“Two Capsules Twice Daily”: Health Literacy in the Geriatric Population

Geriatrics Grand Rounds
January 18, 2018
Mandy Peng, MD

Mr. B is a 79-year-old veteran with:

- Pulmonary sarcoidosis
- Recurrent syncope
- BPH with urinary urgency
- Chronic bladder pain
- PTSD
- Depression

Numerous ED visits and hospital admissions in multiple hospitals
Recurrent syncope:

CT PE
Regadenoson stress test
Brain MRI
Continuous EEG
Cardiac MRI
Electrophysiology study

BPH, urgency, chronic bladder pain:

- TURP, c/b post-op PE
  - “If I knew what I was getting myself into, I wouldn’t have gone through with it.”

- Referral for PTNS
  - “I have another Urology appointment at the University, but I don’t know what it is for.”

- Urology is recommending a repeat TURP
  - How should I counsel him?
Despite/because of all the medical care:

• Polypharmacy and multiple medication changes between all providers involved.  
  - “I am so confused.”

• Stressed and dissatisfied  
  “I don’t understand why nobody is helping me.”

Objectives

• Understand health care provider’s role in improving health literacy of our patients and health care system

• Identify patients who may have limited health literacy in our clinic

• Apply best practices to improve communication with our patients and overall quality of care
Overview

1. What is health literacy and why do we care?
2. Medications
3. Advance care planning
4. Informed consent
5. Clinical applications and best practices

Persons with detimil health ycaretil are more ylekil to have cinorhc snoitidnoc and are less able to eganam them ylevitceffe.

Studies have found that stneitap with hgih blood erusserp, setebaid, amhtsa, or HIV/AIDS who have detimil health ycaretil sliks have less egdelwonk of their ssenill and its tnemeganam.
What is Health Literacy?

“The degree to which individuals have the capacity to **obtain**, **process**, and **understand** basic health information and services needed to **make appropriate health decisions**.”

99% of Americans can read **BUT** only **12%** are **HEALTH LITERATE**
Skills Needed for Health Literacy
HEALTH LITERACY =

SKILLS + TASK COMPLEXITY
Health Literacy Levels

0

Below Basic

Basic

Intermediate

Proficient

500

Circle the date of a medical appointment on a hospital appointment slip.

500

15

16
<table>
<thead>
<tr>
<th>Health Literacy Levels</th>
<th>Below Basic</th>
<th>0</th>
<th>Circle the date of a medical appointment on a hospital appointment slip.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Basic</td>
<td>500</td>
<td>Read a pamphlet, and give two reasons a person with no symptoms should be tested for a disease.</td>
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<td></td>
<td>Intermediate</td>
<td>500</td>
<td>Read instructions on a prescription label, and determine what time a person can take the medication.</td>
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Health Literacy Levels

<table>
<thead>
<tr>
<th>Level</th>
<th>Task</th>
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<tbody>
<tr>
<td>Below Basic</td>
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<td>Read instructions on a prescription label, and determine what time a person can take the medication.</td>
</tr>
<tr>
<td>Proficient</td>
<td>Using a table, calculate an employee’s share of health insurance costs for a year.</td>
</tr>
</tbody>
</table>

Health Literacy Levels by Age

- 12% Below Basic
- 30% Basic
- 50% Intermediate
- 70% Proficient
- 5% Over 75
Health Literacy Levels by Ethnicity

- White: 58% Proficient, 41% Intermediate, 9% Below Basic
- Black: 14% Proficient, 2% Below Basic
- Hispanic: 24% Proficient, 31% Intermediate, 33% Basic
- Other: 12% Proficient, 4% Below Basic, 21% Basic
- Overall: 65% Proficient, 21% Below Basic

Health Literacy Levels by Education

- Less Than High School: 49% Proficient, 27% Intermediate, 23% Basic, 1% Below Basic
- High School Graduate/GED: 53% Proficient, 19% Intermediate, 15% Basic, 3% Below Basic
- Other College Attendance or Degree: 10% Proficient, 6% Intermediate, 19% Basic, 3% Below Basic
- Bachelor's Degree or Higher: 30% Proficient, 58% Intermediate, 9% Basic, 3% Below Basic

- Overall: 75% Proficient, 45% Below Basic

01/17/2018
US HIGH SCHOOL DROPOUT RATE

Health Literacy Levels by Insurance

14% 62% 11% 56% 9% 54% 3% 40% 3% 37% 6% 41% 17% 12% 24% 13% 30% 30% 25% 27% 30% 28% 50-60%
Low Health Literacy

Most common in:
• Elderly
• Hispanics/Blacks
• Less than high school or high school education
• Public insurance

Limited Literacy is Associated with Higher Mortality in the Elderly

HR = 1.75
N = 2512

Sudore RL, JGIM, 2006
MEDICATIONS
I believe capsules also means pills or medication!

Does take two tablets twice daily mean I would take 4 total (two in morning 2 at night) or 2 total (1am, 1pm) ?

submitted 1 year ago by Thachiefs4lyf

2. "2 caps 2 X / day" means you take two capsules each time you drink. yes, that means a total of 4, with twelve hours in-between (6am/6pm or 8am/8pm). This would also mean, each capsule is also 250 milligrams. We are only allowed to take 1,000 milligrams total in a day, not more. If the capsule is 500 milligrams the doc will write "1 cap 2 x / day".

Source(s):
Doctor friends; my own prescriptions.
“How would you take this medicine?”

46% did not understand instructions ≥ 1 labels
38% with adequate literacy missed at least 1 label
“Show me how many pills you would take in 1 day”

John Smith        Dr. Red
Take two tablets by mouth twice daily.
Humibid LA       600MG
1 refill

Rates of Understanding vs. Demonstration
“Take two tablets twice daily”

<table>
<thead>
<tr>
<th>Literacy Level</th>
<th>Understand</th>
<th>Demonstrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>71</td>
<td>35</td>
</tr>
<tr>
<td>Marginal</td>
<td>84</td>
<td>63</td>
</tr>
<tr>
<td>Adequate</td>
<td>89</td>
<td>80</td>
</tr>
</tbody>
</table>
“Take two tablets twice daily” vs “Take one tablet in the morning and one at 5pm”

<table>
<thead>
<tr>
<th>Literacy Level</th>
<th>Twice Daily</th>
<th>AM and 5PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>71</td>
<td>83</td>
</tr>
<tr>
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Wolf et al, Patient Education and Counseling, 2007
Medication Adherence

For every 100 prescriptions written:
- 50-70 are filled at the pharmacy
- 48-66 are picked up from the pharmacy
- 25-30 are taken properly
- 15-20 are refilled as prescribed

Factors Related to Non-Adherence

Social & Economic
- Limited language proficiency
- Low health literacy
- Unstable living condition/homelessness
- Lack of health insurance
- Medication cost

Factors Related to Non-Adherence

HEALTH CARE SYSTEM
- Patient-provider relationship
- Long wait times
- Lack of care continuity
- Restricted formulary

CONDITION-RELATED
- Lack of symptoms
- Severity of symptoms
- Depression
- Psychotic disorders
Factors Related to Non-Adherence

THERAPY-RELATED
• Complexity of medication regimen
• Duration of therapy
• Frequent changes
• Actual or perceived side effects

PATIENT-RELATED
• Visual, hearing, cognitive impairment
• Knowledge about disease
• Perceived risk/susceptibility to disease
• Perceived benefit of treatment
• Motivation and confidence
Health Literacy and Adherence

Inconsistent evidence supporting association between health literacy and adherence.
Health Literacy and Effectiveness of Intervention

Limited evidence suggest adherence interventions are effective among older adults with low health literacy.

Of the trials that showed a benefit, interventions focused on lower health literacy demands and education.

Adherence and Cognitive Impairment

Barriers to adherence:
• understanding new directions
• living alone
• using potentially inappropriate medications
• uncooperative patients
Adherence and Cognitive Impairment

Successful interventions suggest that frequent human communication as reminder systems are more likely to improve adherence than nonhuman reminders.

Health Literacy ↔ Adherence

- Non-linear association
  - Lowest adherence in patients with moderate health literacy
- Inadequate assessment tools
  - Health literacy: REALM, S-TOFHLA
  - Adherence: self-report
- Age as confounder
  - Older adults have lower health literacy
  - Older adults are more adherent to medications
Lower health literacy is associated with lower rates of having completed an advance directive.

The effect of literacy is independent of race, income, education, and age.

Waite et al, JAGS, 2013
Average readability: grade level 11.9

No form had a readability score ≤ 5th grade
  • Recommended level

Only 5 had a readability score ≤ 8th grade
  • Average reading skill of US adults
## Oregon POLST

<table>
<thead>
<tr>
<th>Power of Attorney</th>
<th>Living Will</th>
</tr>
</thead>
<tbody>
<tr>
<td>I appoint ___ as my health care representative.</td>
<td>Close to Death: If I am close to death and life support would only postpone that moment of my death:</td>
</tr>
<tr>
<td></td>
<td>A. INITIAL ONE:</td>
</tr>
<tr>
<td></td>
<td>___ I want to receive tube feeding.</td>
</tr>
<tr>
<td></td>
<td>___ I want tube feeding only as my physician recommends.</td>
</tr>
<tr>
<td></td>
<td>___ I DO NOT WANT tube feeding.</td>
</tr>
<tr>
<td></td>
<td>B. INITIAL ONE:</td>
</tr>
<tr>
<td></td>
<td>___ I want any other life support that may apply.</td>
</tr>
<tr>
<td></td>
<td>___ I want life support only as my physician recommends.</td>
</tr>
<tr>
<td></td>
<td>___ I want NO life support.</td>
</tr>
</tbody>
</table>
INFORMED CONSENT
Interventions to Improve Research Participants' Understanding in Informed Consent for Research
A Systematic Review

James Floy, BA
Enckiel Emanuel, MD, PhD

JAMA. 2004;292:1593-1601
<table>
<thead>
<tr>
<th>Intervention Category</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Multimedia</td>
<td>−</td>
</tr>
<tr>
<td>2. Enhanced consent form</td>
<td>−</td>
</tr>
<tr>
<td>3. Extended discussion</td>
<td>++</td>
</tr>
<tr>
<td>4. Test/feedback</td>
<td>+</td>
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Standard consent process and adding extra meeting time is most reliable approach in improving understanding.

Differences in understanding between education levels outweigh improvement from various interventions.

If limited resources, target at-risk groups.
Evidence supporting interventions to improve research informed consent process in low literacy populations is extremely limited.

Additional Information

**Rebecca Sudore, MD at UCSF**
- PrepareForYourCare.org
- Easy-to-Read Advance Directives
- “Use of a Modified Informed Consent Process among Vulnerable Patients”
CLINICAL APPLICATIONS AND BEST PRACTICES

Health Literacy Assessment Tools

• Test of Functional Health Literacy in Adults (TOFHLA/S-TOFHLA)

• Rapid Estimate of Adult Literacy in Medicine (REALM)
Brief Health Literacy Screen (BHLS)

1. How confident are you filling out forms by yourself?

2. How often do you have someone help you read hospital materials?

3. How often do you have problems learning about your medical condition because of difficulty reading hospital material?

Chew, Fam Med, 2004; Powers, JAMA, 2010; Sarkar, JGIM, 2011; Cavanaugh, CKJ, 2015
Single Item Literacy Screener (SILS)

“How often do you need to have someone help you when you read instructions, pamphlets, or other written material from your doctor or pharmacy?”

Morris, BMC Fam Prac, 2006

Red Flags for Low Health Literacy

• Incomplete registration forms
• Inability to give coherent, sequential history
• Makes excuses in response to written information
Red Flags for Low Health Literacy

• Frequent missed appointments
• Lack of follow through on tests or referrals
• “Medication non-compliance”

Red Flags for Low Health Literacy

• Unable to name medications or explain purpose
• Identify pills by color and appearance
• Ask few questions
Adult Learners

What Patients Want to Know

• Tell me what’s wrong
• What do I need to do and why
• What is the benefit for me?
Verbal Communication

- Repeat, repeat, repeat
- Slow down
- Use plain language
  - Match patient’s vocabulary
- Focus on the gist
  - Keep number of points to ≤ 3

Commonly Used Complicated Words

- Annually
- Diet
- Occasionally
- Physical therapy
- Accurate
- Effective
- Pneumonia
- Aerobic
- Glucose
- Prevention
- Arthritis
- Hepatitis
- Prostate
- Appropriate
- Immunization
- Radiation
- Benign
- Indication
- Remission
- Beneficial
- Joint
- Stable
- Cardiovascular
- Humidify
- Stable
- Capacity
- Hypertension
- Shortness of breath
- Cataract
- Localized
- Taper
- Chronic
- Monitor
- Temporary
- Diabetes
- Mucus
- Unnecessary

Jeffrey L. Wallace, M.D.
Chief Resident
Commonly Used Complicated Words

- Annually
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Patient-Centered Communication

- Teach back
- Teach-to-goal
- Use multiple modalities
  - Pictures
  - Pamphlets
  - Videos
Written Material

• 16- or 18-point font
• Sans serif
• 5th grade level
• Sentences ≤ 8 words

• 16- or 18-point font
• Sans serif
• 5th grade level
• Sentences ≤ 8 words
• Spacing between lines (1.25x)
Knee Pain

DISCHARGE INSTRUCTIONS:

Self-care:
- Rest your knee so it can heal. Limit activities that increase your pain.
- Ice can help reduce swelling. Wrap ice in a towel and put it on your knee for as long and as often as directed.
- Compression with a brace or bandage can help reduce swelling. Use a brace or bandage only as directed.
- Elevation helps decrease pain and swelling. Elevate your knee while you are sitting or lying down. Prop your leg on pillows to keep your knee above the level of your heart.

Medicines:
- NSAIDs help decrease swelling and pain or fever. This medicine is available with or without a doctor’s order. NSAIDs can cause stomach bleeding or kidney problems in certain people. If you take blood thinner medicine, always ask your healthcare provider if NSAIDs are safe for you. Always read the medicine label and follow directions.
- Acetaminophen decreases pain and fever. It is available without a doctor’s order. Ask how much to take and when to take it. Follow directions. Acetaminophen can cause liver damage if not taken correctly.
Mr. B: Repeat TURP?

- Draw picture explaining BPH
- Write list of possible causes of chronic bladder pain
- TURP may or may not help with pain
THANK YOU

MY DAD
AT THE
DOCTOR’S