The Effects of Information Exposure through Mass Media Channels and Social Networks on Women's HPV Awareness: Results from HINTS 2005

HARVARD SCHOOL OF PUBLIC HEALTH

Teal and White Cervical Cancer and HPV Health Awareness Ribbon

DANA-FARBER CANCER INSTITUTE

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Background

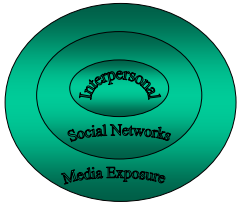
Research suggests that outside of interpersonal level (patient-provider) communications, social networks and broader media environments may influence women's awareness of HPV.

However, information campaigns may be less effective in creating awareness among racial ethnic minority women, in a phenomenon known as the "knowledge gap." Indeed, this research shows that racial ethnic minorities may face substantial barriers to accessing and processing health information.

Purpose

Drawing on the Health Information National Trends Survey (HINTS) survey of communication behaviors conducted by the National Cancer Institute (NCI), we examined whether exposure to various media channels (e.g. access to the Internet, reading newspapers, and watching television news) and social networks (e.g. membership in community organization/s and having family and friends to talk with about health) influence women's awareness of HPV, after controlling for other socio-demographic characteristics. Further, we seek to disentangle the effects of these factors on racial/ethnic minority women's awareness of HPV.

Figure 1 - Interpersonal, Social, and Environmental Factors



Research Questions

RQ1: How are social networks and health information exposure among women (in general) associated with HPV awareness?

RQ2: How are social networks and health information exposure among racial/ethnic minority women associated with HPV awareness?

Methods

We restricted our analyses to all women in the sample. Descriptive analyses were used to describe the basic features of the data and provide summaries about the sample and measures.

Stepwise logistic regressions were used to analyze the effects of differential exposure to media channels and social networks on women's awareness of HPV, after controlling for socio-demographic characteristics. Next, we stratified the data by race/ethnicity, and conducted logistic regressions to explore specifically the factors associated with Black and Hispanic women's HPV awareness.

Results

Table 1. Sociodemographic profile of respondents

	Total Sample Women
N (Valid %) of Sample Women	n=3657
Heard of HPV	1336 (38%)
	2202 (62%)
Past 12 months watched health news on television	2826 (79%)
	737 (21%)
Access to the Internet	2075 (61%)
	1580 (39%)
Past 12 months read health news in newspaper	2539 (76%)
	649 (23%)
Member of a community organization	
One organization	1073 (31%)
Two organizations	625 (16%)
3 – 4 organizations	457 (11%)
≥5 organizations	132 (2%)
None	1250 (40%)
Have family/friends to talk to about your health	
Yes	3055 (85%)
No	486 (15%)
Race/Ethnicity	
White	2713 (77%)
Hispanic	305 (12%)
Black	311 (12%)
Education	
<HS Grad	451 (14%)
High School Grad-Some College	2038 (63%)
College Grad +	1040 (23%)
18-24	198 (13%)
25-44	1065 (36%)
45-54	693 (18%)
55+	1685 (33%)
US Born	
Yes	3195 (86%)
No	347 (14%)

Results (cont'd.)

Table 2. Stepwise Logistic Regression

Factors associated with HPV awareness

WHERE 1= Have heard of HPV	Step 1 Logistic	Step 2 Logistic	Step 3 Logistic	Step 4 Logistic	Step 5 Logistic
Predictor	n=3,400	n=3,400	n=3,389	n=2,923	n=2,923
	OR (CI 95%)	OR (CI 95%)	OR (CI 95%)	OR (CI 95%)	OR (CI 95%)
Race/Ethnicity (White)					
Hispanic	1.92 (1.35-2.73)**	1.57 (1.03-2.40)**	1.42 (.90-2.23)	1.18 (.72-1.92)	1.12 (.68-1.85)
Black	1.51 (1.11- 2.05)**	1.46 (1.04-2.04)**	1.42 (1.01-1.99)**	1.66 (1.11-2.48)*	1.65 (1.09-2.48)*
Age (55+)					
18-24		.41 (.28-.60)**	.39 (.26-.57)**	.41 (.25-.67)**	.41 (.26-.67)**
25-44		.44 (.34-.56)**	.43 (.33-.55)**	.48 (.36-.64)**	.48 (.36-.64)**
45-54		.47 (.35-.64)**	.47 (.35-.63)**	.54 (.37-.78)**	.54 (.37-.78)**
Education (College Grad)					
<HS Grad		6.14 (4.08-9.22)**	5.62 (3.66-8.63)**	4.31 (2.52-7.35)**	4.34 (2.53-7.45)**
HS Grad/Some College		2.45 (1.95-3.07)**	2.30 (1.80-2.94)**	2.03 (1.55-2.65)**	2.04 (1.55-2.67)**
Membership in Community Organizations (None)					
One			.85 (.66-1.09)	.97 (73-1.29)	.97 (.73-1.29)
Two			.79 (.60-1.03)	.90 (.66-1.23)	.90 (.66-1.24)
Three-Four			.86 (.56-1.27)	1.03 (.69-1.54)	1.04 (.69-1.55)
Five+			.57 (.32-1.00)	.76 (.41-1.40)	.76 (.41-1.40)
Friends/Family to talk with about health (None)			.57 (.43-.78)**	.69 (.51-.94)**	.70 (.51-.94)*
Watched Health Segments on Local News (No)				.82 (.57-1.17)	.82 (.57-1.17)
Have access to the Internet (No)				.54 (.42-.70)	.54 (.42-.70)**
Read Health Info in the Newspaper (No)				.51 (.37-.72)**	.52 (.37-.72)**
US Born (No)					.91 (.55-1.50)

Table 3. Logistic Regression

Factors associated with Black and Hispanic HPV awareness

Logistic Regression WHERE 1= Have heard of HPV	Black Women	Hispanic Women
Predictor	n=253	n=205
	OR (CI 95%)	OR (CI 95%)
Age (55+)	P≤.7527	P≤.6619
Education (College Grad)	P≤.0022	P≤.1300
<HS Grad	19.97 (3.38-117.95)**	
HS Grad/Some College	5.67 (1.89-17.06)**	
Membership in Community Organizations (None)	P≤.1064	P≤.5981
Friends/Family to talk with about health (None)	P≤.3521	P≤.1959
Watched Health Segments on Local News (No)	P≤.3985	P≤.6842
Have access to the Internet (No)	.32 (.11-.94)*	P≤.6783
Read Health Info in the Newspaper (No)	P≤.7562	P≤.4534
US Born (No)	P≤.6912	P≤.1623

Summary of Findings

- Having friends and family to talk with about health, reading the newspaper daily, and having access to the Internet, are most significantly associated with women's HPV awareness, after controlling for socio-demographic characteristics.
- Being African American or Hispanic is significantly associated with decreased levels of HPV awareness, after controlling for information variables. However, being foreign-born mediates the effect for Hispanic women.
- Stratified analyses suggest that having access to the Internet is a significant predictor of Black women's awareness of HPV, after controlling for other factors.

Discussion

Research suggests that membership in social organizations and exposure to various media channels will have a substantial impact on women's awareness of HPV. Yet, as more information about HPV flows through the general public, differential access and processing barriers may induce a "knowledge gap" for racial minority women.

Our study shows that while social networks (i.e. having family/friends to talk with about health) and media channels (i.e. reading the newspaper and having Internet access) are significant predictors of women's awareness, after controlling for other variables, racial minority women still have lower awareness levels than their white counterparts.

Stratified analyses suggest that while access to these information channels may not play a significant role in Hispanic women's HPV awareness, having access to the Internet, in particular, may help to increase Black women's HPV awareness.

Conclusions

These preliminary data suggest hypotheses for further exploration to examine the impact of the diffusion of HPV information on HPV awareness, particularly among African American and non-U.S. born Hispanic women.

Media exposure appears to matter in making people aware of HPV, while being African American and foreign born are negatively associated with HPV. A more complete analysis and examination will offer explanation for these finding and pointers for future strategic health communications on HPV.

References

Anhang, R., Goodman, A., & Goldie (2004). HPV Communication: Review of existing research and recommendations for patient education. *CA Cancer J Clin, 54,* 248-259.

National Cancer Institute (2005). 2005 National Health Interview Survey (HINTS). Retrieved January 23, 2007 from http://hints.cancer.gov/hints/about.jsp.

Tiro JA, Meissner HI, Kobrin S, Chollette V. (2007). What do women in the U.S. know about human papillomaviirus and cervical Cancer? *Cancer Epidemiol Biomarkers Prev*., 16, (2), 288-294.

Viswanath K. (2006) Public communications and its role Viswanath, K., & Finnegan, J. R., Jr. (1996). The knowledge gap hypothesis twenty-five yearslater. In B. R. Berelson (Ed.), *Communication yearbook 19* (pp. 187–227). Thousand Oaks,CA: Sage.

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