Discovering regional differences in patient perceptions of diabetes within a practice-based research network

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Disclaimer

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Cultural model of an illness

• Rising prevalence of Type 2 diabetes (T2DM): now estimated at 30.3 million Americans or 9.4% of the U.S. population
• Within a culture, how does increasing prevalence influence perceived susceptibility to the disease? More susceptible?
• Similarly, how does increasing prevalence influence perceived severity? If the disease is normative, is it perceived as less severe?
Hybrid Health Belief Model

Individual perceptions

Perceived susceptibility to, severity of disease

Modifying factors

Sociodemographic factors
Personality
Knowledge

Perceived threat of disease

Cues to action
- Education
- Symptoms
- Media

Likelihood of action

Perceived benefits minus perceived barriers to self-management

Likelihood of self-management behaviors

Self-efficacy (including treatment efficacy)
Cultural factors

- Race/ethnicity
- Regional culture
Military Primary Care Research Network
Method

• Purpose: to explore patients’ personal models of the T2DM diagnosis and compare personal models of disease across regional and race/ethnicity differences
• Cross-sectional survey of patients at primary care clinics in two federal medical centers in Nevada (Mountain West) and Georgia (American South)
  – Inclusion criteria: age (25 to 64), diagnosis of T2DM (A1c ≥ 6.5)
• Analysis of covariance (controlling for age, health literacy, and patient activation): region and race/ethnicity were tested onto the five individual dimensions of illness representation (DIRQ)
### Respondent characteristics

<table>
<thead>
<tr>
<th></th>
<th>N = 685</th>
<th>Georgia (n = 280)</th>
<th>Nevada (n = 405)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>57.62</td>
<td>56.87</td>
<td>58.15</td>
<td>.004</td>
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<tr>
<td></td>
<td>(SD 5.76)</td>
<td>(SD 5.98)</td>
<td>(SD 5.54)</td>
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<tr>
<td><strong>Gender: female</strong></td>
<td>348 (50.8%)</td>
<td>143 (51.1%)</td>
<td>205 (50.6%)</td>
<td>n.s.</td>
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<tr>
<td><strong>Race/ethnicity</strong></td>
<td></td>
<td></td>
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<td>.000</td>
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<tr>
<td>Asian American</td>
<td>161 (23.5%)</td>
<td>24 (8.6%)</td>
<td>137 (33.8%)</td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic Black American</td>
<td>228 (33.3%)</td>
<td>169 (60.4%)</td>
<td>59 (14.6%)</td>
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<tr>
<td>Non-Hispanic White American</td>
<td>296 (43.2%)</td>
<td>87 (31.1%)</td>
<td>209 (51.6%)</td>
<td></td>
</tr>
<tr>
<td><strong>Patient activation (PAM)</strong></td>
<td>67.23</td>
<td>67.51</td>
<td>67.04</td>
<td>n.s.</td>
</tr>
<tr>
<td></td>
<td>(SD 16.15)</td>
<td>(SD 16.79)</td>
<td>(SD 15.71)</td>
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<tr>
<td><strong>Health literacy</strong></td>
<td>4.50 (SD .72)</td>
<td>4.49 (SD .75)</td>
<td>4.51 (SD .70)</td>
<td>n.s.</td>
</tr>
</tbody>
</table>
Race/ethnicity significantly associated with illness coherence, $F (2, 676) = 4.63, p < .01$

- Post-hoc Tukey revealed that White Americans reported significantly higher understanding than Asian Americans, $p < .005$
Race/ethnicity significantly associated with timeline, $F(2, 676) = 23.42, p < .001$

- Post-hoc Tukey revealed that White Americans perceived significantly greater longevity of the illness as compared to both Asian Americans, $p < .001$, and to Black Americans, $p < .001$. 
Location significantly associated with seriousness, $F (2, 676) = 9.98, p < .005$

- Patients living in Nevada perceived diabetes as more serious than patients living in Georgia
Location significantly associated with impact of diabetes, $F (2, 676) = 13.10, p < .001$.

- Patients in Nevada perceived greater impact on their lives than patients in Georgia.
Discussion

• Non-Hispanic White Americans report greater understanding, higher perceived seriousness, and perceive a longer disease course than non-Hispanic Black Americans and Asian Americans
  – May be connected to culturally-bound perceptions of disease

• Patients in the American West perceive diabetes as more serious and having more impact on their lives than patients living in the American South
  – May reflect hypothesis that widespread prevalence, whether among ethnic group or geographic area, may lessen the perceived severity of diabetes

• Limitations: cross-sectional survey, may not indicate clinically significant differences
Implications

• Providers can elicit patient perceptions of diabetes within the context of the patient’s ethnic and geographic culture group to improve discussions about disease and self-management.
  – Specifically address seriousness of a diabetes diagnosis and the chronic nature of the disease with patients who belong to communities with a higher prevalence of the disease

• When providers identify a gap between what the patient believes about diabetes and what current medical understanding is, they can work to close that gap.
  – Cultivate cultural humility, which can improve patient care across cultural contexts

• Demonstrate continued need for multi-site, multi-regional practice-based research network studies of patient understanding and behavior change
QUESTIONS?