



# Health Literacy Among Stroke Survivors A Pilot Study

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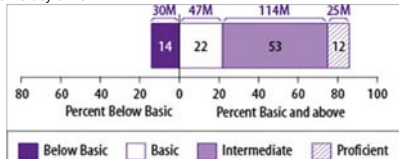


## Introduction

- Occupational therapists often provide printed materials to their clients in the form of instructions, exercises, diagnosis education and other home care essentials.
- Although it is possible to use standard word processing programs to determine the grade level or literacy level of a particular document, it is not possible to determine the literacy needs of a specific medical population.
- The focus of this study was determining and comparing health literacy needs of stroke survivors attending the American Stroke Foundation Day Program with that of individuals in the Greater Kansas City area who have not experienced a stroke.

## Background

- Health Literacy is the ability to obtain process and understand basic health information and services needed to make appropriate health decisions regarding your own health or that of anyone you may care for.
- Health literacy tasks can include written and oral communication.
- Objective 11 of Healthy People 2010 focuses on Health Communication; one of its primary goals is to improve the health literacy of persons with inadequate or marginal health literacy skills.
- In 2003, the National Assessment of Adult Literacy (NAAL) was the first direct measure of adult literacy in the US to include health literacy as a component.
- NAAL found 14.9% or 30 million US adults have below basic health literacy skills, including an inability to correctly follow prescription medication instructions, read a nutrition label or locate the date on an appointment slip.
- According to the NAAL, 8% of Kansas residents and 7% of Missouri residents over the age of 16 lacked basic literacy skills.



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

## Purpose

- Our original purpose was to determine a baseline reading of health literacy levels among stroke survivors and the general public in the Greater Kansas City area.
- This pilot study was conducted with the understanding it would turn into a multi-year event. We achieved success by determining limitations and recommendations for future study.

## Methods

- The Short Test of Functional Health Literacy in Adults (STOFHLA) was chosen as a reliable, valid test measuring adult health literacy in a non-impacted population.
- This study utilized a convenience sample of two groups: stroke survivors and the general public.
- Participants were required to be over the age of eighteen with English as their primary language.
- Each participant signed a consent form before taking part in this study. To insure comprehension, the consent form was created with respect for individuals with low literacy.
- Data was collected from May through October 2009. Accounting for attrition, a total of 40 individuals were assessed: 20 stroke survivors and 20 general public participants.
- The STOFHLA was administered as a standardized test; no prompting or assistance was provided after the test began. Participants were allowed to complete the test without a time limit.
- Data was collected for tests completed within the allotted time limit of 7 minutes as well as those which required a greater amount of time. Upon completion, tests were scored as dictated by the STOFHLA, providing one point for every correct answer and zero points for every incorrect answer with a possible maximum score of 36 points.
- Data was analyzed using SPSS for Windows (Version 16.0; SPSS, Inc., Chicago). Independent t-tests were used to determine whether significant differences in literacy levels between the stroke survivors and individuals from the general population existed, and between test completion times of each group.

## Results

- A significant difference ( $p=0.008$ ) in the total time taken to complete the assessment between the stroke survivors and the general public.

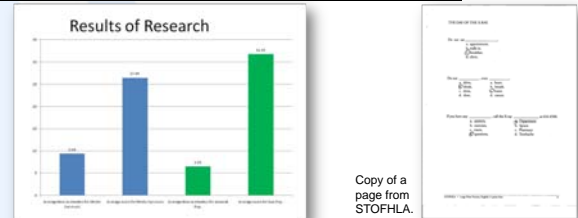
Total Time to Complete STOFHLA

Group	Number of Participants (N)	Mean Time (minutes)	Standard Deviation	Significant Difference
Stroke Survivors	20	9.64	±3.70	0.008
General Public	20	6.56	±3.19	0.008

Total Score on STOFHLA

Group	Number of Participants (N)	Mean Score	Standard Deviation	Significant Difference
Stroke Survivors	20	22.05	±10.09	0.025
General Public	20	28.85	±8.27	0.025

Group	Number of Participants (N)	Mean Score	Standard Deviation	Significant Difference
Stroke Survivors	20	27.45	±9.19	0.067
General Public	20	31.90	±5.17	0.067



## Discussion

- The significant difference of scores at seven minutes indicates a decrease in processing time for stroke survivors in comparison to the general public.
- No significant difference in scores was noted when participant's time was not restricted.
- For future studies we recommend:
  - Stroke survivors and the general population be matched based on the following factors: age, socioeconomic status, living situation and education level.
  - Broaden the locations where data is collected to allow for a larger sample.
  - Investigate other health literacy assessments which may be more applicable to the stroke survivor population.
- In order to complete the analyses we recognize the limitations to our study, which include the small sample size, use of non-probability convenience sampling and lack of appropriate control for extraneous variables; each of which threaten the accuracy, objectivity and, ultimately the internal validity of this pilot study.
- The implications of the differences in the demographic distribution of both the stroke survivor group and general public were large, leading to difficulty matching participants from each group and controlling for potentially confounding effects of age or level of education.

## Conclusions

- A majority of stroke survivors tested required additional time to complete the STOFHLA.
- The diagnosis of stroke is not the only factor in determining health literacy level.
- More research needs to be completed in this area to properly gauge the impact of a stroke on health literacy.

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