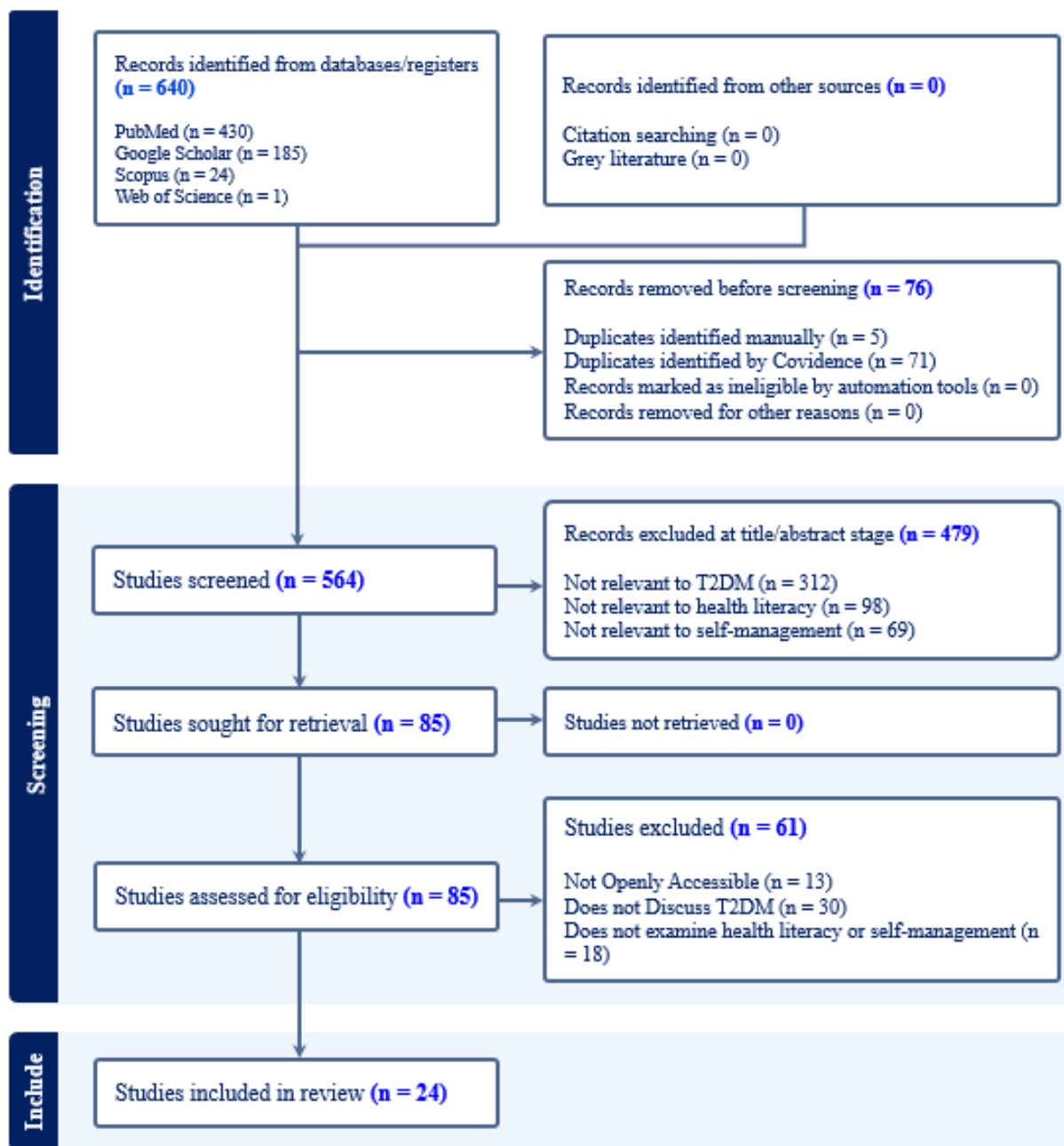


Figure 1. The process of screening studies shown through PRISMA.

Table 2. Characteristics of Included Studies (n = 24)

Study	Author (Year), Country	Design; Population	Health Literacy Measure	Self-Management Measure	Key Findings	Mech	Mediators identified	Moderators identified	Contextual factors
1	Jafari et al (2024), Iran [18]	Path analysis; Adults with T2DM	NR	NR	Social support mediates HL–self-care relationship; distress and burnout reduced by social support	P, I	Social support, distress	NR	Soc
2	Lee et al (2026), Korea [19]	Longitudinal; Adults with T2DM	eHealth Literacy	SM	eHealth literacy associated with self-management via self-efficacy	C, D	Self-efficacy	NR	Dig
3	Tseng et al (2022), Usa [20]	Cross-sectional; African American adults with T2DM	NR	NR	Gender differences: numeracy stronger in men; knowledge and self-efficacy in women	C, P	Numeracy, self-efficacy, knowledge	Gender	Ind
4	Yao et al (2026), China [21]	Cross-sectional; Adults with diabetic foot disease	Digital HL	SM behaviours	Digital HL has direct and indirect effects on self-management via self-efficacy	C, D	Self-efficacy	NR	Dig
5	Xu et al (2018), China [22]	Cross-sectional; Adults with T2DM	Communicative and critical HL	Self-efficacy	Communicative and critical HL improved self-efficacy when patients were empowered	C, P	Self-efficacy, empowerment	NR	HS
6	Ong-Artboriak et al (2023), Thailand [34]	Cross-sectional; Older adults with T2DM	HL	Self-care behaviours	HL associated with self-care and glycaemic control; digital competence declines with age	C, B	Self-efficacy	Age	Ind, Dig
7	Nam & Yoon (2024), Korea [23]	Moderated mediation; Diabetic patients with physical disabilities	HL	Self-care	HL linked to self-care via self-efficacy; age moderates relationship	C, P	Self-efficacy, motivation	Age	Ind
8	Osborn et al. (2010), USA [27]	Cross-sectional; Adults with T2DM	HL	Diabetes self-care	HL associated with self-care and glycaemic control; indirect via social support	I	Social support	NR	Soc
9	Butayeva et al (2023), Australia [12]	Systematic review; Adults with T2DM	HL interventions	SM outcomes	HL interventions improved knowledge, physical activity, self-efficacy, well-being	C, B, P	Self-efficacy, knowledge	NR	HS
10	Tørris & Nortvedt (2024), Norway [13]	Scoping review; Adult immigrants with T2DM	HL	Self-care	Language barriers, limited cultural information, low tech confidence hinder self-management	C, I	NR	Culture, language, tech confidence	Soc, Cul
11	Redquest et al. (2020), Canada [36]	NR; Adults with intellectual/developmental disabilities and T2DM	NR	NR	Caregivers and peers support diabetes management	I	Social support	Caregivers	Soc
12	Piette et al. (2013), USA [32]	NR; Adults with T2DM	NR	NR	Peer support intervention improved glycaemic control	I	Peer support, social support	NR	Soc
13	Ammar et al. (2021), USA [38]	Use case, Underserved	Digital HL	SM	Health apps and personal health libraries reinforce empowerment when digital literacy adequate	D	Empowerment, digital literacy	Digital literacy	Dig

		populations with T2DM										
14	Mo et al. (2026), Hong Kong [28]	Cross-sectional; Adults with T2DM	Electronic HL	Self-care	Higher eHealth literacy allows effective use of digital health information	D	NR		NR		Dig	
15	El Ejel et al. (2025), NR, [29]	Systematic review; Adults with T2DM	NR	NR	Digital interventions effective in regulating behaviours	D	NR		NR		Dig	
16	Dahal & Hosseinzadeh (2019), Australia [11]	Systematic review; Adults with T2DM	HL	SM	Association between HL and diabetes self-management	C, B	NR		NR		HS	
17	Nugent et al. (2023), Malta [30]	Cross-sectional; Adults with T2DM	HL	SM & glycaemic control	HL associated with SM & glycaemic control	C, B	NR		NR		HS	
18	Hiefner et al. (2024), USA [31]	NR; Underserved Latino/a/x patients with T2DM	NR	SM behaviours	Family support associated with SM behaviours	I	Family support		Culture		Soc, Cul	
19	White et al. (2022), USA [26]	NR; Adults with T2DM following hospital discharge	Literacy	Diabetes related outcomes	Literacy, self-efficacy, social support influenced outcomes	C, P, I	Self-efficacy, social support		NR		HS	
20	López et al. (2016), USA [14]	Latinos with T2DM	NR	NR	eHealth strategies effective for eliminating disparities	D, I	NR		Culture		Soc, Cul, Dig	
21	Meng et al. (2026), China, [24]	NR; Adults with T2DM	HL	Medication adherence	Social support and medication adherence mediated by empowerment and HL	I, C	Empowerment, HL, social support		NR		Soc	
22	Polhuis et al. (2021), Netherlands [25]	Intervention development; Adults with T2DM	NR	Healthy eating	Salutogenic intervention for healthy eating developed	B	NR		NR		HS	
23	Barchiesi et al. (2025), Italy, [33]	Systematic review; Adults T2DM	NR	Continuous glucose monitoring	Barriers and opportunities for care improvement identified	D	NR		Digital literacy		Dig	
24	Bevilacqua et al. (2025), Italy, [37]	Protocol; Older patients with T2DM	HL	SM	eHealth and HL educational training protocol	D, C	NR		Digital literacy, age		Dig, Ind	

Abbreviations: NR: Not reported; T2DM = Type 2 diabetes mellitus; HL = Health literacy; SM = self-management; Latino/a/x = A gender-inclusive term referring to people of Latin American descent, encompassing Latino (masculine), Latina (feminine), and Latinx (gender-neutral) identities. **Mech = Mechanisms:** C = Cognitive (knowledge, understanding, numeracy); B = Behavioural (problem-solving, goal-setting, self-monitoring); P = Psychological (self-efficacy, distress, fatalism, motivation); I = Interpersonal (social support, family, peers); D = Digital (eHealth literacy, digital interventions); **Contextual Factors:** Ind = Individual-level (age, gender, education, income); Soc = Social (family, peers, community); Cul = Cultural (language, beliefs, culturally relevant resources); HS = Healthcare-system (access, provider communication, interventions); Dig = Digital environment (technology access, digital literacy).

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