Literacy-Compensatory Strategies and Resources of Older Low-Literate Latinos with Diabetes

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Background

- Limited health literacy is associated with multiple health disparities

- Patient-centered interventions are needed to address these disparities
Aims

• As a foundation for designing interventions, we:

1) Explored the range of literacy-compensatory strategies and resources used by older Spanish-speaking patients with diabetes and limited health literacy

2) Assessed for a potential association between compensatory strategies/resources and extent of patients’ literacy limitations
Approach

• Performed semi-structured interviews

• Patients recruited from primary care clinics of LAC+ USC, large county-owned medical center

• Chose older monolingual Spanish-speakers
  – Very low literacy and illiteracy prevalent
  – Fastest growing demographic group in U.S.
Screening

1) Conducted electronic medical record reviews of all patients scheduled for appts in study period (Sept’09-Jul’10)

- Age ≥ 65
- Spanish-speaking
- Diabetes ≥ 1 yr
- No dx of cognitive impairment, psychosis
- Clinic pt ≥ 1 yr
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2) Potential eligibles invited for screening interview at clinic appt
   - English proficiency < “well”
   - Independence in ADLs
   - No cognitive impairment
   - Visual acuity ≥ 20/100
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3) Potential eligibles had health literacy assessed
Determining Health Literacy

1) Asked to read a list of 5 health–related words
   (in Spanish)
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   (in Spanish)

   Able to read at least 1 word

2) $sTOFHLA$ prose section

   $sTOFHLA = 0$  $sTOFHLA = 1-8$  $sTOFHLA = 9-16$  $sTOFHLA > 16$
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ELIGIBLE AND INVITED TO PARTICIPATE

NOT ELIGIBLE
Semi-Structured Interviews

- Prevention Tasks
  - e.g. taking /refilling medications
- Monitoring Tasks
  - e.g., monitoring blood glucose, attending appointments
- Responding Tasks
  - e.g., responding to low blood sugar
- Communicating Tasks
  - e.g., seeking information from health care providers
Analysis

• Interviews audiotaped- professionally translated & transcribed

• Used content analysis, with techniques from grounded theory methodology
  1) Two team members read 30 transcripts and then jointly formulated initial list of overall themes
  2) Themes discussed with research team to draft descriptions/definitions (codes)
  3) Iteratively tested these draft code against 20 randomly-selected transcripts
  4) Applied codes to remaining transcripts
Results - Recruitment

366 patients identified by EMR to be potentially eligible

- 51 did not arrive for appointment;
- 93 arrived when RA not available
- 4 refused in-person screening

220 (60%) patients underwent screening interview

- 105 ineligible by screening interview

115 (52%) eligible and invited to participate

- 24 refused or did not complete interview

91 (79%) completed interview ➔ 56 coded
sTOFHLA Score Distribution

n=91

sTOFHLA score
Demographics

<table>
<thead>
<tr>
<th>Age (mean, range)</th>
<th>72 (65-89)</th>
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<tbody>
<tr>
<td>Female</td>
<td>76%</td>
</tr>
<tr>
<td>Married</td>
<td>31%</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>0 years</td>
<td>29%</td>
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<tr>
<td>1-3 years</td>
<td>44%</td>
</tr>
<tr>
<td>4-9 years</td>
<td>27%</td>
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</tbody>
</table>
Theme #1: Operationalizing Tasks

Acquiring Information
- How many pills to take
- Foods to avoid
- Clinic location

Processing Information
- Organizing Information
  - Keep track of appointments
  - Organizing pills
- Interpreting Information
  - Recognizing low / high blood sugar

Acting
- Refilling medications
- Scheduling appointments
Theme #2: Strategies

• Retaining Control
  – Patient uses his/her own skills and/or mobilizes multiple resources, often planning ahead and being very strategic

• Sharing Control
  – Patient and caregivers work together, with the caregiver augmenting the skills of the patient,

• Relinquishing Control
  – Caregiver acts unilaterally, with the patient being the passive recipient of assistance
## Strategies Coding Matrix

<table>
<thead>
<tr>
<th></th>
<th>Retains Control</th>
<th>Shares Control</th>
<th>Relinquishes Control</th>
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</thead>
<tbody>
<tr>
<td>Acquiring Information</td>
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</table>
Retains Control - Acquiring Information

• **Medications:** “I ask them at the pharmacy, ‘What is this one for’ or ‘what is that one for’ and they tell me.

• **Understanding physician instructions:** “I ask the person who is going to set an appointment for me any questions I have, and they explain everything to me.”

• **When given something to read:** “I tell the nurse, ‘I don’t know how to read.’ Please read this to me.”
Shares Control - Processing Information

• Organizing - keeping track of appointments:
  “Even though I don’t know how to read, I put my appointments in a notebook on the wall. That way, my daughter comes and sees when I have my appointments, so then she tells me, ‘You have an appointment.’”

• Interpreting - recognizing low blood sugar:
  [How do you know whether (the blood glucose reading is) high or low?]  “My daughter says that it’s low and that when it goes up, then it’s high. It goes up to 100 and something. When it’s low, then it’s somewhat less.”
Relinquishes Control- Acting

• **Coming to appointments:** “I don’t come alone [to the clinic] because I’ll get lost. You can get lost looking at all of those numbers they have there.”

• **Medications:** “[My daughter] is in charge of everything. She gives me my medications. She tells me what to take and checks everything before I take them.”
Distribution of “Retains Control” Quotations

n=56

Proportion of quotations classified as “retains control”

% participants

RAND
Distribution of “Retains Control” Quotations

n=56

Proportion of quotations classified as “retains control”

% participants
Distribution of “Retains Control” Quotations

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n=56
Distribution of “Retains Control” Quotations

n=56

Proportion of quotations classified as “retains control”

RAND
% Quotation “Retains Control” by Literacy Level

RAND
% Quotations “Retains Control” by Literacy Level

p=0.02
Summary

• Low literacy Spanish-speaking diabetes patients vary in the strategies and resources they use when compensating for their limited literacy

• Strategies can be broadly classified by those in which the patient retains control, shares control and relinquish control

• There is a correlation between the extent of the literacy limitation and the strategies that patients employ
  – variation exists within all literacy levels
Limitations

• Sample was drawn from those who arrived for a clinic appointment

• We captured only the patient’s perspectives on strategies and resources

• Sample limited to older monolingual Spanish-speakers, using a safety-net clinic, in the Los Angeles area
**Implications**

- Interventions to improve outcomes for low-literate Spanish-speaking patients should account for patient differences in compensatory strategies and resources.

- Monolingual Spanish-speakers with limited literacy are not a homogenous population, and there may be value in measuring the extent of limited literacy.

- Future work should explore if using certain compensatory strategies and resources are associated with better health outcomes.
Questions/Comments?