Evaluating the Effectiveness of the Personal Diabetes Questionnaire in the Primary Care Setting

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Background

- **Type 2 Diabetes Mellitus** affects approximately **382 million adults** worldwide
- Complications related to diabetes account for approximately **$174 billion in healthcare costs** nationwide
- Proper diabetes self-management is linked to a **reduction** in hospitalizations, emergency room visits, outpatient visits, and overall health decline
- Approximately **90%** of diabetes care is delivered by **primary care providers**
- **Personal Diabetes Questionnaire (PDQ):** The **only** tool available that assesses the patients' self-management **activities**, perceived **barriers**, and **motivational aspects** of self-care
- PDQ has **not yet been studied** among diverse patient populations receiving diabetes care in the **primary care setting**

Study Aims

- To evaluate the PDQ in assessing patient self-management activities including perceived barriers and readiness to complete self-care in a diverse patient population with diabetes in the primary care setting
- To explore how perceived **barriers** and **readiness** to complete self-management is related to patient-reported glycated hemoglobin values (**HbA1c**)

Hypotheses:

H_1: Strong, **positive** correlation between HbA1C and patient perceived barriers

H_2: Strong, **negative** correlation between HbA1c and patient perceived readiness to complete self-management
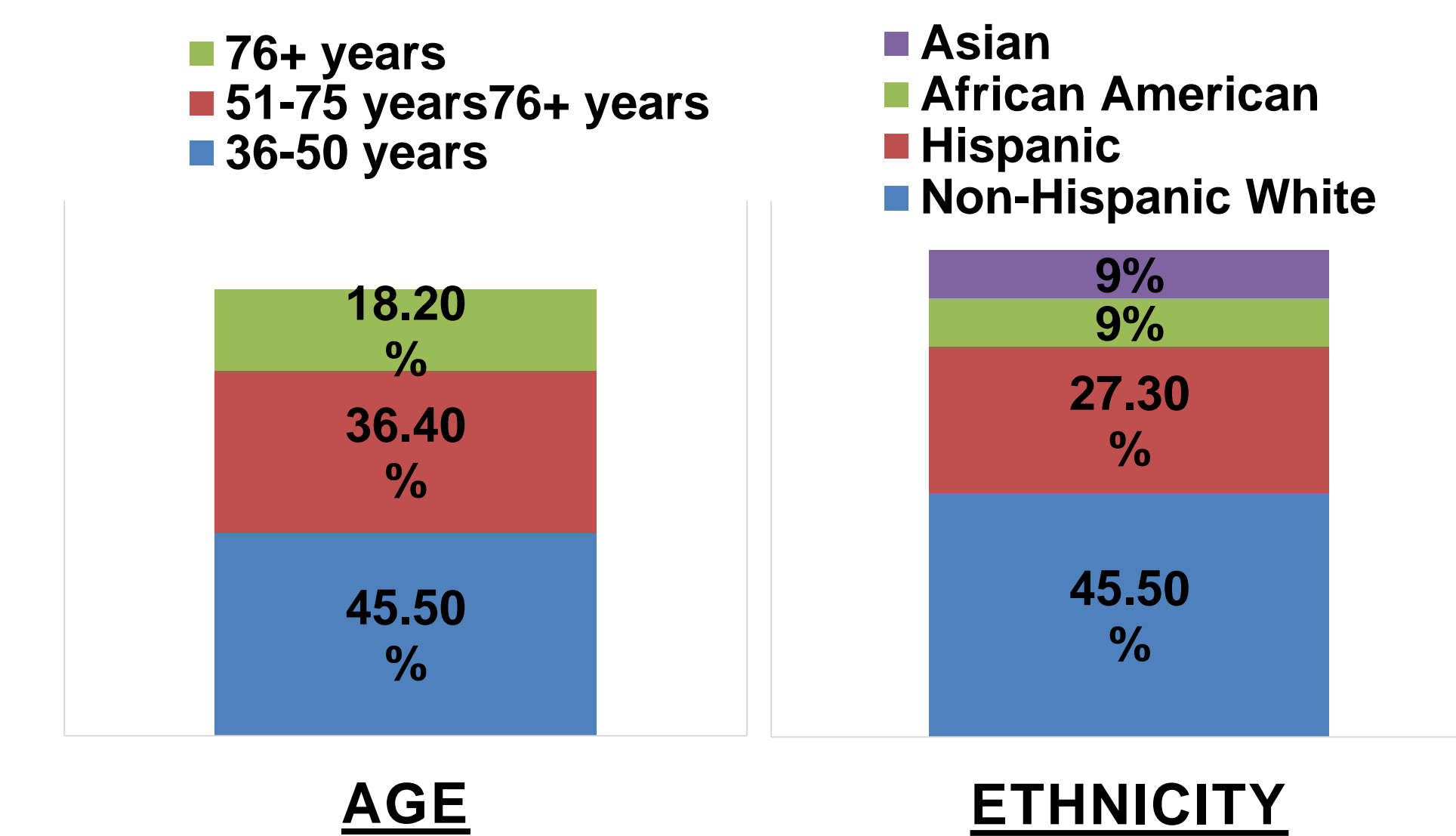
Methods

Design
- Non-experimental, cross-sectional design using self-report surveys
- Non-probability, convenience sampling

Instruments
- **PDQ:** Paper survey/tool with 78 questions divided into 13 subsets to measure: Diet, Medication Compliance, Blood Glucose Monitoring, and Exercise
- Assessed perceived barriers and readiness to complete self-management activities
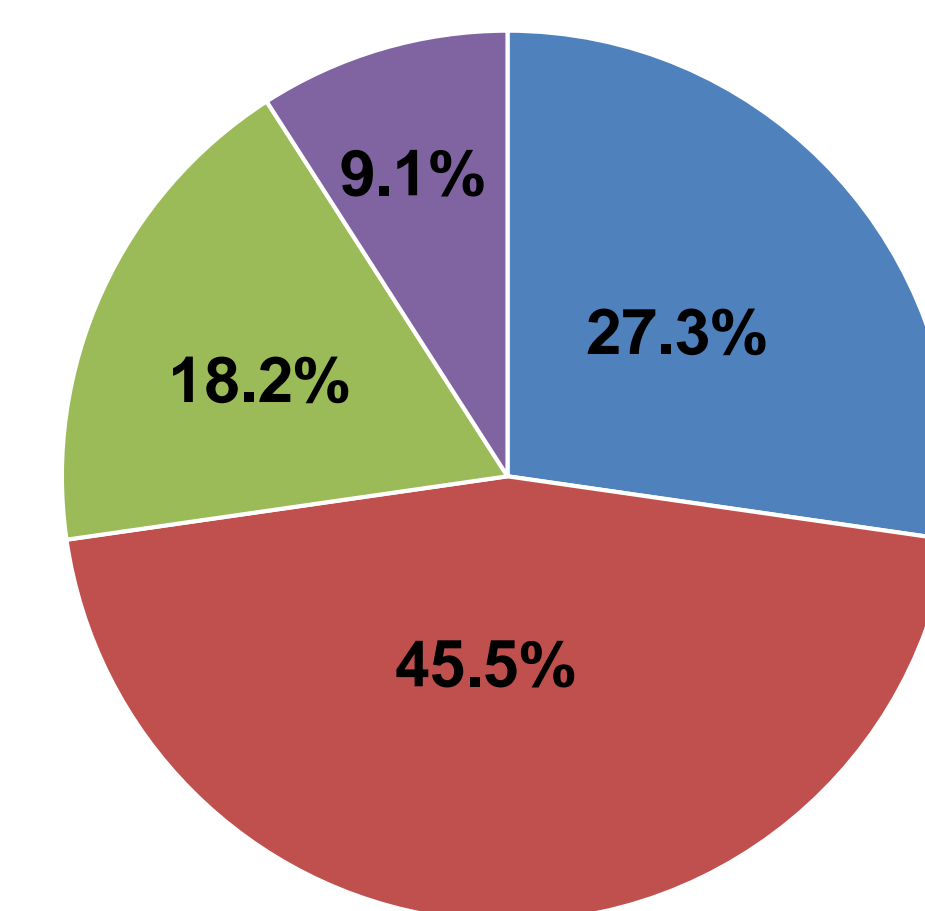
Data Collection and Sample
- N = 11; recruited from diabetes support groups and word of mouth

AGE
- 76+ years
- 51-75 years76+ years
- 36-50 years

18.20% / 36.40% / 45.50%

ETHNICITY
- Asian
- African American
- Hispanic
- Non-Hispanic White

9% / 9% / 27.30% / 45.50%

EDUCATION
- High School/GED
- Undergraduate level
- Graduate level
- Doctorate level

9.1% / 27.3% / 45.5% / 18.2%

INCOME
- $10,000-$35,000/year
- $35,000-$55,000/year
- $55,000-$100,000/year
- > $100,000/year

30% / 20% / 40% / 10%
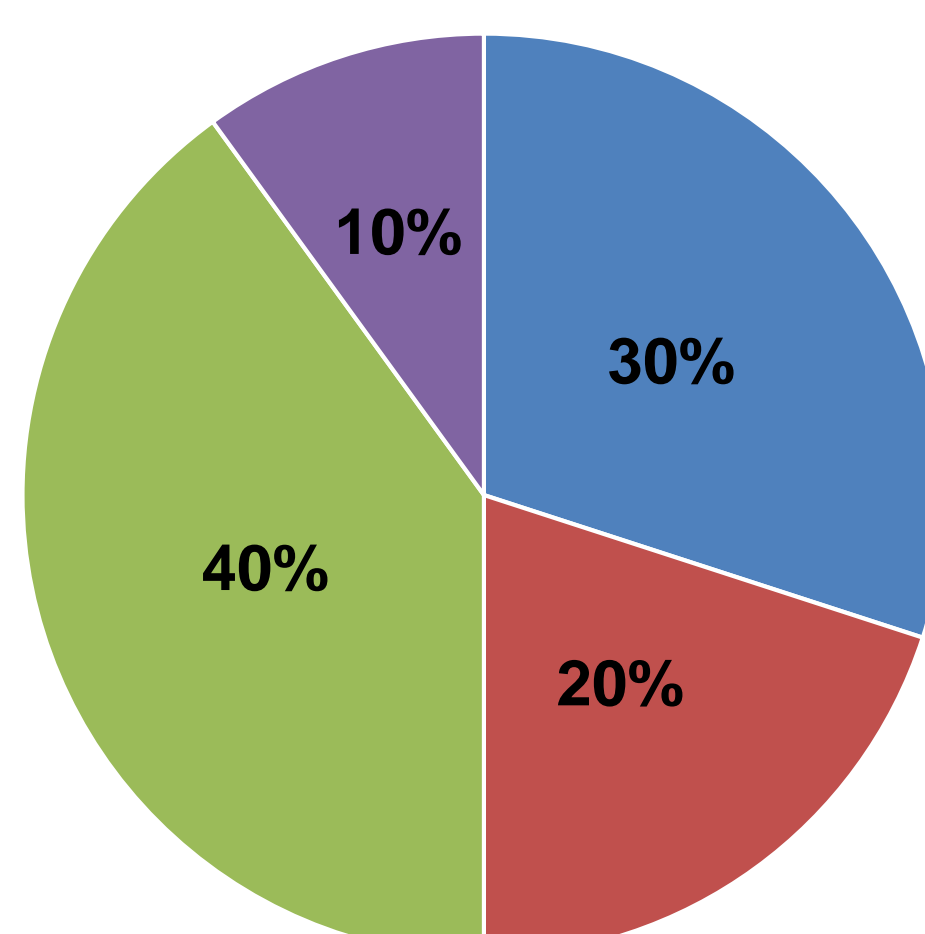
Distribution of Reported HbA1c

HgbA1c

Mean = 2.09
Std. Dev. = .539
N = 11

≤6% / >6% ≤8% / >8% ≤10%
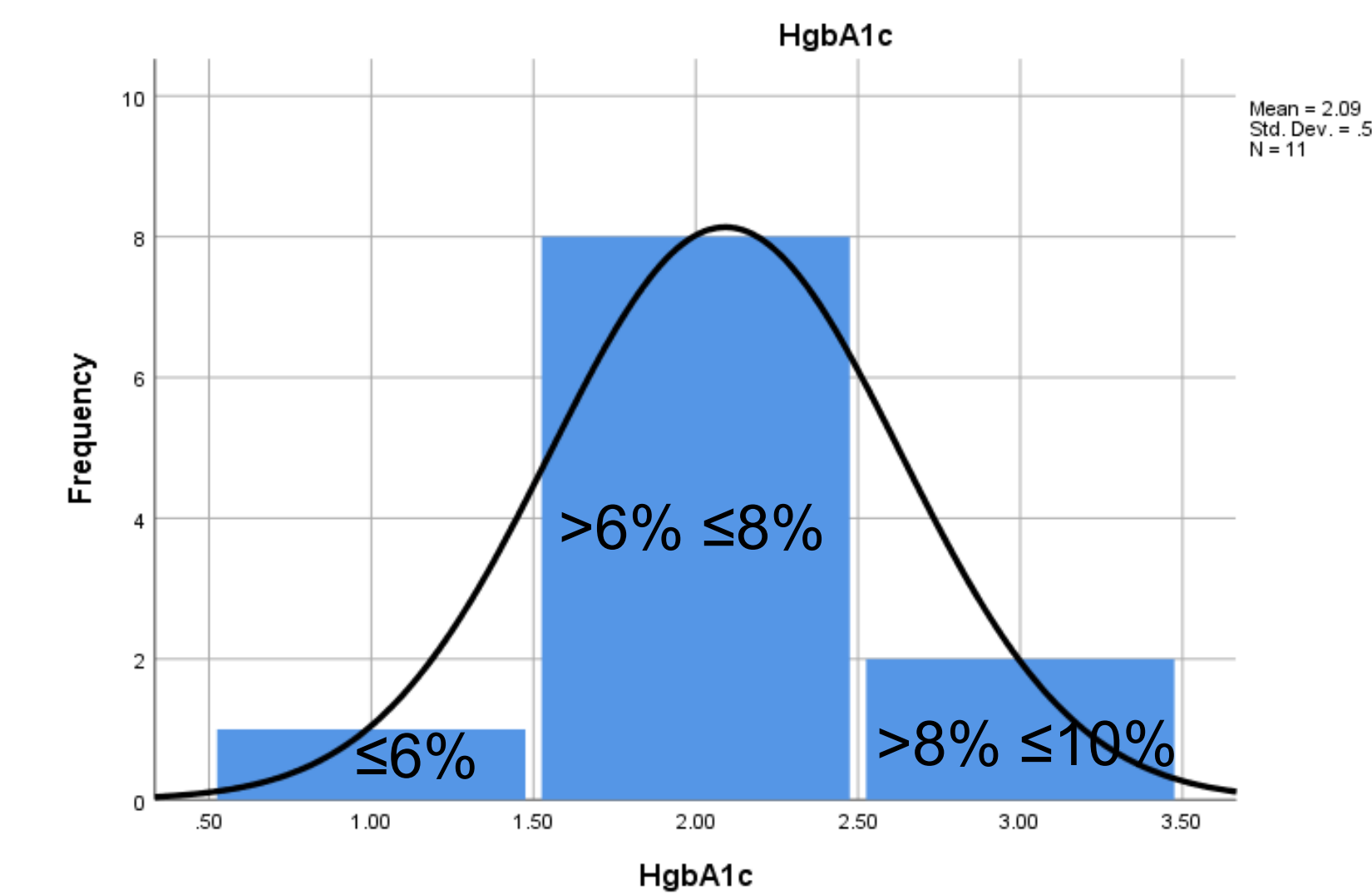
Results

- No statistically significant relationship between HbA1c and patient perceived barriers to diabetes self-management (H_1)

Most Commonly Identified Barriers (by rank)

DIET	MEDICATION USAGE	GLUCOSE MONITORING	PHYSICAL ACTIVITY
1. Being away from home	1. Mood	1. Being too busy	1. Being too busy
2. Eating due to cravings	2. Being too busy	2. Being away from home	2. Causes pain and discomfort

- No statistically significant relationship between HbA1c and readiness to complete diabetes self-management (H_2)
- Most participants were trying to lose or maintain weight, practiced carbohydrate counting or conscious of how food affects blood glucose levels

Self-Care Activities

Blood Glucose Monitoring	Physical Activity
- Majority reported pretty good or good blood glucose control - Most checked blood glucose 3-6 times/week but advised to check daily by PCP - Many experienced high blood glucose levels 1 to 2 times a week, and low blood glucose levels 2 times monthly - Most reported barriers once a month or less	- Most were advised to get more exercise by PCP - Majority completed little daily activity and set aside time to exercise 2 times a week, despite reporting low frequency of barriers - Most reported barriers 2-3 times a month (slightly more than in any other activity)

Diet	Medications

- **On Insulin:**
  □ Used diet strategies 2-3 times monthly
- **Not On Insulin:**
  □ Used diet strategies 2-3 times/week
  □ Made poor meal or snack choices once a month or less
  □ Reported barriers once a month or less
	- Majority were compliant with taking daily medications as prescribed
	- Insulin only prescribed as needed and reported compliance with this regimen
	- Most reported barriers once a month or less

Discussion

Interpretation of Findings
- Hypotheses were rejected
- Valuable information regarding self-management activity, barriers, and motivational aspects of sample were obtained
- Results may have been influenced by participant characteristics

Project Limitations
- Unable to successfully recruit participants from primary care clinic sites
- Excluded Spanish-speaking individuals

Research Recommendations
- Evaluate Spanish version of PDQ among Spanish-speaking populations
- Enlist a variety of primary care clinics
- Conduct a full study with a larger sample to further evaluate the usefulness of PDQ

Implications for Practice

- Utilizing the PDQ in the primary care setting will enable Family Nurse Practitioners to effectively provide more patient-centered self-management education for diabetic patients with realistic, personalized goal-setting
- Assessing health behaviors, perceived barriers, and motivational aspects of self-care allows providers to customize education and treatment plans to improve patients' self-management, reduce morbidity, and enhance quality of life

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