

# Patient Priorities in Diabetes: Findings from a Cross- Sectional Survey

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# Introduction

- Managing diabetes is challenging for both health care professionals and patients
- Targeted, intensive interventions aimed at multiple risk factors can significantly reduce negative outcomes (Gaede 2003)
- Designing studies based on understanding of patient priorities may influence adherence & uptake of management activities

# Rationale

- Concept of patient prioritization has not been studied in detail
- Prioritization: Deliberate ordering of importance of a variety of preventive or treatment activities for managing diabetes
- Patients may feel more able to engage in management activities that take into account their priorities and this could lead to better clinical outcomes

# Study Objective

- To assess how patients prioritize 17 diabetes care activities that are considered relevant to positive health outcomes by health care providers

# Methods - Design

- Design: Cross sectional survey
- Patient Priorities in Diabetes Questionnaire (PDDQ)
- 4 Sections:
  1. Knowledge test (multiple choice & true/false)
  2. Assessment of diabetes care activities completed
  3. 10-point rating scales for importance, ease, frequency
  4. Demographics

# Diabetes Activities

Lifestyle Activities	<ol style="list-style-type: none"><li>1) Seeing a doctor every 3 months for diabetes</li><li>2) Exercising at least 1.5 hours each week</li><li>3) Sticking to a diet that is good for diabetes</li><li>4) Not smoking</li><li>5) Keeping an ideal body weight</li></ol>
Medication Activities	<ol style="list-style-type: none"><li>6) Taking diabetes medication as prescribed</li><li>7) Taking a blood pressure medication as prescribed</li><li>8) Taking an ACE inhibitor medication as prescribed</li><li>9) Taking ASA (aspirin) as prescribed</li><li>10) Getting a flu shot every year</li></ol>
Monitoring Activities	<ol style="list-style-type: none"><li>11) Measuring blood sugar values at home each week</li><li>12) Having feet checked every 6 months</li><li>13) Getting eyes checked every year</li><li>14) Having urine checked for protein every year</li><li>15) Having cholesterol/lipids measured every year</li><li>16) Having blood pressure measured every 3 months</li><li>17) Having HbA1c levels measured every 6 months</li></ol>

(The importance, ease and frequency of the 17 care activities were rated on a **scale from 1 to 10**)

# Methods - Sample

- Adult (18 years +)
- Diagnosis (known to patient) of Type 1 or Type 2 diabetes for at least 1 year
- Fluent in English
- No cognitive deficits

# Methods – Data Collection

- Recruitment – from 2 previous studies (COMPETE, Access to Diabetes Medication Study)
- Mailed survey, but had option to complete via telephone
- Order of questionnaire components randomized to minimize order effects

# Methods - Analysis

- Pilot testing
- Face validity testing
- Test-retest reliability (32/184, 17% completed a 2<sup>nd</sup> time)
- Relationships described using Pearson's correlation coefficients
- Multivariate analysis of covariance (MANCOVA) was used to analyze all outcomes simultaneously to assessing the impact of demographic characteristics on outcomes and also takes into account the correlation structure among the outcomes
  - Independent factors included:
    - Three groups according to % of diabetes activities complete: (3 levels)
    - Age (continuous)
    - Gender (2 levels)
    - Workhous (continuous)
    - Complication ( 2 levels)
    - Knowledge score (continuous)



# Results - Sample Characteristics

- N=184 completed surveys
- Gender: 53% female
- Age (yrs): median=69; min-max (27-85)
- Type of diabetes: 92% Type 2
- Duration with diabetes: median = 4 yr;  
min-max (1-50 yr)
- Medications: median=4; min-max (0- 23)
- 31% reported having experienced at least 1 diabetes-related complication

# Results - Knowledge Score

- 22% had over 80% of responses correct
- Participants generally knowledgeable about diabetes basics (what can reduce complications; diet; exercise; smoking; & foot care)
- Less than 60% correctly answered questions related to:
  - HbA1c test (55%)
  - Recommended cholesterol level (51%)
  - Recommended LDL level (27%)
  - ACE inhibitors (23%-43%)



# Results - Rating Scales

- Importance, ease, frequency
- Internal consistency (Cronbach's alpha) ranged from 0.54 to 0.62
- All 3 ratings scales were highly skewed (between 9 and 10)
- Exception was question "keeping an ideal body weight"
  - Importance (mean=8.98, SD=2.0)
  - Ease (mean=6.8, SD=3.2)
  - Frequency (mean=7.3, SD=2.9)

# Results - Rating Scales

- Effect of complications (ns)
- MANCOVA: % completed diabetes care activities – statistically significant differences between 3 groups on all three scales for:
  - Having feet checked every 6 months
  - Eyes checked yearly

# Results - Factor Analysis

- Factor analysis completed to attempt to group questions into domains
- Rotated factor loadings were above 0.70 for 11/17 items; loadings made clinical sense
- 3 factors (monitoring, medication, & lifestyle)

# Discussion

- Knowledge scores were surprisingly low
- Highly skewed rating scale results may reflect population that is already attuned to diabetes care activities or respondent bias
- It appears that patients might not grasp the concept of prioritization or not think about it actively

# Next Steps

- Examination of relationship between knowledge scores and rank ordering of activities
- May be worthwhile to conduct qualitative study asking patients about how they define & whether they prioritize diabetes care activities
- Future interventions could be targeted at activities that align with patient priorities or attempting to re-align priorities with clinical importance