

The Relationship Between Colorectal Cancer Screenings and Low Health Literacy Levels in Hispanic/Latina Women Over 50 Years Old in the United States



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Background

- According to the CDC, colorectal cancer is the third most common cancer in men and women (CDC, 2014).
- One of Healthy People 2020's goal is to reduce the number of new cancer cases as well as the illnesses, disability, and death caused by the disease (Healthy people 2020, 2014).
- Colorectal cancer (CRC) screening rates are lower among Latinos and people living in poverty (Baker et al., 2014).
- CRC screenings can find precancerous polyps and can be removed before turning into cancer (CDC, 2014).
- Patients with low health literacy levels also report lower rates in participating in preventive health services (Shea, 2004).

Purpose

- To determine the relationship between low health literacy and colorectal cancer screening in Hispanic/Latina women over 50 years old in United States.

Methods

- A secondary analysis was conducted using the data set from Behavioral Risk Factor Surveillance System (BRFSS) 2012 on adults 50 years of age and older, who completed the phone interview in English or Spanish.
- Univariate and bivariate analyses (not shown) and multivariable logistic regression were used in this study.
- Logistic was used to determine the unweighted adjusted odds of not having a colorectal cancer screening and having low health literacy.
- The outcome variable was "Colorectal Cancer Screening (Ever)".
- The predictor variable was "Educational Level".
- Data were analyzed using SAS Studio English Version 9.4 (Cary, NC, USA).

NU IRB

- A National University IRB review waiver was granted as the current research analyses, which used data previously collected by CDC, did not involve human subjects.

Logistic Regression to Determine the Unweighted Odds of Colorectal Cancer Screening and Educational Level of 10,875 in Hispanic/Latina Women Respondents Over 50 years Old in US after Adjusting for Socio-Demographic and other Characteristics, Behavioral Risk Factor Surveillance System, CDC, 2012.

Variable	Colorectal Cancer Screening (Ever)		AOR**	95% CI ^o
	Yes n%	No n%		
	7,926 (56.9)	5,984 (43.0)		
Educational Level				
< 9 th grade	1,439 (18.2)	1,560 (26.2)	1.19	(1.06-1.34)
≥9 th grade	6,456 (81.8)	4,404 (73.8)	1.00	--
Sex				
Male	2,844 (35.9)	2,393 (39.9)	1.00	--
Female	5,082 (64.1)	3,591 (60.0)	0.77	(0.70-0.84)
Age (years)				
50-54	1,149 (14.5)	1,770 (29.6)	3.03	(2.64-3.47)
55-59	1,379 (17.4)	1,280 (21.4)	1.76	(1.54-2.01)
60-64	1,412 (17.8)	962 (16.1)	1.39	(1.22-1.59)
65-69	1,368 (17.3)	695 (11.6)	1.16	(1.01-1.33)
≥70	2,618 (33.0)	1,277 (21.3)	1.00	--
Blood Stool Test (last 2 years)				
Yes	1,562 (20.2)	779 (13.2)	1.00	--
No	6,189 (79.8)	5,114 (86.8)	1.33	(1.19-1.49)
Body Mass Index				
Normal	1,977 (26.2)	1,467 (26.9)	1.00	--
Overweight	3,140 (41.6)	2,145 (39.5)	0.82	(0.74-0.90)
Obese	2,424 (32.1)	1,824 (33.6)	0.88	(0.79-0.97)
Physical Activity (past 30 days)				
Yes	5,087 (64.4)	3,554 (59.7)	1.00	--
No	2,808 (35.6)	2,402 (40.3)	1.13	(1.04-1.23)
Current Health Plan				
Yes	7,290 (92.1)	4,504 (75.6)	1.00	--
No	622 (7.9)	1,458 (24.5)	2.36	(2.08-2.67)
Current Employment				
Yes	2,285 (28.9)	2,347 (39.3)	1.00	--
No	5,611 (71.1)	3,617 (60.7)	0.73	(0.66-0.81)
Income				
< \$15,000	1,992 (29.6)	1,875 (36.3)	2.17	(1.90-2.47)
\$15,000-\$24,999	1,597 (23.8)	1,493 (28.9)	1.90	(1.69-2.15)
\$25,000-\$34,999	766 (11.4)	606 (11.8)	1.56	(1.35-1.79)
≥ \$35,000	2,368 (35.2)	1,185 (22.9)	1.00	--
Smoking status				
Current smoker	781 (9.9)	871 (14.6)	1.27	(1.19-1.45)
Former smoker	2,368 (30.0)	1,493 (25.1)	0.87	(0.79-0.96)
Never smoked ¹	4,740 (60.1)	3,588 (60.3)	1.00	--
Language				
English	4,588 (58.3)	2,723 (45.7)	1.00	--
Spanish	3,288 (41.8)	3,236 (54.3)	1.32	(1.20-1.45)

**Adjusted Odds Ratio; ^oCI=Confidence Interval; ¹Never smoked (100 cigarettes in a lifetime)

Results

- Respondents with < 9th grade education had statistically significant higher adjusted odds of never having CRC screening compared to those with ≥ 9th grade education (AOR 1.19, 95% CI 1.06-1.34).
- Female respondents had statistically significant lower adjusted odds of never having a colorectal cancer screening compared to male respondents (AOR 0.77, 95 % CI 0.70-0.84).
- Respondents 50-54 years old had statistically significant higher adjusted odds of never having a colorectal cancer screening compared to respondents 70 years or older (AOR 3.03, 95% CI 2.64-3.47).

Strengths/Limitations

- The study was also conducted in Spanish allowing outreach to a population that otherwise would have remained unknown.
- The fruit and vegetable question was omitted because the data was restricted to using a voluntary module.
- Results are not generalizable because the analyses were not weighted.

Conclusion

- Results demonstrate a significant relationship between low health literacy levels (less than 9th grade education) and never having colorectal cancer screening among respondents. Future studies should weight the data.
- Hispanic/Latina female respondents have higher odds of ever having CRC screening compared to male respondents.
- Future research should assess this relationship in Hispanic/Latina women by country of origin (Latin-American countries)
- Identifying colorectal cancer screening barriers and culturally appropriate educational materials for colorectal cancer screening may be helpful in guiding future health promotion strategies and healthcare interventions.

References

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