Health Literacy Assessments of Patients in Rural Florida

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Notes From the Field

Abstract

The purpose of this study was to gain a greater understanding of the health literacy needs of a rural minority population in Gadsden County, Florida. The Short Test of Functional Health Literacy in Adults (STOFHLA) was used to assess health literacy levels among participants. Twenty-nine participants out of 30 (93%) had adequate functional health literacy. The STOFHLA is a reliable and valid instrument for measuring functional health literacy. Limitations of this study are as follows: the population from which the participants were recruited was biased, the number of participants recruited was small, and the recruited participants may not have represented the larger populations.

Key words: African-American women, Hispanic-American women, health literacy, rural Florida. (Texas Journal of Rural Health 2003; 21(3): 3-8)

Introduction

Health literacy is defined as the ability to read, understand, and act correctly on health information. The link between low health

literacy and poor health has been shown in a series of recent studies that took into account the differences in education, socioeconomic status, and other demographic variables that are frequently associated with poor health (Schillenger et al., 2002). Weak literacy skills are barriers to good health care practices and healthy lifestyle decisions like disease screening, smoking cessation, proper nutrition, and exercise (Baker, Parker, & Clark, 1998). Low health literacy may be a serious barrier to a patient's understanding of and compliance with treatment regimens required for self-management of chronic diseases (Parikh, Parker, Nurss, Baker, & Williams, 1996).

The 1992 National Adult Literacy Survey (NALS) surveyed 26,000 adults to ascertain their literacy level (Kirsh, Jungeblut, Jenkins, & Kinstad, 2000). The survey found that 50% of all adult Americans might not function sufficiently in health care settings. About 23% of all adult Americans read at or below the fifth-grade level or cannot read at all. This population is called functionally illiterate. About 26% of all adult Americans are generally able to locate and assimilate information in a simple text, but they are unable to perform tasks that require them to synthesize information from complex and lengthy documents. This survey also determined that the proportion of the population that is functionally or marginally illiterate is higher in African-Americans (44%) and Hispanic-Americans (56%) than in Whites (30%).

When trying to correlate literacy level with health status, Weiss and colleagues (1992) found that persons with the lowest reading skills has poorer physical and psychological health than those with better reading skills. Literacy level was a stronger correlate of health status than education level or other sociodemographic variables.

Montalto and Spiegler (2001) conducted a study at a rural community health center where 183 adult patients were invited to participate in an unspecified study. In a closed-door session, interested invitees were told the study required taking the Test of Functional Health Literacy in Adults (TOFHLA). After the purpose of the study was privately disclosed, 70 patients agreed to enroll (38.25% acceptance rate). Approximately 15% demonstrated literacy/numeracy deficits, scoring in the Inadequate and Marginal Functional Health Literacy ranges.

Nurss and colleagues (1997) evaluated the functional health literacy level of patients from outpatient medicine and diabetes clinics. They found that only 47% of new patients at the diabetes clinic and 25% of established patients at all sites had adequate functional health literacy.

In a large study (n=2659) examining functional health literacy, 42% of the patients were unable to comprehend directions for taking medications on an empty stomach (Williams et al., 1995). In addition, Williams and colleagues (1995) found that 35% of the English-speaking patients at a large urban public hospital could not read or understand basic health-related materials.

The overall significance of this study will be a greater understanding of the health and literacy needs of a rural minority population. Gadsden County, which is located in the North Florida Panhandle, consists of underserved, sparsely populated areas and generations of illiteracy and poverty. The county has the highest drop out rate in the state and the second lowest graduation rate with almost half of the students (49%) not completing the twelfth grade (Gadsden Citizens for Healthy Babies, 1999). The county chosen for the study has the highest percentage of persons

below the poverty level in the state (29%). The current population of Gadsden County includes 9,594 females of childbearing age (5,979 Blacks and 3,625 Whites) (Gadsden Citizens for Healthy Babies, 1999). Gadsden County is one of only two counties in Florida with a majority of Black residents (63%); Hispanics comprise 2.3% of the population. Combining the low level of literacy with poor health status indicators, compounded by rural poverty and limited access to health care services, Gadsden County is a perfect location to explore issues of racial disparity. The county covers 516 square miles, with a population density of 90 persons per square mile compared to a statewide average of 256 persons per square mile, which exacerbates problems such as access to health care and transportation issues (Gadsden Citizens for Healthy Babies, 1999).

The majority of Gadsden's residents are African-American (57.6%) as of 1999 (Gadsden Citizens for Healthy Babies, 1999). Hispanics (mainly White) comprise 2.3% of the population. The population of primary concern is African-American women of childbearing age residing in Gadsden County who are pregnant or parenting young children. This project will also target health care providers and home visitors that serve these women so they better address delivering information at the appropriate literacy levels.

Maternal and infant health services seem to be an ideal area to address health literacy concerns, because low levels have a direct impact on health status (Ladd, 1985). An unbiased look at the health outcomes for the county will also show an overall worsening in the proportion of women seeking prenatal care in the first trimester, as well as an overall worsening of low birth weight and infant mortality rates over the past few years.

Thus literacy-appropriate and culturally sensitive materials and methods are of increased importance to impact the overall health status of this rural county's residents. Consistently, these researchers found that persons with inadequate literacy levels had poorer physical and psychological health, poorer disease management skills, and less knowledge and understanding about their disease as compared to persons with adequate literacy levels (Weiss et al., 1992).

HEALTH LITERACY ASSESSMENT BACKGROUND

There are three primary instruments that are used to assess health literacy levels: Test of Functional Health Literacy in Adults (TOFHLA), Short Test of Functional Health Literacy in Adults (STOFHLA), and the Rapid Estimate of Adult Literacy in Medicine (REALM). The TOFHLA is a functional literacy assessment tool designed to evaluate adult literacy in the health care setting. This tool measures functional literacy on the assumption that more than classroom reading ability is necessary to understand and negotiate the health care system adequately. TOFHLA is especially directed toward capturing numeracy and reading comprehension skills in the middle to low levels of literacy ability. The full TOFHLA includes two sections. One section is on reading comprehension and the other is on numeracy. This health literacy tool measures the ability of patients to perform such tasks as reading labels on prescription bottles, instructions about how often to take medication, notices about when is the next doctor's appointment, informed consent forms, instructions about diagnostic tests, and how to complete insurance forms. The full TOFHLA takes

about 22 minutes to administer. Reliability of the TOFHLA has been calculated by both split-half and internal consistency measures, using Equal Length Spearman-Brown and Cronbach's Alpha formulas, respectively (Nurss, Parker, Williams, & Baker, 2001). The calculated Cronbach's Alpha of TOFHLA is 0.98 (Nurss et al., 2001). Construct validity for this functional literacy test was ensured by using actual hospital medical texts for both the Reading Comprehension and Numeracy subtests (Nurss et al., 2001).

The STOFHLA is a quicker, more efficient way of determining patient functional health literacy. This instrument mainly focuses on reading comprehension and does not include a numeracy section. The STOFHLA takes about seven minutes to administer. It consists of 36 reading comprehension items covering x-ray preparation and Medicaid application. The STOFHLA has a correlation of 0.91 with the full TOFHLA; therefore, it is a good estimate of the patient's functional health literacy (Nurss et al., 2001).

The REALM provides an estimate of the patient's reading ability and can be administered in one to two minutes. This instrument can be used in a clinical setting to identify patients with poor reading ability, but does not assess quantitative literacy that is an essential component of health literacy.

METHODOLOGY

Participant Recruitment

Participants were recruited into this study through visiting nurses and literacy organizations. An informational postcard was distributed by the Family Support Workers of Healthy Families Gadsden, the Home Visitors of Early Head Start and Federal Healthy Start, and the Diamond Academy Program to recruit participants. While these postcards were distributed to clients, the interviewer was being trained to administer the STOFHLA exam. The training session for the interviewer included specific directions and practice for administering and scoring the health literacy assessment test. The STOFHLA instrument administration incorporated a vision test to verify that all participants had a visual acuity of at least 20/50. The interview consisted of the following: reviewing and signing of the informed consent form; answering any question the participants may have; completing a demographic questionnaire; conducting an eye examination; and completing a 36-question health literacy test.

RESULTS

Of the 2708 Gadsden women who gave birth between 1993 and 1996, 962 had less than a high school education. The following percentages and rates are for that specific population of women. In this group the infant mortality rate was 7.3 per 1000 live births, 13% of the births were low birth weight (less than 2500 grams), and 12.2% of these women gave birth at less than 36 weeks gestation. The mean highest grade completed was ninth grade, while the mean age was 21, and 73% of these women were unwed mothers. Twenty-two percent of these women entered prenatal care in the second trimester and 2.1% received no prenatal care at all. Forty-four percent of these women had some medical risk factor during their pregnancy with 24.5% experiencing complications during delivery and 33.9% of these women delivered high-risk infants.

A total number of 50 participants contacted the interviewer to inquire about the interview process. Thirty completed the

interview process, 11 were no shows, six were unable to be contacted by phone to schedule an interview appointment time, and three did not even attempt to schedule an appointment for an interview due to lack of interest in the project. The main limitation of having a small sample size in this pilot study includes a less than representative picture of the overall population.

Table 1. Demographics of the Study Sample

Age of Respondent	
Less than 15	7%
16-20	47%
21-25	30%
26-30	13%
Over 30	3%
Highest Educational Level	
Didn't Attend High School	3%
Attended High School, but Didn't Finish	73%
High School Diploma or GED	13%
Less than 2 Years of College	7%
AA degree	3%
Household Income of Respondent	
Less than $1000/mo.	93%
$1000-$1500/mo.	3%
$1500-$2000/mo.	3%
Ethnicity of Respondent	
African-American	93%
Hispanic	3%
White	3%
Number of Children in Household	
Currently Pregnant	37%
1	43%
2	10%
3	13%
More than 3	7%

Demographics

Demographics of participants for the health literacy assessment included 30 women in which 14 participants were between the ages of 16 and 20, 28 participants earned less than $1000 per month, 28 participants has not finished high school, 28 participants were African-American, and 13 participants had one child. See Table 1 that summarizes the demographics of the study population.

Health Literacy Assessment

Twenty-nine participants were found to have an adequate functional health literacy level. One participant had a marginal functional health literacy level. However, it should be noted that the participant with the low score may not have been able to finish the test within the allotted seven minutes due to distractions from her three children that were present at the time of the interview.

CONCLUSIONS

The STOFHLA test is an effective tool to assess health literacy based on its validity and reliability values. Both the full and short versions of the TOFHLA have yielded strong levels of reliability and validity. This pilot study assessed the health literacy levels of 30 women who were enrolled in a visiting nurse or literacy program. Twenty-nine of the participants were found to have adequate functional health literacy (score of 23-36 on the STOFHLA) and one of the participants was found to have marginal functional health literacy (score of 17-22 on the STOFHLA). The sample that was recruited may not have been representative of the defined population due to recruitment through visiting nurses

organizations and literacy programs. As noted earlier, the main limitation of having a small sample size is that the overall population may not be accurately represented. It is important to take the time to recruit the proper sample that you are seeking to represent the population of concern. Biased methods of recruiting study participants and too few participants in the study sample can yield incomplete study results.

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