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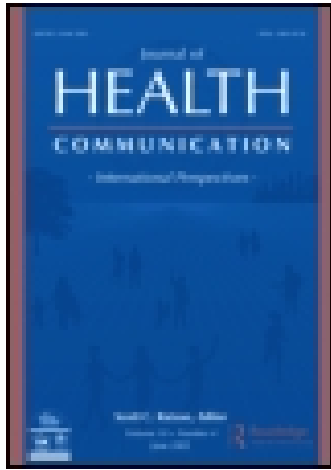
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Cancer Information Seeking Behaviors of Korean American Women: A Mixed-Methods Study Using Surveys and Focus Group Interviews

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Despite the high risk of cancer to the population, Korean Americans are known to have lower knowledge about cancer related information and a lower level of adherence to cancer prevention guidelines. This indicates the necessity of cancer interventions targeting the Korean American population. To reach this population effectively, it is imperative to understand Korean Americans' cancer information seeking behaviors. This study (a) identified cancer information sources that are trusted and used by Korean American women and (b) examined how general media exposure and trust in cancer information sources are related to the use of these sources. It also (c) explored perceived usefulness and limitations of cancer information sources. A mixed methods study using seven focus group interviews with 34 Korean American women and surveys with 152 Korean American women was conducted in the Washington, DC, metropolitan area from 2011 to 2012. The results indicate that Korean American women viewed health care professionals as the most trusted cancer information source but used the Internet and Korean ethnic media more often for cancer information seeking because of language, cultural, and economic barriers. Korean American women were most likely to obtain cancer information from media they used frequently for general purposes. Correlations between usage frequency and trust in doctor/health providers and the Internet as cancer information sources were negligible. When seeking cancer information, important factors for Korean American women were accessibility, affordability, and language proficiency, cultural sensitivity, meeting immediate needs, understandability, convenience, and reliability of cancer information sources. Findings from this study support developing interventions using Korean language media, including print, television and the Internet for health promotion and cancer prevention targeting Korean American women.

Korean Americans are the fifth largest Asian American subgroup, with more than 1.4 million living in the United States in 2010, a 33% increase during the past 10 years (U.S. Census Bureau, 2012). However, little is known about the health needs of Korean Americans, because national health data from more than 60 Asian nationalities are aggregated into one generalized Asian category that does not include important cultural variables related to ethnicity (Chen, Lephuc, Guzmán, Rude, & Dodd, 2006).

While heart disease is the leading cause of death in all other racial groups in the United States (Heron, 2012), cancer is the leading cause of death for Korean Americans (Chen, 2005; McCracken et al., 2007). Despite the high cancer mortality rate, cancer screening rates among Korean Americans are consistently lower than the goals set in Healthy People 2020 (Maxwell, Crespi, Antonio, & Peiyun

Lu, 2010; Pourat, Kagawa-Singer, Breen, & Sripipatana, 2010; U.S. Department of Health and Human Services, 2011).

Previous studies suggest that a lack of adequate information about cancer and cancer screening is one of the primary barriers for Korean Americans' cancer screening participation (Kim et al., 1999; Oh, Jun, & Kreps, 2013; Oh, Kreps, Jun, & Ramsey, 2011). A majority of Korean Americans are new immigrants. About 71% of Korean Americans were born in Korea and about 25% arrived in the United States in 2000 or later (Terrazas, 2009; U.S. Census Bureau, 2010). As a recent immigrant group, Korean Americans may confront many barriers to accessing health information and services as a result of low levels of English-language proficiency and lack of health insurance.

Consequently, Korean Americans face significant cancer knowledge deficits. In a study reported by Oh and colleagues (2013), the percentage of Korean Americans who had heard of fecal occult blood test (43%) was much lower than that of the general population (61%). Also, only one in two Korean

American respondents had heard of colonoscopy, while 80% of the national population had heard of colonoscopy. Only 10% of Korean Americans knew about the recommended intervals for having a sigmoidoscopy or colonoscopy screening, whereas about 35% of the general U.S. population recognized the correct intervals. In their multivariate analysis comparing a host of variables including sociodemographics, acculturation, health status, health care access, cancer-related beliefs, and knowledge variables, knowledge of screening guidelines was the strongest predictor of adherence to cancer screening guidelines among Korean Americans.

These findings clearly indicate that effective health communication interventions are needed to meet Korean Americans' cancer information needs and to encourage their participation in cancer screening. However, while there have been many previous studies regarding the knowledge, attitudes, and practices surrounding cancer screening among Korean Americans (e.g., Jo, Maxwell, Wong, & Bastani, 2008; Lee et al., 2009; Oh et al., 2013), little is known about Korean Americans' cancer information seeking behaviors. This study was designed to examine key sources of cancer information for Korean Americans and to learn why some sources are trusted and preferred over others to help guide effective cancer communication interventions for Korean Americans.

Literature Review

Korean Americans' cancer information seeking behaviors are expected to be different from those of the general population as Korean Americans are heavily dependent on ethnic Korean media (Oh et al., 2011). Consequently, national efforts to convey cancer information to the overall U.S. population that do not typically use Korean language messaging often fail to reach Korean Americans (Oh et al., 2011). Despite higher mortality rates than any other racial/ethnic group for several types of cancers, Korean Americans' involvement in cancer information seeking was relatively low and they have somewhat negative experiences in seeking cancer information (Oh et al., 2011). According to McDonnell and colleagues (2008), noticeable differences existed in the quantity and quality of cancer coverage in a Korean ethnic online newspaper (i.e., *Korea Daily*) as compared with a newspaper for the majority audience (i.e., *LA Times*). Clearly, it is critical to understand Korean ethnic media to use these media for cancer communication interventions targeting this population. This study treats Korean ethnic media as important potential cancer information source and examines its use and roles.

An important issue in effective dissemination and reception of health information is trust (Gilson, 2003). Trust in health information has been found to play an important role in influencing health behaviors, such as vaccine acceptance (Nan, Zhao, & Briones, 2014), HIV and STI prevention (Veinot, Campbell, Kruger, & Grodzinski, 2013), and cancer screening (Ling, Klein, & Dang, 2006). Communication research has long established trust as a fundamental dimension of source credibility (Pornpitakpan, 2004). Without a

sufficient level of trust, factors such as expertise or quality of information are unlikely to generate meaningful influence on targeted audiences. Moreover, patients, caregivers, and the general public today are faced with vast amounts of cancer information from a wide variety of sources. To sift through the clutter of all this information and find the answers they need for cancer-related questions, users have to first ascertain the level of trust they can place in the information and its source (Hesse et al., 2005). For these reasons and more, trust is often a critical determinant of the effectiveness of cancer communication efforts.

Trust can be a particularly challenging problem when communicating with racial, ethnic, and other minority populations (Halbert, Armstrong, Gandy, & Shaker, 2006). Previous studies show that the most trusted source of health information among both Korean Americans and native Koreans were health care providers (Oh et al., 2012; Oh, Zhou, Kreps, & Kim, 2013). When comparing native Koreans with Korean Americans, the levels of trust in health care providers as a source of health information were not significantly different; however, Korean Americans were 3 times more likely to trust health information from newspapers or magazines and 11 times more likely to read the health sections of newspapers or magazines (Oh et al., 2013). These findings suggest that immigration status can have profound influences on Korean Americans' exposure to, and trust in, different health information sources (Oh et al., 2013). However, it is still unclear why trust is not highly correlated with information usage—the most trusted sources of health information are not actually used as primary sources for health information. In addition, there have been no studies examining Korean Americans' perceptions about the trustworthiness of cancer information sources or their use of these sources. To fill this void, this study collected survey data to examine (a) cancer information sources that are trusted and used by Korean American women and (b) how general media exposure and trust in cancer information sources are related to the use of these cancer information sources. It also explored (c) Korean American women's perceptions about the usefulness and limitations of cancer information sources using focus group interviews.

Method

We conducted a triangulated mixed methods study using surveys and semi-structured focus group interviews (hereafter FGI) to seek in-depth understanding about the cancer information seeking orientations and behaviors of Korean American women. Both quantitative and qualitative data were collected at about the same time in the Washington, DC, metropolitan area. Surveys were conducted to assess degrees of trust in and usage frequencies of cancer information sources among Korean American women, while FGIs were conducted to gain in-depth understanding of Korean American women's perceptions regarding the usefulness and limitations of cancer information sources. This study was reviewed and approved by the authors' institutional review board.

Setting and Participants

Participation was limited to Korean American women aged 40 years or older. Considering the cancer screening guidelines set by USPSTF (2014) and American Cancer Society (2014), we selected women aged 40 or older because breast and colorectal cancer screenings are recommended to begin at age 40–50, although cervical cancer screening is recommended at early 20s. A recent study of Korean Americans on health information seeking (Oh et al., 2012) found that, with the exceptions of newspapers and magazines, no gender difference existed in the level of trust in sources of health information and health information seeking behaviors among Korean Americans. Therefore, we selected only Korean American women for this study because of their accessibility and willingness to share their thoughts and experiences concerning health issues. In addition, as in all other ethnic groups (U.S. Department of Health and Human Services, 2005), women are typically the primary family caregivers in the Korean community (Choi, Fogg, Lee, & Wu, 2009).

Korean churches and community-based organizations were approached as convenient and culturally acceptable data collection sites. Research shows that 78% of Korean Americans are Christian and 63% participate in religious activities at least once a month, suggesting that churches were good sites for recruiting respondents (Jo, Maxwell, Yang, & Bastani, 2010). A telephone directory that was developed by the local Washington, DC Korean community was used to find the contact information of leaders of the organization for about fifty churches and community-based organizations in the metropolitan DC area. Bilingual researchers then contacted the heads of twenty two local churches and organizations by telephone. After explaining the purpose of the study, the researchers asked the head of the church or organization for approval to recruit participants at their sites. Seven churches and community-based organizations agreed to participate. Potential participants provided informed consent before completing the survey.

Part 1: Surveys

We distributed 254 survey and 152 people returned completed surveys from May 2011 to April 2012, yielding a response rate of 60%.

Measures

Survey items were adopted from the Health Information National Trends Survey (HINTS). The HINTS instrument served as a model for developing the cancer information trends survey for Korean Americans (HINTS-Korean Americans). The instrument was translated by two independently trained bilingual (Korean–English) translators from the source language (English) into Korean, and then was back translated to check each translation. Finally the first and second translations were compared, by an expert panel whose members included one bilingual health professional faculty and two bilingual non–health care professionals.

We included measures as shown in Tables 1 to 3, including (a) frequency of using information sources for general

purposes (e.g., Korean newspaper/magazine, Korean TV channels, Korean radio, U.S. mainstream newspaper/magazine, U.S. TV channels, U.S. radio, Internet), (b) frequency of using information sources for the express purpose of finding cancer information (e.g., Korean and U.S. media, doctor or health care professional, and family/friend) in the past 12 month, (c) trust in the cancer information sources.

Independent variables in our analyses included demographics: age, marital status, education, household income, and employment status; proxy acculturation variables: length of U.S. residence, proportion of life spent in the United States, and English proficiency; self-reported health; health care access variables: health insurance status, access to a usual health care provider, access to Korean health care provider, number of visits to providers in the last 12 months; and cancer histories (personal and family).

Data Analysis

Statistical analyses were performed using SPSS 18.0. The proportion of life in the United States was calculated using age and years in the United States. Descriptive statistics were used to describe the background characteristics of the study sample and to present (a) frequency of general media use (b) frequency of using the media and other sources for cancer information seeking, and (c) level of trust in cancer information from each source. Bivariate analyses were performed using Pearson correlation to assess the associations between media exposure and trust of cancer information sources on one hand and usage of cancer information sources on the other. In addition, we conducted a series of multiple regression analyses to examine how general media exposure and trust in cancer information sources were related to the use of these sources after adjusting for sociodemographics, acculturation, health care access, and cancer experience variables. Statistical assumptions of multiple regression analysis were examined and multicollinearity of the independent variable was checked. Because of multicollinearity between the length of U.S. residence (years) and proportion of life in the United States (%), length of U.S. residence was excluded from the final regression models. For all analyses, the alpha criterion level was set at .05.

Part 2: Focus Group Interviews

Seven FGIs were conducted from May to August 2011 with 34 Korean American women 40 years of age or older residing in the Washington DC metropolitan area. We continued conducting FGIs until the research team felt the data were saturated, meaning that no new findings appeared to emerge. Each FGI targeted about 5 participants, but the range for each group was 2 to 7 since a few subjects did not show at the scheduled interview or cancelled the interview at short notice.

The FGIs were conducted by two trained bilingual Korean American moderators with doctoral degrees (lead authors). The FGIs averaged 2 hr in duration. All FGIs were both taped and video recorded under the informants' consent. A series of questions were prepared in advance to assess perceptions or attitudes related to cancer information

Table 1. Study group characteristics

Variable	Surveys (<i>n</i> = 152)	Focus group interviews (<i>n</i> = 34)
Sociodemographics		
Age group (years)	<i>n</i> (%)	<i>n</i> (%)
40–49	58 (38.2)	11 (32.3%)
50–59	57 (37.5)	14 (41.2)
≥60	37 (24.3)	9 (26.5)
Marital status		
Married	131 (86.2)	30 (88.2)
Not married	21 (13.8)	4 (11.8)
Education (years)		
≤12	54 (35.8)	15 (44.1)
>12	97 (64.2)	19 (55.9)
Household income (\$)		
<50,000	71 (48.6)	15 (44.1)
≥50,000	75 (51.4)	19 (55.9)
Main activity		
Employed (including self-employed)	68 (45.0)	20 (58.8)
Unemployed (including retired)	83 (55.0)	14 (41.2)
Acculturation		
Length of U.S. residence (years)		
<20	79 (52.2)	15 (44.1)
≥20	73 (48.0)	19 (55.9)
Proportion of life in the United States (%)		
<50	110 (72.8)	23 (67.6)
≥50	41 (27.2)	11 (32.4)
English proficiency		
Very comfortable	16 (10.6)	4 (11.8)
Somewhat comfortable	82 (54.3)	19 (55.9)
Does not speak or a little or not at all comfortable	53 (35.1)	11 (32.4)
Health care access		
Health insurance		
Yes	79 (52.0)	21 (61.8)
No	73 (48.0)	13 (38.2)
Access to a usual primary care provider		
Yes	91 (62.8)	24 (70.6)
No	54 (37.2)	10 (29.4)
Access to a Korean primary care provider		
Yes	83 (68.6)	21 (61.8)
No	38 (31.4)	13 (38.2)
Times visits to health care		
0	36 (24.0)	11 (32.4)
1 to 4	91 (60.7)	21 (61.8)
≥5	23 (15.3)	2 (5.9)
Cancer experience		
Ever had cancer		
Yes	9 (6.0%)	3 (8.8%)
No	141 (94.0%)	31 (91.2%)

(Continued)

Table 1. Continued.

Variable	Surveys (<i>n</i> = 152)	Focus group interviews (<i>n</i> = 34)
Family ever had cancer		
Yes	63 (41.7%)	13 (38.2%)
No	88 (58.3%)	21 (61.8%)
Media exposure (1 = 1 day/week ~7 = 7 days/week)	Mean (SD)	
Korean language newspaper or magazines	3.4 (2.6)	4.0 (2.6)
English-language newspaper or magazines	1.6 (2.0)	1.5 (2.1)
Korean radio	2.2 (2.4)	1.8 (2.3)
General radio	2.4 (2.3)	2.6 (2.6)
Korean TV channels	3.6(2.7)	4.2 (2.8)
General TV channels	3.1 (2.4)	3.8 (2.8)
Internet	3.8 (2.9)	4.5 (3.1)

sources, but points raised by the participants were also pursued. The participants were encouraged to speak freely and to raise issues of importance to them. Key questions in the discussion protocol included the following:

- Which cancer information source do you trust the most? Why?
- Where do you go first to get advice or information when you are worried about cancer? Why?
- Where do you usually get cancer related information? Why?
- Is there any reason that you prefer to get information from [information source]?
- Can you share any experience where you gained useful or limited cancer information from specific sources?
- Nobody mentioned [information source], is there any reason you do not use [information source]?

Data Analysis

The FGI data were analyzed simultaneously with survey data. All recorded interviews were transcribed in Korean by two bilingual researchers: one of whom was one of the authors and the other was a trained researcher with a doctoral degree. Transcripts were read simultaneously with the playback of the tapes to ensure correctness of the transcription. They also were read repeatedly by the researchers to get an overall understanding of the materials before the initial coding. For all analyses, the researchers used traditional human coding in order to maximize the subjectivity (Breuer, 2003).

First, two authors read the transcripts independently without the written notes. Then, the text was read again to sort out important data and to highlight key content themes. Owen's (1984) three criteria, repetition, recurrence, and forcefulness, were used for sorting data. Next, highlighted texts were reviewed with written notes to examine logical

relationships and contradictions. After that, the text was reviewed to confirm or disconfirm emerged relationships and to identify preliminary themes. Last, each theme was reviewed, reorganized, and synthesized into larger elements. The final themes and findings were then translated into English by the two researchers.

Results

Used and Trusted Cancer Information Sources

Our survey data indicate that many participants have heard of cancer related information often or very often from the Internet (35.2%), family or friends (31.6%), Korean TV (30.7%), and Korean newspaper/magazines (28.6%) in the past 12 months. The use of English-language media, Korean radio, and doctor or health care professionals as cancer information sources was limited. Many participants indicated that they had never obtained cancer information from U.S. mainstream newspapers/magazines (45.7%) or U.S. mainstream TV channels (40.2%) as shown in Table 2. It is interesting that exposure to cancer information through doctors or health care professionals was also low—nearly 40% of participants had never received cancer information from health care professionals. Neither Korean radio (never = 46.8%) nor U.S. mainstream radio (never = 58.8%) was used frequently for cancer information seeking.

Table 2. Cancer information seeking in past 12 months

Information sources	Cancer information seeking <i>n</i> (%)			
	Never	Sometimes (Every 2 or 3 months)	Often (Every month)	Very often (Every week)
Korean language newspaper/magazines	25 (18.8%)	70 (52.6%)	23 (17.3%)	15 (11.3%)
English-language newspaper/magazines	53 (45.7%)	47 (40.5%)	14 (12.1%)	2 (1.7%)
Korean radio	58 (46.8%)	45 (36.3%)	14 (11.3%)	7 (5.6%)
General radio	70 (58.8%)	36 (30.3%)	11 (9.2%)	2 (1.7%)
Korean TV channels	34 (27.4%)	52 (41.9%)	24 (19.4%)	14 (11.3%)
General TV channels	47 (40.2%)	48 (41.0%)	18 (15.4%)	4 (3.4%)
Internet	30 (24.0%)	51 (40.8%)	28 (22.4%)	16 (12.8%)
Doctor or health care professional	47 (38.8%)	57 (47.1%)	12 (9.9%)	5 (4.1%)
Family or friend	21 (15.4%)	72 (52.9%)	32 (23.5%)	11 (8.1%)

Note: Total *N* = 152.

Although the Internet, family or friends, and Korean media were used more frequently than U.S. mainstream media and doctors or other health care professionals, they were not necessarily the most trusted sources as shown in Table 3. Among survey participants, doctors and other health care professionals were the most trusted cancer information sources (47.2%), followed by Korean TV (22.6%), family or friends (20.3%), and Korean periodicals (17.3%). Meanwhile, a relatively high number of participants reported that they did not trust cancer information from the following sources at all: U.S. radio (15.8%), U.S. periodicals (14.3%), and U.S. TV (12.0%).

Associations of General Media Exposure and Trust in Cancer Information Sources With Use of Information Sources

Correlation tests revealed mostly moderate to strong positive correlations between general exposure to and usage of cancer information sources. Overall, Korean American women were more likely to obtain cancer information from media that they have used frequently for general purposes (*r*s = .397 to .632, all *p*s < .001).

Relations between usage frequency and trust in cancer information sources were mostly positive and weak to moderate in size (*r*s = .189 to .445, all *p*s < .05). However, there was no significant correlation between use frequency and trust for doctor/health providers. Also, correlations for Korean radio (*r* = 0.208, *p* < .05) and the Internet (*r* = 0.189, *p* < .05) were significant, but negligible by conventional standards.

Table 4 reports the effects of media exposure and trust of cancer information source on the use of cancer information sources after adjusting for sociodemographics, acculturation, health care access, and cancer experience variables. Overall, the relationships between media exposure and trust in cancer information sources and the use of cancer information sources were very similar to those observed in bivariate analyses.

Table 3. Trust in sources of cancer information

Information sources	Trust level <i>n</i> (%)		
	Not at all	Somewhat	Very
Korean language newspaper/magazines	7 (5.3%)	103 (77.4%)	23 (17.3%)
English-language newspaper/magazines	15 (14.3%)	73 (69.5%)	17 (16.2%)
Korean radio	12 (10.3%)	89 (76.1%)	16 (13.7%)
General radio	16 (15.8%)	70 (69.3%)	15 (14.9%)
Korean TV channels	10 (8.1%)	86 (69.4%)	28 (22.6%)
General TV channels	13 (12.0%)	78 (72.2%)	17 (15.7%)
Internet	8 (6.7%)	94 (79.0%)	17 (14.3%)
Doctor or health care professional	6 (4.9%)	59 (48.0%)	58 (47.2%)
Family or friend	7 (5.3%)	99 (74.4%)	27 (20.3%)

Note: Total *N* = 152.

Table 4. Regression predicting cancer information seeking

Predictor	Newspaper / magazines						Radio						TV channels						Doctor or health care professional		Family or friend	
	Korean		English		Korean		General		Korean		General		Korean		General		Internet		Beta		p	
	Beta	p	Beta	p	Beta	p	Beta	p	Beta	p	Beta	p	Beta	p	Beta	p	Beta	p	Beta	p	Beta	p
Trust in source of cancer information	.246	.001	.298	<.001	.190	.009	.152	.086	.362	<.001	.197	.017	.122	.113	.162	.056	.427	<.001				
Media exposure	.266	.001	.253	.005	.480	<.001	.303	.001	.483	<.001	.428	<.001	.527	<.001								
R ²	.281		.378		.454		.326		.535		.440		.326		.161		.261					
Adjusted R ²	.223		.311		.451		.249		.492		.380		.262		.090		.207					
Overall significance	<.001		<.001		<.001		<.001		<.001		<.001		<.001		.014		<.001					

Notes: Adjusted for sociodemographics, acculturation, health care access, and cancer experience variables.

Perceived Usefulness and Limitations of the Cancer Information Sources: FGI Findings

The characteristics of FGI participants are described in Table 1. No significant differences were found between the survey and FGI participants on sociodemographics, acculturation, health care access, cancer experiences, and media exposure.

When participants were asked to share sources they had used to obtain cancer related information, Korean newspapers and TV, the Internet, and friend/family were most frequently mentioned, which was consistent with the survey results. Participants also shared perceived benefits and limitations of each source and cancer information from that source. Below we present the general themes regarding their perceptions:

Doctors or Health Care Professionals: They Do Not Have Enough Time for Us

Our participants did not doubt the credibility of cancer information from doctors or health care professionals. They believed that health care professionals' cancer information is trustworthy as is based on expertise, results of physical exams, analysis of patients' medical records and histories. However, the participants described information from health professionals as inaccessible and expensive. They felt like either health professionals do not allow enough time for providing patients with relevant information during a regular check-up or they over-charge for time spent on extra information. Many informed us they ended up looking for cancer information from other sources since health professionals were not accessible or affordable to fulfill their cancer and other health information needs, as the following excerpts illustrate:

Of course, the most trustworthy source is doctors. They have expertise. However, a limitation of doctors, as cancer information sources, is their time limit. A few years ago, I was told that I might have breast cancer and had to wait a few more months to hear a confirmative result. I was frightened and had so many questions to ask the doctor, but he did not allow me enough time. During the months following my appointment and until the next visit, I eventually used other sources, asking people who had cancer before and going online.

I felt a mass around my ribs and wanted to visit a doctor. However, since I was not insured, the cost was a burden to me. I delayed a couple more weeks and ended up visiting an oriental herbal medicine doctor, which is a bit cheaper to visit. I knew the oriental herbal medicine doctor could not provide diagnosis or treatment, but I just wanted to hear that the mass is not serious from someone.

In addition to time limitations, language barriers and cultural differences restrained respondents from seeking cancer information from health care professionals. Some participants felt that they were not understood by English-speaking doctors whose recommendations for health management or cancer prevention often lacked cultural

sensitivity. Some women reported that Korean-speaking doctors are more approachable and make more effort to share cancer related information with patients. As a result, they changed their primary care doctor to a Korean-speaking doctor. For example, one of the participants shared her experience:

It is difficult to call American doctors (to get cancer related information) not just because of English, but also cultural differences. I could not reach my formal American primary doctor to ask questions. I actually changed my primary doctor from an American to a Korean. I felt so much more comfortable with him and could call him anytime. He responded very fast.

Family and Friends

Many participants in our study also picked word-of-mouth as an important cancer communication channel. They cited cancer information and stories that they heard from people who had similar health problems or experiences to their own. Although they were aware that cancer information from peers was often vague, incorrect, and not relevant or effective for them, they still considered the information to be memorable and mobilizing:

Even though I see cancer related information in newspapers, I don't read it. I feel like it is similar information every day. However, when people around me talk about cancer, I pay more attention and listen carefully. As an old Korean saying goes, "Brag (talk to others) about your illness." My Korean friends like to talk about their or other people's cancer experiences, and that's where I get most of my cancer information.

For our participants who were Christians and went to Korean American churches every Sunday (and more), the pastor and church groups were important sources of cancer information. In addition, some participants said that their church provided cancer related seminars, workshops, and free consulting from health professionals:

A pastor in our church had breast cancer. I watched her go through diagnosis, operation, and treatment. The church offered a seminar about breast cancer and many people attended the seminar. I trust cancer related information from the pastor as she is a cancer survivor.

U.S. Mainstream Media: Trustworthy, But It Is Not for Us

Our participants considered cancer information from U.S. mainstream newspapers, magazines, and other types of publications to be credible. They also acknowledged the benefits of using periodicals as cancer information sources in comparison with other sources, such as selective extraction of useful information, scrapping and passing along information to significant others, and reading information at one's own pace. Some participants reported that cancer information on American TV shows was more

reasonable and less exaggerated in comparison with that on Korean TV:

I often get health related information from the Today show on NBC. I think their information is a bit more reliable and less exaggerated compared to Korean TV shows.

A few participants said that they often read academic journal articles to see cancer related statistics. However, this was a rare behavior. Most participants in our study admitted limited ability to understand cancer related articles written in English. Many participants did not subscribe to any kind of English publications or TV cable programs. Some mentioned that they would attempt to read cancer related articles in English newspapers only if the article was recommended by their significant others. However, they often had to look for explanations of terminology in an English to Korean dictionary.

According to our participants, most cancer information from the mainstream media was not applicable to Korean American immigrants. Such information, they believed, only targeted middle class and Caucasian Americans who could afford the cost of health insurance or health care, had time for regular check-ups as well as additional examinations, and enjoyed an American lifestyle. They said that cancer screening and other preventive strategies such as diet and exercise recommended in the mainstream media would not work for Korean Americans. As a result, Korean American women heavily relied on cancer information from Korean media:

There are so many recommendations that I can't follow. For example, some diets and life style changes that can prevent cancer are not appropriate for me, Korean Americans' diets and life style.

However, there are some guidelines that we cannot follow in reality. The target of American media's cancer information would be the middle class, who would have health insurance and primary doctors, and who are more affluent. I know we have to get colonoscopy at certain intervals, but I cannot afford to have it. Therefore, I do not pay attention to American media's cancer information, because it is not relevant to me.

Korean Media: Language and Cultural Fit

Many participants mentioned Korean periodicals (e.g., *Korean Times*, *Korea Daily*), as sources where they would get cancer related information. The primary benefit of utilizing these sources was the Korean language. Our FGI participants had limited English proficiency as shown in Table 1. About thirty two percent of the participants spoke little to no English. Also, easy access to Korean periodicals greatly attracted the Korean American participants. Availability of in-depth health or cancer information in specialized health sections was another merit of Korean newspapers. For example, *Korea Daily* and *Korea Times*, which are the most regularly read Korean language daily newspapers in

the United States, provide a special health section every Sunday. Participants also evaluated cancer information on Korean periodicals as reliable and trustworthy in comparison to online cancer information, as shown in the following excerpt:

I subscribe to Korea Daily. It has a weekly health section, where I receive most health or cancer information... I trust cancer information from news articles. News articles are written by journalists, who should have more standards and responsibility with the article contents in comparison to cancer information on the Internet that is written by anonymous persons.

In addition, many respondents picked Korean TV programs as their number one cancer information source. They described cancer information from this source as entertaining, understandable (because of visual aid), and convenient. Also, participants pointed out that Korean TV provided indirect contact with health professionals as many health feature programs have health professionals as guests or hosts of shows. Some participants thought the biggest benefit of Korean TV programs was the availability of cancer information from the perspectives of both Western medicine and traditional Korean medicine (*Hanbang*). Although our participants trusted Western medicine, they placed an equal amount of emphasis and trust in traditional Korean medicine in terms of health and cancer management:

I prefer Korean programs as cancer information sources, because their information is more relevant or tailored to Koreans. I don't think we can follow all the American cancer prevention guidelines including dietary habits. We eat different kinds of food than Americans. More importantly, American programs do not discuss "*Chejil* (body type)." I heard eating and physical activities for cancer prevention differ for different *Chejil*. I can hear perspectives of *Hanbang* (Korean traditional) doctors as well.

The Internet

Many participants used the Internet as a cancer information source, citing the following general benefits of the Internet: easy and immediate access, searchability, easy collection and tracking of interesting information, and gateway to other forms of cancer information and cancer coping stories from current patients and survivors. At the same time, respondents were concerned that cancer information gathered from the Internet might be biased, commercialized, and exaggerated. The fact that cancer information gathered from the Internet often comes from anonymous sources and contains unnecessary content was also a concern. Our participants were generally aware of the risk of applying cancer information gathered from the Internet to themselves:

I like to search for cancer related information online. I can find the exact information I want immediately by using keywords, which I cannot do on other media. Also I can find information both in English and in Korean

language. My favorite part is that I can read stories of actual cancer patients.

I do not trust information on the Internet. It is not 100% accurate. Much of the information is exaggerated.

However, some participants told us the Internet was often the only source to get cancer information for those who did not have health insurance and, therefore, could not visit a doctor, and for new immigrants who had only limited interpersonal networks in the United States. These people would often search Korean American online communities to obtain advice and information from others. They were generally open to suggestions from online Korean American communities (Internet health discussion forums) despite the anonymity of the information.

Discussion

Doctors or other health care professionals were the most trusted source for cancer information among Korean American women. However, the Internet was their primary source for cancer information, followed by Korean ethnic media including newspapers/magazines and TV channels. In contrast with these findings, doctors were a primary source of health information for the general population and other non-Asian minority groups (Britigan, Murnan, & Rojas-Guyler, 2009; Hesse et al., 2005).

Results of our FGIs may explain the underlying causes of this discrepancy. Health care professionals' cancer information was most highly trusted among the participants, but was also considered inaccessible or expensive. Moreover, the language barriers and cultural differences between Korean Americans and most health care providers made it difficult for Korean American women to get cancer information from health professionals. Similarly, a previous study of Korean Americans (Kim et al., 2002) also indicated that most mainstream health care providers are not familiar with the health needs of Korean American immigrants and the unique barriers they face. The stress from interaction with doctors who have limited time was also reported by Chinese immigrants. According to Chen, Kendall, and Shry (2010), Chinese immigrant participants could understand the content of health information materials and communicate at their own pace, if allowed to check the dictionary for unfamiliar vocabulary and listen or read the content slowly. However, communicating with their health care providers in a discussion format under time constraints proved difficult and stressful for them.

Asian American immigrant patients' communication dissatisfaction with their doctors resulting from cultural incongruities was pointed out in previous studies (Chen et al., 2010). According to Ngo-Metzger and colleagues (2004), Asian Americans patients who place greater emphasis on their cultural values may often feel that their doctors do not understand their values and thus they often have lower satisfaction with their medical care. Such patients may also be less likely to seek information from health care professionals. Lee, Kearns, and Friesen (2010) reported that

Korean patients experience more distrust and anxiety during communication with Western doctors who often appear to be less confident in their diagnosing practices in comparison with Korean doctors who tend to be authoritative and confident about their diagnoses.

Previous studies illustrate Asian Americans' heavy reliance on cancer information from families, friends, and ethnic and regional communities (Lee, 2010; Todd & Hoffman-Goetz, 2011). Consistent with these findings, our survey results indicate that interpersonal sources, including family and friends, are regarded as important sources for cancer information among Korean American women. Following the Internet, family or friends are the most frequently used sources of cancer information, but they are less trusted than health care professionals and Korean TV channels. Results of our FGIs also confirmed that word of mouth through family, friends, and religious members is an important conduit for sharing cancer information among Korean American women (although information from interpersonal sources may not be relevant to their current information needs).

Our focus group findings show that religious organizations, especially Korean churches, are an important channel for accessing cancer information for Korean American women. Beyond spiritual guidance and social support, Korean churches play an important role in providing cancer health information seminars, workshops, and free consulting from health professionals for Korean American women. About 80% of Korean Americans are Christian and 63% participate in religious activities at least once a month (Lee et al., 2002; Suh, 2004). Korean Americans' high level of participation in church activities may make Korean ethnic churches an important site for cancer communication interventions.

Understanding patterns of media use and trust in health information sources is useful when designing health promotion campaigns (Clayman et al., 2010). Our survey showed that Korean American women are more likely to obtain cancer information from the specific media that they use frequently for general purposes. This finding has important implications for developing communication interventions for health promotion and disease prevention. However, it also raises concerns about whether Korean Americans are currently obtaining good-quality cancer information. Oh and colleagues (2011) examined cancer information seeking from and awareness of major national cancer information sources such as the National Cancer Institute and its Cancer Information Service among Korean Americans. They found that Korean Americans' frequency of U.S. media use, including American TV, radio, newspaper, and magazine was significantly related with their awareness of cancer information resources, but their frequency of using Korean media was not related with such awareness. This suggests that ethnic media that Korean Americans use frequently for general purposes may have limited effectiveness in providing them with credible cancer information.

However, the importance of Korean ethnic media is undeniable as a potential channel for providing relevant cancer

information to this population. Our research showed that Korean American women rely heavily on Korean media including Korean TV and periodicals for cancer information. Korean media are also well trusted as sources of cancer information. On the other hand, the use of English-language media is very limited among Korean American women and they are unlikely to consider cancer information provided on U.S. mainstream media as being relevant for them. The same issues discussed as barriers to cancer information seeking from health care professionals (i.e., language and cultural differences) may also explain the limited use of English-language media.

Availability of in-depth health or cancer information through specialized health sections was another merit of Korean language newspapers. There are a number of Korean American periodicals available throughout the United States. Among the periodicals, *Korea Daily* and *Korea Times* are the most widely read Korean language daily newspapers in the United States and have online versions that can be searched for specific content (Jun & Oh, 2015). Also, Korean TV programs are beneficial to Korean Americans to conveniently obtain entertaining, understandable, and reliable cancer information. Particularly, a second-hand contact with health professionals and availability of culturally appropriate cancer information from both Western medicine and traditional Korean medicine perspectives (*Hanbang*) were highly regarded as a merit of Korean TV programs. This positive perception towards cancer information provided by Korean ethnic media is also aligned with a previous study showing that Korean seniors described health care information on Korean mass media as diverse, comprehensive, and reachable (Lee, 2010).

A recent study (Hesse, Moser, & Rutten, 2010) indicated that in spite of rapid increases in the availability of health information on the Internet, the public's trust in online health information has decreased over time, while trust in physicians as a source of health information has remained high and actually increased from 2002 to 2008. According to HINTS data collected in 2008, 55.3% of U.S. population reported that they went to the Internet first when they need cancer information, followed by 24.9% citing their health care providers (National Cancer Institute, 2010). In line with these findings from the general population, the Internet was most frequently used, but not highly trusted among Korean American women. There is no doubt that trust is an important factor in the selection of cancer information sources. However, as shown by our FGI data, there seem to be many other factors that can determine actual use of sources of cancer information such as accessibility, affordability, language proficiency, cultural sensitivity, meeting immediate needs, understandability, convenience, and reliability. These factors may have played a role in the insignificant or negligible relationships between usage frequency and trust in doctor/health care providers and the Internet as cancer information sources.

Benefits of the Internet, such as easy and immediate access, searchable content, easy collection and tracking of useful information, and being a gateway to other forms of cancer information and cancer coping stories from current

patients and survivors, are similar to those identified in previous literature. However, our participants were also concerned about the quality of online cancer information being biased, commercialized, and exaggerated. For some participants, the Internet is often their only source for cancer information, particularly if they do not have health insurance, and therefore, cannot visit a doctor, or if they are new immigrants with limited interpersonal networks in the United States. These consumers searched Korean American online communities where they could obtain advice and information from others.

Consistent with our findings, a previous study (Kim & Yoon, 2012) found that married Korean women living in the United States commonly sought health information from online health forums. The most frequent questions asked in the forums were about recommendations for hospitals or doctors, including doctors who spoke Korean; potential causes of symptoms experienced, or treatment methods to consider before consulting a doctor. The primary reasons for seeking online help (before or instead of consulting doctors) included dissatisfaction with the health care system, financial concerns and language barriers.

In terms of trust in and use of health information sources, our findings are consistent with previous studies that found the most trusted source of health information among Korean Americans were health care providers, but they used the Internet and Korean ethnic media more often for health information seeking (Oh et al., 2012; Oh, Zhou, Kreps, & Kim, 2013). At the same time, our study also generated some important new insights to explain why trust is not highly correlated with channel use. First, Korean Americans were more likely to obtain cancer information from the media that they use frequently for general purposes. Second, beyond demographic, acculturation, and trust factors, we found other important factors influencing Korean Americans' health information seeking. The results of this study illustrate Korean American women's unique cancer information seeking behaviors as they adjust to their new environment as immigrants. Findings of this study support developing culturally sensitive health communication interventions using Korean language media including print, television and the Internet for health promotion and cancer prevention targeting Korean American women to reduce health disparities. This study adds to the literature detailing the cancer information seeking behaviors of Korean immigrants. Another major strength of this study is data triangulation using a mixed method design. Nevertheless, some limitations of the present study must be noted. Our findings may not apply to Korean American men because our study sample included only Korean American women. However, FGI participants described the experiences of their family members, friends, and acquaintances. There has been limited information on the comparisons of Korean Americans living in different geographic regions, and it is possible that Korean Americans living in Washington, DC, metro area are different in some aspects from Korean Americans living in other regions of the United States. Although the mixed methods used in this study enabled a more nuanced understanding of Korean

American women's cancer information seeking behaviors, our data, both quantitative and qualitative, have limited generalizability. Further studies using nationwide probability sampling methods including both Korean American men and women are needed for a more complete understanding of Korean Americans' cancer information seeking behaviors.

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