

INTRODUCTION

- In 2014, there were 18.8 million people diagnosed with diabetes and approximately 7.0 million people undiagnosed in the United States¹.
- More than 90% of those diabetes cases were type 2 or adult onset diabetes².
- Studies demonstrate diabetes self-management including activities such as increased medication adherence and health literacy improve outcomes for individuals with Type 2 Diabetes (T2D).



OBJECTIVES

- This scoping review serves to provide a review of literature regarding health literacy related to the self-management of T2D with a focus upon medication adherence.
- At the conclusion of this presentation, the learner will be able to identify the steps of the Arskey & O'Malley method for scoping review⁴ using the Socioecological Model⁵.
- The learner will identify aspects of the relationship between health literacy and medication adherence in rural adults with type 2 diabetes from a social ecological perspective⁴.
- Research Questions: Based on the current literature, which factors are associated with medication adherence in individuals with T2D? Do individuals with T2D who receive health literacy screening show improved medication adherence?

METHODS

- This Scoping Review used the Arskey & O'Malley method to frame this review⁴ and the Socioecological Model provided a theoretical framework guiding this review⁵.
- Systematic literature review was conducted in CINAHL, OVID: Medline, and PubMed databases; also backward chaining; key author and key journal searches to include thirteen peer reviewed studies.
- Peer reviewed studies that assessed medication adherence and health literacy in adults with T2D were included.

RESULTS

Author, Date	Study Purpose/ Research Question	Sample, Size (n)	Primary Outcome Variables	Results
Bains, & Egede (2011)	Assessment of association between health literacy, diabetes knowledge, self-care behaviors & glycemic control in low income population	Adults with diabetes; n=125	Health literacy; diabetes knowledge; self-care; A1C	Diabetes knowledge & perceived health status are the most important factor; health literacy exerts influence through diabetes knowledge.
Cohen, Shimukler, Ullman, Rivera, & Walker (2010)	Assess pharmacy claims and self-report data as measures of medication adherence and to describe characteristics of subjects in the Improving Diabetes Outcomes Study	Multi-ethnic, lower income adults with T2D; n=526	A1C; medication adherence (possession ratio); Morisky Medication-taking Scale; Summary of Diabetes Self Care	Participant mean age 56 ±7 years; A1C 8.6%. The results support validity of Medication Possession Ratio as adherence measure for Oral Glucose-Lowering Agents (OGLA) among insured diabetes patients with poorly controlled A1C.
Hernandez-Tejada, Campbell, Walker, Smalls, Davis, & Egede (2012)	Evaluates the effect of diabetes empowerment on medication adherence and self-care behaviors	Adults with type 2 diabetes; n=378	Diabetes empowerment; medication adherence; diabetes knowledge; diabetes self-care	Diabetes empowerment was related to better diabetes knowledge, medication adherence & improved self-care behaviors.
Hill-Briggs, Yeh, Gary, Batts-Turner, D'Zurilla, & Brancati (2007)	Examine psychometric properties of the Diabetic Problem-Solving Scale (DPSS)	African American adults with T2D; n=64	Diabetes Problem Solving Scale; A1C	Higher DPSS scores indicated better self-reported diabetes problem solving – associated with better medication adherence & lower A1C.
Mayberry, & Osborn (2012)	Explore relationships between participants' perceptions of family members' diabetes self-care knowledge, family members' diabetes supportive and non-supportive behaviors, & participants' medication adherence & A1C	Adults with T2D; n=61	Medication adherence; diabetes supportive behaviors; non-supportive behaviors	Participants think educating family members about diabetes may not stop non-supportive behaviors.
Piette, Heisler, Harand, Juip (2010)	Understanding of differences across racial groups in diabetic's medication related beliefs and adherence problems due to cost concerns	African American & White adults with T2D; n=806	Diabetes medication-related beliefs; medication adherence; cost concerns	Perceive medications were addictive; many patients have negative attitudes about medications; African-American patients had a higher rate of cost related adherence problems.
Powell, Hill, & Clancy (2007)	Explore relationships among health literacy, patients' readiness to take health action, and diabetes knowledge among individuals with type 2 diabetes	Adults with T2D; n=68	REALM, DKT, & DHBM & most recent A1C.	No significant association between DHBM scale score and REALM literacy level was found (P = .29); DKT & most recent A1C significantly associated with patient literacy (P = .004 & P = .02, respectively)
Ruelas, Roybal, Lu, & Goldman (2009)	Evaluation of factors associated with medication adherence	Underserved adult Latinos with T2D; n=162	A1C; BMI; Diabetes Knowledge Test; Summary of Diabetes Self-Care Activities questionnaire; Diabetes Empowerment Scale;	Overall A1C fell by 1% of <8%; baseline A1C was also predictive; knowledge scores increased in those who reached target, but measures of self-efficacy & empowerment did not change

RESULTS MODEL (cont.)

Conceptual Model – Social Ecological Model (SEM) applied to Medication Adherence in Type 2 Diabetes



CONCLUSIONS

Medication adherence in T2D is related to factors including correlations between: diabetes knowledge scores and medication adherence; diabetes knowledge and A1C; and health literacy is independently associated with diabetes knowledge.

Future research should include nursing theory and health promotion behaviors to explore diabetes self-management behaviors related to medication adherence..

SELECT REFERENCES

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4. Arskey, H. & O'Malley, L. (2003). Scoping studies: Toward a methodological framework. *International Journal of Social Research Methodology*. 8(1), 19-32.
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