

ANALYSIS OF EFFECT OF LITERACY, AGE, AND ETHNICITY ON THE HEALTH
LITERACY OF PATIENTS DIAGNOSED WITH BREAST CANCER

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Purpose: Low literacy is associated with low health knowledge and adverse health outcomes. The purpose of this study was to explore the relationship between literacy, age, and ethnicity on the health knowledge of breast cancer in breast cancer patients.

Method: This is a secondary analysis of a primary study data set of 532 women with the diagnosis of breast cancer that looked at the relationship of cancer stage at time of presentation with racial differences in socioeconomic and cultural factors. Of the 532 patients, 30% were African-American (AA) and 37% were ≥ 65 . For this analysis, literacy was defined by taking two variables, importance of reading and frequency of reading, and creating three literacy categories (low: low frequency and low importance; moderate: low frequency/high importance or high frequency/low importance; high: high frequency and high importance). The subjects were grouped into age categories (<65 , ≥ 65). Fifteen variables reflecting knowledge of breast cancer defined health knowledge. A three way factorial analysis of variance was conducted to explore the relationship among literacy, age, and ethnicity on health knowledge of breast cancer.

Findings: There was a significant difference in mean knowledge scores (all subjects) for low, intermediate and high literacy (83%, 85%, 89%) ($p=.02$). There was a significant difference in mean knowledge between whites (86%) and AA (83%) ($p=.005$). There was a significant difference in mean knowledge scores between those <65 (87%) and those ≥ 65 (82%) ($p<.001$). Those with high literacy and ≥ 65 , whites (89%) scored significantly higher than AA (81%). Whites (≥ 65) and high literacy scored significantly higher in health knowledge (89%) than whites with intermediate (83%) or low literacy (79%). There was also a significant difference in health knowledge between whites ≥ 65 (87%) and AA ≥ 65 (82%) ($p<.001$).

Discussion: There are many confounders related to determining the effect of health knowledge on patient outcomes. These include education, access to health care, income, race, gender, and even geographic location. This study demonstrated a relationship between health knowledge and literacy level, age, and ethnicity for patients over 65, for AA of all ages, and for patients with low to intermediate literacy levels. It is the challenge of the healthcare community to recognize these populations at risk for poor health outcomes due to poor health literacy and to have appropriate and culturally sensitive education for them.
