

Screening Practices and Knowledge, Attitudes, and Beliefs About Cancer Among Hispanic and Non-Hispanic White Women 35 Years Old or Older in Nueces County, Texas

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A telephone survey was conducted among women 35 years old or older in Nueces County, Tex., to assess ethnic differences between Hispanic and non-Hispanic white women in self-reported cancer-screening practices and knowledge, attitudes, and beliefs about cancer and to evaluate the effect of ethnicity as a predictor for screening practices. A total of 233 Hispanic and 332 non-Hispanic white women participated in the survey. Hispanics were younger and had lower educational and income levels. Overall, Hispanics had lower rates than did non-Hispanics of lifetime mammography (65% versus 79%), clinical breast examination (86% versus 96%), monthly performance of breast self-examination (37% versus 49%), and lifetime fecal occult blood testing (36% versus 69%). After control for confounding factors, Hispanics were still less likely to have ever had a clinical breast examination and fecal occult blood test. Our results suggest the need for more culturally sensitive health promotion efforts to improve knowledge about cancer and early detection practices among Hispanic women. [Monogr Natl Cancer Inst 18:49-56, 1995]

Hispanics are the largest and youngest minority group in the United States. From 1980 to 1992, the Hispanic population increased by 65%, from 14.6 million to more than 24.1 million (1). Approximately 60% of all U.S. Hispanics are of Mexican origin, but a marked increase in immigration to the United States from Central and South American countries was observed during the last decade (1). The majority of the U.S. Hispanic population resides in only two states, Texas and California (1). Almost 80% of Hispanics live in urban areas and have incomes below the poverty line. Compared with non-Hispanics, Hispanics have a lower educational level and higher rates of unemployment and more frequently lack health insurance and access to adequate health care (2,3).

Overall, lower cancer incidence and mortality rates have been documented among Hispanics than among non-Hispanics. Hispanics have lower rates of breast, colon, prostate, skin, and lung cancers; however, they have higher rates of cervical, stomach, gallbladder, and liver cancers (4-8). In Texas, breast cancer incidence and mortality rates are nearly 40% higher among non-

Hispanic whites than among Hispanics, whereas Hispanics have cervical cancer incidence and mortality rates about two times higher than those for non-Hispanic whites (9). Although ethnic differences in cancer incidence and mortality have remained over time, in some populations the gap between Hispanics and non-Hispanics is narrowing. For example, among New Mexico residents, mortality rates for several types of cancer showed a greater increase among Hispanics than among non-Hispanics from 1958 to 1987 (4). Similarly, incidence rates for breast cancer among New Mexican women increased by 56% for Hispanics but only 15% for non-Hispanic whites from 1969 to 1987 (7). The reasons for these increases have not been identified, but lack of access to health care, lack of health insurance, delay in early diagnosis, or other environmental and cultural factors may partially contribute (2-4,7).

Because of socioeconomic and cultural differences, Hispanics may encounter more barriers to use of health care services. Several studies (10-14) have shown differences between Hispanics and non-Hispanics in utilization of health services. Overall, Hispanics are less likely to have routine medical examinations, dental care, prenatal care, family planning, Pap smears, and mammography. This pattern of underutilization may not be solely explained by economic and educational barriers but may also be partially influenced by cultural characteristics (15-18). Pérez-Stable et al. (18) reported that Hispanics are less likely to obtain recommended cancer-screening services even when financial barriers are taken into account. Furthermore, Hispanics have been reported to have less knowledge about cancer preventive practices (19) and to have greater misconceptions about the causes of cancer and the effectiveness of preventive measures (20).

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See "Notes" section following "References."

Approximately 4 million Hispanics live in Texas; most live in the southern region of the state. A recent report by the Texas Hispanic Information Initiative for Good Health (21) stated that residents of south Texas have important barriers to medical care, such as urban isolation, rural distances, poor public health, and lack of insurance coverage. These and other factors may impact use of cancer-screening services in south Texas. To assess ethnic differences between Hispanic and non-Hispanic white women in self-reported cancer-screening practices and knowledge, attitudes, and beliefs about cancer and to evaluate the effect of ethnicity as a predictor for screening practices, we conducted a telephone survey in Nueces County, Tex., among women 35 years old or older.

Subjects and Methods

Study Population

Nueces County was selected because it provided a large, stable, urban population (291 145 in 1990, with more than 90% residing in the Corpus Christi area) comprising primarily two ethnic groups (approximately 52% Hispanic whites [mostly Mexican-Americans] and 43% non-Hispanic whites).

A computer-assisted telephone survey of a random sample of all households with telephones was conducted from October 6, 1992, through November 16, 1992, targeting Hispanic and non-Hispanic white women 35 years old or older. A total of 2450 telephone numbers were dialed (49 replicates or groups of telephone numbers, each one composed of 50 telephone numbers), resulting in 1420 (58%) calls to residential numbers. Of these, 753 (53%) calls identified a potentially eligible woman. Six hundred one (80%) women consented to participate and completed an interview. Later, 36 (6%) completed surveys were excluded on the basis of their participant's racial/ethnic group (African-American or Asian). The final study sample consisted of 565 white women: 233 Hispanics and 332 non-Hispanics.

Survey

Data were collected on 75 items, including demographic characteristics; knowledge, attitudes, and beliefs about cancer; access to health care; prevalence of past use of screening tests for cervical cancer (Pap smear), breast cancer (mammography, clinical breast examination [CBE], and breast self-examination [BSE]), and colorectal cancer (fecal occult blood test [FOBT] and sigmoidoscopy); smoking habits; family and personal history of cancer; sources of information about cancer; and language use (Hispanics only). Knowledge, attitudes, and beliefs were assessed with a Likert-type scale, and responses were dichotomized to the following categories for statistical analysis: 1) strongly agree/agree versus disagree/strongly disagree, 2) very much/somewhat versus very little/not at all, 3) a lot/some versus very little/not at all, and 4) very good/good versus not very good/not good at all.

Statistical Analyses

For the statistical analyses, all variables were dichotomized. Bivariate relationships between ethnicity and variables of interest were tested for independence using Pearson's chi-squared test or Fisher's exact test. Further, the relationships between ethnicity and these variables were analyzed by two age strata (35-49 years and 50 years old or older). Multivariate logistic regression models were used to assess the independent effect of ethnicity (non-Hispanic = 0; Hispanic = 1) on screening practices. Dependent variables were having ever had a Pap smear, mammography, CBE, BSE, FOBT, or sigmoidoscopy (never = 0; ever = 1) and having had a Pap smear or mammography within the year prior to the study (no = 0; yes = 1). Covariates in the logistic models included age (35-49 years = 0; ≥ 50 years = 1), marital status (other = 0; married = 1), education (\leq high school = 0; $>$ high school = 1), employment (no = 0; yes = 1), and health care plan (no = 0; yes = 1). Analyses of FOBT and sigmoidoscopy use were restricted to women 50 years old or older, while analyses of all other screening practices included all women.

Results

Demographic Characteristics

Forty-one percent of the respondents were Hispanics. Overall, the median age of respondents was 49 years (range, 35-89 years). Demographic characteristics of the respondents by ethnic group are presented in Table 1. Compared with non-Hispanics, Hispanics were younger ($P = .004$) and had lower educational levels ($P \leq .001$) and annual family income ($P \leq .001$). An annual family income of less than \$10 000 was reported by 30% of Hispanics but only 7% of non-Hispanic whites. A higher proportion of Hispanic women were homemakers (32%), whereas a higher proportion of non-Hispanic whites were retirees (24%). Most Hispanics (68%) preferred using English for the interview. Of the Hispanic respondents, 92% were of Mexican background, and most of them (87%) were born in the United States.

Access to Health Care

Overall, 86% of the respondents had some kind of health care plan (private insurance, Medicare, Medicaid, or coverage for military personnel, veterans, or migrant workers). Fig. 1 shows the difference in access to health care by ethnic group. Non-Hispanics were more likely to have a health care plan than were Hispanics ($P \leq .001$); this ethnic difference was of greater mag-

Table 1. Demographic characteristics by ethnic group for participants in the Corpus Christi Cancer Study (Nueces County, Tex., 1992)*

Characteristic	Hispanic (n = 233), %	Non-Hispanic white (n = 332), %	P
Age, y			
35-39	25	18	
40-49	34	29	
50-64	28	29	
≥ 65	13	25	.004
Marital status			
Married	70	72	
Divorced/separated	16	15	
Widowed	12	12	
Never married	2	1	.790
Educational level			
<High/technical school	41	13	
High/technical school	33	30	
Some college	17	27	
\geq College	9	30	<.001
Income, U.S. dollars			
<10 000	30	7	
10 000-19 999	20	14	
20 000-29 999	14	20	
30 000-49 999	24	29	
$\geq 50 000$	11	29	<.001
Current employment status			
Employed/self-employed	46	49	
Homemaker	32	25	
Retired	14	24	
Unemployed/student	8	2	<.001
Language of interview			
English	68	100	
Spanish	28		
Both English and Spanish	4		

*Because of rounding, sometimes percentages do not add to 100%.

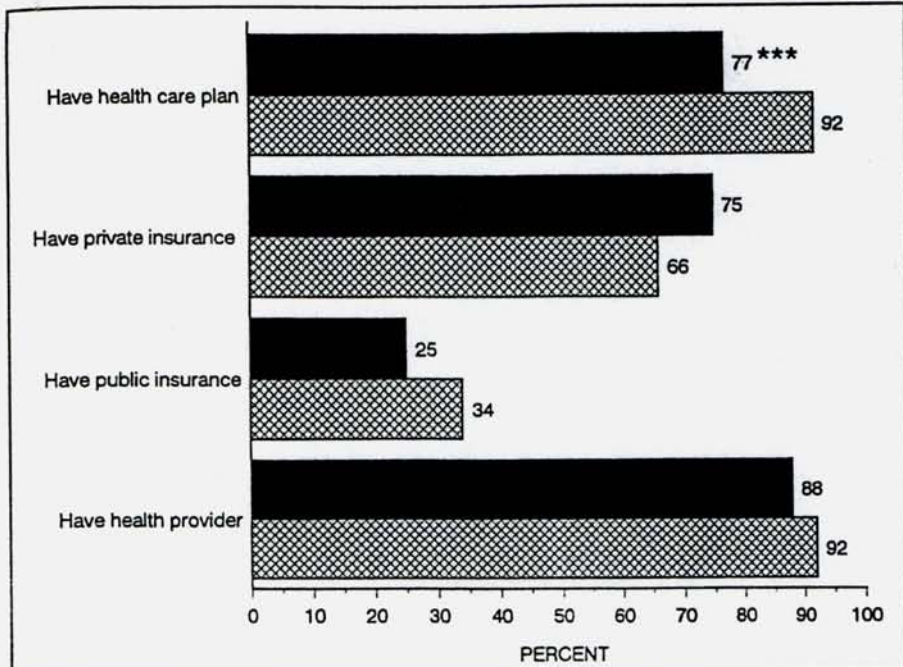


Fig. 1. Access to health care among Hispanic women (solid bar) and non-Hispanic white women (hatched bar), Corpus Christi Cancer Study (Nueces County, Tex., 1992). *** $P \leq .001$.

nitude among older women (Table 2). Private health care was the most common type of health care plan reported by all respondents. Slightly more Hispanics (75%) than non-Hispanics (66%) reported having a private health care plan ($P = .052$). Statistically significant differences in type of health care plan by age were observed: Younger women were more likely to have a private health care plan than were older women ($P \leq .001$). Most respondents had a particular person or place to obtain health care or advice, and no differences were observed by ethnic group. A slightly larger proportion of non-Hispanics than Hispanics reported having a health care provider (Fig. 1 and Table 2).

Health Knowledge, Attitudes, and Beliefs

Strong statistically significant differences between Hispanics and non-Hispanics were detected for three of the seven items concerning health knowledge, attitudes, and beliefs (Fig. 2). Hispanics were more likely than non-Hispanics to strongly agree or agree that illness is a matter of chance or fate ($P \leq .001$) and that the ability to recover faster or sooner from an illness is

a matter of luck ($P \leq .001$) and to have a lot or some fear of getting cancer ($P \leq .05$). Among older respondents, a larger ethnic difference was observed for the belief that the ability to recover faster or sooner from an illness is a matter of luck ($P \leq .001$) (Table 3). Also, Hispanic women 50 years old or older were more likely to have a fear of getting cancer than were non-Hispanic women in that age group (72% versus 58%, $P \leq .05$).

Cancer-Screening Practices

Mammography use. Overall, 73% of respondents reported having had at least one mammogram in their lifetime, and 69% had one within the previous year. Non-Hispanics had a higher prevalence of mammography use than did Hispanics ($P \leq .001$) (Fig. 3). The lower prevalence of mammography use among Hispanics was observed for both younger and older women; however, this ethnic difference was statistically significant only among younger women ($P \leq .01$) (Table 4). A slightly larger proportion of non-Hispanics than Hispanics, of borderline significance ($P = .06$), had had a mammogram within the previous

Table 2. Access to health care among Hispanic and non-Hispanic white women stratified by age

	Age 35-49 y		Age ≥ 50 y	
	Hispanic, No. (%)	Non-Hispanic white, No. (%)	Hispanic, No. (%)	Non-Hispanic white, No. (%)
Have health care plan	105 (78)	132 (89)*	71 (75)	169 (95)†
Type of health care plan				
Private	94 (89)	119 (92)	37 (53)	77 (46)
Public/federal‡	12 (11)	11 (9)	33 (47)	89 (54)
Have health care provider	119 (88)	136 (91)	84 (88)	165 (93)

* $P \leq .05$.

† $P \leq .001$.

‡Including Medicare, Medicaid, and coverage for military personnel, veterans, and migrant workers.

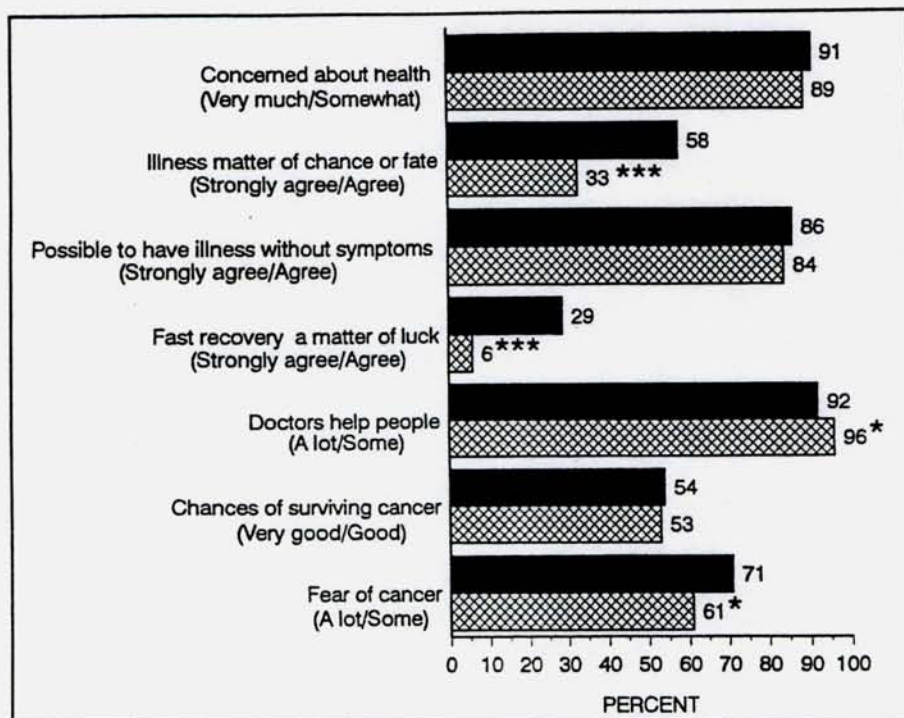


Fig 2. Health knowledge, attitudes, and beliefs among Hispanic women (solid bar) and non-Hispanic white women (hatched bar), Corpus Christi Cancer Study (Nueces County, Tex., 1992). * $P \leq .05$; *** $P \leq .001$.

year (Fig. 3); this ethnic difference was more pronounced among older women ($P \leq .05$) (Table 4).

CBE. Most respondents (92%) reported having had a CBE at least once in their lifetime. Nevertheless, Hispanics were less likely than non-Hispanics to have ever had a CBE, regardless of age (Fig. 3 and Table 4).

BSE. Knowledge about BSE was reported by 94% of the respondents. A small difference in BSE knowledge was observed by ethnicity ($P \leq .05$) (Fig. 3). Older Hispanics were the group with the lowest percentage of respondents who knew BSE; this percentage differed significantly from that for non-Hispanics of the same age ($P \leq .01$) (Table 4). Most women reported having ever performed BSE; however, among older women, more Hispanics (95%) than non-Hispanics (87%) reported having performed BSE (Table 4).

Frequency of BSE. Overall, 75% of women who knew of BSE reported practicing it at least once a month. However, this category included women reporting different BSE frequency practices, ranging from seven times per day to 12 times per year. Because many of these responses do not reflect adequate knowledge of current recommendations for BSE, we decided to use a more restrictive criterion for knowledge and/or compliance with BSE recommendations. We defined a category of women who reported performing BSE "exactly once a month." This category included only women reporting performing BSE once a month and 12 times per year. On the basis of this criterion, only 44% of respondents practiced BSE monthly. Hispanic women were less likely than non-Hispanic women to practice BSE monthly ($P \leq .05$) (Fig. 3). However, this difference became nonsignificant by age strata (Table 4).

Table 3. Health knowledge, attitudes, and beliefs among Hispanic and non-Hispanic white women stratified by age

	Age 35-49 y		Age ≥ 50 y	
	Hispanic, No. (%)	Non-Hispanic white, No. (%)	Hispanic, No. (%)	Non-Hispanic white, No. (%)
Concerned about health (a lot/some)	124 (91)	138 (93)	88 (92)	153 (86)
Illness a matter of chance/fate (strongly agree/agree)	74 (56)	41 (28)*	57 (63)	63 (38)*
Possible to have illness without symptoms (strongly agree/agree)	121 (88)	125 (84)	77 (83)	149 (85)
Fast recovery a matter of luck (strongly agree/agree)	23 (17)	8 (5)†	44 (47)	8 (5)*
Doctors help people (a lot/some)	128 (96)	140 (96)	80 (86)	169 (96)‡
Chances of surviving cancer (very good/good)	70 (56)	76 (53)	40 (51)	85 (53)
Fear of cancer (a lot/some)	89 (70)	92 (65)	57 (72)	93 (58)‡

* $P \leq .001$.

† $P \leq .01$.

‡ $P \leq .05$.

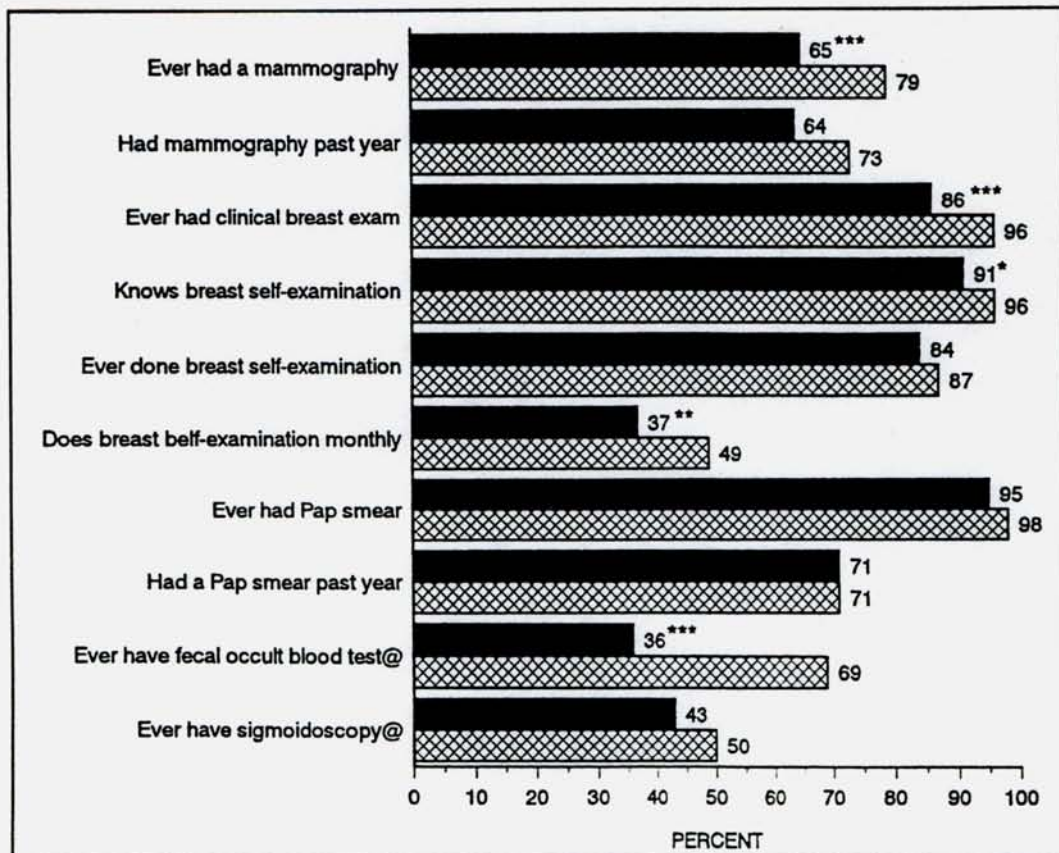


Fig. 3. Cancer-screening practices among Hispanic women (solid bar) and non-Hispanic white women (hatched bar), Corpus Christi Cancer Study (Nueces County, Tex., 1992). * $P \leq .05$; ** $P \leq .01$; *** $P \leq .001$. @ women 50 years old or older.

Pap smears. The majority of respondents (96%) reported having had at least one Pap smear in their lifetime. No ethnic difference was detected overall (Fig. 3). A very small ethnic difference was observed among older respondents (89% for Hispanics and 96% for non-Hispanics; $P \leq .05$) but not among younger respondents (Table 4). Similarly, no ethnic differences were detected in the proportion of women who had had a Pap smear within the previous year, although fewer older women in both ethnic groups reported having done so (Table 4).

FOBT and sigmoidoscopy. For women aged 50 years or more, 58% and 47% reported ever having had an FOBT and sig-

moidoscopy, respectively. Hispanics were significantly less likely than non-Hispanics ($P \leq .001$) to have ever had an FOBT, but no ethnic differences were observed in the prevalence of use of sigmoidoscopy ($P = .26$) (Fig. 3).

Multivariate Analysis

After adjustment for age, marital status, education, employment status, and having a health care plan, ethnicity remained an independent predictor for practicing BSE monthly and for ever having had an FOBT (Table 5). Hispanics were less likely to practice BSE monthly (odds ratio [OR] = 0.66; 95% confidence

Table 4. Cancer-screening practices among Hispanic and non-Hispanic white women stratified by age

Screening practice	Age 35-49 y		Age ≥ 50 y	
	Hispanic, No. (%)	Non-Hispanic white, No. (%)	Hispanic, No. (%)	Non-Hispanic white, No. (%)
Ever had mammography	76 (56)	106 (71)*	74 (77)	152 (85)
Had mammography within the past year	46 (61)	67 (63)	49 (66)	120 (79)†
Ever had a CBE	120 (88)	147 (99)‡	80 (84)	165 (93)†
Knows how to do BSE	129 (95)	145 (97)	79 (84)	169 (95)*
Has ever done a BSE	122 (95)	140 (97)	75 (95)	147 (87)
Practices BSE once a month	45 (38)	65 (46)	25 (34)	68 (44)
Ever had a Pap smear	132 (99)	149 (100)	84 (89)	171 (96)†
Had a Pap smear within the past year	98 (71)	115 (77)	53 (65)	111 (65)
Ever had an FOBT	50 (37)	63 (43)	33 (36)	121 (39)‡
Ever had a sigmoidoscopy	32 (24)	30 (20)	40 (43)	88 (50)

* $P \leq .01$.
† $P \leq .05$.
‡ $P \leq .001$.

interval [CI] = 0.44-1.00) and to have ever had an FOBT (OR = 0.32; 95% CI = 0.18-0.58). Increasing age was positively associated with ever having had mammography (OR = 2.64; 95% CI = 1.66-4.19) and marginally associated with having had mammography within the previous year (OR = 1.65; 95% CI = 0.98-2.77), whereas increasing age was negatively associated with ever having had a Pap smear (OR = 0.14; 95% CI = 0.03-0.70), with ever practicing BSE (OR = 0.39; 95% CI = 0.21-0.71), with having had a Pap smear within the previous year (OR = 0.60; 95% CI = 0.39-0.94), and with knowledge of BSE (OR = 0.37; 95% CI = 0.16-0.86). Married women were more likely to have ever had a Pap smear (OR = 8.39; 95% CI = 2.67-26.41), to have had a Pap smear within the previous year (OR = 1.82; 95% CI = 1.20-2.76), and to have knowledge of BSE (OR = 2.12; 95% CI = 1.03-4.34). Respondents with more than a high school education were more likely to have ever had a CBE (OR = 2.56; 95% CI = 1.10-5.93) and marginally more likely to have knowledge of BSE (OR = 2.40; 95% CI = 0.96-6.0). Having a health care plan was significantly associated with ever having had mammography (OR = 2.38; 95% CI = 1.42-3.99) or an FOBT (OR = 2.69; 95% CI = 1.05-6.9) and with having had a Pap smear within the previous year (OR = 1.74; 95% CI = 1.01-2.98).

Discussion

This study compared cancer-related knowledge, attitudes, beliefs, and screening practices between Hispanic and non-Hispanic women 35 years old or older in Nueces County, Tex. Overall, our findings on Pap smear, CBE, and BSE practices are consistent with national data (22-24). Although mammography use in our study group was higher than most national figures (22-24), these data are consistent with the most recent data from the mammography attitudes and usage study (MAUS) for women aged 40 years or older (79% in our study [data not shown] and 74% in MAUS) (25). Higher prevalence of lifetime FOBT and sigmoidoscopy was also observed among respondents in Nueces County than in previous studies (26,27). Our bivariate analysis revealed statistically significant ethnic differences in self-reported access to health care, health beliefs, and breast and colorectal cancer-screening practices. Hispanic women were less likely than non-Hispanic women to know of

BSE, to perform BSE monthly, and to have ever had a CBE, a mammogram, and an FOBT. After adjustment for sociodemographic variables, Hispanics were still less likely to practice BSE monthly and to have ever had an FOBT.

In the United States and South Texas, approximately 33% and 30% of Hispanics, respectively, are estimated to lack health insurance (21). Our study found fewer women without access to health care, but our data on ethnic differences are consistent with national and state data. Although Hispanic respondents were less likely to have a health care plan than were non-Hispanics, no statistically significant ethnic differences in type of health care plan or in access to a health care provider were seen. The ethnic difference in the level of health insurance coverage may explain differences in health knowledge and cancer-screening practices by decreasing access to health education materials and programs and to early detection services.

A higher proportion of Hispanics than non-Hispanics had some erroneous understanding of cancer and were afraid of the disease. Hispanic women, particularly those 50 years old or older, were more likely to believe that illness is a matter of chance or fate and that fast recovery from illness is a matter of good luck. Similarly, Hispanic respondents were more likely to fear cancer than were non-Hispanic women. These beliefs about disease and the fear of cancer among Hispanics are consistent with the cultural concept of fatalism, which may determine the way Hispanics act to prevent disease or to handle health problems (20).

Comparisons between previous studies and our present study are difficult because of the different age groups included in the study populations and because of the increase in cancer-screening awareness, particularly for screening mammography, during the past decade. Nevertheless, most studies have shown a lower rate of lifetime and recent use of mammography among Hispanic women than among non-Hispanic women. Pérez-Stable et al. (18) observed a significant difference in the rate of ever having had mammography between Latino and Anglo women 35 years old or older (76% versus 85%). However, after control for age, education, employment, marital status, place of residence, and perceived health status, ethnicity was not found to be an independent predictor for ever having had a mammogram (OR = 0.76; 95% CI = 0.48-1.21) or having had mammography in the past 2 years (OR = 0.76; 95% CI = 0.51-1.12).

Table 5. Crude and adjusted ORs for ethnicity (Hispanic) as predictor of cancer-screening practices among women 35 years old or older

Screening practice	Crude OR	Adjusted* OR	95% CI	P
Ever had mammography	0.49	0.71	0.47-1.08	.11
Had mammography within the past year	0.66	0.73	0.46-1.18	.20
Ever had a CBE	0.45	0.39	0.19-0.79	.01
Knows how to do BSE	0.42	0.49	0.22-1.06	.07
Has ever done a BSE	0.79	0.79	0.46-1.38	.41
Practices BSE once a month	0.61	0.66	0.44-1.00	.05
Ever had a Pap smear	0.45	0.43	0.14-1.31	.14
Had a Pap smear within the past year	0.99	1.04	0.68-1.58	.86
Ever had an FOBT†	0.26	0.32	0.18-0.58	<.001
Ever had a sigmoidoscopy†	0.75	0.79	0.45-1.40	.42

*Adjusted for age (35-49 y = 0; ≥50 y = 1); marital status (other = 0; married = 1); education (≤high school = 0; > high school = 1); employment (no = 0; yes = 1), and health plan (no = 0; yes = 1).

†Among women aged 50 years or older. ORs adjusted for marital status, education, employment, and health plan.

Elder et al. (16) also observed significant differences in the prevalence of lifetime mammography and use of mammography in the past year between Latino and Anglo women aged 50 years or older. They found ethnic differences to be associated with the level of acculturation: Less acculturated Latino women had the lowest percentage of ever having had mammography (27%) and having had mammography within the past year (16%), followed by highly acculturated Latino women (58% and 38%, respectively) and Anglo women (80% and 52%, respectively). Lower rates and smaller ethnic differences were observed by Saint-Germain and Longman (11): 51% of Hispanic and 55% of Anglo women 50 years old or older reported ever having had mammography, while only 32% of Hispanics and 36% of Anglos had had mammography in the past year. In south Texas, 45% of Hispanic women 40 years old or older in Corpus Christi and 35% of Mexican-American women of the same age living in El Paso reported ever having had mammography (9).

Similar to other studies (11,12,16,18,28), we found that women from both ethnic groups had a high prevalence of lifetime CBE, a high prevalence of lifetime BSE, but a low prevalence of monthly performance of BSE. Pérez-Stable et al. (18) reported similar proportions of lifetime CBE, knowledge of BSE, lifetime BSE, and monthly BSE to those observed in our study; however, no ethnic differences were apparent in their data after adjustment for sociodemographic variables. Similarly, after controlling for confounding factors, Elder et al. (16) did not find a statistically significant difference in the prevalence of CBE between less acculturated and highly acculturated Latino women and Anglo women aged 40 years or older.

Lifetime Pap smear and recency of Pap smear in our study were comparable to data reported by Pérez-Stable et al. (18). Lower rates have been reported in other studies that included populations of different age groups (14,16). Elder et al. (16) found that less acculturated and highly acculturated Latino women 18 years old or older had significantly lower percentages of lifetime Pap smear than did Anglo women, even after controlling for confounding factors (73% in less acculturated Latinos, 83% in highly acculturated Latinos, and 97% in Anglos). Also, data from the 1987 National Health Interview Survey showed that 80% of Hispanic women 18 years old or older compared with 93% of non-Hispanic women reported having ever had a Pap smear (14).

We found no ethnic differences in recency of Pap smear use. However, the proportion of respondents who had had a Pap smear in the past year was lower (65%) among women at higher risk for cervical cancer (50 years old or older). Using data from the 1987 National Health Interview Survey, Calle et al. (14) did not observe a statistically significant difference in recency of Pap smear use between Hispanic and non-Hispanic white women aged 18 years or older, but the proportions of women reporting having had a Pap smear in the past year were much lower than those observed in our study (35% Hispanics and 38% non-Hispanic whites). Pérez-Stable et al. (18) also failed to identify ethnic differences in recency of Pap smear use. Eighty-seven percent of Latino women and 88% of Anglo women reported having had a Pap smear within the past 3 years. In contrast, Elder et al. (16) observed a significantly lower proportion of Latino than Anglo women who reported having had a Pap

smear in the past year. Furthermore, a lower proportion of less acculturated Latinos (44%) than highly acculturated Latinos (60%) and Anglos (77%) reported having had a Pap smear in the past year. The Texas Department of Health reported that, among Hispanic women 40-70 years old surveyed in Corpus Christi, only 53% had had a Pap smear within the past year, while only 46% in El Paso had had a Pap smear within the past 2 years (9).

Our data show a very low prevalence of screening for colorectal cancer, although the lifetime use of colorectal cancer-screening tests was higher among respondents in Nueces County than reported in three earlier studies (18,26,27). In our study (data not shown), the rate of lifetime FOBT use for women aged 40 and older was 53%, whereas Pérez-Stable et al. (18) found 49% in San Francisco and Alameda Counties, Polednak (26) found 37% in Long Island and 36% in Connecticut, and the American Cancer Society's 1982 survey of a probability sample of U.S. households found 44% (27). Hispanics were even less likely than non-Hispanics to have ever had an FOBT; this difference remained after adjustment for potential confounding variables. Pérez-Stable et al. (18) found a smaller but statistically significant difference in lifetime FOBT use between Latino and Anglo women (46% versus 54%) than the one observed in our study. As in our study, this ethnic difference persisted after adjustment for potential confounding factors. Lifetime use of sigmoidoscopy among women 50 years old or older was higher in our study than in the San Francisco Bay Area (47% versus 33%) (18). No ethnic difference in lifetime sigmoidoscopy use was detected in our data, whereas in the San Francisco Bay Area, a statistically significant difference was observed between Latino (29%) and Anglo (41%) women, and this difference remained after control for confounding factors (18).

In the present study, several limitations must be considered in interpreting the results. First, telephone surveys are subject to bias, despite the high response rate (80%) in this study. Although telephone coverage in the United States is greater than 93% (ranging from 90% in the southern states to 95% in the north central states), a higher proportion of the socially disadvantaged population is not accessible by telephone (29). Among non-telephone households, there is an over-representation of minority groups and families with low income and low educational levels. This may partially explain the lower percentage of Hispanics in our study sample (41%) than in the general population (52%) and the higher rate of positive screening behaviors observed in our study, but it does not explain the ethnic differences in access to health care and screening practices that we found. Furthermore, our study sample had a high proportion of Hispanic women of low educational and low income levels; these women are considered to be at higher risk for poor screening practices.

The second limitation of the study is that our data are based on self-reported information and could not be validated, given the confidential nature of the survey. (Name and address of respondents were not recorded.) Several studies have shown that self-reported screening behaviors are overestimated (30-33). Overestimation appears to be associated with age, race, educational level of the respondent, and timing of the procedure. Gordon et al. (30) concluded that self-reporting overestimates the screened population, but concordance is observed between self-

reported and medical record information for tests in which a diagnostic report is generated (Pap smear, mammography, FOBT, and sigmoidoscopy), whereas lower concordance is observed for procedures that generate only a physician's note (CBE and digital rectal examination).

The third limitation of this study is that collected information did not distinguish between diagnostic and screening procedures, which may result in an overestimation of screening behaviors in this population. There is no reason to believe, however, that this misclassification would have been different between ethnic groups, and it is very unlikely that it would explain the lower rates of screening observed among Hispanic women.

Finally, most Hispanics in Nueces County were born in the United States, and most are of Mexican background; it is possible that the results from this study may not be generalizable to Hispanic populations of different ethnic background or to those born outside the United States.

Despite these limitations, our data show that most respondents had access to a health care plan and had high rates of most screening practices except screening for colorectal cancer. Screening practices were lower among Hispanics, and most of these ethnic differences appeared to be explained by sociodemographic factors and access to health care. However, lower rates of lifetime CBE, monthly BSE, and lifetime FOBT persisted after controlling for confounding variables.

Hispanics were more likely to have misperceptions about cancer and to have a greater fear of cancer. They also had lower educational and income levels and were less likely to have a health care plan. These findings and other cultural characteristics may contribute to the lower rates of screening practices observed among Hispanics. These data suggest that there is still a need for health promotion efforts to improve knowledge about cancer and early detection practices, especially among Hispanic and older women. These efforts must be culturally sensitive to be accepted and should address barriers as perceived by the target population. In addition, cancer-related knowledge, attitudes, and screening behaviors should be continually monitored to evaluate our progress in cancer prevention and control.

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Notes

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