Creating Educational Materials for Patients with Low Literacy Levels

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Introduction

The Issue

The 2003 National Assessment of Adult Literacy[1] determined:

- 30 million adult Americans (14%) lack the skills to perform simple, everyday literacy activities.
- An additional 63 million lack literacy skills beyond the basic level.
- These 93 million adults are able to read and understand only short, simple prose texts and documents, at best.
- Average prose and document literacy has not improved since the 1992 survey.

The gap between literacy levels and the readability of patient education materials has been identified as an important healthcare issue.[2-18]

Who Is Affected?

Individuals with low literacy are found throughout all segments of the population. Even therapists not routinely working with at-risk groups are likely to encounter patients with low literacy.[10,17] Groups most at risk for below basic literacy include:

- older adults,
- members of minorities,
- adults with low socioeconomic status,
- adults with disabilities,
- adults without a high school degree or GED,
- immigrants, and
- prisoners.[1,3,4,10,16,17]

Recognizing Literacy Problems

This widespread problem is difficult to recognize.[2,10,13,17] Most people with low literacy experience feelings of shame.[2,13] They learn to hide their difficulties with reading,[2,10,13,17] even from their spouses.[13]

Patient Education Materials

Mismatch of patient education materials to the average patient's reading levels occurs because:

- Most adults read between the 8th and 9th grade level.[19]
- Those at the lowest literacy level read at the 5th grade level or lower.[19]
- Most health care materials are written at the 10th grade level or higher.[9,10]

People of all levels of education and literacy have been shown to prefer materials that are easy to read.[9,10]

Investigation

Purposes

- Determine the reading level of the patient education materials created and used in our hand therapy center
- Review strategies for creating easy-to-read educational materials
- Increase literacy awareness among therapists

Methods

- The 53 patient education handouts created and used in our hand therapy center were scored for their U.S. grade school level.
- Scoring was performed with the Flesch-Kincaid Grade Level program in Microsoft Word. This scoring formula is based on the premise that the greater average number of syllables per word and words per sentence, the greater the reading difficulty.[18]
- To illustrate the creation of low literacy materials, the handout scored at the highest grade level (9th grade) was rewritten at the 5th grade level, using shorter sentences and shorter, more familiar words.

Results

- Grade levels of the handouts ranged from 3.2 to 9.3 (3rd to 9th grade level), with a mean of 5.3 (5th grade level).
- The handout scored at the highest grade level (9th grade) was rewritten at the 5th grade level, using shorter sentences and shorter more familiar words. Both versions are presented on this poster for comparison.

Conclusions

- The average grade level of handouts used in our hand therapy center is the 5th grade level, appropriate for patients with low literacy skills according to the literacy literature.
- However, difficulty ranged as high as the 9th grade level, too high for patients with low literacy skills.

Clinical Relevance

- Educational materials should be written at no greater than the 5th or 6th grade level,[6,16-18] since low literacy is found throughout all segments of the U.S. population.
- Once aware of the literacy issue, therapists can easily create more effective patient education materials by using strategies such as those reviewed in this poster.
- Simple strategies include performing computerized assessment of the readability of all patient education materials, and using short sentences with short, familiar words to create easy-to-read materials.

How to Recognize Literacy Problems

- Increase your awareness of the issue.
- Don't assume level of literacy based on appearance, intelligence, socioeconomic status, race, ethnicity, or age.
- Take grade completed in school into consideration, but realize that it is usually two to five years higher than literacy level on objective testing.[18]
- Consider using screening tests,[3,15,17] for example:
  - Wide Range Achievement Test (WRAT)[20]
  - Test of Functional Health Literacy in Adults (TOFHLA)[14]
  - Rapid Estimate of Adult Learning in Medicine (REALM)[9]

Possible Signs of Low Literacy and Illiteracy [2,3,16]

- Poor compliance with treatments and appointments
- Watching and mimicking others
- Not knowing the names of regularly used medications
- Making excuses for not reading, e.g. "I forgot my glasses"
- Bringing someone who can read to appointments
- Vocalization or subvocalization when reading
- Confusion or frustration when reading

Tips for Creating Easy-to-Read Materials [3,5,10,12]

Content

- Define your purpose
- Limit content to the key information
- Emphasize specific actions the patient should take

Linguistics

- Choose simple, familiar words
- Use short sentences with simple grammatical structure
- Use the active voice and present tense
- Use the pronouns "you" and "your"
- Make positive statements when possible
- Use meaningful topic headings

Design

- Select an easy-to-read type style and size
- Use uppercase and lowercase letters for headings
- Use bold type, not italics, for emphasis
- Use ample white space
- Include clear visuals

Determining Readability of Educational Materials

- Commonly used formulas[3,15] include the Flesch formula,[21] FOG Index,[22] Fry formula,[23,24] and SMOG.[25]
- To check readability using your specific word processing software, search the program's help files using the keyword "readability."[26]
- Tips for two frequently used word processing programs follow:[18]

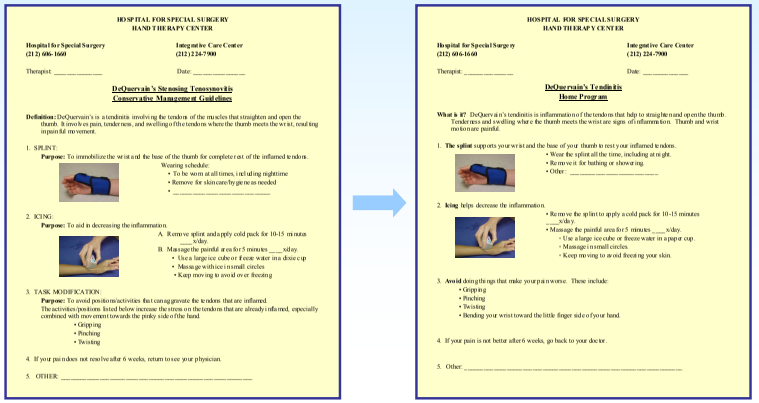
Microsoft Word:

- Click "tools," "options," "spelling & grammar," "show readability statistics."
- Check document by clicking "spelling & grammar" on standard toolbar to display grade level.

WordPerfect:

- Open the document.
- Click "tools," "grammatik," "options," "analysis," "readability" to check reading level.

Example of Home Exercise Program Rewritten from 9th to 5th Grade Level



HOSPITAL FOR SPECIAL SURGERY
HAND THERAPY CENTER

Hospital for Special Surgery
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Integrative Care Center
(212) 224-7900

Therapist: _____ Date: _____

DeQuervain's Stenosing Tenosynovitis
Conservative Management Guidelines

Definition: DeQuervain's is a tendinitis involving the tendons of the muscles that straighten and open the thumb. It involves pain, tenderness, and swelling of the tendons where the thumb meets the wrist, resulting in painful movement.

1. SPLINT:
Purpose: To immobilize the wrist and the base of the thumb for complete rest of the inflamed tendons.
Wearing schedule:
- To be worn at all times, including nighttime
- Remove for skin care by gloves as needed
- _____

2. ICING:
Purpose: To aid in decreasing the inflammation.
A. Remove splint and apply cold pack for 10-15 minutes _____x/day
B. Massage the painful area for 5 minutes _____x/day.
- Use a large ice cube or freeze water in a dixie cup
- Massage with ice in small circles
- Keep moving to avoid over freezing

3. TASK MODIFICATION:
Purpose: To avoid positions/activities that can aggravate the tendons that are inflamed.
The activities/positions listed below increase the stress on the tendons that are already inflamed, especially combined with movement towards the pinky side of the hand.
- Gripping
- Pinching
- Twisting

4. If your pain does not resolve after 6 weeks, return to see your physician.

5. OTHER: _____

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DeQuervain's Tendinitis
Home Program

What is it? DeQuervain's tendinitis is inflammation of the tendons that help to straighten and open the thumb. Tenderness and swelling where the thumb meets the wrist are signs of inflammation. Thumb and wrist movement are painful.

1. **The splint** supports your wrist and the base of your thumb to rest your inflamed tendons.
- Wear the splint all the time, including at night.
- Remove it for bathing or showering.
- Other: _____

2. **Icing** helps decrease the inflammation.
- Remove the splint to apply a cold pack for 10-15 minutes _____x/day.
- Massage the painful area for 5 minutes _____x/day.
  - Use a large ice cube or freeze water in a paper cup.
  - Massage in small circles.
  - Keep moving to avoid freezing your skin.

3. **Avoid** doing the things that make your pain worse. These include:
- Gripping
- Pinching
- Twisting
- Bending your wrist toward the little finger side of your hand.

4. If your pain is not better after 6 weeks, go back to your doctor.

5. Other: _____

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