Validation of Three Question Health Literacy Screener in Determining Health Literacy as Compared to Existing STOFLA

Emily Petersen,*[1] Hayley Hansford,*[1] Katie Burkhart[1]
Jared Reyes,[3] Nikki Keene Woods,[2] Amy Chesser[2]
[1]Department of Physician Assistant, Wichita State University
[2] College of Health Professionals, Wichita State University
[3] Envision Inc.

INTRODUCTION: Low health literacy has been associated with poor health outcomes. Identifying those with low health literacy would allow for appropriate interventions. There are currently several validated health literacy assessments, however, many of these are not feasible due to time, access and embarrassment to the patient. The three-question screener (3Q-Screener) has been proven to detect low health literacy in an outpatient setting. This modality was quick, practical and available electronically. Current studies have shown efficacy using the 3Q-Screener but more research was needed to compare accuracy between this newer efficient modality with the wildly used and accepted Short Test of Functional Health Literacy (STOFLA).

PURPOSE: Our goal was to identify a quick and accurate health literacy assessment tool that would help identify low health literacy. The objective of this study was to determine if these two screening modalities are comparably valid.

METHODS: An electronic survey was created that combined both the 3Q-Screener and the STOFLA. Consenting participants, solicited via oral communication, were directed to complete both the 3Q-Screener and STOFLA in no particular order and without knowledge of modality order. Demographics were collected. Inclusion criteria included English speaking adults in Kansas with the ability to read and understand questions and use an electronic device.

RESULTS: Among the 225 participants, frequencies of inadequate and adequate health literacy as measured by the 3Q-Screener were 83.6% and 16.4% respectively as compared to the STOFHLA at 2.2% and 97.8% respectively. Sensitivities and specificities as well as positive and negative predicted values indicated that the 3Q-Screener was sensitive at detecting inadequate health literacy but lacks specificity (16.74%). A McNemar test revealed there were only four participants that both the STOFHLA and 3Q-Screener identified as both having inadequate health literacy (4/225, p< 0.001), and zero participants were marked as having adequate health literacy by the 3Q-Screener that the STOFHLA identified as having inadequate health literacy (0/225, p< 0.001).

CONCLUSION: Our findings suggest that the 3Q-Screener identified those with inadequate health literacy but was prone to falsely label a competent patient when compared to the STOFLA. Due to the unexpected high number of inadequacies identified via the 3Q-Screener, we concluded that these two modalities are likely assigning health literacy in different ways. The STOFLA assesses objective literacy while the 3Q-Screener assesses the patients perceived health literacy. Identifying perceived inadequate health literacy may prove more valuable in improving health outcomes. Future studies should analyze if there are other modalities that predict "perceived" health literacy as well and whether perceived vs objective health literacy leads to better health outcomes.