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# Comparison of Health Behavior Depending on Cancer Screening Health Check Taking

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***Abstract***

*This study aims to analyze the difference in health behavior depending on cancer screening health check taking in adults in Korea and use it as basic data for expanding such cancer screening health check taking behavior in order to reduce the fatality of cancer and activate the cancer screening program for early detection. As for subjects and materials of this study, the data from 26,051 individuals as primitive data of the Community Health Survey of 2014 were analyzed. As data analysis method for this study, SPSS WIN 21.0 was used. As a result, it was found that there was a statistically significant difference in smoking (x2=79.885, p<.001), drinking(x2=152.29, p<.001), physical activity(t=8.22, p=.001), seat belt(t=14.89, p<.001), breakfast days(t=39.70, p<.001), body mass index(t=1.95, p<.001), subjective level of oral health (t=7.30, p<.001), subjective level of stress (t=9.16, p<.001) depending on cancer screening health check taking. Therefore, the findings from this study will have to be used as basic data for recognizing health behavior in adults who take cancer screening and those who don't and also for establishing strategies for activating the cancer screening program for early cancer detection.*

***Keywords:*** *cancer screening, health behavior, drinking, smoking, stress*

## 1. Introduction

Cancer rate is increasing by 3.5%, annual average every year in Korea [1], and about 1/3 of cancer population can be detected earlier and completely cured and especially stomach cancer, breast cancer, and uterine cervical cancer can be detected earlier with a relatively simple method[2]. As these cancers can be completely cured over 90% if treated earlier [2], the importance of management and early detection in the previous stage of disease emergence in terms of financial aspects of national health and health insurance has been emphasized [3]. Therefore, our country will need to expand screening program for reducing the fatality of cancer and activating early detection.

The focus of medical treatment in health care field has changed from treatment of disease to prevention and management and our country has made many efforts to expand types and objects of cancer screening through national cancer screening early detection project in low-income brackets since 1999 and reduce the medical cost sharing for screening [4]. With this

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expanding national project, it seems necessary to encourage more community residents to take cancer screening and live a healthy life.

To look at the studies on the status of early cancer detection, the studies on early cancer detection rate and related factors in some local residents [5] have limitations in that they could not include rural and urban residents as objects of study and the studies on literature review on cancer inspection-related factors in Korean adults [3] reported that sociodemographic factors related to cancer inspection have been analyzed a lot in many studies, but mostly were not statistically significant. And the studies on subjective level of health depending on socioeconomic level of cancer screening population of five top cancers in Korea [6] suggested that the lower the socioeconomic level, it is more likely to be at a risk of bad subject level of health. However, this study is a cross-sectional study and has limitations in describing the causal relationship between socioeconomic level and health one.

Our country also needs to compare the difference in health behavior depending on cancer screening health check taking in adults by using community health survey data to reduce the fatality rate of cancer and activate cancer screening program for early detection. Therefore, this study was conducted to identify the difference in health behavior between those who took cancer screening and those who didn't, analyze the results, and use them as basic data for expanding cancer screening health check taking.

## 2. Methodology

### 2.1 Study design

This study is designed as a descriptive survey research to analyze the difference in health behavior depending on cancer screening health check taking.

### 2.2 Study subjects and survey method

As materials for this study, the primitive data of the Community Health Survey of 2014 was used. This data was provided through screening process after requisition form and research project were submitted to the Korea Centers for Disease Control and Prevention according to primitive data request procedures and rules. The period of investigation was from Aug. 16, 2014 to Oct. 31, 2014 and as survey method, researchers who were adults aged 19 years (in Korean age) or more among the members of sample household and received training visited sample households by themselves and interviewed them one on one. If the data selected as subject concept of this study from the entire primitive data is missing value, the data was eliminated and then the remaining data of 26,051 individuals were used for analysis.

### 2.3 Data analysis method

As data analysis method for this study, SPSS WIN 21.0 was used.

1) The general characteristics of research subjects were analyzed with frequency, percentage, mean, and standard deviation.

2) The difference in health behavior depending on cancer screening health check taking was analyzed with $\chi 2$-test or t-test.

## 3. Results

1. General Characteristics of study subjects

**Table 1. General characteristics of study subjects (N=26,051)**

| Categories | Sub-Categories | Mean±SD | n(%) | Experimental value |
|---|---|---|---|---|
| Age | | 45.56±15.13 | | 19-96 |
| Gender | Man(1) | | 15,452(59.30) | |
| | Women(2) | | 10,599(40.70) | |
| Food safety | We could eat sufficient amount and different kinds of foods as our family members want to(1) | 1.45±0.46 | | 1-4 |
| | We could eat sufficient amount of foods as our family members want, but couldn't eat different kinds of foods(2) | | | |
| | We didn't have enough to eat because we were economically difficult(3) | | | |
| | We often had insufficient foods to eat because we were economically difficult (4) | | | |
| Cancer screening health check taking (for the recent two years) | Yes(1) | | 13,537(52.00) | |
| | No(2) | | 12,514(48.00) | |
| Counselling experience | Yes(1) | | 4,559(33.68) | |

| | | | | |
|---|---|---|---|---|
| after cancer screening (Number of those who took cancer screening : 13,537 individuals) | No(2) | | 8,978(66.32) | |
| Reason why we couldn't take cancer screening (Number of those who couldn't take caner screening: 12,514 individuals) | Screening cost was expensive(1) | | 896(7.16) | |
| | We could t have time to take cancer screening(2) | | 2,203(17.60) | |
| | We did not know where the health screening institution was located(3) | | 83(0.66) | |
| | We could not feel the need to take cancer screening (4) | | 8,890(71.04) | |
| | Others (5) | | 442(3.53) | |

2. Difference in health behavior depending on cancer screening health check taking in study subjects

**Table 2. Comparison of health behavior depending on cancer screening health check taking (N=26,051)**

| Variables | | Cancer screening health check taking n(Mean±SD) | Non-cancer screening health check taking n(Mean±SD) | $\chi^2$ or t-test | *p* |
|---|---|---|---|---|---|
| Lifetime smoking | Yes | 5,509 | 5,780 | 79.885 | 〈.001 |
| | No | 8,028 | 6,734 | | |
| Lifetime | Yes | 11,862 | 11,544 | 152.29 | 〈.001 |

| | | | | | |
|---|---|---|---|---|---|
| drinking | No | 1,675 | 970 | | |
| Physical activity | | 13,537(308.62±231.59) | 12,514(285.57±220.32) | 8.22 | 0.001 |
| Safety belt | | 13,537(10.35±2.55) | 12,514(9.88±2.61) | 14.89 | 〈.001 |
| Breakfast days | | 13,537(5.90±2.15) | 12,514(4.70±2.73) | 39.70 | 〈.001 |
| BMI | | 13,537(23.45±2.87) | 12,514(23.38±3.22) | 1.95 | 〈.001 |
| Perceived oral health | | 13,537(3.08±0.93) | 12,514(3.00±0.92) | 7.30 | 〈.001 |
| Perceived stress | | 13,537(2.89±0.73) | 12,514(2.80±0.73) | 9.16 | 〈.001 |

## 4. Discussion

This study was conducted to provide the basic data for expanding national cancer screening health check taking by comparing the difference in health behavior depending on cancer screening health check taking. As a result of this study, it was found that the mean age of study subjects was 45.56 years; as for cancer screening health check taking, 52% answered that they took cancer screening; and when it comes to reason why they could not take cancer screening, “We couldn’t feel the need to take cancer screening” was 71.04%, which occupied the most. Previous studies reported that perceived sensitivity, opportunity or motivation for action, and knowledge of cancer – cancer-recognition or belief-in-cancer related factors had a significant effect on cancer screening health check taking [7]. In other words, the higher the perceived sensitivity, the higher the perceived benefits, and the higher the knowledge of cancer, it is more likely to take cancer screening [3]. Therefore, given the findings from this study, it seems necessary to provide information on cancer and benefits of early cancer detection before teaching the importance of cancer screening.

To look at the difference in health behavior depending on cancer screening health check taking in study subjects, it was found that there was a statistically significant difference in lifetime smoking, lifetime drinking, physical activity, seat belt, breakfast days, BMI, subjective oral health, and subjective stress. Previous studies reported that health behavior factors could be divided into behavior, recognition, and belief dimensions and mostly there was no significant difference in health behavior related factors[3], which was different from this study. Studies on health behavior factors in those who participated in uterine cervical cancer screening program assumed that health behavior represented interest in health and those who are less interested in health problems are less likely to take cancer screening and incorporated smoking, drinking, exercise, eating habit, sleep, and regular act to see a doctor into health promotion acts for analysis, but this did not have a significant effect on cancer screening health check taking, too [8].

Therefore, it seems necessary to encourage the society and individuals to take more interests in health promotion acts like cancer screening and increase the use of cancer screening service with the increasing effects of sociodemographic factors. Given that few

 

previous studies described how sociodemographic factors had influenced the cancer screening and that sociodemographic variables were mostly used as control variables in the existing studies, further additional replication studies need to be conducted by reflecting the variables that represent the difference in health behavior depending on the cancer screening health check taking revealed in this study.

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