Diabetes Distress and Self-Care of Diabetes in Non-Hispanic Black Adults Living with T2D

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Background

- Diabetes is the 6th leading cause of death in non-Hispanic Black males and 4th leading cause of death in non-Hispanic Black females
- Self-care of diabetes and diabetes distress can influence the management of T2D and outcomes of diabetes-related co-morbidities
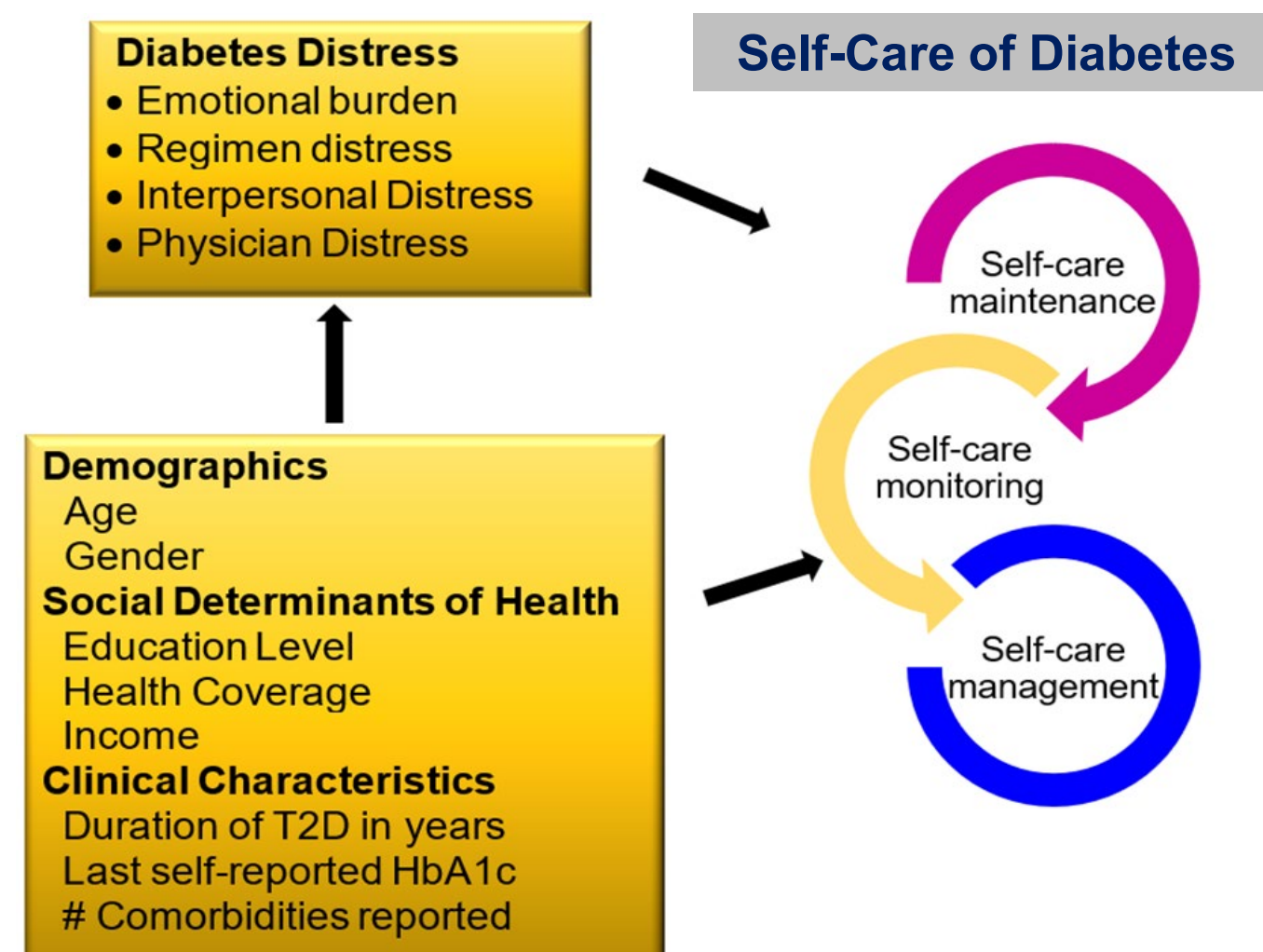
Purpose

This study aims to describe the level of self-care of diabetes and diabetes distress and examine their relationship in non-Hispanic Black adults living with T2D in NC.

Research Questions

1. What is the level of diabetes distress and self-care of diabetes in non-Hispanic Black adults?
2. Is diabetes distress associated with self-care of diabetes while controlling for demographics, social determinants of health, and clinical characteristics in non-Hispanic Black Adults with T2D?

Study Model

Diabetes Distress
- Emotional burden
- Regimen distress
- Interpersonal Distress
- Physician Distress

Self-Care of Diabetes
- Self-care maintenance
- Self-care monitoring
- Self-care management

Demographics
Age
Gender
Social Determinants of Health
Education Level
Health Coverage
Income
Clinical Characteristics
Duration of T2D in years
Last self-reported HbA1c
Comorbidities reported

Adapted from the *Theory of Self-Care of Chronic Illness* (Riegel et al., 2012)

Methods and Design

- Cross-sectional correlational study with convenience sampling
- Participants recruited from community-based settings
- Confidential online Qualtrics survey
- Self-reported sociodemographic and clinical characteristics
- Tools: Self-Care of Diabetes Inventory and Diabetes Distress Scale 17
- Data analysis: descriptive statistics and median regression

Results

Sample Characteristics – 275 Participants

- Mean Age: 40.5 ± 10.1 (*SD*)
- Gender: 60% male
- Income: 50% with income between $25-74.9K
- Mean last self-reported HbA1c: 9.0% ± 2.9 (SD)
- Mean number of reported diabetes-related comorbidities: 2.0 ± 1.5 (SD)

Self-Care of Diabetes Scale Scores

Scale	*n*	*M*	*SD*	Median
Self-care maintenance	266	64.1	16.0	62.5
Self-care monitoring	267	46.6	11.8	47.1
Self-care management without insulin use	266	63.4	15.6	62.5
Self-care management with insulin use	264	61.2	16.8	61.1

Note. M = Mean; *SD* = Standard Deviation; Scale score of <70 = inadequate self-care (Ausili et al., 2017)

Diabetes Distress Scale Scores

Scale	*n*	*M*	*SD*
Total Diabetes Distress Score	252	3.0	1.1
Emotional Burden Subscale	265	3.1	1.1
Physician Distress Subscale	268	2.9	1.3
Regimen Distress Subscale	270	3.1	1.3
Interpersonal Distress Subscale	273	2.9	1.2

Note. M = Mean; *SD* = Standard Deviation; Diabetes Distress scoring < 2.0 little or no distress; 2.0-2.9 moderate distress; ≥ 3.0 high distress (Fisher et al., 2012)

Median Regression Modeling

Variables	Model 1 Self-Care Maintenance	Model 2 Self-Care Monitoring	Model 3 Self-Care Management without Insulin	Model 4 Self-Care Management with Insulin
Income ($25,000 increments)	0.233 [0.148, 0.318] <0.001***	0.154 [0.093, 0.215] <0.001***	0.141 [0.069, 0.213] <0.001***	0.099 [0.012, 0.187] 0.026*
Last self-reported HbA1c (%)	-1.933 [-2.752, -1.114] <0.001***	-1.218 [-1.779, -0.657] <0.001***	-1.783 [-2.478, -1.088] <0.001***	-1.921 [-2.753, -1.090] <0.001***
Number of reported diabetes-related comorbidities	3.104 [1.705, 4.503] <0.001***	2.085 [1.121, 3.048] <0.001***	2.721 [1.525, 3.916] <0.001***	4.070 [2.639, 5.502] <0.001***
Total diabetes distress score	0.970 [-1.015, 2.955] 0.337	1.872 [0.505, 3.238] 0.008**	3.740 [2.042, 5.437] <0.001***	4.117 [2.086, 6.148] <0.001***

Note. Median Regression Modeling was additionally adjusted for age, sex, education, health insurance status, and duration of T2DM (results not shown). HbA1c = Hemoglobin A1c. Numbers are: slope, 95% CI for slope, and *p*-value (*p*). **p <0.01, ***p <0.001.

Conclusions & Implications for Practice

- The levels of self-care of diabetes were low, with high levels of diabetes distress in this sample.
- A positive association between total diabetes distress score and self-care monitoring and self-care management indicated that as diabetes distress increases, so does engagement in self-care of diabetes in this sample
- There are opportunities to further address the behavioral aspects of diabetes management, particularly diabetes distress, to support persons living with diabetes

References