



# LANGUAGE PREFERENCE, AGE, AND HEALTH LITERACY: AN EXPLORATION OF BREAST HEALTH KNOWLEDGE IN THE CONCHO VALLEY



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**Abstract:** This pilot project explored the relationship between breast health knowledge and language preference among English and Spanish speakers in the Concho Valley. A retrospective study of the Laura W. Bush Institute's program database showed elevated levels of breast cancer diagnoses in Hispanic populations, and existing literature has explored the relationship between language preferences, socioeconomic level, and health knowledge. Attendees at local health events were surveyed about breast health knowledge in their primary language, and the results were analyzed. A chi-square test of independence was calculated comparing whether language preference and survey scores were independent, and a significant interaction was found. Additionally, a one-way ANOVA comparing the overall survey scores and age groups found a statistically significant difference. With statistically significant results supporting a relationship between language preference or age and breast health knowledge, the distribution of critical health information should be tailored to ensure all patients are able to make knowledgeable decisions about their health.

### Study Aims:

The primary goals of this study were:

1. To examine the difference that language preference might play in a woman's knowledge about breast health literacy to include screening, breast cancer and preventative medicine.
2. To understand gaps in knowledge and how to best provide important breast health information to underserved populations.

### Methodology:

This research began with literature review to explore established relationships between breast health and age as well as breast health and language preference. Using Dr. Karen William's Breast Cancer Literacy Assessment Tool© as a guide, a questionnaire was created and validated. Once IRB approval was received, female participants were recruited at local health events. Researchers attended events for both English and Spanish speakers and following questionnaire administration provided breast health education for participants. Participant responses remained anonymous and their responses were analyzed using SPSS. The population was evaluated to ensure it met the assumptions of analysis of variance (ANOVA) and chi-square test of independence. Then ANOVA and chi-square tests were run to evaluate significance of questionnaire responses in relationship to the research questions.

### Sources:

ABCC4WT retrospective case records, 2012-2018.  
Texas Outpatient Data, Public Use Data Files, 2012-2016, Texas Health Care Information Collection, Center for Health Statistics, Texas Department of State Health Services, 1100 West 49th Street, Austin, TX 78756.

### Results:

*"Are there differences in breast health literacy when comparing mean scores between age groups?"*

A significant difference was found among the age groups and their scores on the survey.  
ANOVA: (F (7,51) = 3.131, p <.05).

*"Is there a significant difference between English language and Spanish language speakers for breast health knowledge?"*

A significant interaction was found indicating language preference and health literacy were not independent of each other ( $\chi^2 (14) = 30.49, p < 0.05$ ).

*"Using the Breast Health Literacy Assessment Tool© survey, what is the level of breast health literacy reported by a sample of women from the Concho Valley?"*

The average score on the survey was 80.1%. Results from the specific questions illustrated knowledge deficits in certain areas that can be addressed with educational interventions.

### Conclusions:

This pilot study provided an opportunity to explore the relationship between preventative medicine knowledge and language preference in the Concho Valley. While it was conducted regionally and on a small scale, it still returned important information. There is a relationship between language preference and breast health knowledge that is influenced by many factors like education levels, health literacy and numeracy, and socioeconomic standings. Women in the Concho Valley deserve to be knowledgeable in their health and have access to understandable preventative information. From healthcare systems, to non-profit organizations, to educational programs, the provision of services and information in English and Spanish, and to women of all ages, needs to continue to improve, as it impacts the lives of people who live and work here.

### Educational Recommendations:

The results of this study supported knowledge deficits between English and Spanish speakers, between different age groups, and in the general population surveyed. Based on those results, there are various recommendations for disseminating health information

1. Ensure that all health information, regardless of language, is written at a level appropriate for and understood by the general public. The information should be free of medical jargon and acronyms and instead should opt for conversational descriptions when possible.
2. Healthcare employees should disseminate information in accessible and actionable ways. A multi-level approach using visual, auditory and written forms of distribution to share information is preferable.
3. Share the information at multiple levels. Researchers can start with their colleagues, then to others in the healthcare/non-profit system, and finally to the general public.

### Sample Population Demographics:

	English	Spanish	Both English and Spanish	Other
<b>Language</b>	71.60%	22.40%	4.50%	1.50%

	18-34	35-54	55-74
<b>Age</b>	43.30%	23.80%	32.90%