

Identifying Social Characteristics of Health-Related Information Seeker: A gender-specific approach for cancer survivors



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Background and Objectives

Health information-seeking behavior (HISB) is active need-fulfillment behavior whereby health-related information is obtained from diverse sources, such as the mass media and Internet, and has emerged as an important issue within the transforming healthcare environment and the rise of medical consumers (Jung, Ramanadhan, and Viswanath, 2013; Jung, 2014a). However, little is known about the factors that affect HISB and its associations, and the social characteristics of HISB. Health information became highly universalized amid a wave of health news, pharmaceutical advertisements, medical industries, and health websites coupled with the recent emergence of user-generated Internet content based on diverse healthcare information and communication platforms (Viswanath, 2005). Despite the abundance of health information, however, huge disparities exist between individuals in their levels of health knowledge, their interest in health information, and their information-searching behaviors (Viswanath, 2006; Jung, 2014a).

HISBs describe the actions of patients collecting the information necessary for their disease problem, as the patients try to address their stress or chronic condition such as cancer (Galarec, Ramanadhan, and Viswanath, 2011). Attention to information-seeking behaviors has increased as medicine shifted away from physician-driven models toward models of shared-decision-making in physician-patient interactions (Davison et al., 2002; Rankin et al., 2000). Because informed survivors actively interact with their medical providers, they may be particularly able to accrue benefits in this shared system compared to survivors who are less informed (Charles et al., 2003; Kahn et al., 2007).

While HISBs as an indicator of health communication of patients has been studied, few studies have examined how social characteristics and socioeconomic position (SEP) combine to influence HISB (Jung, 2014a). The present study focused on the social determinants of HISB by examining the associations between health behavior, health status, and media use among the general population. By examining the relationship of media use and HISB, the present study sought to elucidate a gender-specific effect of HISBs among the population and to gain insights needed for formulating programs to mitigate health communication disparities between the information seeker and non-seeker groups.

Material and Methods

1. Study Sample

The data for this study came from a survey of 1,010 respondents drawn from a nationally representative sample of Korean adults who participated in Hankook Research's Master Sample Panel. Members of this panel were recruited using a dual sampling frame, a combination of Random Digit Dial and Address-Based Sampling, which allows for sampling of individuals with no telephone land lines. The response rate for the survey was 57.0%. Respondents received nominal cash incentives to participate in this survey. The surveys are administered online.

2. Measures

The questions in the survey were developed from previous surveys on health-information seeking behaviors (Viswanath, Ramanadhan, & Kontos, 2007; Jung, 2014a; Jung, 2014b; McCloud et al., 2013). We conducted five focus groups with participants from diverse socio-demographic backgrounds. In general, key themes gravitated around topics related to media use, preventive behavior, health communication, and general health status. This information was combined with items adapted from the Health Information National Trends Survey (HINTS). The survey was finalized after cognitive interviews with potential respondents.

Dependent variables: The main outcome variable was the health-related information seeking behaviors of the individuals. Respondents were asked to rate their own seeking activity on a five-point Likert type scale ranging from very actively to very inactively to the question "Thinking about all the times you've looked for health-related information from any source, how much do you search for information about health?"

Independent variables: SEP was measured by education and annual household income. General media use was assessed with the following questions, "In the past seven days, how many hours do you watch television per day on average; listen to the radio; read a newspaper; search information by smartphone; and read news on the Internet by personal computer?". Capacity to information was assessed in terms of utilization and access. We asked seven questions about barriers to finding desired health-related information. Participants were asked to note whether each issue was "a large problem, a small problem, or no problem at all in getting the information you wanted about [their] health."

Covariates: The potential confounders were age, gender, and region. In addition, the three dichotomous health behavior variables of smoking and drinking alcohol by gender were used in regression analyses.

3. Statistical analyses

We identified differences in general characteristics between the information seeker and non-seeker groups using chi-square statistics. Multivariate logistic regression analyses accounted the social determinants of health information-seeking behavior among the Korean population for taking accurate gender-specific effects. All analyses were conducted by using STATA v.12.0 (STATA, College Station, TX).

Results

Ethics Statement

Approval for the study was granted by the Korea National Institute for Bioethics Policy Institutional Review Board (April 11, 2014; P01-201404-SB-19-00). All participants gave written informed consent to participate. The Ethics Committees of the Demographic Health Survey approved this consent procedure.

1. General sample characteristics

Of the 1,010 participants, 49.1% were women and 50.9% men (Table 1), 21.4% were in their 40s and 18.7% were over 60 years of age or older. About 31.0% of the participants earned \$20,000 to \$40,000 per year. A majority of participants reported high SRH (84.2%), most had a college degree or higher (76.0%). Breast cancer was the most common cancer, having affected 47% of the participants (64% of the females). Regarding medical utilization, 32.3% had received outpatient care during the last month. The descriptive characteristics of the sample from Table 1 indicated that the most frequently used media type was television and computer, to which 77.9% watched one hour more and 82.8% searched information using a computer, whereas, only 23.8% read newspapers 30 minutes or more.

2. Differences between the health-related information seeker and non-seeker

As shown in Table 2, compared to the information non-seeker group, the seeker group had more individuals who were old age ($p < 0.05$), more individuals with higher educational attainment ($p < 0.05$), more individuals with higher annual income ($p < 0.05$), more individuals with chronic disease ($p < 0.001$), and; more individuals who had received medical utilization ($p < 0.001$). Regarding media use, the seeker group had more individuals who were exposed to newspaper ($p < 0.001$) and radio ($p < 0.01$).

Table 1. General characteristics of the sample (n=1,010)

	n	%	Television Watching		Radio Listening		Newspaper Reading		Smartphone Browsing	
			n	%	n	%	n	%	n	%
Gender	men	514	50.9	100	9.9					
	women	496	49.1	123	12.2					
Age	20-29	204	20.2	299	29.6					
	30-39	202	20.0	267	25.8					
	40-49	216	21.4	221	22.5					
	50-59	199	19.7							
	60 or older	189	18.7			310	30.7			
Education	high school or less	242	24.0			195	19.3			
	college degree	603	59.9			169	16.7			
	post-graduate	163	16.1			188	18.6			
								365	36.1	
Income	under \$20,000	174	17.2			190	18.8			
	\$20,000-\$39,999	313	31.0			215	21.3			
	\$40,000-\$59,999	256	25.3			240	23.8			
	\$60,000-\$79,999	159	15.7							
\$80,000 or above	108	10.7			143	14.2				
SRH	high SRH	850	84.2			207	20.5			
	low SRH	160	15.8			265	26.2			
						217	21.5			
Chronic Disease	have not	697	69.0			178	17.6			
	have	313	31.0					45	4.5	
Medical Utilization	never	365	36.1			129	12.8			
	one time	326	32.3			292	28.9			
	two time	175	17.3			163	16.1			
	three time or more	144	14.3			135	13.4			

Table 2. Bivariate analyses of the sample by health information seeking behaviors

	Non-Seeker (n=622)	Seeker (n=388)	p-value	Television Watching		Radio Listening		Newspaper Reading		Smartphone Browsing	
				n	%	n	%	n	%	n	%
Gender	men	63.0	37.0								
	women	60.1	39.9								
Age	20-29	69.1	30.9	<0.05							
	30-39	61.9	38.1								
	40-49	62.0	38.0								
	50-59	62.3	37.7								
	60 or older	51.9	48.1								
Education	high school or less	68.6	31.4	<0.05							
	college degree	59.5	40.5								
	post-graduate	58.9	41.1								
Income	under \$20,000	70.1	29.9	<0.05							
	\$20,000-\$39,999	63.9	36.1								
	\$40,000-\$59,999	56.3	43.8								
	\$60,000-\$79,999	60.4	39.6								
\$80,000 or above	55.6	44.4									
SRH	high SRH	62.0	38.0								
	low SRH	59.4	40.6								
Chronic Disease	have not	66.6	33.4	<0.001							
	have	50.5	49.5								
Medical Utilization	never	75.9	24.1	<0.001							
	one time	57.7	42.3								
	two time	50.3	49.7								
	three time or more	47.9	52.1								

Results (continued)

3. Social characteristics of health-related information seeker

As shown in Table 3, after controlling for respondents' age and residence, men who reported high household income were 1.411 times more likely to seek health-related information than those with low income status (95% CI, 1.055-1.886). Also, the male individual with chronic conditions was 2.023 times more likely to seek health information than the healthy male without chronic diseases (95% CI, 1.393-2.938). Similar results were found for women as well in terms of health status. The female individual with chronic conditions was 1.956 times more likely to seek health information than the healthy female without chronic diseases (95% CI, 1.308-2.924). At the same time, women who received medical utilization during the last month were 1.586 times more likely to seek health information than those without medical utilization (95% CI, 1.051-2.394). Regarding information-seeking capacity, there were no significant disparities in information utilization and access by the seeker and non-seeker groups. However, media use was associated with health information-seeking behavior. After controlling for potential confounders, men who read newspaper was 1.422 times more likely to seek health information than those who did not use newspaper (95% CI, 1.050-1.927). Also, men who did an Internet search by smartphone were 1.370 times more likely to seek health information than those who did not (95% CI, 1.009-1.859). Meanwhile, women who did Internet search by computer at home were 1.960 times more likely to seek health information than those who did not (95% CI, 1.340-2.866).

Table 3. Adjusted odds ratio and 95% confidence intervals for reporting a health information seeker after controlling for the respondents' characteristics

		Men			Women				
		aOR	95% CI Lower	95% CI Upper	p-value	aOR	95% CI Lower	95% CI Upper	p-value
Socioeconomic Position	Education	1.025	0.560	1.878	ns	1.549	0.817	2.936	ns
	Income	1.411	1.055	1.886	<0.05	1.044	0.765	1.463	ns
Health Status	SRH (Ref.=low)	1.000				1.000			
	high	0.646	0.284	1.467	ns	0.756	0.301	1.896	ns
Health Behavior	Chronic Disease (Ref.=none)	1.000				1.000			
	patient with chronic conditions	2.023	1.393	2.938	<0.001	1.956	1.308	2.924	<0.001
Information-Seeking Capacity	Medical Utilization	1.318	0.919	1.891	ns	1.586	1.051	2.394	<0.05
	Smoking (Ref.=none)	1.000				1.000			
Media Use	Drinking (Ref.=none)	0.626	0.308	1.271	ns	1.000			
	one or more during the last week	0.561	0.255	1.234	ns	1.930	0.827	4.507	ns
Information-Seeking Capacity	Utilization Capacity	1.020	0.714	1.459	ns	0.854	0.564	1.293	ns
	Access Capacity	1.304	0.838	2.028	ns	1.060	0.679	1.654	ns
Computer	Television	1.186	0.858	1.638	ns	0.885	0.604	1.297	ns
	Radio	1.005	0.789	1.280	ns	1.187	0.895	1.574	ns
	Newspaper	1.422	1.050	1.927	<0.05	1.347	0.933	1.945	ns
	Smartphone	1.370	1.009	1.859	<0.05	0.976	0.684	1.392	ns
Nagelkerke R ²		0.241				0.294			

Notes: The dependent variable is health information seeking behaviors: the non-seeker (0) and the seeker (1). All models are additionally adjusted for age and residence.

Discussion and Conclusions

This study revealed that HISB among the population is strongly associated with social characteristics such as socioeconomic position, medical utilization, and media use, after controlling for potential confounders. This study represented one of the first explorations of health information-seeking behavior from a social determinants perspective using a gender-based approach. Within the study, participants who were richer, had chronic disease, received medical service, and used mass media (newspaper, smartphone, and/or Internet) were more likely to search health-related information. The HISB activity of the population was possibly connected with self-care management such as coping with health information deficiency.

The findings in the current study indicate that in addition to individual factors, social determinants such as income and education may influence how individuals access, interact with, and process health-related information. These associations have also been documented in studies on health communication among the vulnerable population (Viswanath et al., 2007; McCloud et al., 2013). Moreover, these pathways differ by gender, arguing for a more nuanced understanding of information avoidance behavior (McCloud et al., 2013). The finding that an individual who has difficulty using and understanding health information were more likely to report information avoidance is supported in previous research (Miles, Voorwinden, and Chapman, 2008).

Our observation is also consistent with the notion that individuals of a any socioeconomic position can work to protect their own health if they can access the resources and information required to do so (Randolph and Viswanath K, 2004). The importance of mass media in health promotion and disease prevention is well documented, since both routine exposure to and strategic use of mass media play a significant role in changing health behaviors including HISB (Jung, Arya, and Viswanath, 2013; Jung, Chan, and Viswanath, 2014). Although mass media channels such as radio, television, and newspapers are important sources of information about infectious and/or chronic diseases (Viswanath et al., 2007; Jung, Lin, and Viswanath, 2013), media-poor groups do not have easy access to these channels (Jung, Chan, and Viswanath, 2014). In fact, individuals of lower SEP tend to gain less benefit from information flows than their counterparts of higher SEP (Viswanath, 2006). Thus, we need to further reduce communication inequalities in order to improve the average level of health information and to promote preventive behaviors.