Title:
Spanish-Language Version of the Electronic Health Literacy Scale (eHEALS): A Validation Study

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Session Title:
Communication and Language Barriers
Slot:
F 17: Monday, 30 October 2017: 9:30 AM-10:15 AM
Scheduled Time:
9:30 AM

Keywords:
Spanish-speaking populations, electronic health literacy and health outcomes

References:
Aponte, J., & Nokes, K.M. (2015). Electronic health literacy of older Hispanics with diabetes. *Health Promotion International.*doi: 10.1093/heapro/dav112.

Chung, S. & Nahm, E. (2015). Testing reliability and validity of the eHealth Literacy Scale (eHEALS) for older adults recruited online. *Computer, Informatics, Nursing: CIN*, *33*(4) 150-6. Doi: 10.1097/CIN.0000000000000146.

Health Information National Trends Survey (HINTS) (n.d.). Health Information National Trends Survey 4 (HINTS 4): Cycle 3 Methodology Report: February 2014. Available at: http://hints.cancer.gov/instrument.aspx.

Abstract Summary:
Electronic health literacy is a multifactorial concept that includes health literacy but also requires technology skills. A brief screening tool has been available in a number of languages but not Spanish. eHEALS was translated into Spanish and validation results are presented.
Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
1. Differentiate between electronic health literacy and health literacy.	Norman and Skinner's Lily model of electronic health literacy
2. Identify components of electronic health literacy using a screening tool available in different languages.	Identify the 10 items on the electronic health literacy scale (eHEALS); identify languages in which the tool is available; identify how the tool can be used to screen different populations for electronic health literacy.

Abstract Text:

Although the internet is available globally, complex skills are needed in order to use this source of valuable health-related information effectively. Electronic health literacy is a multifactorial concept that

includes health literacy but also requires technology skills. A brief screening tool, specifically eHEALS, can be used to assess different components of electronic health literacy in different populations. The tool was developed by Norman and Skinner (2006) and translated into a number of different languages. This research describes further validation of the new Spanish version of eHEALS with an older, community-living population.

Our aim was to add to the validity of the Spanish version of an instrument used to measure electronic health literacy (eHEALS) with an older Hispanic population from a number of Spanish-language countries living in New York City in the United States (US). The eHealth literacy scale (eHEALS) is widely used to assess and measure electronic health literacy (Norman & Skinner, 2006; Chung & Nahm, 2015) and the tool is available in English (Norman & Skinner, 2006), Japanese (Mitsutake, Shibata, Ishii, & Oka, 2012) , Chinese (Koo, Norman, & Chang, 2012) Dutch (van der Vaart et al., 2011), and Spanish (Aponte & Nokes, 2015). Throughout the United States, the National Cancer Institute (NCI) administers the Health Information National Trends Survey (HINTS) every other year, to assess the US public's use of cancer-related information and monitor changes in the rapidly evolving field of health communication. Data are used to understand how adults 18 years and older use different communication channels, including the internet, to obtain vital health information for themselves and their loved ones. We used the Spanish HINTS 4 Cycle 3 which has 15 scales with 127 questions that all use a 4-point Likert scale with 1=Very willing to 4= Not at all willing. Section B5 of HINTS has 8-items, (B5A through B5H) which were combined to create a total *Use of the internet over the prior 12 months for health-information* scale; and the responses of Section B8 of HINTS (B8A-B8I) were combined to create a total *Willingness to Use the Internet for Health-related information* scale.

This cross-sectional descriptive study included two samples. Recruitment occurred at a Senior Organization located in a largely Hispanic neighborhood in New York City (N=100). Participants completed eHEALS and selected items from the Health Information National Trends Survey (HINTS) which assesses how adults use different communication channels, including the internet, to obtain vital health information. For comparison purposes, data from the US HINTS sample (N=162) were matched to the Senior Organization sample on age range and Hispanic ethnicity.

The mean score on the combined eHEALS items was 25.82 (SD=5.93) with a range from 11 to 35. Internal consistency using Cronbach's alpha was computed as .887; item-total correlations ranged from .476 to .892. Construct validity was tested using a simple structure approach solution (Koo, et al., 2012; Norman & Skinner, 2006) and a confirmatory factor analysis (DeVellis, 2012) using principal components analysis was computed. This analysis resulted in a single factor with an eigenvalue of 4.553 that accounted for 57% of the total variance which is similar to the 5.08 eigenvalue accounting for 64% of the total variance reported by Koo, Norman, and Chang (2012) for the Chinese version of eHEALS. Although there was no relationship with the two HINTS subscales and electronic health literacy for the Senior Organization sample, there were significant relationships between electronic health literacy and health status and confidence in self-care.

Inadequate electronic health literacy is a barrier to positive health outcomes. The Spanish version of eHEALS could be used as a screening instrument to identify gaps and tailored interventions could be developed to increase consumer confidence in using the internet for reliable health-related information. Knowledge in self-management is related to positive health outcomes; all persons irrespective of their electronic health literacy should be able to use all sources of health information to enhance their self-care.