RESEARCH ARTICLE

Barriers to Cancer Screening among Medical Aid Program Recipients in the Republic of Korea: A Qualitative Study

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Abstract

Few studies have examined reasons why those with low socioeconomic status do not adequately receive cancer screening. We therefore conducted a qualitative study to assess the barriers to cancer screening in people with low socioeconomic status, and to examine the reasons why Medical Aid Program (MAP) recipients do not participate in the National Cancer Screening Program (NCSP). A focus group methodology was used. Participants included MAP recipients (men aged 45-79 years, women aged 35-79 years) who had been invited to cancer screening at least twice based on the NCSP protocol, but had not been screened for any cancer from 2009-2012. We recruited participants living in the cities of Goyang and Paju. A total of 23 MAP recipients participated in four focus group discussions, including 12 men and 11 women. In this qualitative study, we identified six barriers to screening: lack of trust in the NCSP and cancer screening units; fear of being diagnosed with cancer; discomfort or pain from the screening procedure; lack of time, lack of knowledge about cancer screening or lack of awareness of the existence of the NCSP; physical disability or underlying disease; and logistic barriers. Interventions such as individualized counseling, letters and reminders, or other individually-targeted strategies, especially for those with lower socioeconomic status are required to increase participation and reduce disparities in cancer screening.

Keywords: Cancer screening - barrier - participation rate - qualitative study

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Introduction

Cancer has been the highest-ranked cause of death in the Republic of Korea since 1983 (National Statistical Office, 2012), and accounted for 28.2% of all deaths in 2010. In the same year, the combined mortality rate of gastric, liver, colorectal, breast, and cervical cancer was reported to be 44.2% (13.2 per 100,000; 15.4 per 100,000; 10.1 per 100,000; 2.6 per 100,000; 1.3 per 100,000, respectively) (Jung et al., 2013).

The World Health Organization reported that it is possible to prevent at least one-third of cancer cases worldwide through primary prevention, i.e., changing lifestyle factors such as smoking and exercise habits. Early detection and effective treatment can lead to the prevention another third of cancer cases. The purpose of cancer screening is to reduce the mortality and incidence of cancer through the advance detection of premonitory cancer symptoms (Hahm et al., 2007). Therefore, cancer screening can play an important role in reducing worldwide mortality due to cancer (WHO, 2002).

The first effort to reduce the burden of cancer in Korea took place in 1988, when the Pap smear was first introduced in a health examination for industrial workers. In 1999, the National Cancer Screening Program (NCSP) was launched; it supplied Medical Aid Program (MAP) recipients with free-of-charge stomach, breast and cervical cancer screening (Lee, 2006). The NCSP has been continuously expanding the population and cancer sites it covers. Currently MAP recipients and those within the lower 50% of the National Health Insurance (NHI) Corporation premium can receive free-of-charge screening for five cancer sites: stomach, liver, colon-rectum, breast and uterine cervix. Those within the upper 50% of the NHI Corporation premium are not covered by the NCSP, but can receive cancer screening from the organized system of the NHI with a 10% out-of-pocket expense (Lee et al., 2010).

The participation rate of the NCSP has increased from 19.6% in 2005 to 41.9% in 2011(difference of 22.3%), but despite this increase, socioeconomic disparities in the NCSP still exist. The participation rate of MAP recipients in the NCSP has been reported to be relatively low compared to NHI beneficiaries for all five cancer sites (Ministry of Health and Welfare, National Cancer Center, 2013).

Previous studies have indicated low breast cancer screening rates among women with lower socioeconomic status, and further reported that the breast cancer morbidity and mortality rates for these women have not decreased

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(Lantz et al., 1997; Coughlin et al., 2000; Peek et al., 2004; Ward et al., 2004; Bigby et al., 2005). A similar pattern has emerged for cervical cancer screening, with socioeconomic characteristics appearing to influence rates in France and the United Kingdom, as well as urban areas of Australia (Lantz et al., 1997; Challier et al., 2000; Coughlin et al., 2000; Eaker et al., 2001; Ward et al., 2004). However, the reasons those with low socioeconomic status do not receive cancer screening remain largely unknown.

Thus, in this study, we conducted focus group discussions to assess the barriers to cancer screening in people with low socioeconomic status, and to examine the reasons why MAP recipients do not participate in the NCSP.

Materials and Methods

Participants and data collection

Given the exploratory nature of the study, a qualitative, focus group methodology was used (Krueger et al., 2009). Participants of focus group discussions included MAP recipients (men aged 45-79 years, women aged 35-79 years) who had been invited to cancer screening at least twice based on the NCSP protocol (Table 1), but had not been screened for any cancer from 2009 to 2012. We began recruiting at age 45 for men and 35 for women, as the first screening in the NSCP for men is at age 40 (for gastric and liver cancer) and for women is at age 30 (for cervical cancer). We recruited participants living in the cities of Goyang and Paju. Screening behaviors and accessibility of screening facilities differ in urban and rural areas. Thus, focus group participants were divided by sex, and city of residence, with Goyang representing the urban area and Paju representing the rural area. Participants were recruited by public health workers in the Goyang and Paju health care centers.

Focus group discussions were held on 2 February 2013 and 26 January 2013, respectively, at the National Cancer Center in Goyang and the Paju health care center. The eligibility of all participants was reassessed prior to the start of focus group discussions. Each participant signed an informed consent form and received a US $50 incentive for participating in the 2-hour focus group discussions. Professional, gender-concordant moderators conducted each focus group discussion using a structured moderator's guide to explore factors acting as barriers to participation in the NCSP. Specifically the moderator asked whether the participants knew about, or had ever heard of the NCSP, whether they had ever received an invitation from the NCSP, their main reasons for not attending the NCSP, and their attitude toward cancer screening. All focus group discussions were audio recorded and professionally transcribed verbatim as one comprehensive text for interpretation.

A directed content analysis approach was used to identify the behaviors and experiences that led to non-participation in the NCSP. We developed a detailed codebook using both inductive and deductive techniques-individual codes were derived deductively from the research questions and inductively from the transcribed data. When coding was complete, the study team met to discuss relevant themes and categories. Data analyses were conducted as follows: themes were determined (description) and relationships between the themes were sought (analysis) and researcher's comments were added (interpretation). To increase the internal validity and reliability of the research findings, comments made by the participants are quoted herein. In addition, one researcher worked systematically on all transcripts and created charts to summarize factors acting as barriers to cancer screening. For reliability, another researcher read and coded a sample of transcripts, with consistent findings.

Results

Sample characteristics

Of the 34 individuals who agreed to participate, 11 did not attend. Thus, a total of 23 MAP recipients participated in four focus group discussions, including 12 men and 11 women: Goyang men (n=4), Goyang women (n=6), Paju men (n=8), Paju women (n=5). The mean age was 60.2 years in men 59.5 years in women. Of these, 56.5% were unemployed (Table 2).

Barriers to cancer screening

Six barriers to participation in the NCSP were identified during focus group discussions (Table 3). The most common reason was 'lack of trust in the NCSP and cancer screening units'. Most participants worried about the quality of screening services performed at clinics or hospitals designated as cancer screening units. They thought the screening services were not good because they were provided free-of-charge through the NCSP. Participants thought that providers in the screening units discriminated against those who came to receive screening through the NCSP, and favored individuals who came for opportunistic screening and paid with their own money. Some participants firmly believed that old equipment was used to screen MAP participants in the NCSP. One participant said,

"The physician and medical staff in the screening unit will ignore us because we are the customers who want to receive free-of-charge screening services through the NCSP." (male, 50 years of age)

Table 1. National Cancer Screening Program in Korea

Cancer site	Target population	Screening interval	Test or procedure
Stomach	≥40 years, men and women	2 years	Gastric endoscopy or Upper gastro-intestinal series
Liver	≥40 years, men and women with high risk	1 year	Ultrasonography with serum alpha-feto protein
Colon-rectum	≥50 years, men and women	1 year	Fecal occult blood test (if positive then colonoscopy or double-contrast barium enema)
Breast	≥40 years, women	2 years	Mammography with clinical breast examination
Uterine cervix	≥30 years, women	2 years	Pap smear

Participants also expressed concern about the efficacy of the NCSP. Some participants expressed their belief that the screening methods available in the NCSP were not good enough to detect cancer. Several participants shared stories of friends or family members who were told they had a negative screening result, only to receive a cancer diagnosis a short time later. They thought more advanced equipment or more high-tech methods could detect cancer more easily and effectively than the methods used by the NCSP. For example,

"Most of the screening tests provided by the NCSP do not detect cancer appropriately. We cannot believe the results of a screening test, because the test is too simple and free-of-charge." (female, 50 years of age)

"I heard that one screening participant had mammography screening through the NCSP and was told she was cancer-free. And then thereafter she was diagnosed with breast cancer and actually had a mastectomy." (female, 30 years of age)

The second most common reason for non-attendance was fear of being diagnosed with cancer, or discomfort or pain from the screening procedure. Fears were usually based on fatalistic views about cancer. Some participants believed that a cancer diagnosis inevitably leads to death, and they were therefore unsure as to why physicians would promote a screening test to detect an incurable disease. Some women in the group were reluctant to undergo screening for fear of being diagnosed with cancer, and the economic burden that comes with cancer treatment. One woman said,

"I am afraid of the screening results. If it is bad news and I would rather not know about it." (female, 40 years of age)

Some participants expressed concern regarding the invasiveness of the test and the area of the body under investigation.

"I've always thought of a colonoscopy test as being painful. Once, I drank 5 liters of water. It was too burdensome." (male, 50 years of age)

The third most common reason for non-attendance was lack of time. Non-attenders reported that it takes time to drive to the screening unit, wait and then drive back. One male participant said,

"There is no time to undergo screening because I have to go to work for daily living. My priority is making a living. I earn money on a daily basis. Thus, when I go to the hospital to undergo screening, that day I can't make money."(male, 40 years of age)

The fourth most common reason was lack of knowledge about cancer screening, or lack of awareness of the existence of the NCSP. Some participants did not know enough about the purpose of cancer screening and did not even want to know. One male participant said,

"In my whole life, I never knew that I needed to get cancer screening, and never heard about the NCSP. I don't know what test should I receive, or how to get cancer screening. No one told me about cancer screening." (male, 70 years of age)

Another participant mentioned,

"I don't think I have to undergo cancer screening. I am healthy and I feel okay. I have never thought that I needed to be screened to detect cancer." (female, 40 years of age)

The fifth most common reason was physical disability of underlying disease, which made it difficult for the participant to attend screening. Among the 23 participants, four had a history of cancer, and 13 had a chronic disease such as hypertension or diabetes, or were physically disabled. One man who was physically disabled said

"I really want to receive cancer screening. But I can't visit the screening unit by myself. I need someone's help to visit the cancer screening unit. Nobody gave me a ride to get screening unit." (male, 50 years of age)

One woman with diabetes said,

"I have been sick for a long time. I have diabetes, and I cannot skip my meal. If I skip my dinner and breakfast to get cancer screening, it will make me dizzy." (female, 50 years of age)

Another woman said,

"I am a breast cancer patient. I have been visiting the hospital regularly for breast exams, and I got various tests during the follow-up period. Thus, I didn't think that I needed to worry about screening." (female, 50 years of age)

The sixth most common reason is logistic barriers. Logistic barriers included perceived inconvenience and difficulty in scheduling a screening appointment. One participant admitted that if he could make the appointment, he would probably attend cancer screening. He said,

"I tried to make appointment. But the test was fully booked. Thus I couldn't make an appointment." (male, 50 years of age)

Table 2. Characteristics of the Study Participants

Classification	Category	Paju (n=13)	Goyang (n=10)	Total (n=23)
Sex	Male	8	4	12
	Female	5	6	11
Age (years)	30-39	1	-	1
	40-49	2	2	4
	50-59	3	3	6
	60-69	4	3	7
	70-79	3	2	5
Occupation	Unemployed	8	5	13
	Housewife	2	2	4
	Day laborer (part-time)	1	1	2
	Real estate broker	1	-	1
	Farmer	1	-	1
	Writer	-	1	1
	White-collar	-	1	1

Table 3. Reason for Non-Attendance to the National Cancer Screening Program

Rank	Reason
1	Lack of trust in NCSP and cancer screening units
2	Fear of being diagnosed with cancer, discomfort or pain from the screening procedure
3	Lack of time
4	Lack of knowledge about cancer screening or lack of awareness of the existence of the NCSP
5	Physical disability or underlying disease
6	Logistic barriers-perceived inconvenience and difficulty of scheduling the screening test appointment

Table 4. Reason for Non-Attendance to National Cancer Screening Program by Area of Residence and Sex

	Sex		Living area	
	Male	Female	Urban	Rural
1	Lack of trust in the NCSP and cancer screening units	Fear of being diagnosed with cancer, discomfort or pain from the screening procedure	Lack of trust in the NCSP and cancer screening units	Lack of knowledge about cancer screening or lack of awareness of the existence of the NCSP
2	Fear of being diagnosed with cancer, discomfort or pain from the screening procedure	Lack of knowledge about cancer screening or lack of awareness of the existence of the NCSP	Fear of being diagnosed with cancer, discomfort or pain from the screening procedure	Fear of being diagnosed, with cancer discomfort or pain from the screening procedure
3	Physical disability or underlying disease	Lack of trust in the NCSP and cancer screening units		Lack of time

Personal factors related to cancer screening behavior

The reasons for non-attendance to the NCSP differed by sex and city of residence (Table 4). For men, "lack of trust in the NCSP and cancer screening units" was the most common, whereas "fear of being diagnosed with cancer, or discomfort or pain from the screening procedure" was the most common in women. With regard to city of residence, participants living in an urban area (Goyang) cited "lack of trust in the NCSP and cancer screening units" as the main reason they did not attend screening. However, those who lived in a rural area (Paju) were more likely to mentioned "lack of knowledge about cancer screening or lack of awareness of the existence of the NCSP" as the main reason they were not screened.

Discussion

Various studies have identified socioeconomic and health system-related characteristics as barriers to, or facilitators of cancer screening (Rakowski et al., 1995; Barr et al., 2001; Burack et al., 2003; Swan et al., 2003; Levy-Storms et al., 2004; Quinley et al., 2004; Coughlin et al., 2006; Reath, 2008). Well-established barriers to cancer screening include characteristics such as lower income, lower educational attainment, lack of appropriate health information, distance to services, fear of cancer, lack of health care insurance, and factors related to the healthcare system, such as lack of a recommendation for screening by a healthcare provider, poor coordination of services, poor access to transport, and lack of a patient or provider reminder system. However, little is known about the barriers to cancer screening faced by people with low socioeconomic status. Our study provides insight into barriers encountered by low-income people.

In this qualitative study, we identified six barriers to screening: lack of trust in the NCSP and cancer screening units (service provider), fear of being diagnosed with cancer, discomfort or pain from the screening procedure, lack of time, lack of knowledge about cancer screening or lack of awareness of the existence of the NCSP, physical disability or underlying disease, and logistic barriers. It is possible that the commonality of these MAP recipients-poverty and limited educational attainment-may underlie these barriers to screening.

In the current study a distrust of the screening units and the NCSP, and a fatalistic view of cancer-barriers that have not been typically addressed in previous studies-were reported as the most important reasons for not attending the NCSP. These reasons were more commonly mentioned among people living in urban than rural areas. The reasons for this distrust are unclear. For MAP recipients, the persistence of discrimination in medical settings and previous bad experiences with medical centers might decrease their trust in doctors, medical centers, or government-sponsored public health programs such as the NCSP. This suggests that health care workers' interpersonal skills, and a lack of continuity in care, might contribute to this lack of trust. Fatalistic beliefs about cancer may underpin this lack of trust. Several studies reported improved compliance with screening recommendations among individuals who received cancer screening and regular ongoing care from their own physician (Lasser et al., 2008). Thus, in-depth discussion with a health care provider or health care worker in a public health center about cancer screening could help to reeducate and reassure people about their concerns.

The other barriers to screening identified in the present study were fear of being diagnosed with cancer, discomfort or pain from the screening procedures. These barriers were more commonly reported among women. Results of an investigation among women aged 26-64 years in England indicated that barriers to cervical cancer screening were embarrassment, pain, fear of cancer detection, etc. (Waller, 2009). Fear is frequently cited as a barrier to screening uptake and cancer awareness. Thus emphasizing the preventive nature of screening may help to counter fears of cancer diagnosis.

A previous study reported 'lack of symptoms' as one of the reasons for non-attendance (Park et al., 2011). A study conducted among Singaporean women aged 50-64 years showed that they did not undergo breast cancer screening because they perceived themselves to be at low risk of getting the disease (Seow et al., 1997). Contrary to previous work, 'lack of symptoms' was not cited as a major reason for non-attendance in the present study. Rather, physical disability or underlying disease was cited as a one of the reasons for non-attendance. The overall health status of MAP recipients is poor, and most of participants in the present study had underlying chronic diseases such as hypertension, diabetes, or were disabled. However, poor health itself is one of the risk factors for cancer, as people with poor health are more susceptible. Thus, physicians need to recommend screening and health care providers should explain the risk of cancer according to their patients' health status.

Our study provides insight into the potential barriers to cancer screening facing disadvantaged populations. The strength of this study is that we included groups with very

low socioeconomic status who had not participated the NCSP. However, this study has several limitations. The findings from our sample of the poor and underserved population in Korea may not be generalizable, as this study was conducted in only two small areas. Although all participants were MAP recipients from either an urban or a rural area, these two areas are close to the inner city. Thus larger population-based studies with greater generalizability could help to further enhance our understanding of barriers to cancer screening among the underserved population and contribute to the development of effective strategies to increase the participation rate of the NCSP.

In some countries with organized screening systems, socioeconomic status-related inequalities in screening persist. Previous studies have indicated persistent income disparities in cancer screening, despite the fact that the test was inexpensive or fully reimbursed (Katz et al., 1994; Lantz et al., 1997; Selvin et al., 2003; Miles et al., 2004). Practical barriers to screening remain an issue in organized and opportunistic settings. These barriers include psychosocial factors, geographic factors, demands on time, and the physical health of the potential participants. Even in organized screening settings, attitudes, beliefs, and knowledge are consistently associated with screening use.

Therefore, interventions are still required in Korea to encourage participation. To date, attempts to promote cancer screening have used a public health model that targets entire communities, e.g., mass media campaigns for screening, or for the organized screening system in Korea. However, individually-targeted interventions in a health care setting are required, such as individualized in-person or telephone counseling, individualized letters and reminders, or other individually-targeted strategies, especially for those with lower socioeconomic status, to increase participation and reduce disparities in cancer screening.

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