

The Relationship between Health Information Sources and Mental Models of Cancer: Findings from HINTS 2005

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Introduction

Mass media channels are traditionally viewed as one of the most important ways to increase awareness and knowledge of health-related topics. However, evidence on the relationship between information sources and behavior is mixed^{1,2}.

Recent research suggests that mental models of disease influence behaviors in a number of ways. Increased perceived risk is associated with more preventive behaviors³, while ambiguity is associated with fewer preventive behaviors⁴.

To date, the relationship between sources of health information and mental models of disease has received little attention.

This study was designed to test the association between:

exposure to health information sources, including:

- Cancer information from any source
- Health information on television
- Health information in the newspaper
- Health information on the Internet

and

mental models of cancer, including:

- Self-assessed relative risk
- Ambiguity about following cancer prevention recommendations
- The belief that cancer is caused by an individual's behavior or lifestyle.

Methods

This is a secondary data analysis of the 2005 Health Information National Trends Survey (n= 5,586). Hierarchical logistic regression was used to examine the association between the sources of health information and each mental model of cancer by entering blocks of variables as follows:

1. sources of health information;
2. sociodemographic characteristics: age, gender, race/ethnicity, education, and household income;
3. health-related variables: self-assessed health status, health insurance coverage, and frequency of provider visits;
4. potentially confounding variables: having been diagnosed with cancer or having a family member diagnosed with cancer; and
5. potentially moderating variable: psychological distress (main effect and the interactions with each of the sources of health information).

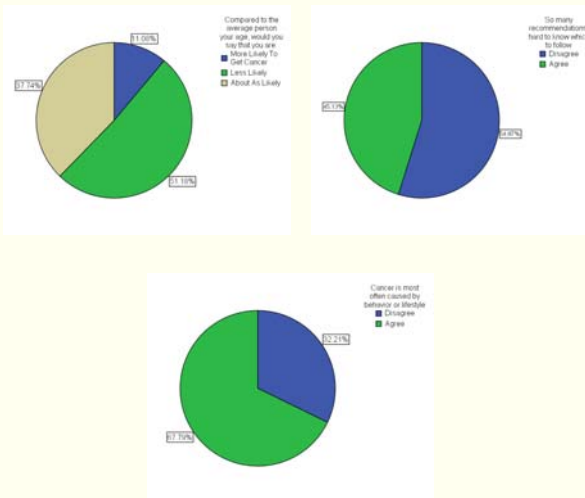
The final model included variables that were significant in the last step of the hierarchical model.

Results

Respondent Characteristics: Health Information National Trends Survey, 2005 (N=5,586)

Characteristic	n	%
Gender		
Female	3,657	65.5
Ethnicity		
White	4,103	76.9
Hispanic	496	9.3
Black	438	8.2
Asian	104	1.9
Multiple races	102	1.8
American Indian or Alaskan Native	81	1.5
Pacific Islander	12	0.2
Education		
Less than high school	687	12.8
High school graduate	1,447	39.7
Some college	1,545	28.7
Bachelor's degree	1,005	18.7
Post-baccalaureate degree	691	12.9
Annual household income		
Greater than \$75,000	1,150	25
\$50,000 to < \$75,000	924	20.1
\$35,000 to < \$50,000	652	14.2
\$25,000 to < \$35,000	565	12.3
Less than \$25,000	1,307	28.4
Age, Mean (SD)	52.17 (17.9)	
Health Insurance Coverage	4,749	88.1
Self-Assessed General Health Status		
Excellent	664	12.3
Very Good	1,678	31.1
Good	1,809	33.5
Fair	1,000	18.5
Poor	253	4.7
Ever looked for cancer information	2,925	53%
Watched health info on news	4,091	75%
Read health info in newspaper	3,626	74%
Read health info on the Internet	2,099	38%

Respondent Mental Models of Cancer: HINTS 2005 (N=5,586)



Results of Hierarchical Regression Analyses

After controlling for sociodemographic and health variables, the odds of believing you are more likely than your peers to get cancer:

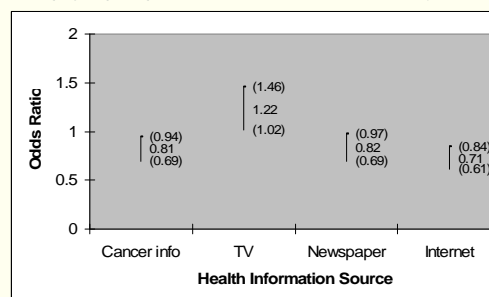
- ✓ were lower for respondents who:
 - watched health information programs on TV
 - were older adults
 - had better self-assessed health
 - identified as multiracial, African American, or Asian
- ✓ were higher for respondents who had a personal or family history of cancer
- ✓ were almost four times lower among respondents with serious psychological distress who read the health section of the newspaper as compared to those who were distressed and did not read the health section of the news.

After controlling for sociodemographic and health variables, all sources of health information were associated with ambiguity about cancer prevention recommendations. The odds of feeling ambiguous were:

- ✓ 22% higher for TV watchers
- ✓ 20% lower for users of other sources
- ✓ higher for respondents who were older, male, less educated, and lower income.

No source of information was associated with the belief that cancer is primarily caused by behavior/lifestyle factors.

Ambiguity Regarding Cancer Prevention Recommendations, Adjusted Model



Discussion

These results confirm that mass media are an important channel for health communication⁵, but their quality and impact vary. Seeking out information in print media and on the Internet, or on cancer specifically, is associated with less ambiguity about cancer prevention recommendations and may correct the natural tendency towards an optimistic assessment of personal risk⁶; however, watching health information on the news has the opposite effect. Findings are consistent with other research that casts doubt on the usefulness of television as a channel for health education while highlighting the importance of active engagement with high-quality information⁷. The association between mental models of cancer and age, gender, race/ethnicity, educational attainment, and health status is consistent with previous research on health communication¹.

Public health campaigns need to differentiate channel, content, and target audience in order to effectively disseminate health-related information. Healthcare providers should discuss sources of health information with their patients in order to correct erroneous interpretation for consumers whose consumption of television may be contributing either to increased ambiguity about cancer prevention recommendations or overly optimistic assessment of personal risk.

Literature Cited

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