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Characterizing Health Literacy Among Spanish Language-Preferring Latinos Ages 50–75

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Abstract

Background: Cultural background, language, and literacy are factors that may affect access, health care utilization, and cancer screening behaviors.

Objective: This study aimed to characterize health literacy among Spanish-preferring Hispanic/Latino individuals ages 50–75 and examine associations between sociodemographic characteristics, health beliefs, and health literacy.

Methods: Participants self-identified as Hispanic/Latino, preferring health information in Spanish, were ages 50–75, at average risk for colorectal cancer, not up to date with colorectal

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The study was registered with [ClinicalTrials.gov](https://clinicaltrials.gov) as NCT03078361 (<https://clinicaltrials.gov/ct2/show/NCT03078361?titles=Latinos+CARES&draw=2&rank=1>) on March 13, 2017. The first participant was recruited on April 28, 2014, for Phase I and August 10, 2015, for Phase II.

cancer (CRC) screening, and enrolled in a CRC screening education intervention trial. Sociodemographic characteristics, health beliefs, and health literacy (i.e., difficulty understanding written health information and confidence completing health forms) were assessed at baseline. Descriptive and logistic regression analyses were performed.

Results: Fifty-three percent of participants reported either sometimes having difficulty or always having difficulty with written health information, and 25% reported always asking for help or being not so confident in completing health forms. Univariate predictors of adequate health literacy for written health information were lower cancer worry and lower religious beliefs. Higher educational attainment predicted confidence in completing health forms.

Conclusions: Findings highlight the need for interventions that address health beliefs and health literacy among Hispanic/Latino patients who have low confidence in completing written forms and difficulty understanding written information and reinforce the use of plain language and salient design features when developing patient education materials.

Keywords

colorectal cancer screening; health communications; health literacy; Hispanic; Latina; Latino

A new definition of health literacy put forth by Healthy People 2030 emphasizes both personal health literacy and organizational health literacy. Specifically, personal health literacy is defined as “the degree to which individuals have the ability to find, understand, and use information and services to inform health-related decisions and actions for themselves and others,” whereas organizational health literacy is defined as “the degree to which organizations equitably enable individuals to find, understand, and use information and services to inform health-related decisions and actions for themselves and others” (Office of Disease Prevention and Health Promotion [ODPHP], Office of the Assistant Secretary for Health, Office of the Secretary, U.S. Department of Health and Human Services [HHS], 2020a). This definition reflects the evolution of the concept of health literacy toward a consensus that health literacy is affected not only by an individual’s capacities but also by the accessibility, clarity, and actionability of health information and health services that organizations provide. Health literacy requires an intricate set of reading, writing, listening, navigational, and critical decision-making skills (Institute of Medicine [IOM], 2004). These skills are needed to manage specific health concerns, navigate health care interactions, and take steps to make decisions and act on information for health and well-being (IOM, 2004).

Yet, myriad factors are tied to being at risk for low health literacy, including years of schooling, age, location of residence, and socioeconomic status, among others (HHS, ODPHP, 2010). Further, individuals who are especially at risk for low health literacy include older adults (65+ years), immigrants (especially individuals whose first language is not English), and individuals with lower educational attainment (e.g., less than high school) and fewer financial resources (Kutner et al., 2006). Low health literacy is a significant obstacle to health care access and service utilization and is associated with poorer health outcomes, higher hospitalization rates, and increased use of emergency services (Becerra et al., 2017; Sarkar et al., 2016). To address health literacy, federal agencies such as the HHS and the

Centers for Disease Control and Prevention (CDC) have taken numerous steps to incorporate health literacy into their programs and provide support for research and implementation of best practices (HHS, ODPHP, 2010). For example, given the number of individuals in the U.S. who are at risk for low health literacy, approaching all patients with a “Universal Precautions health literacy mindset” has been suggested (Agency for Healthcare Research and Quality [AHRQ], 2020).

Spanish-language speakers represent 13.5% of the U.S. population, making Spanish the second most spoken language in the U.S. (United States Census Bureau, 2019). Many factors associated with being at risk for low health literacy in the general U.S. population are often accentuated among Spanish-language-preferring Hispanic/Latino immigrants (Becerra et al., 2017; Berkman et al., 2011; Soto Mas & Jacobson, 2019). Individuals in the U.S. who speak Spanish before starting school have the lowest average health literacy, and the gap is widening (Kutner et al., 2006; Soto Mas et al., 2015). Despite recent national efforts to improve health literacy and expand access to literacy-appropriate materials, higher proportions of Spanish-speaking Hispanic/Latino individuals still have a weaker grasp of health information compared to other population groups (Rikard et al., 2016; Soto Mas et al., 2015). Studies show that many individuals living in the U.S. who prefer to receive health information in Spanish run into health care obstacles due to the predominant use of the English language in health care systems, and the scarcity of useful intervention models that build health literacy skills for Spanish-preferring populations (Soto Mas & Jacobson, 2019; Soto Mas et al., 2015).

The majority of health literacy research conducted among individuals whose primary language is Spanish focuses on English-as-a-second-language instruction in improving health literacy or examining predictors of English health literacy (Jacobson et al., 2016; Mas et al., 2014; Soto Mas & Jacobson, 2019; Soto Mas et al., 2015). In a study of 144 U.S. Hispanic immigrants, English proficiency was the strongest predictor of health literacy (Jacobson et al., 2016). Higher self-efficacy and health literacy also have predicted preventive behaviors (e.g., increased fruit and vegetable consumption and weekly exercise) among low-income, native Spanish-speaking individuals who are less proficient in English and living in the U.S. (Guntzviller et al., 2017). These findings support the need to consider health literacy and address health beliefs and sociocultural factors when developing interventions to promote health behaviors among Spanish-preferring Hispanic/Latino individuals.

Prior studies have examined associations between health literacy, sociodemographic characteristics, health care utilization, and Preventive Health Model (PHM) constructs (e.g., religious beliefs, self-efficacy, social influence, cancer worry) in English-speaking, medically underserved populations (Christy et al., 2017; Davis et al., 2020). These studies suggest that sociodemographic and several PHM constructs, such as higher social influence and having higher religious beliefs, may be associated with lower health literacy among English-preferring individuals (Christy et al., 2017; Davis et al., 2020). Specific to colorectal cancer (CRC) screening education studies among English-preferring individuals, some PHM constructs have predicted CRC screening uptake (Christy et al., 2016; Myers et al., 2007). However, to the authors’ knowledge, prior studies have not examined the relationships

between preventive health beliefs related to CRC screening, sociocultural factors, and health literacy among Spanish-preferring Hispanic/Latino individuals. Thus, we sought to explore PHM constructs within the context of CRC and health literacy among Spanish-preferring individuals. Specifically, the current study aimed to (a) characterize health literacy levels among Hispanic/Latino individuals aged 50–75 who prefer to receive health information in Spanish and are receiving care at federally qualified health care centers in Southwest Florida, and (b) examine associations of sociodemographic characteristics and health beliefs with health literacy in this population.

Methods

This was a secondary data analysis of baseline data from a pilot randomized controlled trial (RCT) titled *Latinos Colorectal Cancer Awareness, Research, Education and Screening* (LCARES), which was implemented in two clinic sites (Gwede et al., 2019). The parent study's methods and main outcomes have been described previously (Gwede et al., 2019). Briefly, the parent pilot RCT aimed to compare the efficacy of LCARES (a Spanish language, low-literacy, culturally targeted fotonovela booklet, and DVD informed by PHM constructs plus fecal immunochemical test [FIT]) versus a Spanish-language CDC brochure plus FIT to promote CRC screening uptake. In the parent study, 87% of participants overall completed CRC cancer screening, exceeding the National Colorectal Cancer Roundtable's goal of 80% (Gwede et al., 2019).

During the preparatory activities of the project, eligibility criteria and survey items that were initially developed in English were reviewed by several bilingual (English/Spanish) study team members and systematically translated into Spanish using the Brislin method (Brislin, 1970) in order to keep conceptual equivalence across the Spanish language. First, a bilingual study team member translated the survey items into Spanish. A second bilingual study team member worked to back translate items into English. Both study team members were native Spanish speakers. A third bilingual study team member served as arbitrator when the need arose to discuss any discrepancies and consolidate any differences. Subsequent to translation by bilingual study team members, the items were then pilot-tested and further refined (often with feedback from the Community Advisory Board [also bilingual]) to allow for increased comprehension and relevance for Spanish language-preferring participants.

Potential participants had a scheduled health care visit (e.g., acute care unrelated to CRC symptoms, health maintenance, well-visit) and were approached either before or directly following their provider interaction. Participants ($N = 76$) who enrolled in the study: (a) self-identified as Hispanic/Latino, (b) preferred to receive health information in Spanish, (c) were able to read, write, and understand Spanish, (d) were 50–75 years old, (e) were at average CRC risk, (f) were not up to date with CRC screening, and (g) were currently receiving care at one of two federally qualified health care center clinics in Southwest Florida. Following informed consent procedures, individuals completed an in-person survey which was read aloud in Spanish by a trained research coordinator. A longer survey included the items of interest in the current study (i.e., sociodemographic characteristics, single-item health-literacy screening questions, and PHM health beliefs). Participants received a \$15 gift card after completion of baseline survey. As reported elsewhere (Gwede et al., 2019), study

procedures were approved by the University of South Florida Institutional Review Board and were conducted in accordance with the Declaration of Helsinki.

Measures

Health Literacy—Health literacy was measured utilizing two separate, previously validated (Morris et al., 2006) items from the Single Item Literacy Screener (SILS; Chew et al., 2004, 2008; Morris et al., 2006; Sarkar et al., 2011), which were translated into Spanish. Final wording for the Spanish items varied slightly from original wording of published English items to enable increased linguistic relevance and understanding among Spanish-language-preferring participants. The consolidation of response categories to fewer categories than the original five took place to relieve ambiguity that surfaced when original categories were translated directly. For example, “sometimes” and “occasionally” are contextually similar in Spanish, where “a veces” is the direct translation for both “sometimes” and “occasionally”; thus, this ambiguity created confusion for participants. Refinement during pilot testing highlighted increased comprehension when “sometimes” served as a consolidated response selection. Collectively, in an effort to increase linguistic relevance and understanding of items and response choices by participants, we followed similar methodology towards finalizing available response choices for the two items assessing health literacy. Ultimately, the refinement from these processes resulted in three response options for the *difficulty understanding written materials* item and four response options for the *confidence with completing written forms* item (see below). Additionally, in an effort to further enhance item understanding, our pilot testing highlighted the need to add context to these questions (e.g., describe examples of written health information or provide examples of locations where health forms may be required to be completed).

To assess health literacy, bilingual research team members administered the following questions: (a) “¿Con que frecuencia tiene usted dificultades aprendiendo sobre su salud o condición médica por no entender lo que está escrito? Por ejemplo, esto puede ser folletos de salud, instrucciones de su médico, o recetas medicas.” [How often do you have difficulty learning about your health or medical condition due to not understanding what is written? For example, this can be health brochures, your doctor’s instructions, or written prescriptions]; and (b) “Cuando va a la oficina de su proveedor de salud, le piden que llene unas formas sobre su salud o la salud de su familia. ¿Qué tan seguro se siente usted en llenar formularios de su salud?” [When going to the office of a health care provider, usually you are asked to fill out a form about your health or the health of your family. How confident do you feel in filling out these health forms?]. For the translated and adapted *difficulty understanding written materials* Spanish-language item, response categories were scored on a Likert-type scale: nunca (never = 2); a veces (sometimes = 1); and siempre (always = 0). For the translated and adapted *confidence with completing written forms* Spanish-language item, response categories were: muy seguro (very confident = 3); un poco seguro (a bit confident = 2); no tan seguro (not so confident = 1); and casi siempre pido ayuda para llenar formularios de salud (I almost always ask for help filling out health forms = 0). Of note, “un poco seguro” (a bit confident) communicates a positive level but not complete level of comfort in the Spanish language, whereas “no tan seguro” (not so confident) conveys a negative level of comfort that is a slight gradient above no comfort

at all which is communicated by the answer choice, “Casi siempre pido ayuda para llenar formularios de salud” (I almost always ask for help filling out health forms). Together, the two health literacy items addressed understanding written materials and confidence in completing written forms generally; the language in which those forms were written was not specified. Lower scores reflected greater difficulties with understanding health information or completing written health forms, respectively.

PHM Health Beliefs—Seven PHM constructs relevant to CRC screening were assessed (Myers et al., 2007). These measures have been utilized previously in CRC screening studies with racial and ethnically diverse participants (Christy et al., 2016; Davis et al., 2017; Myers et al., 2007) and were translated into Spanish. Four items assessed *salience and coherence*, or beliefs that completing CRC screening is essential, is consistent with one’s views about how to remain healthy and makes sense in the context of one’s life. Three items assessed *perceived susceptibility* or beliefs about one’s risk for developing CRC and colon polyps. *Cancer worry* was measured with two items that evaluated the extent to which one worries about having a screening result that indicates a potential health problem. *Response efficacy* was assessed with two items that examined the belief that CRC screening effectively finds CRC early and that removal of colon polyps can prevent CRC. Four items measured *social influence*, or the extent to which one perceives that important others (i.e., family members, health care professionals) are supporting in completing CRC screening as well as the desire to comply with the attitudes of these important others. *Religious beliefs*, or the extent to which religious beliefs influence one’s health behaviors and medical decisions, were assessed with five items. Six items measured *self-efficacy* or one’s confidence in completing the steps involved with FIT screening. Response options for PHM items ranged from “strongly disagree” to “strongly agree” on a 5-point Likert-type scale.

Sociodemographic Characteristics—Sociodemographic characteristics included the following self-reported variables: age, gender, race, ethnicity, educational attainment, insurance status, employment status, income, marital status, foreign-born parental status, and foreign-born status (and if foreign-born, country of origin and years lived in the U.S.; Gwede et al., 2019).

Statistical Analysis

Descriptive statistics were used to summarize participant characteristics and responses to the health literacy items. Scores for each health literacy item were dichotomized prior to additional analyses. Specifically, the response categories for the difficulty with written health information items were collapsed as follows: *sometimes* and *always* having difficulty versus *never*. These responses were collapsed to capture all who might need assistance based on having some difficulty with reading printed health information. Thus, the collapsed response category that included *sometimes* and *always* was considered positive for being “at-risk for low health literacy,” and the response category was never considered as having adequate health literacy. The response categories for confidence in completing written health forms items were collapsed as follows: *I almost always ask for help* and *not so confident* versus *a bit confident* and *very confident*. The collapsed response category that included *I almost always ask for help* and *not so confident* was considered positive for being at

risk for low health literacy. The collapsed response category that included *a bit confident* and *very confident* was considered adequate health literacy. Univariate logistic regression analyses were conducted to examine potential sociodemographic and PHM health belief predictors of adequate health literacy for each dichotomized health literacy item. Variables identified as significant in univariate analysis to understand written health information items were examined in multivariate logistic regression analysis. Also, ad hoc correlation analyses between select sociodemographic variables and the PHM variables were conducted. Analyses were performed using SAS (Version 9.4 [TS1M1], 2016, SAS Institute Inc., Cary, NC). A *p*-value of less than 0.05 was considered significant.

Results

Participant characteristics are displayed in Table 1. The mean age was 57.18 years (SD = 6.00; Gwede et al., 2019). Ninety-three percent were born outside of the U.S. Among those having immigrated to the U.S., individuals had lived an average length of 23.42 years (SD = 10.86; range: 2–56) in the U.S. Sixty-seven percent were female. Sixty-two percent had less than a high school diploma, with 44% having educational attainment of elementary school or less. Fifty-three percent reported difficulty with written health information and were at risk for low health literacy with regard to written health information. Twenty-five percent were at risk for low health literacy concerning completing health forms, either reporting *always ask for help* or *not so confident*. Correlations between multiple sociodemographic factors and the PHM variables are presented in Supplemental Digital Content.

Results from univariate logistic regression analyses are presented in Table 2. Adequate health literacy for the ability to understand written health information item was associated with lower cancer worry (OR = 0.80 [95% CI: 0.65–0.97]; *p* = .02) and lower religious beliefs (OR = 0.92 [95% CI: 0.85–0.99]; *p* = .03). None of the sociodemographic characteristics were significant predictors. Cancer worry and religious beliefs both remained predictors of ability to understand written health information in multivariate analysis (OR = .80 [95% CI: 0.66–0.98]; *p* = .03 and OR = .92 [95% CI: 0.85–0.999]; *p* < .05, respectively, data not shown). Results from univariate logistic regression analyses for confidence in completing health forms are presented in Table 3. Higher educational attainment was associated with adequate health literacy in completing health forms (OR = 2.19 [95% CI: 1.26–3.80]; *p* = .005). None of the health beliefs were predictors.

Discussion

Health literacy is a key factor in being able to deconstruct health information, take part in discussions about health, make decisions about health, and successfully act based upon health information. Indeed, recent literature confirms that health literacy is essential to health care access and service utilization (Becerra et al., 2017; Berkman et al., 2011; IOM, 2004). However, few studies have evaluated the factors (e.g., health beliefs and sociodemographic characteristics) associated with adequate health literacy, especially among Spanish-language-preferring Hispanic/Latino patients (Becerra et al., 2017; Jacobson et al., 2016; Sarkar et al., 2016). In our study, 93.4% were born outside of the U.S.; most (65%) were of Mexican heritage. Nearly 44% of study participants had either a maximum

educational attainment of elementary school or had never attended school. More than half of participants (52.6%) reported either sometimes having difficulty or always having difficulty with written health information, and 25% reported almost always asking for help or not being so confident in completing health forms.

In the current study, two health belief variables (i.e., lower cancer worry and lower religious beliefs) were associated with reporting adequate health literacy with regard to understanding written health information. These associations between health literacy and health beliefs among Spanish-language-preferring Hispanic/Latino individuals are consistent with prior health literacy studies conducted among English-speaking, medically underserved populations (Christy et al., 2017; Davis et al., 2020). Specifically, in keeping with the current study findings among Spanish-language-preferring Hispanic/Latino individuals, prior studies found that higher religious beliefs were associated with low health literacy among English-speaking, medically underserved populations (Christy et al., 2017; Davis et al., 2020). Contrary to a study conducted among English-speaking, medically underserved individuals (Christy et al., 2017), however, social influence was not a predictor of health literacy in the current study.

In the current study, lower cancer worry (or lower worry about receiving cancer screening results that would indicate a health issue) was associated with reporting adequate health literacy with regard to understanding written health information. In prior research, higher levels of cancer worry have been associated with low health literacy (Gabel et al., 2019). In addition, that previous study also found that low health literacy was associated with decreased participation in cancer screenings (Gabel et al., 2019), highlighting the need for low literacy, cancer education materials. Of note, cancer worry was not associated with health literacy in prior studies conducted among English-language-preferring individuals (Christy et al., 2017; Davis et al., 2020). However, critical distinctions between the current study and the prior two studies are that those studies were: (a) conducted among English-language-preferring racially and ethnically diverse individuals rather than Spanish-language-preferring Hispanic/Latino individuals (the majority of whom were born outside of the U.S.), and (b) utilized the Rapid Estimate of Adult Literacy in Medicine–Revised (REALM–R – a word list) was used to measure health literacy versus single-item screening questions as in the current study. Additional research is needed to explore the relationships between cancer worry and health literacy among diverse, non-English-language-preferring and immigrant groups.

Reporting adequate health literacy with regard to written health information was associated with lower scores on the PHM religious beliefs subscale, which measures the degree to which one's religious beliefs influence one's health behaviors. Religion and spirituality are significant core cultural values among many Hispanic/Latino individuals, and 63% of Hispanics in the U.S. are "absolutely certain" they believe in God (Ochoa et al., 2018; Pew Research Center, n.d.). Many individuals in the Hispanic/Latino community rely upon churches as an important educational and spiritual resource when addressing overall health concerns, including health care utilization (Caplan, 2019). Overall, this finding indicates areas for future research and potential methods for developing more targeted or tailored

intervention materials (e.g., incorporation of faith and spirituality) that are salient for this population and better connect faith/spirituality and preventive health behaviors.

In the current study, higher educational attainment predicted confidence in completing health forms which are aligned with findings from prior studies (Johnson et al., 2013; Martin et al., 2009). Educational attainment is well-established in the literature as a social determinant of health, and it affects health outcomes through the mechanism of health literacy, among others (Cohen & Syme, 2013; ODPHP, HHS, 2020b). A recent study conducted with Hispanic/Latino individuals found that educational attainment beyond high school as well as acculturation were predictors of higher levels of health literacy in multiple regression analyses. In contrast, age, gender, income, and U.S. citizenship were not significant predictors (Boyas, 2013). The educational attainment findings of that prior study are consistent with the conclusions of the current study. Contrary to the previous study's findings, although acculturation was not measured in the present study, years in the U.S. (which might be considered a proxy for acculturation) were measured and did not predict adequate health literacy for either SILS item.

Study limitations and strengths should be noted. First, this pilot study was implemented in a single clinic organization (at two clinic sites) in a limited geographic area among Spanish-language-preferring Hispanic/Latino individuals who were already accessing health care services. Findings may not be generalizable to other parts of the U.S., different clinic types, or among those not accessing health care services. Second, the study was conducted in the context of a CRC screening intervention pilot trial and had a small sample size. It is also important to acknowledge that the logistic regression analyses tended to be underpowered, which reduces the robustness of the results. Third, the health belief constructs utilized were from the PHM and therefore assessed health beliefs related to CRC and CRC screening. We did not examine the relationship between general health beliefs and health literacy, and acknowledge that several of our measures, such as CRC-related PHM, may vary from overall or general preventive health belief measures. Lastly, the specific characteristics of the health literacy measures utilized (SILS) emphasize reading and writing only and are self-reported. Health literacy measurement with these two single-item measures may not extrapolate other vital health literacy dimensions (such as interactive or critical-thinking skills). Also, self-report of health literacy abilities may be susceptible to social desirability bias. Some people may feel uncomfortable admitting difficulties with comprehension of health information or feel shame in reporting their abilities (Parikh et al., 1996). Among the many strengths offered by the current study, one key strength is examining unique factors that may influence health literacy among an ethnically diverse sample of Hispanic/Latino individuals in community clinic settings that serve a high proportion of agricultural workers.

With approximately 90 million people in the U.S. at risk for low health literacy (IOM, 2004), additional interventions are needed to improve health literacy, especially among those at greatest risk for low health literacy. These improvements are essential so that individuals are equipped with the skills necessary to make health decisions and effectively access health services. Thus, researchers, practitioners, and educators should develop and evaluate methods to effectively improve health literacy. Techniques such as plain language (clear communication) and/or teach-back to reinforce and verify patient understanding are some

empirically supported examples (Baur & Prue, 2014; Yen & Leasure, 2019). Furthermore, in a recent meta-analysis of RCTs that assess health literacy (Schubbe et al., 2020), pictorial health information largely increased knowledge and understanding among lower health literacy populations. Thus, alternative communication strategies such as offering information using pictures may help individuals develop improved health literacy (Schubbe et al., 2020). Finally, policy changes may be necessary to improve health literacy practices on a large scale.

Among a population of Spanish-language-preferring Hispanic/Latino patients aged 50–75 years, not up to date with CRC screening, and enrolled in a CRC screening RCT, more than half were at risk for low health literacy. In univariate logistic regression analyses, predictors of reporting adequate health literacy, based upon responses to items for understanding written health information included lower cancer worry and lower religious beliefs, and for confidence in filling out health forms included higher educational attainment. For Spanish-preferring Hispanic/Latino patients to benefit from written health information, health care providers should employ various strategies to assess, verify, and ensure understanding in their clinic populations. Findings further warrant the adoption of a health literacy universal precautions “mindset” to ensure effective and positive patient–provider communications.

There are several patient education, communication, and practice implications of the current study. First, it is essential to recognize that many patients accessing health services may be at risk for low health literacy, including Hispanic/Latino individuals who prefer to receive health information in Spanish. Health educators and practitioners need to ensure that educational materials and health forms are available in multiple languages and can be sufficiently understood by all patients so that patients can successfully make lifestyle changes, health decisions, undergo beneficial prevention and early detection, manage health conditions, and respond accurately to the questions asked on health forms. Cancer education materials and documents should contain clear information that is language preference appropriate, actionable, and available in multiple languages. Also, in the community at large, English-as-a second-language instruction is being utilized as a valuable tool to improve health literacy among individuals whose primary language is Spanish. Community sites have become viable venues for delivering health literacy/language instruction to Spanish-speaking adults (Soto Mas & Jacobson, 2019; Soto Mas et al., 2015). However, more work is needed to foster health literacy in clinical practice settings (Heinrich, 2012; Jacobson et al., 2016; Soto Mas et al., 2015). One way to address this barrier in clinical practice is to assess health literacy as a vital sign and provide low-literacy tools and resources (AHRQ, 2020; Heinrich, 2012). Indeed, recent evidence suggests that health literacy can be assessed as a sixth vital sign—along with temperature, pulse, respiration, blood pressure, and pain level—within 3 minutes and is widely accepted (Heinrich, 2012).

Limited health literacy is such a universal concern where experts advocate assessing health literacy should be considered in all clinical and community settings (AHRQ, 2020). Health care providers often lack awareness that their patients may not understand the information provided to them and may not comprehend directions/instructions provided well enough to follow them. Moreover, providers may feel that adding measures is burdensome and determine these additions to not be feasible in clinical practice. System-

level changes to improve health literacy can occur when accurate health information and services can be provided to all people (ODPHP, HHS, 2020a). Moreover, the adoption of health literacy universal precautions represents a series of important steps to ensure that patients understand and can do something with the information. It entails simplifying and streamlining communications, and confirming comprehension for all patients, so that the risk of miscommunication is lessened. It also involves making the clinic environment and health care system easier to navigate to support patients' efforts toward improving their health. In the Hispanic/Latino population, providing professional translation services and materials in preferred language can further minimize the risk of miscommunication.

Conclusion

Some patients may report low confidence in completing medical forms. Practices/systems should implement and utilize a health literacy screener question(s) so that providers can gauge which patients might need added assistance or help with written materials; this information can then be used to guide patient-provider interactions and effective patient education interventions. The SILS items were successfully and quickly delivered in the current study and represent one among many different health literacy measures that might be utilized by providers/practices. It would benefit health care organizations to integrate these single-item questions along with the highest years of schooling into clinical patient assessments.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Participant Characteristics

Characteristics	Mean (SD) or N (%)
Age (in years, range 50–74)	57.18 (6.00)
Years in United States (range 2–56)	23.42 (10.86)
Gender	
Male	25 (32.9)
Female	51 (67.1)
Marital Status	
Married/Partnered	53 (69.7)
Divorced/Separated	10 (13.2)
Widowed	6 (7.9)
Single/Never Married	7 (9.2)
Employment Status	
Employed	40 (52.6)
Unemployed	31 (40.8)
Student	1 (1.3)
Retired	3 (4.0)
Missing	1 (1.3)
Country of Birth	
United States	5 (6.6)
Outside United States*	71 (93.4)
Parents Born Outside of the United States	
Yes	73 (96.0)
No	3 (4.0)
Race	
Black/African American	1 (1.3)
White	23 (30.3)
Other	51 (67.1)
More than 1 Race	1 (1.3)
Educational Attainment	
Never Attended	4 (5.3)
Elementary	29 (38.2)
Some High School	14 (18.4)
High School Graduate	13 (17.1)
Some College	7 (9.2)
College Graduate	7 (9.2)
Graduate/Professional School	2 (2.6)
Annual Income	
Don't Know/Prefer Not to Answer	6 (7.9)
Under \$10,000	31 (40.8)
\$10,000-\$25,000	29 (38.2)

Characteristics	Mean (SD) or N (%)
\$25,001-\$35,000	8 (10.5)
\$35,001-\$50,000	1 (1.3)
\$50,001-\$75,000	1 (1.3)
Difficulty in understanding written health information	
Never	36 (47.4)
Sometimes	38 (50.0)
Always	2 (2.6)
Confidence in completing health forms	
Almost always ask for help	15 (19.7)
Not so confident	4 (5.3)
A bit confident	13 (17.1)
Very confident	44 (57.9)

Note.

* Distribution of birthplace among individuals reporting being born outside of U.S. was as follows: Mexico ($n = 49$), Colombia ($n = 6$), Puerto Rico ($n = 5$), Costa Rica ($n = 3$), Dominican Republic ($n = 2$), Peru ($n = 2$), Chile ($n = 1$), Cuba ($n = 1$), El Salvador ($n = 1$), Venezuela ($n = 1$)

Table 2

Predictors of Adequate Ability to Understand Written Health Information Using Univariate Logistic Regression Analyses

Covariate	Level	<i>n</i>	Odds Ratio [95% CI]	<i>p</i> -value
Sex	Male	25	1.68 [0.64–4.40]	.29
	Female	51	-	-
Insured	No	57	0.57 [0.20–1.62]	.29
	Yes	19	-	-
Employed	No	35	0.44 [0.17–1.11]	.08
	Yes	40	-	-
Married	No	23	1.03 [0.39–2.74]	.96
	Yes	53	-	-
Age		76	0.99 [0.92–1.07]	.74
Years Living in the United States		71	1.00 [0.96–1.04]	.95
Annual Income		70	1.24 [0.69–2.20]	.47
Educational Attainment		76	1.15 [0.85–1.55]	.37
Perceived Saliency		76	0.99 [0.75–1.31]	.96
Perceived Susceptibility		76	0.99 [0.84–1.16]	.86
Response Efficacy		76	1.19 [0.71–1.98]	.51
Cancer Worry		76	0.80 [0.65–0.97]	.02*
Social Influence		76	1.03 [0.87–1.22]	.75
Religious Beliefs		76	0.92 [0.85–0.99]	.03*
Self-Efficacy		76	1.19 [0.95–1.48]	.13

Note. CI = confidence interval

* $p < .05$.

Table 3

Predictors of Adequate Confidence in Completing Health Forms Using Univariate Logistic Regression Analyses

Covariate	Level	<i>n</i>	Odds Ratio [95% CI]	p-value
Sex	Male	25	0.58 [0.20–1.71]	.33
	Female	51	-	-
Insured	No	57	0.75 [0.21–2.61]	.65
	Yes	19	-	-
Employed	No	35	0.73 [0.26–2.06]	.55
	Yes	40	-	-
Married	No	23	0.49 [0.17–1.45]	.20
	Yes	53	-	-
Age		76	0.94 [0.86–1.02]	.12
Years Living in the United States		71	1.01 [0.96–1.06]	.69
Annual Income		70	1.63 [0.74–3.58]	.23
Educational Attainment		76	2.19 [1.26–3.80]	.005*
Perceived Salience		76	1.08 [0.80–1.47]	.60
Perceived Susceptibility		76	0.84 [0.69–1.04]	.11
Response Efficacy		76	1.06 [0.61–1.86]	.83
Cancer Worry		76	0.85 [0.68–1.07]	.16
Social Influence		76	0.92 [0.74–1.14]	.46
Religious Beliefs		76	0.92 [0.84–1.01]	.09
Self-Efficacy		76	1.15 [0.96–1.37]	.13

Note. CI = confidence interval

* $p < .05$.