Health Information Seeking Behaviors and Preferences among Latino Immigrants: The Role of Acculturation and Functional Health Literacy

Liliana Rojas-Guyler, Denise H. Britigan, Keith A. King,
Judy Zulig, and Lisa M. Vaughn

Abstract

Purpose. To determine sources of health information of Latinos and assess associations with acculturation level, functional health literacy and demographics. Methods. Focus groups (n = 40) and Semi-structured survey interviews were conducted with adults (n=212). Results. Over 60% of respondents had lived in the country for less than 10 years, were women with less than a high school degree, and under the age of 40 years old. Motivation for seeking health information was reported to be primarily due to illness (n = 146, 71.9%) and mostly for themselves (n = 191, 90%). The majority of participants chose to take the survey in Spanish and preferred Spanish for health information. Younger participants, recent immigrants, women, participants with lower education levels and lower acculturation to American culture were more likely to use other People and Self-Help strategies as sources of information. Although most found information trustworthy and easy to obtain, 10% did not find their top source of information trustworthy, 20% reported difficulty accessing the information and 25% found the information insufficient. Barriers identified such as language and trust are explored and discussed. Lastly, participants with marginal and inadequate Functional Health Literacy (FHL) and low Acculturation/English proficiency were less likely to use Media sources and more likely to rely on friends, family and traditional medicine or healers. Conclusion. Specific implications for professional practice are presented; specifically, consideration for language preferences; formatting and material for audiences; readability and comprehension levels; cultural relevance and appropriateness; and physical location availability; and measures of literacy, FHL and acculturation.

* Liliana Rojas-Guyler, PhD, CHES, Associate Professor, School of Human Services, University of Cincinnati, PO Box 210068; Phone: (513) 556 0993; Email: guylerlr@uc.edu

Denise H. Britigan, PhD, CHES, Assistant Professor, Department of Health Promotion, Social, and Behavioral Health, University of Nebraska Medical Center, College of Public Health, Omaha, Nebraska.

Keith A. King, PhD, MCHES, Professor of Health Promotion, School of Human Services, University of Cincinnati, Cincinnati, Ohio.

Judy Zulig, PhD, CHES at the time of this research was Assistant Professor of Health Promotion in the School of Human Services at the University of Cincinnati, Cincinnati, Ohio.

Lisa M. Vaughn, PhD, Professor of Pediatrics at University of Cincinnati College of Medicine / Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio.

* Corresponding Author

Background

Across the Midwest, social and health service agencies have felt the impact of a changing population and the influx of minorities and immigrants in recent years. As the Chicago Council on Global Affairs reports (Jacoby, et al., 2013) the economic recessions have changed the face of many cities in the Midwest. "As recently as 1980, most of the towns now transformed by foreign workers were settled, homogeneous communities, 80 to 100 percent white" (Jacoby et al., 2013, p.7). Cities experiencing this demographic change are trying to meet the needs of new residents. In health education, one important aspect is an understanding of the educational, socioeconomic, and cultural factors that may affect adoption of healthy behaviors. Considering theoretical relevance, social capital, as noted by Treviño (2005), includes communication exchanges that occur between two entities aimed at influencing behavior. Communications are bi-directional, have a positive or negative influence and exist at the individual and group level. Social capital can be sent from and received by an individual and/or an organization (Treviño, 2005). Further, Finnegan and Viswanath (2002) define Information flow as the "degree of information availability on an issue in a social system such as a community organization" and an application would be "increasing opportunities (through multiple channels) to encounter health information" (Finnegan & Viswanath, 2002, p.370). This supports investigation of influences on health information exchange.

Often overlooked are literacy and health literacy, both of which can impede health care access and healthy behaviors if inadequate. According to Baker et al. (1997), Health Literacy or the comprehension of health materials is not sufficient, one should be able to take action on the information. Functional Health Literacy (FHL) was described by Baker and colleagues (1997) as the ability of a patient to read, to understand, and to act on medical information to improve their health. Parker, Baker and Williams have exemplified this definition as follows, "Adequate Functional Health literacy means being able to apply literacy skills to health related materials" like prescriptions, and medicine labels (1995). Thus identifying the level of FHL among a new community is imperative before program design and development. Having this information is particularly important when working with racial or ethnic minorities and underserved communities, which have been reported to experience higher rates of health disparities in morbidity and mortality (Institute of Medicine, 2004; Luquis & Pérez, 2008).

Latinos in the midwest

Latinos were the second fastest growing group, after Asians, and the largest minority group in the U.S. in 2012 (US Census Bureau, 2013). This trend of fast growth was also evident in census data for the Midwest including the state of Ohio (Office of Minority Health, DHHS, 2008). According

to the Ohio Development Services Agency (ODSA) and based on 2010 census data, the Latino population in the state grew by 63% since 2000 (n.d.). Many disparities in health status and access to health care have been reported among Latinos. According to the Agency for Healthcare Research and Quality, Latinos received worse care for 39% of measures and had worse access to care for 63% of measures than their White counterparts (Agency for Healthcare Research and Quality, 2004). The ODSA also reports that approximately 80% of Latinos in Ohio are US born (n.d). As this growth of Latin American communities continues, health education professionals will need relevant information. Information about FHL, health seeking behaviors and preferred sources of health information are sparse in the professional literature.

The AHRQ Evidence Report states that culturally competent and appropriate health education and health services should be specific to each community. Further, low literacy can be linked to: poorer health, less use of preventive care, poorer control of chronic disease, lower quality care, medical errors, poor outcomes, and disparities. The lack of this type of specific information has hindered professional practice (AHRQ, 2004). When considering the rapid growth of Latinos in Ohio, the diversity in acculturation levels, and the health and access disparities already reported by Rojas-Guyler, King and Montieth (2008), and the variety of sources of health information currently available (Britigan, Murnan & Rojas-Guyler, 2009) we feel that the key role of health education programs designed specifically for the appropriate health literacy levels warrants further investigation.

Purpose

The purpose of this research study was to determine sources of health information utilized by Latinos in a Midwestern tri-state area and assess associations of these sources to participants' acculturation level, FHL level, country/region of familial origin, and demographic characteristics.

Methods

A pilot study conducted in 2006 found: situational differences in reported reasons for choosing health information sources, low acculturation levels, limited English proficiency, and lack of confidence and knowledge as barriers to accessing health information among Latino immigrants in this community (Britigan, Murnan & Rojas-Guyler, 2009). The present study reports on a follow up study that combined focus groups and person-to-person semi-structured questionnaires to further evaluate sources of health information, acculturation and FHL among Latinos/Hispanics in tri-state region of a new settlement state.

Focus groups to inform survey

A total of 6 focus groups were conducted in three different locations in the community. Four of the groups were separated by sex. A total of 40 participants attended the focus groups. Responses were inscribed on paper, audio-taped, transcribed and then translated for data analysis. Qualitative data were transcribed, translated, organized, categorized and analyzed to identify recurrent themes (MacQueen et al., 1999; Patton, 2002). Themes were identified independently by two separate researchers and a common list of health information sources

created following triangulation with existing literature.

Survey development

A set of survey questions on information sources, health information seeking behaviors and barriers to information access were developed, a review panel was convened to evaluate content validity. The panel was comprised of 3 experts who possessed bilingual and bicultural expertise as well as psychometric measurement expertise. Face validity was established by a small convenience sample of community members at a local venue. Test-re-test comparisons were made with a sample of community members at a local social service organization (n=16) following minor edits as suggested by the review panel. Correlation analysis showed an acceptable reliability coefficient value (r = 0.750). The questions developed by the authors (information sources, health information seeking and barriers) were then utilized as additional items in the final questionnaire alongside the existing standardized scales (FHL and acculturation). See table 1 for a sampling of questions included in the questionnaire.

Participants

Participants in the survey were Latino adults in a metropolitan area in the Midwest region of the United States (n=212). Conversations with key individuals, community gatekeepers, organization managers, and community leaders were utilized to secure permission to recruit individuals and conduct data collection procedures at several locales. Participants were recruited from a variety of local venues such as health centers, community festivals, soccer games, community centers or other recreational facilities, health fairs, churches, and markets (grocery stores). Recruitment strategies included intercept and snowball sampling. Adults who self-identified as Latino/Hispanic were invited to participate.

Procedures

All procedures and materials were approved by the Social and Behavioral Board of the University (#09-03-02-05E). All survey administrators and study staff attended procedural and ethics training. Power analysis resulted in a required sample size of n >195 (*confidence level =95%, confidence interval =5*). Given the lower literacy level expected, oral administration was utilized to increase participation. Participation was voluntary and confidential, participants could choose their language preference (English or Spanish), spent on average 23 minutes per survey, and received a small monetary gift card to a local grocer.

Final Instrumentation

The final survey was translated into Spanish and back translated into English by an independent professional to evaluate accuracy. The instrument included self-report questions on demographics (e.g. age, marital status, education, sex, country of birth, perceived health status), health information seeking behaviors (reasons, sources, and barriers to access), a standardized measure of FHL, and a standardized bi-dimensional acculturation sub-scale on Linguistic Proficiency. Acculturation was measured with the well-established *Bi-dimensional Acculturation Scale for Hispanics* (BAS) by Marín and Gamba (1996). The four-point Likert scale provides a linguistic proficiency score (range 1-4, cut off score 2.5)

Table 1.

Sample Survey items

Questionnaire Section	Item	Answer choices

Health Topics

	Think about a recent time (the last time) that you looked for health information	Not applicable
	Was it due to an illness?	Yes / No
	Was the information for yourself or someone else, or both?	
	If for someone else, who?	Open ended
	What information where you looking for?	

Health Information Sources

	Where did you look for health information?	
	Why do you use that source for health information?	
	How useful was the information you found?	
	Did you find enough information?	Open ended
	Was the information you found easy to understand?	
	Did you trust the information you found?	
	If you need health information again, where would you like to find it?	

Barriers to obtaining health information

| | Did you have any problems when trying to obtain health information? | Y / N |
| | If yes, what problems? | Open ended |

Preventive health information sources

| | Do you ever look for health information before you are sick? | Y / N |
| | If yes, where do you go for that information? | Open ended |

for each cultural domain, English and Non-English, and high reliability scores (α=0.97 & α=0.93 respectively) (Marin & Gamba, 1996). Lastly, a measure of FHL was obtained by including the *Short Test of Functional Health Literacy in Adults* (S-TOFHLA) in English and Spanish. The scale consists of a 4-point numeracy portion and a timed (7 minute) 36 item reading comprehension portion. Reliability was also adequate with Cronbach scores of α=0.68 for S-TOFHLA and α=0.97 for the reading comprehension passages (Baker, et al., 1998).

Data Analysis

To facilitate quantitative data analysis, recoding, filtering, and transformations were conducted as needed (e.g. country of birth became regions). Normal distribution of each quantitative variable was tested by measuring the ratio of *skewness* to its *standard error* and the ratio of *kurtosis* to its *standard error*. Non-parametric Chi-square or Kruskal-Wallis (chi-square) tests were utilized when appropriate. All analyses were conducted using SPSS (v.21) and with an alpha level of significance = 0.05.

Results

A total of 214 individuals of the 301 approached (71% participation rate) were recruited. All but 2 completed the survey producing a final sample of n=212. Most participants chose to use the Spanish version of the survey instrument (n=

188), all identified as Latino, and 14 countries of familial origin were identified. Study participants were from Mexico (n = 91, 42.9%), from Central America (n = 60, 28.3%), from South America (n = 36, 17.0%), and from U.S. or Puerto Rico (n = 24, 11.3%). Approximately two-thirds of the participants were women (n = 141, 66.5%). Data on demographic characteristics showed 46% were married (n = 99), the average age was 37 (SD=12.519) with 62.2% under 40 years of age. Education level results showed 52.2% lacked a high school degree with 28.6% reporting less than middle school education. Over 60% of respondents had lived in the country for less than 10 years (n = 129) and lived in households of four or less residents (n=136, 64.8%). Nearly 90% rated their health status as good (n = 136, 64.8%) or very good (n = 48, 22.9%). Results on acculturation showed that most participants had high acculturation to the Hispanic domain (n = 200, 94.8%) and 4 of 10 also had high acculturation to the Non-Hispanic domain (41.5%, n=86). However, nearly 6 of 10 had low acculturation levels to the Non-Hispanic domain (n = 121, 58.5%). See Table 2.

Seeking Health Information: Reported Motives, Types of Information & Language Preferences

Motivation for seeking health information was reported to be primarily due to illness (n = 146, 71.9%). When asked if they ever looked for health information prior to being ill, one third (n=66, 31%) responded that they did. In general, health

Table 2.

Distribution of Demographical Variables

	Focus Groups (N=39)		Surveys (n= 212)	
Variable	n	%	n	%
Sex				
Male	13	33.3	70	33.5
Female	26	66.6	141	66.5
Marital Status				
Married	17	45.9	99	46.9
Single	13	35.1	47	22.3
Living together, not wed	2	5.4	43	20.4
Separated, not divorced	2	5.4	10	4.7
Divorced	1	2.7	10	4.7
Widowed	2	5.4	2	0.9
Age				
18-20	1	2.6	7	3.3
21-30	6	15.4	69	32.9
31-40	20	51.3	62	29.5
41-50	11	28.2	31	14.8
51-60	0	0.0	23	11.0
61-70	1	2.6	8	3.8
71+	0	0.0	10	4.8
Education level				
Less than 6th grade	6	15.3	30	14.3
6th – 8th grade	4	10.3	30	14.4
9th -10th grade	3	7.7	8	8.8
11th -12th grade	7	17.9	41	19.6
More than high school	19	38.8	100	47.8
Country/Region of Origin				
Mexico	27	69.2	91	43.1
Central America	9	23.1	60	28.3
South America	2	5.1	36	17.0
U.S. & Puerto Rico	1	2.6	24	11.3
Health Status				
Very poor	0	0.0	0	0.0
Poor	6	15.8	26	12.0
Good	27	71.1	136	65.0
Very good	5	13.2	48	23.0

Note: Missing data excluded

information seeking was mostly for themselves (n = 191, 90%). However, one third (n = 60, 31.4%) reported searching for someone else (e.g. family member, friends, or both). Types of information sought were reported as disease/condition specific (n = 61, 37.2%), body part specific (n = 30, 18.3%), general health/physical exams (n = 18, 11%), and 24 'other' topics (n = 29, 17.7%). The language in which survey participants preferred to receive health information was Spanish (n = 156, 74.6%). The remaining preferences were almost evenly split between English (n = 28, 13.4%) and both English and Spanish (n = 25, 12.0%).

Health Information Sources: Perceived Trustworthiness,

Sufficiency & Convenience

Among participants who identified only one source as directed (n=182), the following health information source ranking was compiled: 1st *Medical- hospital or clinic, doctor or nurse, medical pamphlet* (42.1%), 2nd *People- community centers, family, friends, neighbor, lay health workers, health educator, church* (18.6%), 3rd *Media- television, radio, Internet, magazines, books, library, e-mail* (14.2%), and 4th *Self-Help- prayers, teas, natural medicine, folk healers* (18.0%). Subcategories and choices are presented in Table 3.

Table 3.

Frequencies for Reported Sources of Health Information

Major Category		Statistic	
		n	**%**
Medical		77	42.3
People		34	18.7
Self-help		32	17.6
Media		26	14.3
Other		13	7.1
	Total	182	100
Subcategory items			
Doctor		52	27.8
Clinic		44	23.5
Internet		30	16.0
Friends		30	16.0
Hospital		26	13.9
Natural Medicine		26	13.9
Family		24	12.8
Television		24	12.8
Community Center		18	9.6
Prayer		18	9.6
Folk Healers		14	7.5
Magazines		14	7.5
Teas		12	6.4
Church		11	5.9
Medical Pamphlet		10	5.3
Promotores/Health Educator		9	4.8
Books		8	4.3
Nurse		4	2.1
Library		4	2.1
Radio		3	1.6
E-Mail		2	1.1
Neighbor		2	1.1
Other		2	1.1

Note: Missing data excluded

Fifty-eight percent felt their top source was either *very trustworthy* (n = 116, 58%) or somewhat trustworthy (n = 66, 33.0%). When asked to rank the sufficiency of information received 76.2% (n=157) felt it was *enough* and 17% (n=35) *too little*. Eight of ten participants felt the information was *easy* or *very easy* to understand (n=162, 80.0%). Participants were also asked about the source of information they would prefer if they needed health information in the future. Specifically, they were asked about the convenience of reaching the source. Over half (55%, n=107) would still prefer Medical sources but the second ranked source for future information was Media and not People or Self Help (See table 4 for details).

Reported Barriers in Obtaining Health Information

Among the 79 (37.8%) participants reporting barriers, the most commonly reported barrier was *language* (n = 50, 23.7%). Other barriers were identified, such as: *cost of health care* (n = 42, 19.9%), *transportation* (n = 29, 13.7%), *lack of health insurance* (n = 26, 12.3%), *childcare concerns* (n = 14, 6.6%), and *fear* due to their documentation status (n= 13, 6.2%). See table 4 for details.

Statistical Interaction between Observed Variables: Demographic Characteristics, Acculturation, Sources of Health Information & Functional Health Literacy

Kruskal-Wallis statistical analyses demonstrated that differences exist on the reported sources of health information when compared by differences in age, sex, education, length of residence in the USA, and country of origin. Participants selecting Medical sources of health information were more likely to be in the 31-40 age range and participants selecting People or Self-Help sources were more likely to be in the 21-30 age group (X^2 = 12.230, *df* = 4, p<.05). The magnitude of difference between age and source preference was small (Cohen's *d*= 0.11). Although both men and women utilized Medical sources the majority of the time, women used People and Self-Help sources more than men (X^2= 63.421, *df*=4, p<.05). This relationship had a difference small effect size (Cohen's *d*

Table 4.

Perceived Characteristics & Barriers Related to Sources of Health Information

Trust	n	%
The source of information I use most is _____ trustworthy.		
Very	116	58.0
Somewhat	66	33.0
A little	17	8.5
Not very	1	0.5
Sufficiency		
When I receive information from that source, it gives me _____ information.		
Too much	14	6.8
Enough	157	76.2
Not enough	35	17.0
Ease of Understanding		
When I receive information from that source, it is usually_____ to understand.		
Very difficult	11	5.4
Difficult	32	15.6
Easy	146	71.2
Very easy	16	7.8
Convenience		
If you need health information again, where would be the most convenient place for you?		
Medical	107	55.4
Media	49	25.4
People	25	13.0
Self-help	0	0.0
Other	8	4.1
Barriers to obtaining health information		
Do you have any problems, or does anything get in your way when trying to obtain health information?		
Yes	79	37.8
No	130	62.2
Barriers: List all that apply		
Language: verbal or written information was not in Spanish	50	23.7
Transportation	29	13.7
Childcare	14	6.6
Lack of Insurance	26	12.3
Fear of legal status	13	6.2
Cost of healthcare	42	19.9

Note: Missing data excluded

= .07). Participants with higher levels of education were more likely to select Medical sources of health information, whereas those selecting Self-Help & People had completed lower levels of education (X^2 = 11.151, df = 4, p<.05). The effect size in this relationship was medium with Cohen's d = .67. Variations were also evident when comparing source of information and the length of time lived in the United States. As the length of time lived in the United States increased, participants were more likely to report using Medical sources of health information (X^2 = 8.979, df = 2, p<.05). The effect size for this relationship was medium with Cohen's d = .48.

Participants who scored low in the English subscale (Non-Hispanic Acculturation) were less likely to select Media and more likely to select People as their source of health information and participants with high English acculturation were less likely to seek health information from People and more likely to utilize Media sources (X^2 = 13.179, df = 3, p<.05). Cohen's d for this relationship was .48, indicating a medium effect size. Additionally, participants who scored low in the English Language Proficiency subscale were statistically more likely to report barriers (X^2 = 15.419, df = 1, p<.05). The magnitude of difference between English language proficiency and barriers was medium (Cohen's d = .45).

Functional Health Literacy & Preferred Sources of Health Information

The S-TOFHLA measures both numeracy and reading comprehension and produced a total FHL score in either English or Spanish. High reliability alpha coefficients for each scale, numeracy and reading comprehension, held true for the study sample as compared to previously reported by Baker et al. (1998) at alpha = 0.739 and 0.986 respectively. The maximum possible total S-TOFHLA score is 100 and the participant score can be categorized into: a) *Inadequate* Functional Health Literacy (I-FHL), 0-53; b) *Marginal* Functional Health Literacy (M-FHL), 54-66; and c) *Adequate* Functional Health Literacy (A-FHL), 67-100. Results of each language version are reported separately. For participants who chose Spanish (n=187, 88.6%), scores are as follows: 65.8% (n=123) had *Adequate* FHL, 12.3% (n=23) had *Marginal* FHL, and 21.9% (n=41) had Inadequate FHL (see table 5). The majority of the participants who took the S-TOFHLA in English also had adequate FHL in English (91.7%) as well. *Kruskal-Wallis* chi square comparisons of FHL levels and preferred sources of Health Information were made. Results showed that, although all participants ranked Medical sources first, participants who had *Adequate* levels of FHL were more likely to seek information from Media and those who had *Inadequate* or *Marginal* FHL were least likely to choose Media sources (X^2 = 8.580, df = 3, p= .03). The magnitude of difference between FHL levels and sources of health information was large (Cohen's d = .98).

Discussion

The sample of participants was predominantly of Mexican descent, female and under 40 years of age. This young group of recent Latino immigrants was comprised of primarily single individuals with low education and English acculturation levels. Health Education professionals working with similar young and recently immigrated communities may find the results of this study on sources of health information and FHL useful in addressing their needs.

Respondents reported searching information primarily due to an existing illness or health need. However a minority searched prior to existing symptoms or in a preventive manner. This is important to consider for professionals prioritizing prevention information to this community. Although disease information that is trustworthy and readily available should be accessible to all, it is imperative that preventive information be properly placed and marketed to individuals not yet looking for it. Additionally, it is likely that someone other than the patient is actually searching for the information. Professionals working with the community should consider the cultural implications and the role that females play in procuring health information for their families. Nearly 8 out of 10 respondents looked for information on behalf of others and of those nearly two thirds of those searching for information were women. Just as Hudson and Watts found with a sample of the Latino community in Texas, the female members (often the mother in the family) made most of the health care decisions (1996). This family health management by females has been documented and the sex differences reported in our study are also consistent with prior research (Aguirre, Ebrahim & Shea, 2005).

Also of importance, participants who chose to take the survey in Spanish likewise preferred health information to be in the same language. These are two important considerations when planning health messages for Latino immigrants. The language in which information is presented makes a difference in perceived accessibility by community members. The information should not only be geared toward the person dealing with health issues but to their mothers, sisters and other females who may be doing the search.

The major sources of health information identified included Medical sources (hospital, clinic, doctor, and patient literature), other People (friends, family, community center, church) and Self-Help (natural medicine, prayer, folk healers, and tea) strategies. Some demographic characteristics were found to be related to health information sources and information seeking behaviors. Younger participants, recent immigrants, women, participants with lower education levels and lower acculturation to American culture were more likely to use other People and Self-Help strategies as sources of information. Specifically Medical sources of information were cited as the overall number one source of information and were rated as trustworthy by 9 out of 10 participants. Three quarters reported finding sufficient information and 8 out of 10 also reported ease in finding the information. However, it is important to note that 1 in 10 did not find their top source of information trustworthy, 2 of 10 reported difficulty accessing the information and 1 in 4 found the information insufficient. These findings demonstrate unmet needs which may present opportunities for action by health education professionals, librarians and community outreach programs.

Nearly 4 out of 10 of participants reported encountering barriers. It is important to incorporate strategies that address the

Table 5.

Functional Health Literacy Levels in Spanish

FHL Level		n	%
Inadequate Functional Health Literacy		41	21.9
Marginal Functional Health Literacy		23	12.3
Adequate FHL		123	65.8
	Total	187	100.0

Note: Missing data excluded

presence of such barriers. Specifically, professionals should adopt strategies to include community members in limiting the impact of such barriers. Increasing skills in breaking down barriers such as cost, insurance or childcare concerns is imperative. The prevalence of barriers is reflected in both national and local research findings (du Pre, 2005; Flores, Castro, & Fernandez-Esquer, 1995; Morales, Cunningham, Brown, Liu, & Hays, 1999; Rojas-Guyler et al., 2008; Sarver & Baker, 2000; Sleath, Rubin, Campbell, Gwyther, & Clark, 2001). Locally, this study had findings that were similar to the findings of the Greater Cincinnati Hispanic/Latino Health Survey (GCHLHS) (2005).

Limited English language proficiency, the most reported barrier was also shown to be associated with likelihood of experiencing barriers to accessing, understanding and utilizing health information. The use of interpreters is a communication tool, however, the focus group participants mentioned that interpretation involves 'yet another stranger knowing' about their health concerns plus there was 'doubt that the message they were trying to convey was what was actually being said.' Adeyanju (2008) stressed the importance of developing listening and speaking skills for all those involved in health care delivery services. Unfortunately, the participants in the focus groups shared that there was a lack of health care providers that could adequately meet that need, which is what other studies have shown as well (Betancourt et al., 2004; Morales et al., 1999; Rojas-Guyler, Wagner, & Chockalingam, 2006). More recent studies continue to show this disconnect and its impact. For example, Valenzuela and colleagues identified that "barriers associated with the processes of quality care (contextual care, communication) were more likely for Hispanic youth and those whose parents had less education" among adolescents with type I diabetes (Valenzuela, et al., 2014). It is imperative that health educators be successful when working with clients whose health knowledge, beliefs, practices, and attitudes may be unique. Among community service providers, increased awareness of relevant socioeconomic, educational and cultural factors and their potential influence of such factors on reach and applicability would increase the impact of health programs. Culturally appropriate health education programs, relevant to specific situations are key to influencing knowledge, attitudes, and behaviors; specifically health information seeking behaviors.

As Adeyanju stated, communication skills demonstrate if a health educator respects and values cultural diversity (2008). In the *National Women's Health Report* (2009), Flowers explained that one needs to find a health care professional that is trusted. This may be perceived as someone of the same culture, race/ethnicity, or who speaks the same language. All factors that increase likelihood of return for follow up care (Flowers, 2009). With this in mind, the next barrier to consider is fear which is often seen among vulnerable populations. In this study 6% of respondents reported fear as a barrier. Among Latino immigrants fear of being maltreated, ignored, refused service, or being taken advantage of are very real. Moreover, if documentation issues exist, legal repercussions add another limiting barrier to an already vulnerable population. Among the key components necessary for good health communication to occur are both adequate and readily available information that is easy to understand and from a trusted source. Trust must be established in order to transcend racial, age, sex and economic differences (Vaughn, 2008) and for effective health communication to take place.

Among participants more comfortable with Spanish 6 out of 10 had Adequate FHL but the remainder 4 did not. Among those more comfortable in English the vast majority (9 out of 10) had Adequate FHL. Another finding that must be considered in the development of programs in addition to the prevalence of lower health literacy is how it interacts with information seeking behaviors and preferences. Specifically in this sample, respondents with lower FHL were the least likely to seek health information from Media sources (Internet, television, and magazines). The implications of this finding are impactful, particularly in a current world full of information laden Media. Many organizations and efforts to provide or make health information available to communities have taken the online, electronic, Media format as the main strategy for information delivery. The results of this study should be interpreted with caution and while considering the limitations inherent in convenience sampling and self-reported data.

Conclusions

Consideration of demographic characteristics for recent Latino immigrant communities relocating across the country to areas not traditionally accustomed to this population is essential. Utilizing existing information or strategies to disseminate health information is unlikely to address their health information needs. Health promotion and education professionals should consider the following when working with young, recent immigrant Latino communities: 1) Health messages and health information should be designed in both English and Spanish; 2) offered in written/printed format so that they are easy to distribute to family and friends; 3) the readability and comprehension levels should be appropriate for readers/users who have Inadequate or Moderate FHL levels; 4) messages should be tested for cultural relevance and appropriateness; and, 5) be made readily available in physical locations and not only via Media channels. Health needs assessments should include measures of literacy, FHL and acculturation or at least English proficiency. Lastly, establishing trust in communities through social service agencies, lay health workers, community programs, and peer referrals could help eliminate some of the barriers reported in accessing necessary health information. As the demographics continue to shift and new emerging Latino communities grow, health professionals must continue to address health disparities and utilize strategies that address individual community needs.

References

Adeyanju, M. (2008). Communication and Cultural Competence. In M. A. Pérez, & R. R. Luquis (Eds.), *Cultural competence in health education and health promotion* (1st ed.) (pp.147-162). San Francisco, CA : Jossey-Bass.

Agency for Healthcare Research and Quality (AHRQ). (2004). *Literacy and health outcomes,* structured abstract. Publication No.04-E007-2). Rockville, MD: Retrieved from http://www.ahrq.gov/clinic/tp/littp.htmAguirre, A.C.,

Ebrahim, N., Shea, J.A.(2005). Performance of the English and Spanish S-TOFHLA among publicly insured Medicaid and Medicare patients. *Patient and Education Counseling, 56,* 332-339.

Andreasen, A. R. (2006). *Social marketing in the 21st century.* Thousand Oaks, Calif. : SAGE Publications.

Baker, D. W., Parker, R. M., Williams, M. V., Clark, W. S., & Nurss, J. (1997). The relationship of patient reading ability to self-reported health and use of health services. *American Journal of Public Health, 87*(6), 1027-1030.

Betancourt, J. R., Carrillo, J. E., Green, A. R., & Maina, A. (2004). Barriers to health promotion and disease prevention in the Latino population. *Clinical Cornerstone, 6*(3), 16-26; discussion 27-9.

Britigan, D., Murnan, J., & Rojas-Guyler, L. (2009). A qualitative study examining Latino functional health literacy levels and sources of health information. *Journal of Community Health, 34*(3). 222-230.

Jacoby, T., Culver, C., Daley, R. M., Loughrey, J., Meissner, D., Muñana, C., Rounds, M., Rowe, J., Scott III, S. C., Segal, C. *US Economic Competitiveness At Risk: A Midwest Call to Action on Immigration Reform*. The Chicago Council of Global Affairs. Available at http://www.thechicagocouncil.org/UserFiles/File/Task%20Force%20Reports/2013_ImmigrationTaskForce_Final.pdf. Accessed March 2013.

du Pre, A. (2005). *Communicating about health: Current issues and perspectives* (2nd ed.). New York, NY: McGraw Hill.

Finnegan, J. R., & Viswanath, K. (2002). Communication theory and health behavior change. In K. Glanz, B. K. Rimer & F. M. Lewis (Eds.), Health behavior and health education (3rd ed., pp. 361-388). San Francisco, CA: Jossey-Bass.

Flores, E. T., Castro, F. G., & Fernandez-Esquer, M. E. (1995). Social theory, social action, and intervention research: Implications for cancer prevention among Latinos. *Journal of the National Cancer Institute*. Monographs, (18), 101-108.

Flowers, J.W.(2009). *Ask the Expert*. National Women's Health Report, *31*(2).(p.7)

Health Foundation of Greater Cincinnati. (2006). *2005 greater Cincinnati Hispanic/Latino health survey*. Cincinnati, OH: Author.

Hudson, J. C., & Watts, E. (1996). Hispanic preferences for health care providers and health care information. *Health Marketing Quarterly*, *14*(1), 67-83.

Institute of Medicine. (2004). In Nielsen-Bohlman, L. , Panzer, A. , Kindig, D., (Eds.) *Health literacy: A prescription to end confusion.* Committee on Health Literacy. Washington, D.C.: National Academies Press.

Luquis, R. R. & Pérez, M. A. (2008). Cultural competence and health education: Challenges and opportunities for the twenty-first century. In M. A. Pérez, & R. R. Luquis (Eds.), *Cultural competence in health education and health promotion* (1st ed.). San Francisco, CA : Jossey-Bass.

MacQueen, K.M,, McLellan, E, Kay, K,, Milstein B. (1999). Codebook development for team-based qualitative analysis. *Cultural Anthropology Methods,10*, 31–36.

Marín, G., & Gamba, R. J. (1996). A new measurement of acculturation for Hispanics: The bi-dimensional acculturation scale for Hispanics. *Hispanic Journal of Behavioral Sciences, 18*(3), 297-316.

Morales, L. S., Cunningham, W. E., Brown, J. A., Liu, H., & Hays, R. D. (1999). Are Latinos less satisfied with communication by health care providers? *Journal of General Internal Medicine, 14*, 409-417.

Ohio Development Services Agency. (n.d). *Ohio Hispanic Americans.* Available at https://development.ohio.gov/files/research/P7002.pdf. Accessed on March 14 2014.

Office of Minority Health, DHHS. (last modified 10/28/2008). Hispanic/Latino profile. Rockville, MD: Office of Minority Health, Department of Health and Human Services.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Parker, R M; Baker, D W; Williams, M V., Nurss, J. (1995). The test of functional health literacy in adults: a new instrument for measuring patients' literacy skills. *Journal of General Internal Medicine, 10*, 537-545.

Rojas-Guyler, L., Wagner, D. I., & Chockalingam, S. R. (2006). Latino cultural competence among health educators: Professional preparation implications. *American Journal of Health Studies, 21*(1), 99-106.

Rojas-Guyler, L., King, K. A., & Montieth, B. A. (2008). Health-seeking behaviors among Latinas: Practices and reported difficulties in obtaining health services. *American Journal of Health Education, 39*(1), 25-33.

Sarver, J., & Baker, D. W. (2000). Effect of language barriers on follow-up appointments after an emergency department visit. JGIM: *Journal of General Internal Medicine, 15*(4), 256-264.

Sleath, B., Rubin, R. H., Campbell, W., Gwyther, L., & Clark, T. (2001). Physician-patient communication about over-the-counter medications. *Social Science and Medicine, 53*, 357-369.

Sparks, L., Nussbaum, J.F. (2008). Health literacy and cancer communication with older adults. *Patient Education and Counseling, 71*, 345-350.

Treviño, R. P. (2005). Social capital and health: Implications for working with minority and underserved populations. *The Health Education Monograph 22*(1), 13-18. Retrieved January 2009, from Google http://www.sahrc.org/JournalArticles/ SocialCapitalAndHealth.pdf

U.S. Bureau of the Census. (2013). *Asians Fastest-Growing Race or Ethnic Group in 2012, Census Bureau Reports.* Available at https://www.census.gov/newsroom/ releases/archives/population/cb13-112.html. Accessed March 13, 2013.

Valenzuela, J.M., Seid, M., Waitzfelder, B., Anderson, A.M., Beavers, D.P., Dabelea, D.M., Dolan, L.M., Imperatore, G., et al. Prevalence of and Disparities in Barriers to Care Experienced by Youth with Type 1 Diabetes. *The Journal of Pediatrics*, February 2014.

Vaughn, E. J. (2008). Cultural Competence in Health Education. In M. A. Pérez, & R. R. Luquis (Eds.), *Cultural competence in health education and health promotion* (1st ed.) (pp.147-162). San Francisco, CA: Jossey -Bass.

Williams, M. V., Baker, D. W., Parker, R. M., & Nurss, J. R. (1998). Relationship of functional health literacy to patients' knowledge of their chronic disease. A study of patients with hypertension and diabetes. *Archives of Internal Medicine, 158*(2), 166-172.