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Health Status and Access to Health Care of Documented and Undocumented Immigrant Latino Women

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Immigrant Latino women represent about one fifth of the total Latino population; however, data on health status and access to care for this population is limited. Using secondary data, we used a cross-sectional study to examine sociodemographic, migration, health status, and access to health care characteristics of immigrant documented and undocumented Latino women in North Texas. Undocumented women were less likely to report having health insurance and a regular health care provider, and reported lower education and income. These results support the need for providing immigrant women with health services such as health fairs, affordable health insurance programs, community health services, and increased opportunities for participation in federal and state programs.

An individual's health is not determined only by biology but also by cultural and social factors, including ethnicity, language, income, social inclusion/exclusion, housing, employment status, work conditions, and education. Sociodemographic characteristics are important predictors of an individual's health and influence both access to care and utilization of services. These characteristics are critical in the prevention and treatment of disease and poor health and in the delivery of health services that impact health outcomes (Gelberg, Andersen, & Leake, 2000; Office of Behavioral and Social Sciences Research, 2001; Public Health Agency of Canada, 2005). The main indicators

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of potential access to health care and health status are the characteristics of the population at risk, the characteristics of the health care system, and the characteristics of the environment (Aday, 1989). Federal health agencies recognize that adequate access to health care services can improve health outcomes (United States Department of Health and Human Services, 2000). The structure of the U.S. health care system, as well as the social, political, and physical environment have important implications for vulnerable populations. Minorities, immigrants, people with low income, and women constitute vulnerable populations; therefore they are in danger of experiencing "poor physical, psychological, or social health" (Aday, 2001, p. 53; Shi, 2001). Immigrant status, for example, has shown to decrease access to health care (Commonwealth Fund News Release, 2001), which puts an individual in a situation of vulnerability, which may be further exacerbated by language barriers and legal issues such as being undocumented.

Gender is also a significant determinant of health. While some differences in health outcome between men and women are due to biological factors, such as cervical and prostate cancers, others are more complex. The literature shows that gender influences health status, social roles, culturally patterned behavior, and access to health care. Additionally, gender has a strong indirect influence on many determinants of health (Public Health Agency of Canada, 2005). At the macro level, for example, allocation of resources for health care is influenced by gender-related cultural assumptions, and also by the representation of women in the decision-making process (Lane & Cibula, as cited in Albrecht, Fitzpatrick, & Scrimshaw, 2000). It is important, therefore, to assess the sociodemographic characteristics and health-related needs of vulnerable population groups, specifically immigrant women, to understand the challenges they face in obtaining the necessary services for maintaining and improving their health and quality of life.

Some Latinos living in the United States present sociodemographic characteristics that make them particularly vulnerable to social and health problems, an issue that must be addressed aggressively given the staggering growth of this population group. The Latino population continues to grow at a much faster rate than the population as a whole; not only because of high natality, but also due to immigration as 44% of Latinos, or 17.8 million, were foreign-born in 2003 (United States Census Bureau, 2004). According to the most recent census data, the Latino population has become the largest minority group in the United States, growing from 22.3 million (9% of the total population) in 1990 to 39.9 million (13.6%) in 2003 (Bernstein, 2004; United States Bureau of the Census, 1990). Latino women compose 48.9% of the total Latino population (Ramirez & de la Cruz, 2002) and account for 12.6% of the total U.S. female population, which constitutes a significant proportion of the total U.S. population (United States Census Bureau, 2003).

Migration status is a factor that contributes to the vulnerability of some Latino immigrants, especially the undocumented. It has been estimated that

57% of the 10 million undocumented immigrants in the United States are from Mexico (Passel, Capps, & Fix, 2004). The consequence of this is legal difficulties, due to lack of documentation, which may make it more difficult for immigrants to find jobs and achieve economic stability. Many Latino immigrants confront language barriers to social integration and access to health care. The 2000 U.S. Census found that more than 13.7 million Latinos speak English "less than very well," and more than 28.1 million Americans speak Spanish at home (United States Census Bureau, 2000).

Poverty also affects some Latino immigrants. More than 22% of Latinos were poor in 2002, in comparison to 8.2% of non-Hispanic Whites (DeNavas-Walt, Proctor, & Mills, 2004). The U.S. Census Bureau classifies the poor by money income thresholds, which vary by family structure and size (United States Department of Health and Human Services, 2004). Individuals are considered poor if the family's household income is less than their threshold (United States Department of Health and Human Services, 2004). Individuals who are poor do not have as many opportunities of reaching economic stability, which may make them susceptible to crime and disease and a lack of education, employment, health care, and other basic needs (Snel, 2004). A higher income permits increased access to health care and medical care, enables people to afford better housing and to live in safer neighborhoods, and facilitates healthy behaviors. A higher income level has shown to be a strong predictor of access to quality health care. On the other hand, it has been shown that the U.S. population groups with the worst health status also are generally those that present the highest poverty rates and the least education (United States Department of Health and Human Services, 2000).

As already described, U.S. Latino immigrants must adapt to a new culture and a new society, overcome the language barrier, find a rewarding job, and achieve economic stability, all of which make them particularly vulnerable to experiencing "poor physical, psychological, or social health" (Aday, 2001, p. 53; Shi, 2001). Additionally, they must confront a highly restrictive health care system with structural inequalities that also may contribute to vulnerability among the immigrant population (The Commonwealth Fund News Release, 2001). According to Randall (2004), institutional racism within the health care system manifests itself in the access to and quality of health care that the patients obtain. This can occur through providers, hospitals, racial disparities in medical treatment, lack of health insurance, and language and cultural beliefs. As stated by Aday (2001), the two main organizational barriers that affect immigrants are access to and culturally appropriate (language and practices/beliefs) health care. In addition, required proof of residency status at the health care facility can deter undocumented immigrants from seeking health care due to fear of deportation (Aday, 2001). For immigrants, there often is a lack of bilingual assistance when attempting to seek health care, which impedes proper communication, possibly resulting in misdiagnoses. Providers' unfamiliarity with immigrants' beliefs and practices that are unique

to their culture may discourage individuals from seeking care or from following the prescribed treatment.

Lack of health insurance coverage is another factor that leads to vulnerability due to restrictions on health services for prevention, treatment, and management of certain conditions (The National Women's Health Information Center, 2003a). Health insurance coverage, as classified by the U.S. Census Bureau, includes persons with insurance through their employers, insurance purchased themselves, and government insurance such as Medicaid, Medicare, military insurance, or state insurance (DeNavas-Walt et al., 2004). Individuals that are not covered by one of these entities are considered "uninsured" (DeNavas-Walt et al., 2004). According to Stoll (2005), roughly 48 million Americans lacked health care coverage in 2005; and by 2010, 53 million Americans will lack health insurance coverage. In the United States between 40% and 50% of non-U.S. citizens are uninsured (Henry J. Kaiser Family Foundation, 2005). Latinos constitute 32.4% of the 45 million uninsured in the United States (DeNavas-Walt et al., 2004). Individuals who lack health insurance coverage may not receive medical care in a timely manner, receive worse care for minor conditions, and have a higher mortality rate (Regency BlueCross BlueShield, 2005). In the United States, income and education have been associated with the occurrence of illness and death, including heart disease, diabetes, obesity, elevated blood lead level, and low birth weight (United States Department of Health and Human Services, 2000). In regards to Latino women, the National Women's Health Information Center (2003a) found in 2003 that, even when employed, more Latino women are uninsured than women from any other racial/ethnic group. Lack of health insurance and restricted access to care may be taking a toll on immigrant Latino women by restricting health services for prevention, treatment, and management of certain conditions (National Women's Health Information Center, 2003a).

While most studies on immigrants and health access have focused on Latinos, the literature lacks information on both access and utilization among undocumented immigrants and other groups. Studies have found overall better self-reported health status and lower rates of disease among foreign-born persons (Chen, Wilkins, & Ng, 1996; Frisbie, Cho, & Hummer, 2001; Hendershot, 1988; Lucas, Barr-Anderson, & Kington, 2003; Muennig & Fahs, 2002). Access to health care and utilization, however, are both compromised by being foreign-born. These findings have been consistent across different groups, including Asians, Blacks, Latinos, and people from other nationalities (Carrasquillo, Carrasquillo, & Shea, 2000; Muennig & Fahs, 2002; Yu, Huang, & Singh, 2004).

Health-related data, including data on access to care, health status, and health needs on this group are limited. Published studies usually do not examine variables such as economic status, social factors, and political and environmental issues (Adams, 1995; Allen & Phillips, 1997). In addition, the literature lacks studies that focus on the health status, health needs, and access

and barriers to care of immigrant Latino women, specifically undocumented immigrant women. Despite the fact that immigrant women contribute an important proportion (53.7%) of the labor force, immigrant women experience lower levels of education, income, and employment, which are barriers for accessing health care (Grieco, 2002). United States born and foreign-born Latino women's sociodemographic and health characteristics must be defined because this information is essential for planning and implementing community-based programs and addressing their health-related needs.

PROFILE OF LATINO WOMEN IN THE UNITED STATES

Sociodemographic Characteristics

Compared with non-Hispanic White women, more Latino women are under the age of 19 in the United States (18.5% versus 12.4%; Ramirez & de la Cruz, 2002). Compared with non-Hispanic White families, the poverty rate for Latino families is higher. In addition, Latino women have a lower representation in the work force and earn less than non-Hispanic White or Black women (Adams, 1995; Allen & Phillips, 1997). According to Altman and Taylor (2001), the educational level of Latino women is lower than any other racial/ethnic group, which contributes to the lack of access to health care and services.

Perceived Health Status

Latino women are less likely to perceive their health status as excellent or very good. In 1996, the Household Component (HC) of the Medical Expenditure Panel Survey (MEPS), indicated that among civilian noninstitutionalized women 18 years old and over in the United States, fewer than half (48.6%) of Latino women perceived their health as excellent or very good in comparison with 50.7% of Black and 62.7% of White women (Altman & Taylor, 2001). Altman and Taylor (2001) found that almost 20% of Latino women perceived their health as fair or poor in comparison with 13.4% of White women. With similar results, the 2001 Kaiser Women's Health Survey concluded that more Latino women (29%) reported fair or poor health compared with Black (20%) and White women (13%; Salganicoff, Wyn, Ojeda, & Ranji, 2004).

Health Insurance Coverage

Among the employed, more Latino women (30%) were uninsured than women from any other racial/ethnic group in 2003. Only 26% of Latino women had private health insurance and 34% had public insurance (Medicaid or Medicare; National Women's Health Information Center, 2003b). According to the 2001 Kaiser Women's Health Survey, Latinas were at high risk of being uninsured; nearly 37% of all Latinas between the ages of 18 to 64 were uninsured (Salganicoff et al., 2004). Latinas between the ages of 18 and 29,

foreign-born, who lived in the South or West, were most likely to lack health insurance coverage (Salganicoff, Beckerman, Wyn, & Ojeda, 2002).

Diseases and Conditions

The diseases and conditions that affect Latino women include obesity, diabetes, high cholesterol, heart disease, stroke, HIV/AIDS, depression, and cancer (breast, cervical, and lung). Alcoholism and illicit drug use also are known risk factors among Latino women. Additionally, more than one half (52%) of Mexican American women are overweight, have borderline high cholesterol levels, and have an increased prevalence of diabetes (17%) compared with White women (9%; Salganicoff et al., 2004; National Women's Health Information Center, 2003b). Latinas have a risk of stroke that is 1.3 times higher than non-Hispanic Whites, and they have HIV/AIDS rates seven times higher than non-Hispanic White women (National Women's Health Information Center, 2003b).

PURPOSE

The purpose of this study was to explore the sociodemographic and health-related characteristics of immigrant Latino women, including migration status, perceived health status, health problems, and access to care. The characteristics of documented and undocumented women were examined in order to determine differences between the two groups. It was hypothesized that undocumented women would report lower income and education levels and would be less likely to have insurance coverage and regular source of care.

The study was conducted in Fort Worth, Texas, a geographic area experiencing a rapid growth of Latino immigrants, particularly from Mexico. In Fort Worth approximately 30% of the population is of Latino origin and 16.3% were foreign-born in 2000 (United States Census Bureau, 2005). Texas is one of eight states that experienced the largest increase in immigrant populations between 2000 and 2004 (Camarota, 2004). A recent state-level study found that in 2000, 13.9% of the total population was foreign-born and that 32.0% of those was of Latin origin (United States Census Bureau, 2005). It has been estimated that Texas has 1.1 million undocumented immigrants, or 13% of all U.S. undocumented immigrants (Passel et al., 2004). Despite its economic power and development, in 2005 Texas was the state with the second highest percentage (21.4% or 4.8 million) of uninsured residents in the country (Stoll, 2005).

METHODS

This article is based on secondary data of a cross-sectional study of 325 Latino adults, both male and female, born in a Spanish-speaking country,

in Fort Worth, Texas. This study was conducted by the University of North Texas Health Science Center–School of Public Health. The University of North Texas Health Science Center’s Institutional Review Board (IRB) approved the original study protocol and the use of secondary data for this study. For the current study only immigrant Latino females (197) were included, of which, 185 (94%) responded to the interview in Spanish.

Data Collection

A nonrandom purposeful sample of adults 18 years of age or older, both men and women, who identified themselves as born in Spanish-speaking countries were invited to participate in the original study. The data collection was completed over a 4-month period, from February to April 2002 and October 2002. In order to include a representative group of immigrants, participants were recruited using fliers at various locations throughout the city of Fort Worth, including the health department, flea markets, shopping centers, Catholic and Baptist churches, and laundromats. Recruiters informed prospective participants about the objectives, the qualifying criteria, and the voluntary nature of the study. Those who agreed to participate were enrolled in the study and after completing an informed consent form were administered a questionnaire through a face-to-face interview. No incentives were given to the participants; however, information about local health clinics was made available at all locations. In order to ensure confidentiality, no names or identifiers were included in the interview.

The questionnaire consisted of 29 structured questions in English and Spanish and assessed the participant’s demographic characteristics, migration status, reasons for migration, length of time in the United States, health status, health problems or conditions, and access to care. The instrument was adapted from several existing surveys, including National Health Interview Survey; Medical Expenditure Panel Survey; Consumer Assessment of Health Plans Study; Community Tracking/Household Survey; Getting Behind the Numbers, National Survey of America’s Families; and the Survey of Family Health Experiences (Aday, 1996; Eden, 1998). The participants were given the option of answering the survey questions in the language of their choice; however, most participants responded to the interview in Spanish.

Definition of Variables and Indicators

Asking the participants to indicate the number of years of schooling completed assessed educational attainment. The responses then were categorized into new groupings: 0–6 years; 7–9 years; 10–12 years; and 13+ years. To assess income the participants were asked to give the dollar amount of their monthly household income. The responses then were categorized into groups that ranged from \$0–500 to \$3000+ dollars per month. The respondents’ main

reason for moving to the United States was assessed with an open-ended question. The categories "work/economics," "family," "education," or to "attain a better life" were determined according to the participant's actual responses. The literal responses in Spanish "para mejorar mi vida," "para alcanzar una vida mejor," "para conseguir una mejor vida," express the concept of "improve own life," "reach a better life," "achieve a better life," "improve own future," etc. These were compiled under the label "to attain a better life." To assess the immigration status of the participants, the following categories were presented: "U.S. citizen," "permanent resident," "work permit," "student visa," or "other." This last category was used as a proxy for "undocumented status," and the rest were used for categorizing respondents as "documented status."

Data Analysis

Data were entered using SPSS v. 11.5. Visual checks were conducted to correct errors. Frequency distributions were carried out to correct errors that were not detected during the visual checks. For the study reported here, data analyses included descriptive statistics (frequencies) and cross tabulations. In order to assess differences between documented and undocumented respondents, odds ratio (OR) and the 95% confidence interval (CI) were calculated. The significance level was determined by Pearson chi square (with a significance level <0.05).

RESULTS

Sociodemographic Characteristics

One hundred and ninety-seven (197) immigrant women, both documented and undocumented, were included in the analysis. The sociodemographic characteristics of respondents are included in Table 1. The majority of respondents, 191 (96.9%), reported Mexico as their country of origin. Regarding immigration status, a considerable proportion of respondents (41.0%) indicated "other" as their residency status; moreover, nearly all respondents in this category voluntarily indicated that they were undocumented. There were a total of 115 (59.0%) documented and 80 (41.0%) undocumented women, with two responses missing. Most participants, 122 (80.3%), did not speak English. More documented women (31.4%) spoke English compared with undocumented women (4.5%).

Most participants were young adults with a mean age of 33.7 years. Overall, the age ranged from 18 to 73 years old; however, the undocumented respondents were younger. Significant group differences were found in the respondents' age. The majority (66.1%) of documented respondents were between 18 and 39 years of age; in contrast, 55.0% of the undocumented were between the ages of 18 and 29. Slightly more than two thirds (69.6%) of

TABLE 1. Sociodemographic Characteristics

	Documented women <i>N</i> (%)	Undocumented women <i>N</i> (%)	Total women <i>N</i> (%)	χ^2	<i>p</i>
Language spoken (English)					
Yes	27 (31.4)	3 (4.5)	30 (19.7)	16.994	<0.001
No	59 (68.6)	63 (95.5)	122 (80.3)		
Age				17.735	0.001
18–29 years	37 (32.2)	44 (55.0)	81 (41.5)		
30–39 years	39 (33.9)	27 (33.8)	66 (33.8)		
40–49 years	24 (20.9)	4 (5.0)	28 (14.4)		
50–59 years	11 (9.6)	2 (2.5)	13 (6.7)		
≥60 years	4 (3.5)	3 (3.8)	7 (3.6)		
Mean age (years)	35.69	30.34	33.66		
Marital status				0.016	0.745
Married	79 (68.7)	56 (70.9)	135 (69.6)		
Not married	36 (31.3)	23 (29.1)	59 (30.4)		
Educational attainment				2.926	0.403
0–6 years	42 (36.5)	37 (46.8)	79 (40.7)		
7–9 years	32 (27.8)	22 (27.8)	54 (27.8)		
10–12 years	29 (25.2)	15 (19.0)	44 (22.7)		
≥13 years	12 (10.4)	5 (6.3)	17 (8.8)		
Unemployment	3 (2.6)	2 (2.5)	5 (2.6)	17.544	0.130
Income				8.311	0.306
\$0–500	20 (18.2)	18 (24.3)	38 (20.7)		
\$501–1000	29 (26.4)	27 (36.5)	56 (30.4)		
\$1001–1500	34 (30.9)	15 (20.3)	49 (26.6)		
\$1501–2000	12 (10.9)	8 (10.8)	20 (10.9)		
\$2001–2500	4 (3.6)	0 (0.0)	4 (2.2)		
\$2501–3000	1 (0.9)	1 (1.4)	2 (1.1)		
>\$3000	2 (1.8)	0 (0.0)	2 (1.1)		
Unknown	8 (7.3)	5 (6.8)	13 (7.1)		

all participants were married. No significant difference was found regarding marital status, with 68.7% of documented and 70.9% of undocumented women being married.

The number of Latino immigrant women with 12 years of education was much lower compared with all immigrants from Spanish-speaking countries. Among the documented women, 16.5% had completed 12 years of education, as compared with 12.7% of undocumented women. A higher percentage of documented women had 13 or more years of education than undocumented (10.4% and 6.3%, respectively).

The main objective of this study was to assess differences between documented and undocumented women's income, employment status, years in the United States, health status, and access to health care. As shown in Table 1, few respondents (2.6%) reported being unemployed ($\chi^2 = 17.544$, $p = 0.130$). Overall, the reported average monthly household income was \$958.51 (\$11,502 annually); the monthly household income ranged from less

than \$500 to more than \$3000 per month. Thirteen participants stated they were unsure of their monthly household income and 11 participants did not respond to this question. Most women reported household incomes of \$2001 or less, and no significant differences were found between the two groups. Most women that reported incomes over \$2000 per month, however, were documented (6.3%) compared with 1.4% of undocumented. When educational attainment, health insurance coverage, and source of health care were assessed, as the years of education increased from 0–6 years (28.8%) to 13 or more years (47.1%), insurance coverage increased as well ($\chi^2 = 6.575$, $p = 0.087$). The exception was for women who had 7–9 years of education (18.2%), who were the least likely to have health insurance coverage. Overall, regardless of years of education, however, most women did not have any form of health insurance coverage. These results were similar for documented and undocumented women (data not shown).

Table 2 shows the participant's residency status, length of time in the United States, and reason for moving to the United States. More than one half (59.0%) of the respondents were documented. Among these, most reported U.S. citizenship or permanent residency, while a smaller number reported either a work (8.2%) or student visa (9.2%). When length of time in the United States was assessed, there was a significant difference in the reported length of stay in the United States between the documented and undocumented women. Twice as many undocumented women (43.0%) had been in the United States 4 years or less compared with documented women (22.6%), while more than 10 times as many documented women (39.1%) had been in the United States for 15 or more years compared with undocumented women (3.8%; $\chi^2 = 39.705$, $p < 0.001$).

More than three fourths of respondents reported moving to the United States for reasons related to work/economics or for family, 38.9% and 37.3%,

TABLE 2. Residency Status, Length of Time in the United States, and Reason for Moving to the United States

	Documented women N (%)	Undocumented women N (%)	Total women N (%)	χ^2	p
Length of time in the U.S.				39.705	<0.001
0–4 years	26 (22.6)	34 (43.0)	60 (30.9)		
5–9 years	20 (17.4)	31 (39.2)	51 (26.3)		
10–14 years	24 (20.9)	11 (13.9)	35 (18.0)		
≥15 years	45 (39.1)	3 (3.8)	48 (24.7)		
Reason moved to the U.S.				10.267	0.036
Work/economics	36 (31.9)	39 (48.8)	75 (38.9)		
Family	50 (44.2)	22 (27.5)	72 (37.3)		
Education	2 (1.8)	0 (0.0)	2 (1.0)		
Better life	24 (21.2)	16 (20.0)	40 (20.7)		
Other	1 (0.9)	3 (3.8)	4 (2.1)		

respectively. There was a significant difference between documented and undocumented women and the reported reasons they moved to the United States. More documented women (44.2%) moved to the United States because of family compared with 27.5% of the undocumented. In contrast, more undocumented women (48.8%) moved to the United States for work or economic reasons compared with documented women (31.9%; $\chi^2 = 10.267$, $p = 0.036$).

Perceived health status, access to care, and diseases and conditions are shown in Table 3. The majority of the participants (89.2%) described their health as either good or fair, 45.4% and 43.8%, respectively; while only 8.2% perceived their health status as excellent, and 2.6% thought their health was poor. No differences were found in the proportion of documented and undocumented women who reported good or fair health. Three times as many documented women reported excellent health, however, and none reported poor health; in contrast, 6.3% of undocumented women reported poor health ($\chi^2 = 10.726$, $p = 0.013$).

More than two thirds (71.6%) of all respondents reported not having any form of health insurance coverage. Significant differences by migration

TABLE 3. Perceived Health Status, Access to Care, and Diseases and Conditions

	Documented women <i>N</i> (%)	Undocumented women <i>N</i> (%)	Total women <i>N</i> (%)	χ^2	<i>p</i>	
Perceived health status				10.726	0.013	
Excellent	13 (11.4)	3 (3.8)	16 (8.2)			
Good	53 (46.5)	35 (43.8)	88 (45.4)			
Fair	48 (42.1)	37 (46.3)	85 (43.8)			
Poor	0 (0.0)	5 (6.3)	5 (2.6)			
Type of health insurance				4.246	0.515	
Private insurance	14 (29.2)	3 (30.0)	17 (29.3)			
Private insurance from other source	13 (27.1)	3 (30.0)	16 (27.6)			
Medicare	4 (8.3)	2 (20.0)	6 (10.3)			
Medicaid	5 (10.4)	2 (20.0)	7 (12.1)			
County hospital health plan	9 (18.8)	0 (0.0)	9 (15.5)			
Some other public assistance	3 (6.3)	0 (0.0)	3 (5.2)			
Usual source of care				10.510	0.001	
Yes	64 (56.6)	26 (32.9)	90 (46.9)			
No	49 (43.4)	53 (67.1)	102 (53.1)			
Diseases or conditions				OR	95%	CI
Vision problems	28 (24.3)	21 (26.3)	49 (25.1)	0.90	0.47	1.74
Backache	25 (21.7)	19 (23.8)	44 (22.6)	0.89	0.45	1.76
Dental problems	18 (15.7)	23 (28.8)	41 (21.0)	0.46	0.23	0.92
Flu/cold	23 (20.0)	17 (21.3)	40 (20.5)	0.93	0.46	1.87
Allergies	14 (12.3)	10 (12.5)	24 (12.4)	0.98	0.41	2.33
High blood pressure	12 (10.4)	7 (8.8)	19 (9.7)	1.22	0.46	3.24
Other	11 (9.6)	4 (5.2)	15 (7.9)	1.95	0.60	6.36

OR = odds ratio; 95% CI = confidence interval.

*At least one cell contained a zero value.

status were found in respondents' insurance status, as nearly all of the undocumented women (91.1%) lacked any form of health insurance compared with 58.3% of documented women. Documented women were 7.4 times more likely to have health insurance than undocumented women ($\chi^2 = 24.921$, $p < 0.001$).

About one half of all respondents (46.9%) reported having a regular source of care. Significant differences were found between documented and undocumented women regarding having a regular source of care. Almost twice as many documented women as undocumented reported having a regular source of care, 56.6% and 32.9%, respectively ($\chi^2 = 10.510$, $p = 0.001$).

Overall, self-reported diseases and conditions that were most reported were vision problems, backaches, dental problems, flu/cold, allergies, and high blood pressure (Table 3). No significant differences were found in the type of health problems reported by the two groups. Among the documented women, the highest complaint was vision problems, followed by backache, flu/cold, and dental problems. Twice as many undocumented women reported dental problems; this being the number one problem, followed by vision problems, backache, and flu/cold. The majority of the documented and undocumented participants were not currently taking medications, either prescribed by their doctor or over the counter. More undocumented women reported not taking any medication for their health problems.

DISCUSSION

Of the 197 female participants in this study, the majority (75.3%) were under 40 years of age and over two thirds (69.6%) were married. This is consistent with the demographics of the general female Latino population in Texas (Behavioral Risk Factor Surveillance System [BRFSS], 2003), and it also is similar to the age distribution reported by similar studies conducted in Texas and California (Berk, Schur, Chavez, & Frankel, 2000). As we hypothesized, there were noticeable differences when documented and undocumented women were examined separately. The great majority (88.8%) of the undocumented respondents were under 40 years of age, compared with about two thirds (66.1%) of the documented. As shown in Table 1, the educational level and the average monthly household income were low among both the documented and undocumented women, as most (77.7%) reported household incomes of \$1,500 or less per month. These findings are also similar to earlier findings reported in the multisite study of undocumented immigrants by Berk and colleagues (2000).

The median income among immigrants in the United States is \$39,897, compared with \$51,179 for the native-born population (Grieco, 2002). In 2002, about one third (33.1%) of immigrants from the Caribbean earned less than \$20,000, and more than one half (53.8%) of immigrants from Asia earned \$50,000 or more per year. Overall, immigrants from Europe, Asia,

Central and South America, and other regions earned between \$20,000 and \$50,000 per year (Larsen, 2004). In contrast, the median income among immigrant women in our study was approximately \$12,000. The exceedingly low income reported by our study population may be due to the fact that the study included only women, over 40% of which were undocumented. Undocumented status is associated with an immigrant's inability to obtain jobs that pay a living wage. In addition, fear of arrest also precludes undocumented immigrants from seeking jobs (Clarke, 2005).

Respondents' level of education was low; 40.7% reported 6 or less years of education, and 22.7% reported 10 to 12 years of education. More documented women (25.2%) reported 10 to 12 years of education compared with undocumented women (19.0%). In the United States, immigrants 25 years of age and over (67.2%) are less likely to have a high school diploma, compared with the native-born population (87.5%). The rates of having a bachelor's degree or more is similar for immigrants and native-born women (27.3% and 27.2%, respectively; Larsen, 2004). Only 11.6% of immigrants from Latin America had at least a bachelor's degree, however, compared with half of all immigrants from Asia. Most immigrants born in Asia, Europe, and other regions have a high school diploma (87.4%, 84.9%, and 83.5%, respectively), followed by 79.3% among those born in South America. About two thirds of immigrants born in the Caribbean (68.6%), and slightly more than one third (37.7%) of those born in Central America, which includes Mexico, have a high school diploma (Larsen, 2004). In the current study, a respondent's level of education was much lower compared with all immigrants, including those from Mexico. When educational attainment and source of health care were examined, women with higher levels of education reported having a source of health care regardless of immigration status. More women with 0–6 years of education lacked a source of health care (49.4%) compared with women who had 13 or more years of education (75.0%; $\chi^2 = 6.747$, $p = 0.080$). These results were consistent among documented and undocumented women (data not shown).

Health care coverage was extremely low among respondents in the study reported here. Overall, twice as many women in this study reported not having health insurance coverage in comparison with the Commonwealth Fund study (National Women's Health Information Center, 2003c). Moreover, in our study, almost three times as many undocumented women (91.1%) as documented reported not having any kind of insurance. As we hypothesized, more documented women reported having health insurance (41.7%), compared with only 8.9% of undocumented women. When comparing the results of this study with the Commonwealth Fund's, however, we must keep in mind the local nature and the relatively small number of women (197) included in the current study, and that this study included only foreign-born Latino women. These methodological differences could have contributed to the difference found between the two studies; however, the results of this study are consistent with

previous studies of immigrants in Texas and California that reported that most undocumented Latino immigrants lacked health insurance (Berk et al., 2000).

Despite the fact that the mean age of the study participants was 33.7 years, the percentage of women reporting an excellent health status was very low in comparison to the MEPS report (Altman & Taylor, 2001), which reported that most women (59.7%) perceived their health status as excellent. In this study only 8.2% perceived their health status as excellent, with more than three fourths of respondents reporting their health status as good or fair/poor. The same methodological issues mentioned earlier may have contributed to the differences found between this and the MEPS study. Additionally, the study reported here focused only on foreign-born Mexican women, with a relatively high proportion being undocumented. Similar to the findings reported by Altman and Taylor (2001), income was not associated with perceived health status in this study. Our findings could be related to the overall low average income (approximately \$12,000) reported by women in this study and are consistent with the documented association between immigration status and "poor physical, psychological, or social health" (Aday, 2001, p. 53; Shi, 2001).

Regarding the most prevalent diseases and conditions, some of our findings are consistent with other studies conducted in Texas. In 2001, overall, 18.9% of Hispanics in Texas stated that they had been told by a doctor, nurse, or other health professional that they had high blood pressure; and 8.3% reported that they had been told by a doctor that they had diabetes (BRFSS, 2003). In the current study, only 9.7% and 6.2% of respondents reported having high blood pressure and diabetes, respectively. The diseases and conditions reported by participants in this study may have been influenced by their age and the fact that this study was self-reported. Respondents may have been affected by these diseases without their knowledge, as access to diagnostic services is very limited among this population, since only 28.4% of the participants had any form of health insurance coverage.

Overall, close to 40% of women in this study came to the United States in search of work/economic opportunities and 37.3% for family reasons. These findings are consistent with previous findings reported by Berk et al. (2000) and Kemp (2003). Among the undocumented, more than two thirds declared work/economic and better life as reasons for migrating. More documented respondents (44.2%) moved to the United States because of family compared with undocumented respondents (27.5%). Family and social networks may have played a role in the ability of documented women in this study to attain legal migration status. Social networks as well as social and family ties in the receiving country provide security and resources that are vital in the adaptation and incorporation of immigrant women in the host country (Hagan, 1998).

A key finding of this study was that the overwhelming majority of respondents (80.3%) did not speak English. Furthermore, less than 5% of undocumented respondents spoke English. The inability to communicate is a critical

barrier to obtaining a job and accessing the health care system. Language, in addition to legal barriers, may further discourage undocumented persons to seek care since the transaction requires disclosure of personal information. Fear of seeking health or social services aggravates their vulnerability, in particular for the undocumented (Aday, 2001; Berk et al., 2000; Urrutia-Rojas & Aday, 1991). For immigrants living in Texas, this situation is aggravated by the recent legal debate on the provision of health care to undocumented uninsured immigrants (Dunkelberg, 2001; Kullgren, 2003) and the prospect of reporting them to law enforcement authorities.

There were several limitations to this study. This study was a nonrandom, purposeful sample, and the results may not be representative of the entire immigrant Latino women population in Fort Worth, Texas, or the United States. All of the data were self-reported and therefore were not corroborated by a medical professional.

CONCLUSION

As we hypothesized, undocumented women reported lower income and education, as well as less access to health care. Unfortunately, our findings indicate that Latino immigrant women in this study appear to be a vulnerable group, especially the undocumented. They have very limited or no access to health care and face considerable financial, educational, and cultural and language barriers that may affect their health status, accessibility to early diagnosis, and adequate health care. The profile of the group presented here is consistent with the characterization of vulnerability as described in other studies (Aday, 2001; Shi, 2001). Despite the fact that Latino immigrants represent more than 40% of the U.S. Latino population and play an important role in the U.S. economy and society (United States Census Bureau, 2004), members of this group are at high risk of "poor physical, psychological, or social health" (Aday, 2001, p. 53; Shi, 2001).

According to Barnes (as cited in James, 2005) the lack of adequate, affordable, and accessible health care undermines the health of vulnerable groups, particularly females and ethnic minorities, leading to the use of emergency care. Immigrant women in this study did not report use of emergency services (data not shown), so it appears that immigrant women, particularly the undocumented, may not resort to using the emergency room when needed. Moreover, only two participants reported Medicaid as their source of health insurance. This undoubtedly increases the health care gaps and vulnerability as well as disparities not only between the Hispanic and mainstream groups, but also within the Hispanic population. Furthermore, contrary to the general perception that undocumented immigrants abuse the health care system, participants in our study reported very low use of public assistance.

Moreover, attempts to reform U.S. immigration policy traditionally have affected access to health care. For example, the 1996 federal welfare reform law (Personal Responsibility and Work Opportunity Reconciliation Act, or PRWORA) and Proposition 187 in California, were designed to restrict immigrants' eligibility for Medicaid and other services. These initiatives, even when not successful, nurture distrust and fear and interfere with seeking health care. Restrictive policies apply to all immigrants, regardless of their residency status, and, therefore, similarly affect all population groups. Usually, being a noncitizen reduces access to ambulatory and emergency care (Ku & Matani, 2001).

The results of this study can shed light on the urgent health-related issues affecting Latino immigrants, specifically undocumented Mexican immigrant women. Lack of employment, health insurance, and low income are the most prevalent barriers to health care for undocumented immigrant women. These barriers and their effects are exacerbated by language barriers, unfamiliarity with the health care system, as well as fear of being arrested and deported (Asch, Leake, Anderson, & Gelberg, 1998; Asch, Leake, & Gelberg, 1994; Guendelman, Chavez, & Christianson, 1994; Kullgren, 2003; Loue, Cooper, & Lloyd, 2005). According to Gabrielle Lessard, staff attorney at the National Immigration Law Center (NILC) in Los Angeles, the consequences related to immigration status include complications from untreated diseases such as asthma, diabetes, hypertension, vision problems and cancers, among others, for children and adults (Iqbal, 2004).

In response to the well-known limited access and barriers to health care that Mexican immigrants in the United States face, in 2000, for the first time in the history of both countries, the Mexican Secretary of Health and the U.S. Office of Health and Human Services declared interest in developing collaboration activities to address the health needs of the Mexican migrants, acknowledging the social and economic importance of the Mexican workers, and explicitly recognizing that the migratory process is binational and therefore the responsibility of both countries (Salud y Apoyo al Migrante, 2005). Three initiatives, the California–Mexico Health Initiative (CMHI), the Mexico–Texas Health Initiative, and the health program Leave Healthy, Return Healthy (Vete Sano, Regresa Sano), aim to protect the health of migrants and their families (Salud y Apoyo al Migrante, 2005).

The CMHI, established in 2001, works collaboratively with federal, state, and local agencies in Mexico, California state and county governments, U.S. federal authorities, and bilateral organizations to find solutions to immigrant health issues through bilateral Mexican and California health policies. The goal is to create a transnational health insurance described as “private-sector health insurance products and public-private sector health plans for Mexican immigrant workers and their families in both countries” (Salud y Apoyo al Migrante, 2005). In Texas, in 2002, the Iniciativa de Salud México–Texas aimed to improve the health and quality of life of the Texas–Mexico border

population through public health initiatives and the promotion of community health and prevention strategies. Under the Office of Health Resources and Services Administration (HRSA), several clinics and health centers provide health services to Mexican migrants in the border counties (Salud y Apoyo al Migrante, 2005). Locally, through the program Ventanilla de Salud (health window), the Centro Comunitario de Apoyo al Migrante (Community Center for Migrant Support), in collaboration with the Mexican Consulate in Dallas, Texas, offers screenings, as well as referrals to public and private hospitals and to free clinics in the area to all Mexican individuals in need of health services (J. Kuperszteck, personal communication, June 2, 2005). According to Dr. Kuperszteck, however, these services do not guarantee that the persons seeking care will obtain the services they need.

As valuable as these efforts are, clearly, these are partial and limited, and are not sufficient to respond to the health needs of immigrant women in this study and to most immigrants in the United States. The documented need for health services and the importance of a healthy working population, together with the bilateral recognition that the significant number of Mexican immigrants in the United States make a unique contribution to the economic, social, and cultural survival of this country (Salud y Apoyo al Migrante, 2005), require that the initiatives already discussed be expanded and get underway without delay. These initiatives can provide the needed health services to all immigrants and most urgently to the ones that appear to be in most need of services, such as women, regardless of their legal status. Policymakers' awareness of the problem and recognition of the important role that immigrants play in the United States is vital to inform decision making concerning health access policies. A feasible, short-term, as well as long-term response may be related to the development of community- or faith-based culturally relevant health promotion and health education interventions. There needs to be systematic changes that include more opportunities for employment and education. These will benefit all members of the community, particularly the undocumented individuals and their families.

To our knowledge, this is the only recent study that focused on Latino documented and undocumented immigrant women's health needs and access to health care. The findings reported here may reflect the health issues and the access problems of most undocumented immigrant women in the United States. The lack of studies focusing on this population's needs points to the need for additional studies, both quantitative and qualitative, that can shed light on the urgent issues that affect this population.

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