

INTRODUCTION

- Incidence of T1D has been disproportionately increasing among Black and Hispanic Young Adults (YA)
- Black and Hispanic YA have higher hemoglobinA1c, hospitalizations and increased risk of premature mortality compared to White YA
- Optimal diabetes self-management can reduce risk of complications but there is limited data comparing diabetes self-management among YA with T1D by race/ethnicity
- Our goal was to look at diabetes self-management among White, Black and Hispanic YA with T1D and examine associations of self-management with demographic, clinical, social determinant and psychosocial factors

METHODS

- We conducted a secondary data analysis of the Young Adult Racial Disparities in Diabetes (YARDD) study
- YARDD was a cross-sectional study of 300 YA from six pediatric and adult centers across the U.S. (Los Angeles, CA, Gainesville, FL, Houston, TX, Detroit, MI, Philadelphia, PA, Aurora, CO) during 2017-2018
- Inclusion criteria for YARDD: age 18-28 years; White/Black/Hispanic race/ethnicity, ability to read English, at least 6-month diagnosis of T1D. Exclusion criteria: pregnancy, steroid use, developmental disability
- We included all participants from YARDD with data on diabetes self-management (299 participants)
- Outcome: diabetes self-management measured by Diabetes Self-Care Inventory-Revised index (SCI-R)
- SCI-R is a validated 15-item questionnaire on Likert Scale
- Independent variable: self-reported race/ethnicity.
- Covariates of interest: neighborhood poverty level, insurance, food security, health literacy, diabetes numeracy, education, income, CGM and insulin pump use, diabetes distress, adverse childhood experiences
- Statistical analysis: STATA version 16.1 (StataCorp, Texas).
- We initially conducted bivariate analysis between SCI-R score and race/ethnicity and other covariates and then conducted multiple linear regression analysis

Table 1. Participant Characteristics

Variable n (%) or median (IQR)	White N=100	Black N=97	Hispanic N=102	P-value
Age (years)	21.3 (19.7, 23.4)	20.5 (19.2, 22.2)	19.6 (18.7, 20.5)	0.001
Female	59 (59%)	54 (56%)	52 (51%)	0.51
Insurance (public or none)	22 (22%)	55 (57%)	77 (75%)	<0.001
Food Insecurity	14 (14%)	28 (29%)	24 (24%)	0.04
Annual Household Income <\$50k	31 (31%)	70 (72%)	70 (69%)	<0.001
Diabetes Distress Scale	1.7 (1.2,2.5)	2 (1.5,3)	1.7 (1.3,2.5)	0.06

Black Young Adults have lower diabetes self-management and higher levels of diabetes distress compared to White Young Adults

Table 2. Multiple Linear Regression of Factors associated with SCI-R and Race/Ethnicity

Variable**	Estimated difference in SCI-R score (SE)			
	Univariate	P-value	Multivariate	P-value
Black <i>Reference: White</i>	-6.82 (2.44)	0.006	-4.24 (2.18)	0.05
Hispanic <i>Reference: White</i>	-1.33 (2.41)	0.56	-1.56 (2.23)	0.50
Age	-0.92 (0.44)	0.03	-0.61 (0.42)	0.14
Sex: Male <i>Reference: Female</i>	-1.41 (2.01)	0.49	-0.06 (1.70)	0.98
Insurance <i>Reference: no insurance</i>	3.29 (1.98)	0.10		
Food Insecurity <i>Reference: no food insecurity</i>	-5.56 (2.40)	0.02		
Insulin Pump <i>Reference: no insulin pump</i>	5.70 (1.93)	<0.01		
Diabetes Distress Scale	-8.18 (0.85)	<0.001	-7.78 (0.86)	<0.001
Adverse Childhood Experiences <i>Reference: ACE = 0</i>	-7.71 (1.98)	<0.001		

n= 299; R²= 0.27; R²Adjusted= 0.25

** Dependent variable: diabetes self-management as measured by SCI-R

RESULTS

- We analyzed data from 299 participants
- 32.4% Black, 34.1% Hispanic and 33.4% White
- Median age was 20.1 years (IQR 19-22), 55% female
- Diabetes self-management scores significantly lower in Black versus White YA with a difference of 6.81 points (p=0.006); >4 points is clinically significant
- Diabetes distress scores significantly greater in Black compared to White YA (2.0 vs 1.7, p=0.009)
- In multiple linear regression, age, sex, race/ethnicity and diabetes distress accounted for 25% of the variability in diabetes self-management

DISCUSSION

- Black YA have lower diabetes self-management scores and reported higher levels of diabetes distress compared to White YA
- Among various demographic, social determinant, clinical and psychosocial variables, in adjusted analysis only Black race/ethnicity and diabetes distress remained independently associated with diabetes self-management
- Diabetes care teams should focus on addressing diabetes self-management especially among underrepresented racial/ethnic groups
- Interventions to reduce diabetes distress among Black YA with T1D may also improve diabetes self-management