

INTRODUCTION

- Subgroups of the deaf or hard of hearing (DHH) receive lower cancer screening rates compared to the general population.
- Various extrinsic and intrinsic factors contributing to cancer screening have been explored in the DHH community, including race, but not cancer worry and fatalism.
- Cancer worry and fatalism's relationship in the general population has been likened to one of a negative curvilinear nature. High/low levels can deter screening while moderate levels can promote it.
- Research questions:
 1. Is there an interaction between race and hearing status for cancer worry and fatalism after adjusting for other characteristics?
 2. For each racial group, do cancer worry and fatalism differ between deaf and hearing people after adjusting for other characteristics?

METHODS

1. The NIH/NCI's Health Information National Trends Survey was translated and administered in American Sign Language (HINTS-ASL).
2. Survey measures included Likert-scale questions on cancer worry, cancer fatalism, and cancer avoidance.
3. Purposive sampling was done via snowball sampling, flyers, social media, and advertising on DHH-centered organization websites and e-newsletters.
4. Descriptive statistical analyses and multivariable logistic regression analyses were used to assess the research questions.

RESULTS

- 954 DHH ASL users (24%) and 2,990 hearing English speakers (76%) answered the survey questions.
- Cancer avoidance was a covariate and both DHH and hearing were similar in high avoidance (33% and 36%, respectively).
- Race and hearing status was not significantly associated with cancer worry ($p=0.37$), but was associated with cancer fatalism ($p=0.03$).
- Within racial/ethnic groups, Black/African American and White DHH had lower odds of cancer fatalism (OR(95% CI): 0.44 (0.20,0.95), $p=0.04$ and 0.59 (0.45,0.77), $p<0.001$, respectively. White DHH also had lower odds of cancer worry (0.74(0.57,0.97); $p=0.03$).

Cancer Worry and Fatalism Among Deaf and Hard of Hearing Adults

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Adjusting for cancer avoidance and SES, race and hearing status:

Does not interact with cancer worry Interacts with cancer fatalism

Table 1. Distribution of Respondent Characteristics by Hearing Status

Characteristics	Hearing Status		P-Value*
	Deaf (N=954)	Hearing (N=2990)	
Age in years: Mean (Standard Deviation)	45.2(17.9)	56.1(16.1)	<0.0001
	N [†] (Col%)		
Race/Ethnicity			<0.0001
White	632 (66.5)	1795 (64.4)	
African-American/Black	99 (10.4)	377 (13.5)	
Asian/Other	93 (9.8)	490 (17.6)	
Hispanic	127 (13.4)	127 (4.6)	
Education			<0.0001
Gender			0.55
Regular Provider			<0.0001
Chance of getting cancer			0.24
High avoidance	138 (32.9)	1066 (35.9)	
Low avoidance	281 (67.1)	1904 (64.1)	
Worried about getting cancer			0.09
Low worry	508 (53.2)	1499 (50.1)	
High worry	446 (46.8)	1491 (49.9)	
Think about death when think of cancer			<0.001
Agree	372 (50.8)	1731 (58.7)	
Disagree	360 (49.2)	1216 (41.3)	

†Might not add to the total due to missing values.
*Based on the two-sided t-test or the chi-square test.

Table 2. Logistic Regression Associating Hearing Status and Race with High Worry and Agree to Think of Death

Variable	Worried about getting cancer		Think about death when think of cancer	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Interaction of Hearing Status and Race		0.37		<0.001

Table 3. Logistic Regressions Associating Characteristics with High Worry and Agree to Think of Death Within Each Race Group

Hearing Status (Deaf vs. Hearing)	Worried about getting cancer		Think about death when think of cancer	
	OR (95% CI)	p-value	OR (95% CI)	p-value
White	0.74 (0.57,0.97)	0.03	0.59 (0.45,0.77)	<0.001
Black	0.73 (0.34,1.56)	0.42	0.44 (0.20,0.95)	0.04
Asian/Other	1.34 (0.70,2.58)	0.37	0.75 (0.39,1.47)	0.40
Hispanic	0.99 (0.48,2.04)	0.97	0.72 (0.34,1.54)	0.40

KEY TAKEAWAYS

- Solutions must incorporate an intersectional lens and consider race, culture, health literacy, and access to information for each DHH individual.
- Efforts must be made towards:
 - More discussions around cancer, cancer screening, diagnosis, and treatment in the DHH community. (“Ignorance is bliss.”)
 - An integrative health model with ASL-using Community Health Navigators can be beneficial.
 - DHH cultural competency training in clinical settings.
 - More accessible cancer education in ASL.

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