

## RESEARCH COMMUNICATION

# Awareness and Practice of Breast Self-examination among Korean Women: Results from a Nationwide Survey

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### Abstract

**Purpose:** The purpose of this study was to identify the current status of the awareness and practice of breast self-examination (BSE) among Korean women. **Materials and Methods:** The study population was derived from the 2007 Korea National Cancer Screening Survey (KNCSS), an annual cross-sectional survey that uses a nationally representative random sample to investigate cancer-screening rates and related factors. A total of 1,255 Korean women aged  $\geq 30$  years participated in this study. **Results:** Of all participants, 88.0% reported that they had heard of BSE. The most common source of information on BSE was the media such as TV, radio and newspapers (87.0%). Recommendations from medical staff reached only 17.2%. The overall proportions of regular and irregular BSE were 13.2% and 16.1%, respectively. The main reason for not performing BSE was lack of knowledge about how to conduct the exam (31.7%). **Conclusion:** Despite a high level of awareness about BSE, only a small minority of women examine their breasts regularly in Korea.

**Key words:** Breast neoplasms - breast self-examination - awareness and practice - Korea

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### Introduction

Breast cancer is one of the most common causes of cancer death among women worldwide, despite strong evidence that early detection saves lives (Parkin et al, 2002). Breast cancer mortality has been consistently increasing in Korea (Jun et al, 2006). In 2008, an estimated 12,659 new cases were diagnosed, accounting for 7.1% of new cancer cases. The incidence of the disease was 21.3 per 100,000 in 2008, which was up from an incidence of 12.5 in 1999. However, survival rates have steadily improved (Jung et al., 2011).

To reduce breast cancer mortality, early detection programmes for breast cancer are very important. Two principal components of an early detection programme for breast cancer are education to promote early diagnosis and screening. Several screening methods are available for breast cancer: breast self-examination (BSE), clinical breast examination (CBE), and mammography. A population-based breast cancer-screening programme with mammography was initiated in Korea in 1999. Currently, all Korean women aged  $\geq 40$  years should undergo mammography every other year (Oh et al., 2010).

Systematic BSE has been recommended for the past 70 years, despite the lack of compelling evidence of its efficacy in reducing deaths from breast cancer (Austoker,

2003). A large well-conducted randomised controlled trial from Shanghai showed conclusively that teaching women how to examine their breasts does not lead to a reduction in mortality due to breast cancer compared with no screening at all (Thomas et al., 2002). With these results, numerous organisations including the American Cancer Society, the US Preventive Services Task Force (USPTF), the Canadian Task Force on Preventive Health Care, and the World Health Organisation no longer recommend BSE (USPSTF, 2009). However, the practice of BSE empowers women to take responsibility for their own health. Therefore, BSE is recommended for raising awareness among women at risk rather than as a screening method. The purpose of this study was to identify the current awareness and practice of Korean women regarding BSE.

### Materials and Methods

This study was based on the 2007 Korean National Cancer Screening Survey (KNCSS), an annual cross-sectional survey that uses a nationally representative random sample to investigate Korean participation rates in cancer screening for five common cancers including stomach, liver, colorectal, breast, and cervix uteri (Choi et al., 2009). Face-to-face interviews were performed in the subject's homes by investigators from a professional

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**Table 1. Socio-demographic Characteristic of the Study Population**

	Have Heard of Breast Self-examination (BSE), n (%)		p-value
	Never	Ever	
	(n = 146)	(n = 1,079)	
Age, years			
30–39	19 (13.0)	342 (31.7)	<0.001
40–49	15 (10.3)	327 (30.5)	
50–59	19 (12.8)	202 (18.4)	
60+	93 (63.9)	208 (19.4)	
Resident area			
Metropolitan	62 (42.5)	521 (48.2)	0.282
Urban	62 (42.3)	435 (40.3)	
Rural	22 (15.2)	123 (11.4)	
Health insurance type			
NHI	134 (91.7)	1,049 (97.2)	<0.001
MAP	12 (8.3)	30 (2.8)	
Household income			
I (highest)	32 (21.8)	287 (26.6)	<0.001
II	29 (19.8)	299 (27.6)	
III	30 (20.6)	314 (29.1)	
IV (lowest)	55 (37.8)	179 (16.7)	
Education, years			
≤11	95 (65.3)	330 (30.6)	<0.001
12–14	41 (27.9)	529 (49.0)	
≥15	10 (6.7)	220 (20.4)	
Self-reported health status			
Good	75 (51.3)	665 (61.7)	0.008
Fair	48 (33.0)	321 (29.7)	
Bad	23 (15.8)	93 (8.6)	

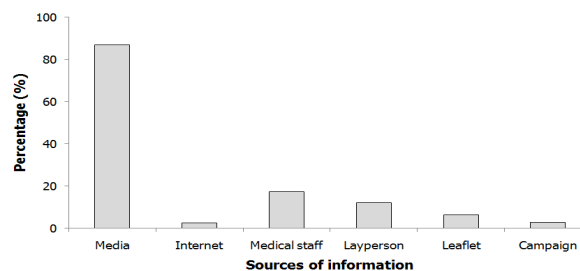
MAP, Medical Aid Programme; NHI, National Health Insurance

research agency over 3 weeks. Interviews were completed by 2,021 subjects (response rate, 47.3%) aged ≥30 years who had not previously been diagnosed with cancer. We obtained informed consent for participation in the study. The population for the current study was restricted to female participants aged ≥30 years (n = 1,225).

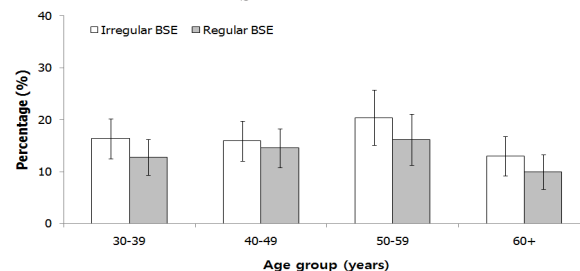
The questionnaire contained several questions related to socio-demographic characteristics, awareness and practice of BSE, and sources of information about BSE. Descriptive statistics about BSE were computed for all socio-demographic variables, including the frequency distribution for each categorical variable. Regular BSE was defined as monthly performance of BSE. Irregular BSE was defined BSE performed every several months. All statistical analyses were conducted using SAS version 9.1 statistical software (SAS Institute, Cary, NC). This study was approved by the Institutional Review Board of the National Cancer Centre, Korea.

**Results**

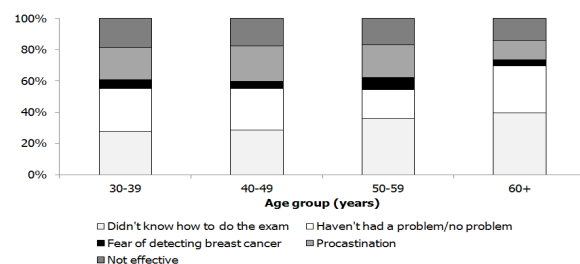
The proportion of women who had heard of BSE was 88.0%. As age increased, the proportion of women who had heard of BCE decreased from 94.7% of women in their 30s to 69.1% of women in their 60s and over. Fewer women with a low monthly household income and



**Figure 1. Source of Information about Breast Self-Examination (BSE) among Women who Have Heard of It.** Participants could identify multiple sources of information related to BSE.



**Figure 2. The Proportion of Women who Performed Breast Self-examination (BSE).** Regular and irregular BSE were defined as performing BSE monthly and every several months, respectively. Overall proportions of regular and irregular BSE were 13.2% and 16.1%, respectively.



**Figure 3. Reasons for not Performing Breast Self-Examination (BSE)**

education level knew about BSE (Table 1). The majority of women who knew about BSE (87.0%) mentioned that they had heard about BSE on TV, on the radio, and in the newspapers. Only 17.2% of the women who were aware of BSE received the information through physicians or nurses (Figure 1).

The proportion of women who performed BSE monthly was 13.2%. The practice of BSE increased with increasing age; the highest proportion (16.2%) was achieved by women in their 50s. The proportion of women who performed BSE every several months was 16.1% (Figure 2). Women who had not performed BSE monthly described the reasons for not doing so. The reason most cited was ‘I did not know how to conduct the exam’, which accounted for 31.7% of responses. As age increased, this proportion increased. ‘I have not had a problem’ (26.3%) was the second most common reason, followed by procrastination (19.7%), ‘not effective for detecting breast cancer’ (17.1%), and fear of detecting breast cancer (5.3%). As age decreased, the proportion that considered BSE ineffective for detecting breast cancer increased (Figure 3).

## Discussion

Use of mammographic screening is widespread among Korean women (Oh et al., 2010, Lee et al., 2011). Currently, about 60% of Korean women aged  $\geq 40$  years undergo mammography as a screening tool every other year. Despite widespread mammographic screening, it is still important to report any unusual changes in breasts to physicians promptly. Although there is no evidence for the efficacy of BSE to reduce deaths from breast cancer, BSE might be a surrogate indicator and tool to educate and to improve and assess breast awareness.

In our study, despite a high level of awareness about BSE (88.0%), only a small minority of Korean women examined their breasts regularly (13.2%). Only 29.3% of Korean women examined their breasts every several months, which is lower than the proportion of women in other Asian countries such as Malaysia (Loh and Chew, 2011, Rosmawati, 2010, Yavari and Pourhoseingholi, 2007).

Although various activities and campaigns such as the Pink Ribbon Campaign have been conducted to improve breast cancer awareness, most Korean women obtained information about BSE through TV, radio, and newspapers. In contrast, only 17.2% of Korean women obtained the information through medical staff such as their physicians and nurses. This has created some issues related to breast awareness. First, women cannot obtain sufficient information about breast cancer through the media and might get misinformation. Other common reasons for not examining breasts regularly were 'I did not know how to perform the exam' (31.7%) and 'I have no problems' (26.3%). According to several studies (Carelli et al., 2008, Jeong et al., 1998), willingness and compliance with respect to performing BSE improve if medical staff recommend BSE.

Second, differences in how BSE information was obtained were identified according to age, household income level, and education level. Considering the effect of socioeconomic status on the mortality of breast cancer in Korea (Khang et al., 2004; Kim et al., 2008), efforts should be made to increase chances for exposure to information on breast cancer among Korean women.

In conclusion, although there is no evidence that BSE lowers mortality from breast cancer, BSE might still be an important tool to improve breast awareness. Women are encouraged to take responsibility for their own health by taking opportunities such as during bathing or dressing to become familiar with their breasts at different times of the month and with age, looking and feeling for any changes from normal, and reporting any obvious changes promptly. Therefore, appropriate educational interventions are needed to encourage women to engage in regular breast awareness as well as to practice BSE.

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