

# Type 2 Diabetes Mellitus Management in Native Americans And Alaska Natives: A Systematic Review

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## Discussion

### • Self-Management

- Cultural values, traditions, and family involvement support lasting behavior change
- Tailored education on diet, exercise, and self-monitoring improves adherence

### • Clinical Management

- Personalized medications and patient-centered care enhance engagement and outcomes.
- Motivational interviewing strengthens trust and participation

### • Community-Based Interventions

- Home visits, group sessions, and Talking Circles increase support and coping
- Collaboration with local programs fosters sustained disease management

### • Barriers

- Socioeconomic: food insecurity, limited resources
- Geographic: isolation, reduced healthcare access
- Cultural & Systemic: historical trauma, distrust, structural inequities, comorbidities<sup>4</sup>

### • Implications for Care

- Holistic, multidisciplinary, culturally sensitive approaches are essential
- Clinicians should align care with patient preferences and connect to community resources<sup>5</sup>

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### • Search Results

- 28 studies were included (Figure 2)

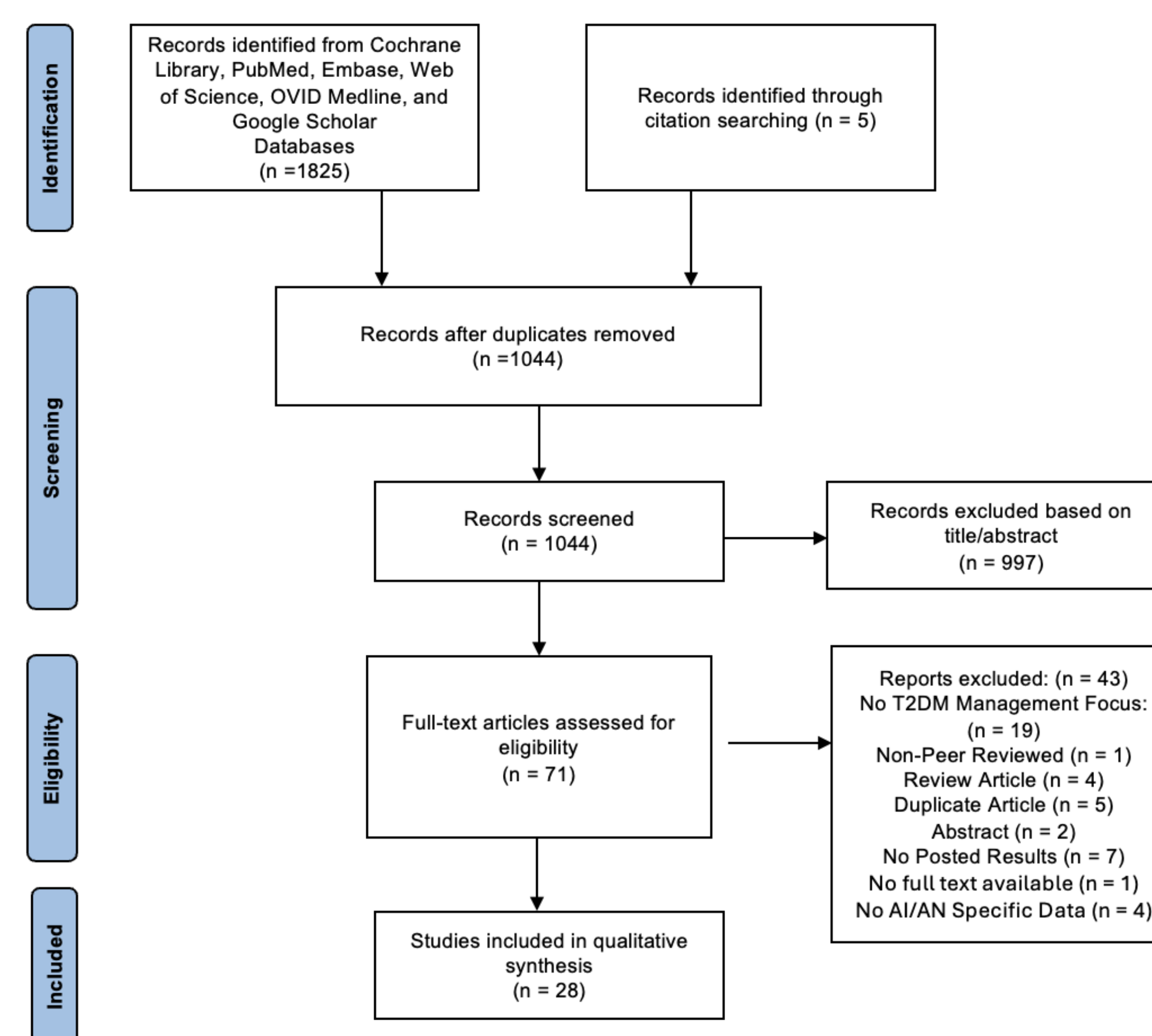


Figure 2: Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) Flow Diagram outlining Search Results

Table 1: T2DM Self-Management Strategies in AI/AN Populations

Study	Key Findings
Johnson (2014)	Diabetes Self-Management Education was linked to greater medication adherence
Jones (2020)	Culturally contextualized Diabetes Self-Management Education and Support
Lorig (2010)	Online Diabetes Self-Management Program improved A1C levels and increased patient self-efficacy
Schure (2019)	Community-based dietary management improved diet and diabetes support
Stotz (2025)	“What Can I Eat”: Healthy Choices for People with Type 2 Diabetes and their Families
Wilson (2022)	Diné diabetes education program (based on Hózhó philosophy) developed culturally grounded tools for education

Table 3: T2DM Community Based Strategies in AI/AN Populations

Study	Key Findings
Carlson (2017)	Cultural activities improved quality of life and glycemic control
Ishak (2022)	Improved diabetes management through emotional, instrumental, and culturally grounded support
Scarton (2019)	Patients preferred family-inclusive, culturally tailored diabetes management programs
Shah (2015)	Community Health Representative education improved A1C and patient activation
Trevisi (2020)	Community Outreach and Patient Empowerment improved HbA1c improvement, especially in high-risk or underserved groups
Wilken (2017)	Diabetes Self-Management Education + Talking Circles enhanced follow-up A1c trends, and patient engagement
Yadav (2022)	Diabetes Education reduced HbA1c testing; clinical visits increased testing rates.

### • Pharmacologic Care

- Prescriptions for metformin, insulin, and DPP-4 inhibitors increased (2009–2013)
- AI/AN patients had the lowest initiation rates for diabetes medications
- Pulsatile insulin reduced A1C from 9.03% to 7.03%
- SGLT2 inhibitors, GLP-1 agonists had 26% lower initiation among AI/AN Medicare patients vs. non-Hispanic Whites

### • Adherence & Engagement

- Only 27.7% of participants showed high adherence
- Longer diabetes duration linked to better glycemic control, despite higher medication counts correlating with elevated A1C

### • Non-Pharmacologic Approaches

- Motivational interviewing improved depression, provider trust, and treatment acceptance
- Patient-centered care increased adherence and empowerment, though many reported limited involvement in decision-making

### • High T2DM Prevalence in AI/AN Communities

- Rates exceed 25% in some tribal regions, far above national averages<sup>1,2</sup>

### • Historical and Systemic Barriers

- Disrupted traditions, limited healthcare access, geographic isolation, socioeconomic challenges, and cultural mistrust hinder effective management<sup>3</sup>

### • Need for Culturally Tailored Approaches

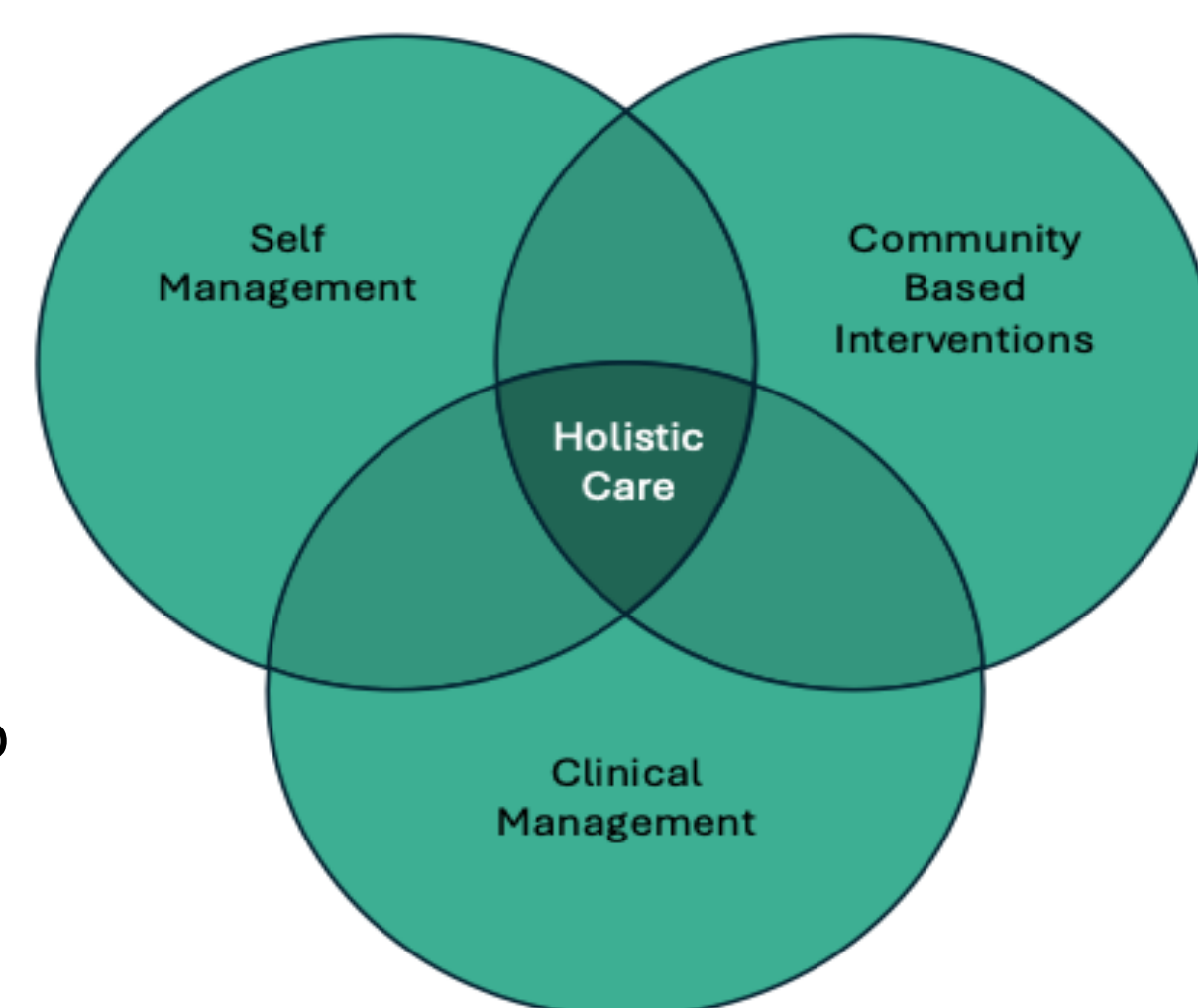
- Standard interventions often overlook spiritual, communal, and cultural values

### • Purpose of Review

- This systematic review aims to identify and evaluate existing T2DM management strategies that have been successfully implemented in AI/AN communities

Figure 1: Venn diagram

showing how self-management, community, and clinical interventions intersect to support holistic care.



### • Search:

- EMBASE, Medline, PubMed, Web of Science, Cochrane, and Google Scholar (2010–2025)

### • Studies Included:

- RCTs, cohort, observational, and case series on T2DM management in AI/AN populations

### • Analysis:

- Narrative synthesis across self-management, clinical care, and community-based interventions

### • Quality:

- Assessed using JBI tools; informed interpretation of findings