

The Reading Level Determination Study

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Abstract

Throughout the healthcare field, there is agreement that patient education is a major factor in reducing morbidity and mortality, in contributing to shorter hospital stays, fewer emergency, clinic and doctor visits, in increased patient satisfaction and quality of life, and in decreased national healthcare costs. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO), the Patient Bill of Rights, and Nurse Practice Acts all address the critical function of patient education.

In order for patient education to be effective, the patient must be able to learn and utilize the information being taught. One factor that impacts patient learning is literacy level. Patients with low literacy levels are often not able to comprehend, process, put into use and comply with the information and directions, verbal and/or written, they need to learn. A 1984 study at Parkland Memorial Hospital showed the average reading level of Parkland patients to be between the 3rd and 7th-grade levels. Most commercial patient education materials are written at or above a 9th-grade level. Patient education materials written at about a 4th to 5th-grade reading level and written specifically for patients with low-literacy skills, have long been produced at Parkland.

Over the years since the 1984 study, the patient population at Parkland Memorial Hospital, the Outpatient Clinics and the Community Oriented Primary Care (COPC) clinics has changed – there has been a rise in the percentage of Hispanic patients, particularly in Women and Children's Services, where the percentage of Hispanic births has more than doubled, and now represents about 70% of total births. A study of the literacy level, specifically the functional health literacy level, of English and Spanish speaking patients was needed to see if any changes were indicated in the reading level at which patient education materials are written.

The Test of Functional Health Literacy in Adults (TOFHLA) was chosen as the instrument for the Reading Level Determination Study. The TOFHLA evaluates both numeracy and reading comprehension skills, and, based on the total test score, rates functional health literacy as adequate, marginal or inadequate. Thirty-five testers underwent training to administer the test, collect demographic information, and record all the answers on Scantron forms. The data were analyzed using the Statistical Products and Service Solutions (SPSS) software.

The results of the analysis showed that:

- 59.5% of patients studied showed adequate functional health literacy (total score 75 - 100). 21.5% of patients studied showed marginal functional health literacy (total score 60 - 74). 19% of patients studied showed inadequate functional health literacy (total score 0 - 59). The mean of the TOFHLA total score was 75.59 with a standard deviation of 18.83. The median was 80.00 and the mode 92.00.
- The range of TOFHLA scores was 14 - 100 out of a possible 0 - 100.
- Patients over age 60 accounted for about one quarter of those with inadequate functional health literacy skills.
- There was a positive relationship between functional health literacy level and years of school completed. However, 43% of those who had completed high school, and almost 9% of those with some college did not have adequate functional health literacy skills.
- Caucasian and African-American patients, tested in English, had significantly higher TOFHLA scores than Hispanic patients tested in Spanish. Over 50% of Hispanic patients tested demonstrated marginal or inadequate functional health literacy skills.
- Patients who stated that they read well had significantly higher total TOFHLA scores than patients who stated that they read poorly. However, over 35% of those who stated they read well had marginal or inadequate functional health literacy skills. Of those who stated they read poorly, almost 80% had marginal or inadequate functional health literacy skills.
- A higher percentage of hospital patients did demonstrate adequate functional health literacy levels than did patients in the COPCs, with the Outpatient Clinic results being very similar to those of the hospitalized patients.
- None of the other variables studied (patient enjoyment of reading, gender, general health or economic status) affected patients' functional health literacy level.

Based on the results of this study, patients over age 60, Hispanic patients, those who did not graduate from high school, and those who report poor reading skills are at high risk for having inadequate health literacy skills.

It is obvious from the analysis of the data that no assumptions should be made about a patient's health literacy level based on any of the variables studied, even those where significant differences or positive relationships exist. Each patient must be assessed, and the learning of each patient carefully evaluated if effective patient education is to occur.

Overall, it is clear that there should be no change in the grade level at which patient education materials for Parkland Memorial Hospital, the Outpatient Clinics and the COPCs are written. Every healthcare professional teaching patients should have the knowledge and the skills to effectively teach patients with low-literacy skills, and should have low-literacy materials available for such patients.

A re-study of the functional literacy level of patients at Parkland Memorial Hospital, the Outpatient Clinics and the COPCs should not be needed for several years unless there are significant changes in the demographics of the patient population.

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